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مجلة علمية فصلية مُحكمة متخصصة

بعلوم الرياضة تصدر عن

كلية التربية البدنية وعلوم الرياضة
جامعة بغداد





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وزارة التعليم العالي والبحث العلمي
جامعة بغداد
كلية التربية البدنية وعلوم الرياضة

مجلة التربية الرياضية

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كلية التربية البدنية وعلوم الرياضة في جامعة بغداد

المجلد السابع والثلاثون

العدد الثاني

السنة 2025

DOI: [https://doi.org/10.37359/JOPE.V37\(2\)2025](https://doi.org/10.37359/JOPE.V37(2)2025)

E-ISSN: 2707-5729

P-ISSN: 2073-6452

مجلة التربية الرياضية

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كلية التربية البدنية وعلوم الرياضة في جامعة بغداد

تأسست عام (1990)

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رقم الإيداع في دار الكتب والوثائق العراقية (597) لسنة (1990)


(P-ISSN: 2073-6452)

(E-ISSN: 2707-5729)

تصميم الغلاف: د. ياسر وجيه قدوري

تعليمات النشر في مجلة التربية الرياضية

أولاً: تعليمات عامة:

- مجلة علمية رياضية فصلية غير ربحية، متخصصة بنشر البحوث العلمية الخاصة بعلوم الرياضة، لأغراض النشر العلمي، تصدرها كلية التربية البدنية وعلوم الرياضة / جامعة بغداد.
- تعتمد المجلة سياسة التحكيم السري والمزدوج والوصول الحر للبحوث دون قيد أو شرط.
- يتم استخدام الأسماء وعناوين البريد الإلكتروني والهواتف في قاعدة بيانات المجلة للأغراض العلمية فقط الخاصة بالمجلة ولن تكون متاحة للجميع أو تستعمل لغرض آخر.
- تعتد مجلة التربية الرياضية الرخصة (CC BY 4.0)  (a Creative Commons Attribution 4.0 International license) وهي بذلك تحفظ حقوق الملكية الفكرية للباحثين الناشرين فيها، وفي الوقت نفسه تتيح للآخرين بتحميل ومشاركة وإعادة استخدام وتوزيع البحث في نطاق واسع. للمزيد من المعلومات، انقر على الرابط أدناه: <https://creativecommons.org/licenses/by/4.0/>
- تتم إجراءات المراجعة الأولية للبحث المرسل من قبل هيئة التحرير وإجراء الاستلال الإلكتروني، ويتم إعلام الباحث بأي مشكلة خلال الأسبوع الأول من استلام البحث.
- يتم إحالة البحث للتحكيم العلمي من قبل هيئة التحرير لمحكمين اثنين معتمدين من قبل المجلة وبشكل سري.
- تتم عملية التحكيم خلال مدة (3) أسابيع وفق تعليمات المجلة (إرشادات المحكمين).
- بالاعتماد على توصية المحكمين، يتم قبول البحث كما هو أو قبولة بعد إجراء التعديلات أو رفضه، ويتم إعلام الباحث بذلك.
- بعد الانتهاء من التحكيم، يتم طلب دفع رسوم النشر البالغة (120000) ألف دينار عراقي. علماً إن المجلة غير ربحية والنفقات أعلاه لتغطية أجور التحكيم والنشر والترجمة فقط.
- يكون النشر للباحثين من خارج العراق مجاني وبشكل كامل ولحد نهاية سنة (2021).
- كل إجراءات تحكيم البحوث تكون إلكترونياً اعتماداً على نظام المجلات المفتوحة (OJS).

ثانياً: شروط كتابة البحث:

تتبع مجلة التربية الرياضية (JOPE) طريقة (IMRAD) في كتابة البحوث وهي ترمز الى الحروف الأولى لكلمات: المقدمة (Introduction). الطريقة والأدوات (Materials and Methods). النتائج (Results) و (And). المناقشة (Discussion). ورقة واجهة البحث: ويجب أن تتضمن الآتي:

- **عنوان البحث (Research Title):** يعد عنوان البحث الجزء المميز منه الذي يقرأه عدد كبير من الباحثين ويحتوي العنوان ايضاً اسم الباحث (الباحثين) وعنوانينهم (طرائق التواصل معهم).
- **شروط عنوان البحث:**

- ✓ يحوي على عدد قليل من الكلمات كلما امكن ذلك، و بما لا يزيد عن (12) كلمة.
- ✓ يكون واضح وسهل الفهم ولا يحتوي على المختصرات.
- ✓ يشرح محتويات البحث بدقة وبشكل محدد.
- ✓ ان لا يكون بصيغة استفهامية كما في المقالات الصحفية.
- ✓ يشير الى موضوع البحث وليس النتائج.

- **اسم المؤلف (المؤلفون) (Authors):** مؤلف البحث هو الشخص او الأشخاص الذين أسهموا بشكل فعلي في تخطيط وتنفيذ البحث. ويتم تثبيت أسماء المؤلفين بتسلسل منطقي نسبة الى أهمية مشاركتهم في البحث، اذ يُعد الاسم الأول بالبحث هو كبير معدي البحث وبكلام اخر المؤلف الأول (Senior Author) في حين يتم ترتيب باقي المؤلفين نسبة الى أهمية وقدر مشاركتهم في إتمام البحث. يكون طالب الدراسات العليا المؤلف الأول في اطروحته او رسالته يليه المشرف الرئيس بوصفه المؤلف الثاني وهكذا، علماً أن المجلة تعتمد تسلسل الباحثين حسب ما هو مثبت في البحث المرسل للمجلة. يجب ادراج هامش يشير الى المعلومات الخاصة عن المؤلفين كافة للاتصال بهم بهدف التعاون او الاستيضاح او اي شأن يخص البحث ومجال الاختصاص، ويجب ملاحظة ان يكتب الأسم الثلاثي واللقب للمؤلفين مع ذكر عنوان العمل و وسيلة الاتصال (البريد الالكتروني - رقم الهاتف) وباللغتين العربية والانكليزية.

- **مستخلص البحث (Abstract):** ينقل الملخص معلومات البحث القائم فعلاً مع مراعاة عدم استعمال عبارات الوعود (سوف يقدم، سوف يعرض.... وغيرها)، ويكون ملخص البحث بمعدل (150-250) كلمة ويكتب في فقرة واحدة باللغتين الإنكليزية والعربية. يبدأ الملخص بترتيب متسلسل بعرض الاهداف ثم توضيح الإجراءات المستعملة وأهم النتائج المتضمنة حقائق جديدة

تتعلق بتحقيق الأهداف، وأخيراً الاستنتاجات الرئيسة ومستوى دلالتها (Sig). وتكتب أفعال جمل عرض الأهداف والمقدمة ومناقشة النتائج والاستنتاجات في الزمن المضارع، في حين تكتب الإجراءات والأختبارات والنتائج في الزمن الماضي. يجب أن لا يحتوي ملخص البحث على الآتي:

- ✓ الاختصارات (الأحرف المختصرة) إلا إذا كانت معيارية أو معروفة مسبقاً مثل (Vo2Max).
- ✓ الإشارة إلى الجداول أو الأشكال في متن البحث والاستشهاد بالمصادر.
- ✓ أي معلومات أو استنتاج غير موجود في متن البحث والجمل العامة والجمل المطولة أو المعقدة أو الملتوية (المراوغة).
- ✓ تجنب ذكر البيانات الكمية بشكل مفصل وكذلك المعالجات الإحصائية والمصطلحات الطويلة جداً.
- ✓ ذكر المتوسط الحسابي والانحراف المعياري لأعمار وأوزان وأطوال عينة البحث. مثال: (متوسط الطول) متر (\pm الانحراف المعياري).

- **الكلمات المفتاحية (Key Words):** يجب أن يتضمن البحث كلمات مفتاحية بعدد لا يتجاوز (6) كلمات، ويجب أن تكون محددة بالدراسة وغير الكلمات الموجودة في عنوان البحث، وعلى أن تكتب في نهاية ملخص البحث بفقرة منفصلة وباللغتين الإنكليزية والعربية.
- **المقدمة (Introduction):** تكون مقدمة البحث جيدة قصيرة نسبياً، تشرح أهمية الدراسة وتحديد أهدافها من خلال البحث في الأدبيات ذات العلاقة من مراجع ودراسات، ويكون ذلك عن طريق استعراض مختصر لهذه الدراسات والتي تكون ذات علاقة بمشكلة البحث والتي يجب أن لا تقل عن خمسة دراسات حديثة ومناسبة لتعزيز البحث، كما أن المقدمة تُعرف بالمصطلحات الخاصة أو المختصرات التي سيتضمنها متن البحث لاحقاً، ويفضل أن لا تتجاوز عدد الكلمات في مقدمة البحث عن (500) كلمة وأن لا تتضمن تكرار لعبارات أو مفاهيم ذكرت في أي موقع من الملخص، مع مراعاة تجنب العبارات الانشائية والجمل التي لا تضيف للقارئ معلومة مثل إعادة الحقائق والحالات البديهية.

- **الطريقة والأدوات (Materials and Methods):** أن الغرض من هذا القسم هو لعرض ما تم عمله، وكيف تم، وأين تم، وذلك بطريقة مباشرة وبسيطة فضلاً عن التعريف بكيفية جمع البيانات وعرضها وتحليلها. إذ يجب أن يوفر هذا القسم من البحث كل المعلومات الضرورية اللازمة للسماح للمؤلفين الآخرين للحكم على الدراسة والإفادة منها، ويجب مراعاة ترتيب

- الاجراءات الميدانية زمنياً مع توفير كافة المعلومات الضرورية فقط، وعلى وفق ذلك يتطلب ان يتضمن هذا القسم من البحث على الآتي مع أهمية تسلل الفقرات:
- ✓ منهج البحث وتصميمه المستعمل.
 - ✓ الوصف الدقيق لعينة البحث من حيث (الجنس والعمر والوزن وغيرها).
 - ✓ تصميم التجربة مع عدد مرات اجراء الاختبار او القياس وإيجاز الإجراءات المستعملة لاختذ العينات (إجراءات الاختبارت).
 - ✓ ذكر الأجهزة والادوات المستعملة مع مواصفاتها الفنية الدقيقة وعددها ومصدرها وطريقة العمل بها (الضرورية منها فقط غير شائعة الاستعمال). ويجب استعمال الأسماء العلمية للأجهزة بدلاً عن اسمائها التجارية مع ذكر أسماء الشركات المصنعة للجهاز واية معلومات تفيد القارئ.
 - ✓ وصف التعديلات اذا ما تم اجراءها على القياسات الروتينية (الاختبارت)، اما إذا ما تم استعمال اجراء جديد (اختبار جديد) فيجب ذكره وشرحه بالتفصيل.
 - ✓ توضيح طريقة اجراءات البحث من تجربة واختبارت ورقية، وعملية، وشفوية او على جهاز الحاسوب.
 - ✓ الطريقة الإحصائية (او/و) الرياضية المستعملة لتحليل وتلخيص البيانات.
 - ✓ يحق للمجلة ان تطلب من المؤلفين تفاصيل او معلومات إضافية عن أي جزء من أجزاء البحث. وبشكل عام يجب ان يضع المؤلفين بعين الاعتبار الأمور الآتية عند كتابته لإجراءات البحث:
 - ✓ لايجوز استعمال المختصرات (بأي لغة كانت) قبل تعريفها في ملخص البحث او مقدمته.
 - ✓ تحديد نظام وحدات القياس الدولية المستخدم في البحث، مثل (المتر، كيلوغرام، الثانية ... الخ)
 - ✓ توضيح جميع المواد المستعملة في الدراسة بحيث يمكن للقارئ استعمالها في بحوث مشابهة أخرى.
 - ✓ وصف اهداف واجراءات القياس لكل اختبار (اختبار قبلي - اختبار بعدي - اختبار احتفاظ ... وهكذا) .
 - ✓ وصف كل التقنيات والاختبارت المستعملة بذكر اسمها فقط اذا كانت معروفة وقياسية او ذكر التفاصيل في حالة كونها جديدة او تم اجراء تعديل عليها.
 - ✓ لا يجوز اضافة معلومات لا تمت بصلة بالنتائج، والتي يمكن ان تربك القارئ.
 - ✓ استخدام الافعال بصيغة الماضي في عرض اجراءات البحث.

• **النتائج (Results):** يُقدم هذا القسم من البحث المعلومات الجديدة التي توصل لها الباحث، لذا يعد على أنه أساس (مركز) البحث. ويلاحظ أن مقدمة البحث والإجراءات صُممت للإجابة عن التساؤلات؛ لماذا وكيف وصل الباحث (الباحثين) لهذه النتائج والتي سيتم تفسيرها في قسم المناقشة، لذا فإن قيمة البحث تكون بما يتضمنه من نتائج، ويجب أن يتم عرضها بطريقة واضحة جداً ومباشرة وباستعمال العدد الضروري من الكلمات دون اسهاب أو اختصار، وعادة ما يكون عرض النتائج أسهل فهماً إذا ما تم ترتيب العرض على وفق تسلسل أهداف البحث التي تم ذكرها في مقدمة البحث.

إرشادات حول عرض نتائج البحث:

- ✓ أعرض نتائج البحث بشكل بسيط وواضح في جداول أو أشكال وذلك لتسهيل فهمها ومقارنتها. ملاحظة أن الجداول تعرض أرقاماً دقيقة في حين أن الأشكال تظهر الاتجاهات ذات الخصائص ولا يجوز عرض أرقام الجداول نفسها في الأشكال.
- ✓ لا يجوز إعادة النتائج كتابةً بعد عرضها في الجداول أو الأشكال التوضيحية، ويمكن فقط الإشارة إلى أهم ما مؤشر في الجداول أو الأشكال (أي عدم استعمال العرض الكتابي للجداول).
- ✓ وثق واعرض فقط البيانات الضرورية بدلاً من الاسهاب والتكرار في عرض البيانات ولا تعرض بيانات كثيرة واختصرها بالتحليل الاحصائي ولخصها لعرضها في جداول أو أشكال وذلك لتسهيل فهمها ومقارنتها.
- ✓ ضمن نتائج البحث بالنتائج السلبية (ما لم يتحقق) إن كان ذلك مفيداً لتفسير النتائج.
- ✓ عند كتابة النتائج يتم الإشارة إلى الجداول أو الأشكال بأرقامها (الجدول 1) (الشكل 1).

المناقشة Discussion: في هذا القسم من البحث يفسر الباحث (الباحثون) مضمون النتائج ودلالاتها والآثار المترتبة عليها. وتُبين المناقشة أهمية قيمة العمل المنجز كما أنها تربط كل أجزاء البحث معاً. أن مهارة الباحث (الباحثين) في تفسير النتائج الجديدة، على وفق الحقائق المعروفة باستخدام نتائج البحث هي دليل على التغيرات المبتكرة (الابداعية) للسلوك الملاحظ، ويجب أن تدفع حدود معرفة القارئ (توسع مداركه) وتثير حماسه. وعلى الباحث أن يلتزم بالاتي في مناقشته للنتائج:

- ✓ ناقش على ضوء معنوية النتائج.
- ✓ لا تكرر ما تم ذكره في الدراسات السابقة.

✓ تتضمن مناقشة النتائج تفسير اتفاقها او عدمه مع المعلومة او المعرفة في الدراسات المنشورة سابقاً.

✓ تدعيم النتائج التي توصلت اليها بأساس نظري علمي (ما هي الأسباب العلمية للنتائج المتحققة).

✓ اقترح بحوث مستقبلية مخطط لها اوبحوث بحاجة الى متابعة (دراسة).

✓ لا يجوز اضافة معلومات لم يتناولها البحث، وان يتم التعامل مع النتائج الموثقة في الدراسة الحالية فقط.

✓ تجنب التعميم والتخمين للنتائج والتي لم تؤكدھا الدراسة.

✓ تكتب المناقشة بصيغة المضارع والماضي، اذ تكتب المعارف المتوافرة من الادبيات والأبحاث بصيغة المضارع، في حين تكتب مناقشة نتائج البحث الحالي بصيغة الماضي.

الاستنتاجات (Conclusions): الاستنتاجات ليست إعادة صياغة لنتائج البحث، انما هي مستنبطة منها. فالاستنتاجات تشير الى الخطوط العريضة للدراسات المستقبلية استناداً على نتائج الدراسة الحالية. ويمكن تخصيص فقرة مستقلة للاستنتاجات.

الشكر والتقدير (Acknowledgments): تسمح المجلة بتضمين كلمات الشكر والتقدير في نهاية البحث ويخصص لشكر المؤسسات والافراد الذين قاموا بمساعدة حقيقية للباحث لاجراء بحثه اذ يقدم الشكر للشركة، او المؤسسة التي قدمت الأموال لدعم البحث، او المختبرات التي زودت الباحث بالادوات والأجهزة، او الى الأشخاص الذين قدموا للباحث النصيحة والمساعدة في جميع البيانات، او التحليل او أي أمر اخر مهم. كما ان هذا القسم يعد مكاناً لذكر اصل البحث وبكلام اخر اذ كان البحث مستقلاً من رسالة ماجستير او أطروحة دكتوراه.

المصادر (References): تتضمن قائمة المصادر كل الاستشهادات المعتمدة في متن البحث فقط وبطريقة (APA) الإصدار السادس حصراً وفق نظام (Microsoft Word 2010) صعوداً أو برنامج (Mendeley) أو (EndNote). ان الاستشهادات النصية في متن البحث يجب ان تتطابق تماماً مع قائمة المصادر.

الملاحق (Appendix): يمكن ادراج أي معلومات تخص البحث المهمة منها حصراً ضمن الملاحق، إذ تحتوي الملاحق على تفاصيل المنهاج التدريبي او البيانات او الجداول الكبيرة (الجداول المعيارية) أو ادوات البحث مثل الاستبيانات وبرامج الحاسوب المستعملة او الأجهزة المصنعة والتي يجب عرضها وشرحها لاهميتها والتي لا يمكن ادراجها ضمن متن البحث بسبب كبر حجمها.

جدول توضيحي يلخص طريقة ايراد (IMRAD)

ت	القسم	الغرض او الهدف
1	العنوان	عن ماذا البحث.
2	المؤلفون (الباحثون)	أسماء وانتماءات المؤلفين.
3	الكلمات المفتاحية	الكلمات غير الموجودة في العنوان والتي توصف البحث.
4	الملخص	شرح قصير عن ذلك البحث.
5	المقدمة	لماذا هذا البحث؟ والمشكلة وما هو غير المعروف وأهداف البحث؟
6	الأدوات والإجراءات	كيف تم اجراء البحث؟
7	النتائج	ماذا وجدت؟
8	المناقشة	ماذا يعني ذلك؟ وما التالي؟ وتفسير النتائج والتوجه المستقبلي.
9	الاستنتاجات	الاثار المحتمليه (الممكنة)
10	الشكر والتقدير	لمن ساعدوك وكيف؟ وما هو مصدر التمويل؟
11	المصادر	تفاصيل عن استشهادات البحث.
12	الملاحق	المواد التكميلية.

ثالثاً: شروط استلام البحث لغرض النشر في مجلة التربية الرياضية:

- ✓ أن لا تزيد عدد كلمات البحث عن (2500-3000) كلمة.
- ✓ أن يطبع البحث بنظام (Microsoft Word 2010) صعوداً بحجم خط (12) لمتن البحث و (14) غامق للعناوين الرئيسية وبنوع (Simplified Arabic) للغة العربية و (Times New Roman) للغة الإنكليزية بأبعاد الصفحة القياسية (عمودي - 2.54×3.17 سم). وبمسافة منفردة بين الاسطر و (1) بين الفقرات.
- ✓ أن يثبت اسم الباحثين الكامل والصحيح باللغتين العربية والإنكليزي اسفل عنوان البحث، في حين تثبت معلوماتهم (الشهادة، والقابهم العلمية ومكان عملهم ووسيلة الاتصال بهم البريد الالكتروني ورقم الهاتف مع المفتاح الدولي) في هامش الصفحة الاولى.
- ✓ ترقم صفحات البحث إلكترونياً أسفل ووسط الصفحة.
- ✓ تكون أبعاد الصور او الاشكال متناسقة وبإسعمال الماسح الضوئي حصراً وبدقة عالية.

- ✓ يكتب رقم الجدول وعنوانه بشكل مختصر ووافي اعلى الجدول في حين يكتب رقم وعنوان الصورة او الشكل في الأسفل وبشكل ومختصر ووافي.
- ✓ ينشر البحث باللغة الإنكليزية بعد ان يتم ترجمته من قبل المجلة يمكن ارسال البحوث او يمكن ارساله باللغة الإنكليزية.
- ✓ تطبع الأرقام بالصيغة العربية حصراً (0 1 2 3 4)، وعند استعمال الاقواس لا يتم ترك مسافة بين الاقواس مثل: (2540)، وعدم ترك مسافة قبل علامات الترقيم مثل الفارزة، او النقطتين، او النقطة. مثال: التدريب الرياضي، التعلم الحركي، علم النفس الرياضي.
- ✓ لا يجوز استعمال برامج الترجمة الفورية او مواقع الانترنت للترجمة للغة الانكليزية مثل (google translate) وغيرها.
- ✓ استعمال المصطلحات العلمية المعروفة والمتداولة، وعلى الباحثين المقدمين لبحثهم باللغة العربية ادراج المصطلحات العلمية باللغة الإنكليزية في متن البحث.
- ✓ الاستشهاد بالمصادر يكون وفق أسلوب (APA) الإصدار السادس حصراً وفق نظام (Microsoft Word 2010) صعوداً أو برنامج (Mendeley) أو (EndNote).
- ✓ يجب ان تتطابق الاستشهادات النصية في متن البحث تماماً مع قائمة المصادر.
- ✓ لا يقبل الاستشهاد من المواقع الالكترونية العامة والضعيفة.
- ✓ يقبل الاستشهاد من المواقع العلمية الرصينة الرصينة بالاعتماد على البحوث المنشورة المجالات المحكمة والكتب العلمية والرسائل والاطاريح الجامعية المحلية او الدولية.
- ✓ يجب أن لا تقل الاستشهادات بالمصادر العلمية عن (25) مصدر رصين وبواقع (50%) من البحوث العلمية كحد أدنى، و (50%) كحد أعلى من الكتب العلمية.
- ✓ يجب ان تكون المصادر حديثة (اخر خمس سنوات)، مع وجود بعض الاستثناءات الضرورية.

ثبت المحتويات

الصفحة	عنوان البحث	اسم المؤلف (المؤلفين)	ت
385-403	The effect of complex exercises according to playing positions in developing some physical abilities of football players aged) 16-18(years	Mohammed Saleem, Ammar Rashid	1
404-431	Building a multi-media scale for security education in sports stadiums from the point of view of those in charge of managing the security of football stadiums	Saad Fahad, Hamid Al-Fatlawi	2
432-448	The effect of rehabilitation exercises with diversity of resistors and moving balance tools in rehabilitating rupture of the second type of muscles for the thigh of the soccer players	Marwa Ali, Haider Rahim	3
449-464	The effect of rehabilitation exercises with diversity of resistors and moving balance tools in rehabilitating rupture of the second type of muscles for the thigh of the soccer players	Firas Al -Zubaidi	4
465-481	The effect of using the strategy Learning by playing for some skills handball patting According to the curriculum for female students Second stage, College of Physical Education and Sports Sciences, University of Baghdad	Yasir Hussein	5
482-495	The effect of special preparation exercises (cardio) on some forms of strength for the arm muscles for bodybuilding players in the Classic Physique class	Ahmed Abdel – Saheb, Ghassan Abdel Hassan	6
496-506	Artificial intelligence is employed in studying the relationship between some physical measurements and the accuracy to the young goalkeepers in football	Yousef Kadhim Abd, Mahdi zeidan, Safwan Hamid	7
507-519	Psychological skills of Iraq fencing clubs' players aged 17 and above for the central and southern regions	Ali Ghadhban , Nedaa Farhoud	8
520-544	Preparing a scale for transformational leadership for administrative bodies from the point of view of Iraqi football club coaches	Mohammed Ali, Mohsen Naseef	9
545-558	The effect of special exercises on the speed of motor response and performance of the snatch skill for wrestling players under (16) years old	Ammar Shihap, Samer Ahmed	10
559-568	The effect of special exercises using a random visual device to develop the response speed of goalkeepers in futsal	Ismaeel Jameel	11
569-580	The effect of the (K.W.L.H) strategy in learning the skill of smashing in volleyball for second-stage female students, College of Physical Education and Sports Sciences	Haider Fathel	12
581-599	The effect of using a sports educational platform on the cognitive achievement of some team games for fifth grade middle school students	Waad Salman, Tariq Al-Talib	13

600-622	The role of awareness media campaigns in spreading health awareness and sports culture among students of the College of Sports Sciences and Physical Activity, King Saud University, Saudi Arabia	Dina Kamal	14
623-627	The Effect of Gyro tonic Exercises on Developing Specific Strength and Performance Achievement in Young Rowers (2000 Meters)	Ayad Daher	15
628-652	The Effect of Specialized Exercises Based on Mechanical Principles on Diagonal Attacks from Positions (2) and (4) Among Third-Year Students in Volleyball	Rania Shaker, Maram Naji, Maher Ameen; Wathiq Taher; Ahmed Kareem	16
653-669	Psychological Shyness and its Relationship to Learning Motivation in Long Jump Performance Among First Year Female Students in the College of Physical Education and Sports Sciences, Al-Muthanna University	Maysaa Matrood, Ahmed Sadeq	17
670-679	The Effect of TRX Suspension Resistance Exercises on Certain Physical Variables and the Accuracy of Performing the Offensive Block Skill in Volleyball	Shaimaa Ibrahim, Dania Hassan	18
680-696	Analysis of chaotic behaviour according to the playing lines of Iraqi Premier League football players	Karrar Radi, Ahmed Hani, Muwafaq Khudhair	19
697-711	The effect of anaerobic exercises on some physical and skill variables in developing scoring accuracy for youth football players	Jassim Judah	20
712-728	Sports culture and its relationship to some basic skills of the rope routine in rhythmic gymnastics for third-stage female students	Zeena Jasem	21
729-755	Organizational laxity of middle and secondary school principals in the Dhi Qar Education Directorate and its impact on the professional affiliation of physical education teachers from their point of view	Thamer Reja	22
756-769	Comparison of some mechanical variables for first and second place with Olympic level and world champions in the high jump at the 2021 Arab Championships	Muhannad Altay, Samer Jamil	23
770-782	Mineral and sugar concentrations taken during matches and their effect on some physical and functional abilities of football players	Hamed Mahdi	24
783-801	The effect of the progressive inquiry model on creative thinking and learning to perform the smash and court defense skills in volleyball for students	Fatima Al-Aboudi	25



The effect of complex exercises according to playing positions in developing some physical abilities of football players aged(16-18)years

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2083](https://doi.org/10.37359/JOPE.V37(2)2025.2083)

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Article history: Received 19/ April/2024 Accepted 6/ May/2024 Available online 28/ June/2025

Abstract

Research objective: To determine the extent of the impact of vehicle exercises on playing positions in developing some talents for football players aged (16-18) years. **The research assumed:** that there were statistically significant differences between the results of the pre- and post-tests in physical abilities according to playing positions for football players aged (16-18) years, in favor of the experimental group. **The researchers used the experimental method** (by designing two experimental groups and a control group with pre- and post-tests for its suitability and the nature of the problem, to achieve the research objectives). The community of origin (216) was deliberately identified, represented by Kirkuk Governorate football club players aged (16-18 years) who represent (10) clubs. The number of members of the research community was (26) players. The research sample was randomly divided into two groups, one experimental and the other a control, with (10) players for each group. A number of players were chosen from the research sample to conduct the exploratory experiment, numbering (6) players. The research sample numbered (20) players, with a percentage of (12.03%) of the total research community. The research sample was chosen intentionally, represented by North Gas Sports Club players aged (16-18) years, and the exploratory experiment was conducted on Tuesday, September 19/9/ 2023, at (five-thirty in the afternoon) at the North Gas Sports Club stadium. Football on a group of players in the basic research sample, which numbered (6) players. **The researchers concluded:** that complex exercises according to playing positions have an impact in developing the physical abilities of football players aged (16-18) years, **the most important recommendations.** The

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necessity of using complex exercises according to playing positions in developing the physical capabilities of football players aged (16-18) years by coaches working in clubs and national teams.

Keywords: compound exercises, playing centers, physical abilities.

Introduction

Progress in the field of sports reflects the extent of countries' progress, the extent of their advancement, and their interest in building individuals and their personalities. Competitions at the continental, Olympic, international, and global levels It is considered a criterion and standard for demonstrating the level of physical, motor, functional, skill and planning progress in mastering the performance of sports movements with their various requirements that the athlete performs in their most beautiful forms. The great achievements made in various sporting events did not come by chance, but rather through correct scientific planning and the employment of specialists in the field of sports and all sports sciences Home and support to reach the highest levels in it, the training process in recent years has begun to take a different form and direction than it was in the past. This process began to focus on making the player train according to the conditions that occur in the competition and adapt to all the variables and different situations that the match witnesses. Therefore, the coaches resorted to using what are called compound exercises. Which usually take the form of what is called compound exercises (physical - skill), which means that the player performs exercises that contain a physical and skill aspect according to the type of event or activity. As for the other form of it, it includes compound exercises. (Skill-planning) which means that the player performs complex exercises that include performing certain skills specific to the type of activity or event being practiced and linking them to the plans for that event. Sami Al-Saffar believes that these exercises mean using more than one condition during one exercise. For example, the trainer can give exercises that include technical and tactical skills (skill-tactical) or give exercises (physical-skill) (Al-Saffar, 1990, page 32). Al-Khashab et al. (1999) believe that compound exercises are "those exercises that contain more than one exercise and are performed by two or more players. They can be used well to develop tactical, skill, physical and psychological training aspects. The player performing the exercise with his teammate represents a repetitive skill of the game." (Al-Khashab et al., 1999, p. 191). This is confirmed by the study (Khalaf et al., 2014) and the study (Bilal and Al-Sabry, 2020). Hence, the importance of the research came through the use of compound exercises according to playing positions in developing the physical abilities of football players aged (16-18) years.

According to the above, the researchers should review some studies that have a relationship in terms of the studied variables. Among these related studies are

A study- on the effect of specific exercises on developing speed, agility, and motor agility, and their relationship to some basic soccer skills. (Kamel Wameed, 2012)

This is confirmed by the study (Kamel Wameed, 2012), in which the experimental method was used because it is more appropriate to the nature of the research, on a sample of (20) players who were divided into two groups, a control and an experimental, in a random manner. The researchers concluded that the compound and specific exercises have a positive effect in developing the physical abilities under study, as they showed a tangible improvement in the post-tests of the experimental group.

A study- on the effects of compound exercises on some physical attributes and basic skills of youth futsal players. (Atrushi Deldar, 2023)

(Al-Atroshi Deldar, 2023) mentions in his study in which he used the experimental method for its suitability to the nature of this problem, as the main experiment was applied to the Al-Futowa Sports Club for football and to a sample of (22) players who were chosen intentionally and at ages (16-19) years. It was divided into two groups, experimental and control, with (8) for each group, after (6) players were excluded, (4) of them for the purpose of the main experiment and (2) of them were goalkeepers. The researchers concluded that the method used in the compound exercises led to the development of all physical characteristics and basic skills of indoor soccer players aged (16-10) years, through comparing the results of the pre-and pre-tests.

Study- The effect of compound exercises with added relative weights on some physical abilities in young soccer players (Hassan and Abbas, 2019)

In his study, in which he used the experimental method for its suitability and the nature of this problem, the main experiment was applied to the juniors of the Police Sports Club in football and to a sample of (25) players, representing (10%) of the research community. The sample was divided randomly into two equal groups using the double numbering method, and the experimental group received even numbers. The control group was based on odd numbers. The number of the experimental group was (10) players, the number of the control group was (10) players, and the number of the exploratory experimental group was (5) players. Then the researchers conducted the pre-tests, and the researchers prepared compound exercises with added weights for the targeted muscle groups in football at a rate of (3) training units per week, and the duration of the prepared training units was (6) weeks at a rate of (18) training units. The researchers reached a set of conclusions and recommendations, including that compound exercises with added relative weights have a positive impact on some of the physical abilities under study. The researchers recommended the necessity of using compound exercises in preparing young football players, due to their clear impact on physical abilities.

Method and tools

The researchers used the experimental method (designing the experimental and control groups with pre- and post-tests to suit the nature of the problem, to achieve the research objectives). The original community was deliberately identified, numbering (216), represented by Kirkuk Governorate football club players aged (16-18 years) representing (10) clubs. The number of individuals in the research community was (26) players. The research sample was divided randomly by lottery into two groups, one experimental and the other control, with (10) players for each group. A number of players were chosen from the research sample to conduct the exploratory experiment, amounting to (6) players. The research sample numbered (20) players, with a percentage of (10.08%) of the total research community. The research sample was selected, which was represented by the players of the North Gas Sports Club, aged (16-18) years, and the exploratory experiment was conducted on Tuesday, corresponding to (9/19/2023), corresponding to (five thirty in the afternoon), and on the North Gas Sports Club football field, on a group of players from the basic research sample, numbering (6) players, and sample homogeneity was found in the variables (height, mass, chronological age, training age).

Table No. (1) shows the homogeneity of the sample in variables (height, mass, chronological age, training age)

N	the variables	Unit of measurement	Arithmetic mean	Standard deviation	mediator	skewness	distribution
1	height	CM	177.3000	2.27342	177.5000	.065	natural
2	mass	k	54.4500	4.89334	55.0000	-.009	natural
3	chronological age	In months	212.8500	5.39273	212.5000	.058	natural
4	training age	In months	56.8500	5.39273	56.5000	.058	natural

By reviewing Arab and foreign scientific sources and surveying the opinions of specialists in the field of sports training and football science for the purpose of accurately determining the tests that serve the subject of the researchers' study, and by conducting personal interviews to determine some physical abilities (explosive strength of the legs, distinctive strength with speed of the legs, transitional speed, speed endurance), The researchers used the following devices: (1) Beuer

medical scale, (2) Casio manual stopwatches, made in Japan, (1) HP laptop, (2) Data Show device, (1) Time Gate, and (1) Stop Watch.

The tools used under investigation

(3) whistles, (15) footballs, (25) flat markers, (30) cones of each type, (30) hurdles of (45-50-53-55-58 cm) in height and (10) in height (60 cm), (10) agility ladders, (80) agility rings, (30) agility poles, (60) cones of (5) cm in height, open football field, (50 m, 14 m) measuring tape.

Current search procedures

The tests used are under investigation

- 1- **Vertical Jump Test** (Eldridge, Brown and, 2020, p. 45)
- 2- **Leg Strength Test 10 (hops on one leg, right and left)** (Robert Morford, 2008, page 46)
- 3- **Transitional speed test (running (30) meters from a high start)** (Hassanin, 2001, page 220)
- 4- **Speed endurance test: Running-Based Anaerobic Sprint Test (RAST)** (European Society of Sports Traumatology, 2018, p. 22)

Exploratory experiment

In order to provide a clear and accurate picture of the vocabulary of the physical tests nominated to serve the training curriculum, the researchers, in cooperation with the assistant work team, conducted the first exploratory experiment for the tests of the above variables on (9/19/2023), corresponding to (Tuesday), at (5:30 PM). And on the North Gas Sports Club football field, on a group of players from the basic research sample, numbering (6) players, through the work of the assistant work team in applying the above tests, numbering (4) tests, in order to identify:

Knowing the suitability of the field for conducting tests, knowing the problems and difficulties in order to avoid them in the main experiment, knowing the suitability of the tools used in the research, knowing the time required to conduct the tests, knowing the efficiency of the support team for the measurement process and recording the results.

The second exploratory experiment

The researchers, in cooperation with the assistant work team, conducted the second experiment on (20/9/2023) corresponding to (Wednesday) at (5:30 pm) on the North Gas Sports Club football field on a sample of (6) players from the basic research sample, with the aim of obtaining the maximum pulse used in the research through a test whose content includes maximum performance for a period of (10) seconds (running a distance of (100) meters at the maximum possible speed). the time of this distance falls within the anoxic phosphagen system, which gives a true indicator of the maximum pulse and identifying the maximum pulse of each player from the experimental and control research sample and extracting the average rate of the maximum pulse for the purpose

of finding the target pulse for each exercise and according to the training intensity determined for the exercises in order to reach:

Developing complex exercises in terms of the components of the training load and their specificity (intensity, volume, density) after finding the maximum pulse for the sample, measuring the resting pulse of each player before starting the maximum exercise specific to the maximum pulse and immediately after finishing it via the carotid artery and within (6) seconds and multiplying the result by (10) to obtain the pulse per minute.

Then, the researchers conducted the pre-tests for the variables under study on Monday, November 23, 2023, at half past five in the afternoon, at the North Gas Sports Stadium. After that, they conducted the main experiment on Saturday, December 2, 2023. The researchers applied the curriculum using compound exercises, Appendix No. (3), as the number of training units was (3) training units per week on (Saturday, Monday, Wednesday) Appendix No. (4) with a total of (30-32) training units and the number of weeks between (10-12) weeks and the number of compound exercises used in one training unit (3-4) exercises, as the researchers used part of the main section of the training unit as the rate of compound exercises for the main section (42.35 min/second - 58.58 min/second).

Statistical methods:

The researchers used the statistical package (SPSS) to process the data obtained, as they used the following:

- Arithmetic mean.
- Median.
- Standard deviation.
- Coefficient of skewness.
- Percentage.
- Independent samples t-test.
- Non-independent samples t-test.

Results: -

Display and analyze the results of the pre- and post-tests of the physical abilities used in the research.

Table (4-1) shows the calculated T value and the error rate for the pre- and post-test of the physical abilities of the experimental and control groups used in the experimental groups

N	Tests	Unit of measurement	Groups	mean difference	Std. deviation	Standard error difference	T	error rate
1	Vertical Jump Test	M/C	Control	-.02200	.01549	.00490	-4.491	.002
			Experimental	-.32600	.21521	.56806	-4.790	.001
2	Leg Strength Test 10 (hops on one leg, right)	M/C	Control	-.20000	.79197	.25044	-.799	.445
			Experimental	-1.3050	.72419	.22901	-5.698	.000
3	Leg Strength Test 10 (hops on one leg, left)	M/C	Control	-1.32600	1.1978	.37879	-3.501	.007
			Experimental	-2.32200	1.14582	.36234	-6.408	.000
4	Transitional speed test	Second	Control	.10300	.13573	.04292	2.400	.040
			Experimental	.37000	.22760	.07197	5.141	.001
5	Speed endurance test	second	Control	.42800	.53013	.16764	2.553	.031
			Experimental	2.44300	2.14728	.67903	3.598	.006

* Significant at degree of freedom (20-2=18), and error level (0.05).

Table (4-2) shows the waist, Standard deviation, the specific (t) value, and the statistical significance of the creative tests for the experimental and control groups for the fitness abilities

used in the research.

Statistical parameters of the studied variables	groups	creative tests		(T)	* sig	Result
		Waist	Standard deviation			
Vertical Jump Test	experimental	2.5590	.16489	5.731	.004	Moral
	control	2.2440	.05502			
Leg Strength Test 10 (hops on one leg, right)	experimental	22.1900	1.14905	3.505	.024	Non- moral
	control	20.8100	0.47947			
Leg Strength Test 10 (hops on one leg, left)	experimental	22.0820	1.08222	2.395	.572	Non- moral
	control	21.0610	.80416			
Transitional speed test	experimental	3.1300	.02789	-9.616	.002	Moral
	control	3.4150	.08947			
Speed endurance test	experimental	33.4770	.46387	-4.446	.005	Moral
	Control	36.1050	1.81053			

* Significant below the significance level < (0.05).

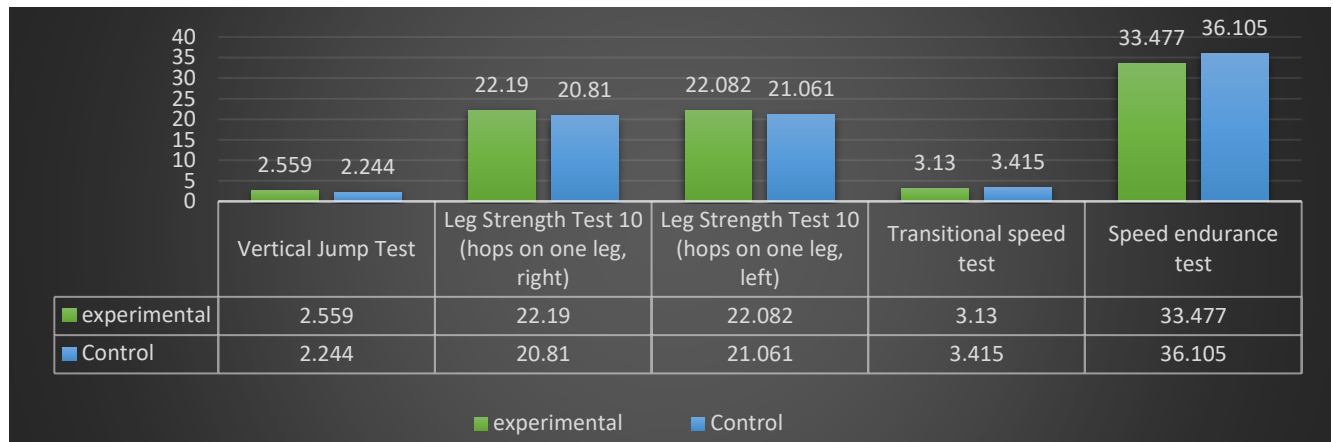


Figure (4-1) illustrates the arithmetic means of the post-tests in the physical ability variables for the experimental and control groups.

It is clear from the results of Table (2) and Figure No. (1) that the (Sig) values of the physical variables of the experimental group are smaller than the significance level, which is 0.05. This indicates the presence of significant differences in favor of the post-test for the experimental group, as the explosive strength of the two men had an arithmetic mean of (2.4030) and a standard deviation of (0.03889) and a significance value of (0.000), which indicates significant differences. In the post-tests in the variable of explosive power and in favor of the experimental group, as for the variable of power characterized by speed for the two men, it had an arithmetic mean of (22.2900) for the right man and a standard deviation of (1.36366) and a significance value of (0.238), as for the power characterized by speed for the left man, it had an arithmetic mean of (22.0820) and a standard deviation of (1.08222).

The significance value is (0.091), which indicates insignificant differences in the post-tests in the variable of strength characterized by speed for the two men, and the variable of transitional speed had an arithmetic mean of (3.1110) and a standard deviation of (0.02283) and a significance value of (0.001). Which indicates the significant differences in the post-tests in the variable of transitional speed in favor of the experimental group, and the variable of speed tolerance had an arithmetic mean (33.8120) and a standard deviation (1.25782) and a significance value (.005), which indicates the significant differences in the post-tests in the variable of speed tolerance in favor of the experimental group.

Discussion of the pre- and post-tests of physical abilities used in the research.

The researchers attribute the reasons for the significant differences between the results of the pre- and post-tests of the physical variables (explosive power, transitional speed, speed endurance) in favor of the results of the post-tests for the experimental research sample individuals to the nature of the compound exercises used in the training curriculum developed by the researchers‘

The researchers attribute the reasons for the significant differences in the results of the two strength variables (explosive strength of the legs) to the use of compound exercises, which include a

homogeneous and harmonious mixture, matching the requirements determined by the external load, the most important of which are (training goal, age group, preparation stage, and specificity of the game). As the compound exercises include requirements with various objectives with a complex content whose goal is to include physical abilities (explosive power, strength characterized by speed, transition speed, and speed endurance) in each exercise, jumping over hurdles at different heights that are compatible with the intensity and goal designated for each training unit and appropriate for the age group and the research sample. Also, broad jump exercises for different repetitions according to the goal of the training unit, and ground ladder exercises by performing skipping movements on the ladder for different distances and in coordination with the work of the arms, legs and eyes, and providing the special requirements for each of the variables in the training unit. All of these exercises were developed in a precise and standardized scientific manner in terms of work and rest periods in terms of the number of repetitions and sets, and also taking into account the rest periods between repetitions and rest periods between sets in a way that serves the main goal of the training unit. **As for the variable of the long jump** from a standing position to measure the explosive power of the legs, it is considered one of the important physical abilities for a football player, as the leg muscles represent 50% of the body's muscles, and any development in the leg muscles is the main goal of the important goals in football in jumping, running and scoring, and we can see this by looking at the developed thighs of most football players. It has a major role in increasing speed, stability and balance while performing movements and duties on the field, friction with the opponent, scoring power and starting movement power, i.e. getting rid of the body's inertia, and this is identical to what was mentioned by (Jamal Sabry 2019). Leg training is key to total body growth. Leg muscles account for approximately 50% of the body's muscle mass, and leg training will have a positive impact on the upper body. Because leg training requires significant effort, it increases the production of testosterone and growth hormone, both of which are essential components of muscle growth. Also, because leg exercises form the main structure in the standing position, they require large and unspecified amounts of activation of the core muscles to support the spine, not only to perform their work in the legs, but the heart and lungs are also involved (Abdullah Jamal Sabr, 2019). By linking special strength with special speed, the compound exercises included exercises that would develop this physical ability as one of the important abilities for football players, and this is what is confirmed by (Al-Khashab Zuhair and others, 1999, page 626).

The training units also contain exercises using the plyometric training method according to two methods: first, power, such as performing the power bound jump exercise and jumping exercises from obstacles at different heights according to the player's maximum ability. Based on this, the intensity of the training unit is determined. Second, speed. For example: Performing the Fast High Knees exercise using a floor ladder and at different distances, as plyometric exercises develop the ability of soccer players. In addition, each of the previous types has a specific characteristic, as the ability exercises combine maximum strength and maximum speed in the activity as in explosive movements, and speed exercises help in reducing the time required to perform the required movements) (Amy Allmann, 2018, p. 100). Amy et al. (2018) state that "the three types of plyometric exercises (rhythmic, power, and speed) depend on the goal of the exercise

and the nature of the load or burden on the player's body. The researchers relied on the American College of Sports Medicine (ACSM 2012) classifications of plyometric exercises in terms of intensity level." On exercises of low, medium and high intensity levels, and these divisions came based on several factors, including the height of the obstacles, the length of the ground ladder and the degree of complexity associated with the exercise performed and the training unit containing more than one compound exercise, the goal and purpose of which is to develop the physical, motor and functional abilities and basic skills of football players. The researchers agree with scientific sources that show the importance of plyometric training in developing ability (explosive power) (Nicholas Ratamess, 2020, p. 396), as (Sabry 2018) states that (plyometric training is one of the effective ways to develop ability by developing the athlete's ability to be stronger and faster (Farag Gamal Sabry, 2018, pp. 451-520).

As for the variable of strength characterized by speed for the two legs through the test (10 hops on one leg), its results were not significant in the post-tests despite the fact that the compound exercises contained requirements with diverse objectives with a complex content whose goal was to include physical abilities (explosive strength, strength characterized by speed, transitional speed, and speed endurance). In each of these exercises, (jumping over hurdles at different heights that are compatible with the intensity and goal assigned to each training unit and appropriate for the age group and the research sample, as well as starting exercises for different distances and as far as possible and with different intensities and for different repetitions according to the goal of the training unit, Ground ladder exercises (agility ladder) by performing skipping movements on the ladder for different distances and in coordination with the arms and legs and the eye of the partridge on the agility ladder on one leg (right and left) and for different distances as well and providing the special requirements for each of the variables in the training unit. However, the results of the post-tests were not significant because the exercises used by the trainer in the control group in the training units were similar to these exercises in terms of jumping and hops for specific distances determined by the trainer, in addition to the fact that most of the skill exercises in football depend on the legs in performance, including: (Suppression, handling (short, medium and long), rolling, running with the ball, scoring, dribbling, receiving and delivering the ball) all depend on the legs in performance, (Mondher & Khalaf, 2023) so their results were insignificant, as the nature of the game of football requires the player to perform many and varied movements, most of which are of a fast nature, as well as manly play. In order to get the ball and quickly change the direction and location of the ball and the players frequently change their positions in defense and attack, in addition to the long time that the match takes, which is (90) minutes and may extend in some cases to (120) minutes, which requires the player to make a great effort by developing physical abilities, including strength distinguished by speed (Abdullah Jamal Sabr, 2019, page 167)

As for the 30m running tests from a high start to measure (transitional speed), the compound exercises according to the playing positions had a major role in developing the transitional speed of the experimental research sample, as running as fast as possible is one of the physical abilities that football players often need in counter-attacks and surprises, as well as in returning to defend the area. (Salman et al., 2022)



The researchers attribute this development to the existence of a link in exercises between strength and speed, and this was confirmed by (Qasim Hassan Hussein and Abdul Ali Naseef 1998), as speed generally depends relatively on strength, as speed is the performance of a movement resulting from strength with its connection to time as well as the mass of the body (Hussein and Naseef, 1998, page 91). The researchers attribute this result to the type of complex exercises developed by the researchers, which included transitional speed exercises using high and deep jumping exercises, jumping exercises, and exercises on the ground ladder for different distances, as well as launches for different distances. The compound exercises combined more than one characteristic that played a role in developing the transitional speed of the research sample, as these exercises were designed in a way that is consistent with the requirements of the modern game of football according to the playing positions and their specificity, and this is what was mentioned by (Mustafa Jassim 2019)

Transitional speed in football is linked to other physical qualities such as explosive strength, response speed, flexibility and agility (Zaid et al., 2019, p. 74).

The researchers attribute **the reasons for the significant differences** between the results of the pre- and post-test for the physical variable of speed endurance, in favor of the results of the post-test for the experimental sample members, to the compound exercises, which included training using hurdles of different heights, in addition to the circular rings, as well as jumping, hopping, running with a jump, and the ground ladder at different distances. (Kadhim, 2024) These exercises have a positive impact on developing and achieving speed endurance requirements. The researchers attribute these results to the effectiveness of the compound exercises that the members of the experimental group underwent, which led to the creation of adaptations that had an effective impact on developing and enhancing speed endurance capabilities. The exercises that were focused on in the training process had a high correlation with special endurance, as they included various distances performed by the player according to the intensity that changed with the change in the type of exercise, its goal, the distance, the speed, control of the required intensity, and the appropriate rest time between repetitions. The speed endurance training was appropriate to the levels of the experimental group members and according to their physical abilities, which contributed to stimulating the largest number of muscle fibers and causing physiological changes in the body, which led to improving the efficiency of the working muscles during performance. The more efficient the muscles performing the effort, the less time the tests are performed. Also, compound exercises contain several variables, including explosive power, characterized by speed, transition speed, and speed endurance. (Kadhim & Mousa, 2024) These exercises also contain the performance of quick launches with maximum intensity and for short periods of time not exceeding (5-15) seconds for each launch, within the scope of the work of the first phosphagen energy system, with rest at a ratio of (2:1) and up to (4:1) (Al-Fattah Abu Al-Ala Ahmed, 2016, page 333). (Work: Rest) between those starts, meaning the player performs a start at the maximum possible speed for a specific distance, after which he takes an incomplete positive rest, such as: (walking, jogging, or controlling the ball), then he performs another start, and so the performance continues at the same speed as much as possible until several starts are performed in one repetition. Although the apparent motor form of the performance is consistent with speed training in terms of

time and intensity of performance, giving incomplete rest between starts transformed the performance from speed training to speed endurance training, and the working energy system became the second lactic system. In support of this implemented method, (Abu Al-Ala 2016) (Al-Fattah Abu Al-Ala Ahmed, 2016, page 204) is mentioned. (When developing the speed element, the nature of the performance is at maximum intensity and with a work period of between (5-10) seconds, with a long rest period given to restore the recovery of the phosphagens components, and not giving sufficient rest will force the muscles to work with the lactic energy system instead of the phosphagens energy system. Instead of the goal being to develop the element of speed, the goal becomes to develop speed endurance. (Al-Jamal Shaimaa Al-Sayed Ibrahim, 2017, p. 133) explains: (When speed training is repeated using the phosphagen energy production system several times with incomplete rest periods, the training is directed towards developing speed endurance.) Regarding the method used to repeat the performance with short maximum bursts and partial rest periods in between, (Bomba and Carlo, 2015, p. 151) indicate: The ability to repeat bursts is called short lactic speed (lactic speed short), which expresses the non-lactic capacity in which bursts of less than (6) seconds are repeated, with partial recovery between those bursts until the performance becomes expressive of short lactic power (lactic power short). This method allows the aerobic capacity to participate with difficulty in short rest periods to replenish phosphate during aerobic phosphorylation (Bomba and Carlo, 2015, p. 276).

Through the study conducted by the researchers and after reviewing the results, they reached a set of conclusions as follows: -

- Compound exercises have a positive and noticeable effect on developing some physical abilities of football players aged (16-18) years, according to the results of the pre- and post-tests of the experimental group.
- The experimental group that used compound exercises achieved better development than the control group that used the curriculum used by the trainer to develop the physical abilities covered by the research, except for the strength characterized by speed for the legs.
- The curriculum prepared by the trainer for the control group led to a slight development in some of the physical abilities under investigation.

In light of the conclusions of this study, the researchers propose the following recommendations:

- The necessity of paying attention to compound exercises when developing training curricula for football players aged (16-18) years, given the research results that have shown a development in the physical abilities under study.
- Emphasizing the need to develop and prepare training curricula in scientific, studied, and standardized ways, in terms of work and rest periods between repetitions and sets, as this allows the player to recover and restore the ATP complex to produce energy within the muscles in the body in general, and the working muscles in particular.
- Preparing similar studies on important variables in other sports and events.

Appendix No. (1)

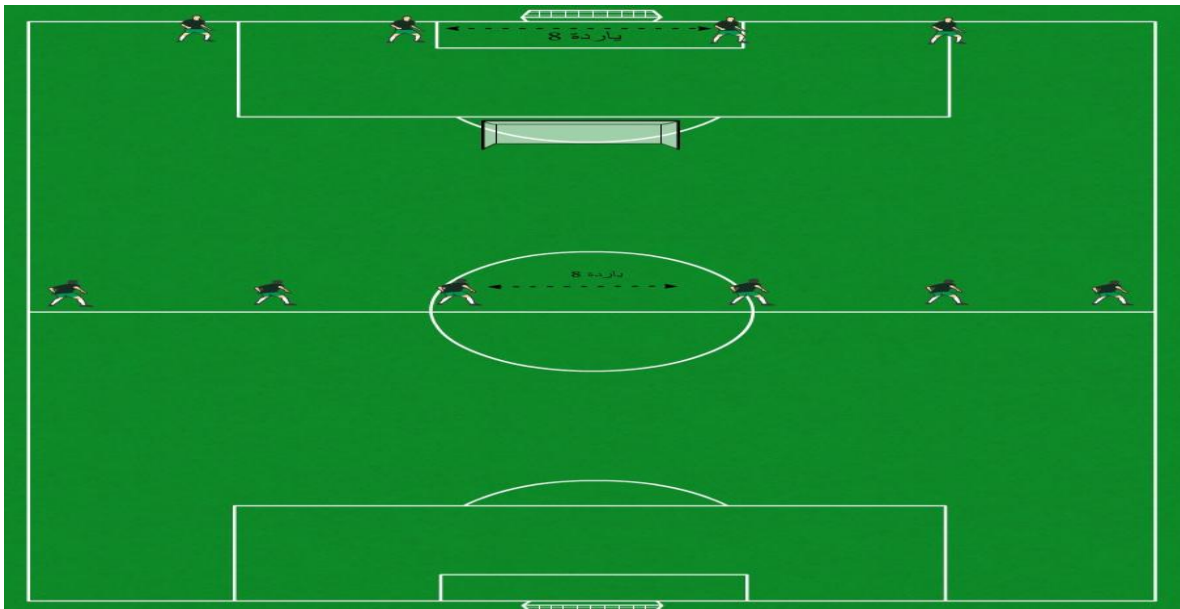
Personal interviews conducted by the researchers with experts and specialists in the field of training science and football to determine physical variables.

N	Name	Scientific title	Workplace	Scientific specialization
1	Sabah Qasim Khalaf	Professor	College of Physical Education / University of Baghdad	Training – Football
2	Saleh Radhi Amish	Professor	College of Physical Education / University of Baghdad	Tests and Measurements - Football
3	Zahra Shihab Ahmed	Professor	College of Physical Education / University of Baghdad	Tests and Measurements -
4	fairs same	Professor	College of Physical Education / University of Baghdad	Tests and Measurements - Football
5	Diaa Naji Abboud	Professor	College of Physical Education / University of Baghdad	Training – Football
6	Maytham Habib Subhan	Professor	College of Physical Education / University of Baghdad	Training – Football
7	Naji Kazim Ali	Professor	College of Physical Education / University of Baghdad	Training – Football
8	Asaad Lazim	Professor	College of Physical Education / University of Baghdad	Tests and Measurements - Football
9	Khalil Sattar Muhammad	Assistant Professor Dr	College of Physical Education / University of Baghdad	Tests and Measurements - Volleyball

Addition No. (2)
Names of the support team

N	Name	Scientific title	Workplace	Scientific specialization
1	Wagdy Majeed Saeed	Assistant teacher	College of Physical Education / University of Kirkuk	Physiology of Sports Training - Handball
2	Mohammed Hadi Jassim	Doctor teacher	Kirkuk Education Directorate	Training – Football
3	Ali Sami Ezzat	Assistant teacher	Kirkuk Education Directorate	Psychology - Football
4	Ali Sabah Ahmed	Assistant teacher	Kirkuk Education Directorate	Psychology - Boxing

Appendix No. (3)
Examples of the compound exercises used in the research



Note:

- The basic position for the drills is for the defensive players to stand behind the goal at a suitable distance for performing the drills. The distance between each defensive player is 8 yards. The

midfielders and attackers stand on the midfield line, with a distance of 8 meters between each player. The players stand according to their playing position on the team.

- After completing the exercises set by the players, the normal playing situation with the ball begins, and each player performs the tasks, duties, and movements assigned to him according to the playing positions. The exercise ends with the ball being intercepted by the defending players, or scoring on goal by the attacking players, or when the ball goes out of the field.
- All exercises are complex, containing physical, motor, functional and basic skill variables.

Exercise symbol	Description of the exercise
A1	Players stand in the basic position of the exercise and perform skipping movements (raising the knees high and alternating) on a 5-meter floor ladder back and forth, in coordination between the legs and arms, and as fast as possible. Then they perform a roll between 6 poles, with each pole 50 cm apart from the other. Then they run at maximum speed for a distance of 11 meters back and forth. Then the player jumps into 30 cm diameter rings, each ring 30 cm apart, with one leg (right, left) back and forth. Then the exercise is completed according to the players' positions and movements.
A2	Players stand in the basic position for the exercise and perform skipping movements (raising the knees high and alternating) on a 5.5-meter floor ladder back and forth, in coordination between the legs and arms, and as fast as possible. Then they perform a roll between 6 poles, with each pole 50 cm apart from the other, and then they run at maximum speed for a distance of 11 meters back and forth. Then the player jumps into 30 cm diameter rings, each ring 30 cm apart, with one leg (right, left) back and forth. Then the exercise is completed according to the players' positions and movements.
A3	Players stand in the basic position of the exercise and perform skipping movements (raising the knees high and alternating) on a 6-meter-long ground ladder back and forth, in coordination between the legs and arms, and as fast as possible. Then they perform a roll between 8 poles, with each pole 50 cm apart from the other. Then they run at maximum speed for a distance of 12 meters back and forth. Then the player jumps into 4 rings with a diameter of 30 cm, each ring is 30 cm apart from the other, with one leg (right, left) back and forth. Then the exercise is completed according to the players' positions and movements.

A4	<p>Players stand in the basic position for the exercise and perform skipping movements (raising the knees high and alternating) on a 6.5-meter-long ground ladder back and forth, in coordination between the legs and arms, and as fast as possible. Then they perform a roll between 5 poles, with each pole 50 cm apart, back and forth. Then they start at maximum speed for a distance of 12.5 meters back and forth. Then the player jumps into 5 rings with a diameter of 30 cm, each ring 30 cm apart from the other, with one leg (right, left) back and forth, and then the exercise is completed according to the players' positions and movements.</p>
A5	<p>Players stand in the basic position of the exercise and perform skipping movements (raising the knees high and alternating) on a 7-meter-long ground ladder back and forth, in coordination between the legs and arms, and as fast as possible. Then they perform a roll between 6 poles, with each pole 50 cm apart, back and forth. Then they start at maximum speed for a distance of 13.5 meters back and forth. Then the player jumps into 6 rings with a diameter of 30 cm, each ring 30 cm apart from the other, with one leg (right, left) back and forth, and then the exercise is completed according to the players' positions and movements.</p>
A6	<p>The players stand in the basic position of the exercise and perform skipping movements (raising the knees high and alternating) on a 7-meter-long ground ladder, back and forth, in coordination between the legs and arms, and as fast as possible. Then they perform a roll between 8 poles, with the poles 50 cm apart, back and forth. Then they start at maximum speed for a distance of 14 meters, back and forth. Then the player jumps into 7 rings with a diameter of 30 cm, each ring 30 cm apart from the other, with one leg (right, left) back and forth, and then the exercise is completed according to the players' positions and movements.</p>



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Building a multi-media scale for security education in sports stadiums from the point of view of those in charge of managing the security of football stadiums

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2220](https://doi.org/10.37359/JOPE.V37(2)2025.2220)

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Article history: Received 17/ October/2024 Accepted 4/ November/2024 Available online 28/ June/2025

Abstract

The research aims to build a scale (multiplicity of sports media) from the point of view of those in charge of managing the security of Iraqi football stadiums and to identify the role of the multiplicity of sports media in security education for sports stadiums, using the descriptive research methodology in the survey method, on the research sample represented by those in charge of managing the security of sports stadiums in football working in (the Iraqi Ministry of Interior, the Ministry of Youth and Sports and the Iraqi National Olympic Committee), which amounted to (592) divided into three exploratory samples (10), structural (300), and the main Applied (282), the researcher used the system (SPSS) to process the research data statistically, to find out the validity of the construction of the scale, and after the results obtained by the researcher reached that the scale (multiplicity of sports media) contributes to the contribution rate (58.6%) to security education in sports stadiums, although the scale is suitable for what was built for it according to the conditions of measurement and construction in the science of sports management, and the researcher recommended the need for coordination between those in charge of managing the security of sports stadiums with multiple sports media to support and spread security education In stadiums, with the establishment of seminars, conferences and workshops with the participation of researchers and academics and the presence of federations, clubs and heads of fan associations with the aim of security education in football sports stadiums.

Keywords: Sports media, security education, sports stadium security management.

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Introduction

Most countries seek to strengthen the bonds of friendship between them by holding sports tournaments in sports stadiums. The availability of security for individuals (fans, players, referees, administrators, and important figures who may attend matches, or for sports facilities) is a basic condition for holding sports tournaments. (Khashai Al-Hajj, 2018: p. 3) defined sports stadiums as“ a place equipped with sports means and capabilities and designated for practicing sports activities and providing the necessary services to achieve sports goals, present and future ”.The importance of the research came from studying the percentage of contribution of multiple sports media to security education for football sports stadiums from the point of view of those responsible for managing the security of sports stadiums, in addition to the goal of enriching knowledge and scientific libraries, and helping researchers conduct other scientific studies similar to the current study for the same research community.(Issa et al., 2024)

Farouk, Ahmed, 2002: p. 22 defined sports media as“ a collection of technical, material, news, artistic, literary and scientific means that lead to collective communication with people directly or indirectly within the framework of the educational and guidance process for society ”. In order to create a safe environment in football stadiums, the researcher set out to study the role of multiple sports mediums in security education for football stadiums.(Mondher & Khalaf, 2023)

Research objectives

- 1Constructing a Sports Media Multimedia Scale For security education for football stadiums, from the point of view of those responsible for managing football stadium security.
- 2Identifying the level of sports media diversity from the perspective of those responsible for managing football stadium security.
- 3Identifying the relationship between multiple sports media and security education in football stadiums, from the perspective of those responsible for managing football stadium security.

Research areas

The human field is those responsible for managing the security of football stadiums in (the Ministry of Interior and the Iraqi National Olympic Committee), while the spatial field was the football stadiums in Baghdad Governorate, namely (Al-Shaab International Stadium, Al-Habiba International Stadium), while the temporal field is from the date of approval of the research title (12/11/2022) to the date of submitting the thesis in final form.(2024/1/10)

Method and tools

The research community was determined intentionally, consisting of those responsible for managing the security of sports stadiums, who are workers in the field of sports stadium security (officers and members of the Stadium Security Department affiliated with the Facilities Protection Directorate in the Ministry of Interior, as well as employees ofAnd its membersThe stadium security and protocol department of the Iraqi National Olympic Committee, and the youth and sports facilities department in the Ministry of Youth and Sports, who continue to serve

in organizing the management of security of football sports stadiums, numbering (592) individuals, distributed among the stadiums (Al-Shaab International Stadium, Al-Madinah International Stadium), where they were dealt with as one community to solve the problem of this study, divided into three samples that were randomly selected, the survey sample was (10), the construction sample was (300), and the application sample was (282) individuals, as shown in their description in Tables (1) and:(2)

Table (1) shows a description of the boundaries of the research community and the numerical values of the administrative formations in detail.

Administrative formation name	The authority	Governorate	number Senior management	number Middle management	number Executive Management	Total research sample
Stadium Security Department / Al-Shaab Stadium International	ministry Interior	Baghdad	8	199	298	505
Stadium Security and Protocol Department	Iraqi National Olympic Committee	Baghdad	2	4	76	82
Youth and Sports Facilities Department	Ministry of Youth and Sports	Baghdad	2	1	2	5
the total	3	3	12	204	376	592

Table (2) shows the description of the numerical values and percentages for the distribution of research samples when conducting the research.

Administrative formation and total sample number			Number of survey sample members	Number of building sample members (statistical analysis)	Number of main application sample members
Formation name	The authority	Number of people			
Stadium Security Department / Al-Shaab International Stadium	Ministry of Interior	505	5	257	243
Stadium Security and Protocol Department	Iraqi National Olympic Committee	82	4	41	37
Youth and Sports Facilities Department	Ministry of Youth and Sports	5	1	2	2
the total		592	10	300	282
percentage		% 100	% 1.689	% 50.676	% 47.635

Some fractions of percentage values are rounded.

Field research procedures for constructing the research scale

Define the search variable

The idea of constructing the scale came after the researcher reviewed a number of previous similar studies. The researcher resorted to several steps in order to obtain a scale that met the scientific conditions for constructing scales, including defining (the idea and motives, name, goal and purpose) for constructing the two scales.

Define the name of the measure, the objective, and the purpose of the measurement.

The researcher adopted the agreement to name the scientific committee formed in the College of Physical Education and Sports Sciences/University of Baghdad, who agreed to name the scale at

a rate of (100%). The goal and purpose of the scale were also determined, which is to find a scientific means to identify the role of multiple sports media in security education for football stadiums.

Determine the scope of the research and determine its validity.

The researcher adopted the frame of reference to study the research phenomenon, relying on the design of an opinion poll questionnaire^[1].academic specialists^[2]By adopting a percentage of (80%) or more of their agreement according to the determinants of Bloom's criterion, and including the scale (multiple sports media) on a group of proposed fields, with giving an operational definition for each field in order to obtain the agreement of the experts to determine the fields, the number of whom is (21) experts*, to agree on them, as shown in the following table:(4)

Table (4) shows the agreement of the arbitrating experts on the areas of the sports media pluralism scale, whether it is suitable or not.

T	Fields in their initial form	Agree on its name And trust it	Number of agreeing	Number of different	Agreement rate	Notes
1	knowledge	same	21	0	% 100	popular
2	development	—	4	17	% 19.048	unacceptable
3	Educational and teaching	Educational	20	1	% 95.238	popular
4	Commercial	—	3	18	% 14.286	unacceptable
5	Environmental	Health and environment	18	3	% 85.714	popular
6	Tawjihi	Educational	19	2	% 90.476	popular
7	Recreation and entertainment	—	7	14	% 33.333	unacceptable
8	Security	same	21	0	% 100	popular

Number of arbitrators(21)

After reviewing the experts' comments in the questionnaire form, (3) fields were deleted from the sports media pluralism scale, and the name of (3) fields was modified, and (2) fields were kept the same, so that it contains (5) fields, as shown in the agreement results contained in

Table (4) mentioned above“ ,as the fields of scales and tests obtain apparent validity for their acceptance to measure what they were prepared for if (80%) or more of the arbitrating experts agree on them) ”Departy, 2019: p. 25.(

Develop the initial formula for the scale items

The researcher reviewed many previous sources and studies similar to or related to the current study, which deal with how to formulate the paragraphs of the scales, according to the determinants of measurement and evaluation in physical education and sports sciences adopted in the science of sports management and the direct personal interviews that he conducted. The researcher prepared the paragraphs of the scale, and then presented them to a group of experts and specialists numbering (21) (Appendix 1), to show the validity of each paragraph with expressing an opinion on the appropriate answer alternatives, which are: (always, sometimes, never) with graded weights (3, 2, 1) respectively and in the (Likert) method) Liked (The scale is gradually used to calculate the weights of its alternatives in the positive direction only. The paragraphs were adopted as they are, taking into consideration the observations directed by the experts, so that the sports media multiplicity scale becomes (30) paragraphs, as shown in Table (6) mentioned below, to be relied upon in its data to solve the problem of the researched study, as mentioned (Abdul Rahman. 2010: p. 180) that some things must be available in the paragraphs, which are as follows:

- 1Each paragraph of the scale should measure a specific objective with high objectivity.
- 2They must be declarative or emotional sentences that begin with a verb and are not negative.
- 3Provide an opportunity to train evaluators on how to apply the scale.
- 4Limit each estimate to only one variable, be clear in meanings, and avoid complexity.
- 5The paragraphs should be specific, short, and not vague, negative, or express the examinee's condition in the past.
- 6Freedom from the use of semantic phrases and broad theoretical concepts.

Thus, the structure of the scale becomes as shown in Table:(6)

Table (6) shows the structure of the scale in its initial form.

Scale	Agreed upon separate areas	Number of paragraphs	Paragraph answer alternatives	Correction key
Multiple sports media	knowledge	6	always, sometimes, never	1 , 2 ,3
	Educational	6		
	Health and environment	6		
	Educational	6		
	Security	6		
the total		30	3	3

Calculating the weights of the alternatives for the scale items in their initial form (correction key)

The process of correcting the scale is carried out by assigning an appropriate degree to each statement, according to the respondent's answer through the correction key, which is "the tool by which the examiner reveals the answers that indicate the existence of the result being measured" (Mahmoud Allam, 2000, p. 184). To know the answers of those responsible for managing the security of football stadiums, the researcher relied on the correction key for the prepared paragraphs, and the weights were calculated in the positive direction from (1-3) gradually according to the three alternatives in the initial formula of the scale.

Pilot test of the research scale

The researcher applied the exploratory experiment on a group of the research sample, randomly selected in advance from the members of the research community, who are responsible for managing the security of football stadiums in the (International People's Stadium and International City) football stadiums. This exploratory experiment included applying the research scale by distributing the research form to the exploratory experiment sample, selected in advance by (10) members of the research community identified for the exploratory sample, for the purpose of ensuring the clarity of the vocabulary of each of the phrases and alternatives of the scale paragraphs, and familiarizing the assistant work team with the method and procedures of measurement, in addition to knowing the obstacles and difficulties that may arise in the main study in order to overcome them, and knowing the time to answer the scale.

Scientific transactions for the research scale

Scale validity

The validity of the scale means that “the scale measures the characteristic for which it was created” (Abdul Qader Karajah, 1997: p. 141). (A valid test is one that measures with sufficient accuracy the phenomenon it was designed to measure, such that it does not measure anything instead of it or in addition to it) (Nasr al-Din Radwan, 2008: p. 255). The researcher relied in his research on two types of validity: (content validity) and (construct validity).

Content validity of the scale

There are two indicators of content validity, the first of which is apparent validity) **Face Validity** (which indicates the extent to which the scale's items are relevant to the variable to be measured. This indicator of validity is achieved “when a person related to the subject decides that the scale is appropriate for the characteristic to be measured, and this may be an expert) ”. Freeman, 1962 , P 90 ‘ (In order to achieve the apparent validity of the scale and its instructions, the researcher presented the scale in its initial form to a group of experts, numbering (31) experts (Appendix 1) to judge the validity of the paragraphs, and obtain their percentage of agreement on them according to what was determined by the scholar (Bloom) in adopting a percentage of (80%) or more, and the results were to modify and accept the paragraphs by adopting the paragraphs as they are, taking into consideration the comments directed by the experts, so that the sports media pluralism scale becomes (30) paragraphs, with three answer alternatives, and that the paragraphs are valid for construction, as shown in the following Table:(9)

Table (9) shows the results of the agreement on the apparent and logical validity of the items of the sports media multiplicity scale.

T	Number of agreeing	Agreement rate	T	Number of agreeing	Agreement rate	T	Number of agreeing	Agreement rate
1	29	% 93.548	11	28	% 90.325	21	27	% 87.097
2	27	% 87.097	12	31	% 100	22	31	% 100
3	31	% 100	13	29	% 93.548	23	28	% 90.325
4	28	% 90.325	14	28	% 90.325	24	29	% 93.548
5	25	% 80.645	15	27	% 87.097	25	28	% 90.325
6	27	% 87.097	16	29	% 93.548	26	27	% 87.097
7	30	% 96.774	17	28	% 90.325	27	28	% 90.325
8	28	% 90.325	18	29	% 93.548	28	30	% 96.774

9	26	% 83.871	19	31	% 100	29	27	% 87.097
10	27	% 87.097	20	27	% 87.097	30	31	% 100

Number of arbitrators(31)

The results of Table (11) show that the number of items in the sports media multiplicity scale was kept as is .Without deleting any of them, the second indicator is logical truth) **Logical Validity** (It is achieved by the scale's ability to measure a specific area of behavior" ,However, this type of validity is achieved through defining the behavioral area that the scale measures and through the logical design and planning of the items to cover the important dimensions of the behavioral area ". When the area or dimension is specific and known, it becomes possible to cover it with a specific number of items that represent it well (Freeman, 1962, p. 90). This indicator of validity was provided in the current scale at the beginning of its preparation through defining the concept of (multiple sports media) and specifying its areas and items with the assistance of a group of experts in the field of testing, measurement, and sports management.

Constructive validityConstruct Validity (For scale

It is also called (constructive validity) or (concept validity)“ because it depends on experimental verification of the extent to which the scale scores match the concepts or assumptions that the researcher relied on in constructing it. What is meant by this type of validity is the extent to which the scale paragraphs measure the trait or behavioral phenomenon that is to be measured ”(Al-Khaikani: 2008, p. 68). The researcher verified the construct validity of his current scale by applying the scale image to the construction sample for statistically analyzing the paragraph data, which numbered (300) individuals, for the purpose of adopting the internal validity of the scores of this sample for each of (the strength of discrimination of the paragraphs and internal consistency) in the following ways:

Discriminant validity (the discriminating ability of items)

" This method aims to estimate the validity of the test based on its ability to distinguish between those with high scores and those with low scores in the trait or ability that the test measures (Muhammad Radwan: 2006, p. 244).

The researcher found the discriminatory ability of the scale items, by adopting the method of the two extreme groups of the construction sample after arranging the application scores in descending order for each item in the scale and then determining the percentage(%27)Including the number of each group, the highest and lowest of them, which reached(81)An individual in each upper and lower group, and then comparing the results of the individuals in the upper and lower groups by the law) t-test (For unrelated samples, Kelly, Mehrens, and Lyman (1993) state that “adopting a ratio of 27% gives the greatest size and distinction) ”Abdul Jalil Al-Zubaidi and others, 1981: p. 79)

The table (11) The following shows the results of the discrimination ability of the scale items in detail:

Table (11) shows the results of the discrimination ability of the items of the sports media multiplicity scale

field	Paragraphs	The group	Q	$\pm A$	(T) calculated	Sig	significance	discrimination
knowledge	1	high level	3.00	0.00	11.66	0.00	Dal	Distinctive
		Low level	2.37	0.48				
	2	high level	3.00	0.00	39.46	0.00	Dal	Distinctive
		Low level	1.94	0.24				
	3	high level	3.00	0.00	25.33	0.00	Dal	Distinctive
		Low level	1.69	0.46				
	4	high level	3.00	0.00	46.62	0.00	Dal	Distinctive
		Low level	1.15	0.35				
	5	high level	3.00	0.00	43.32	0.00	Dal	Distinctive
		Low level	1.95	0.21				

	6	high level	3.0 0	0.0 0	10.51	0.0 0	Dal	Distinctive
		Low level	2.4 2	0.4 9				
Educationa 1	1	high level	3.0 0	0.0 0	36.68	0.0 0	Dal	Distinctive
		Low level	1.9 3	0.2 6				
	2	high level	3.0 0	0.0 0	25.39	0.0 0	Dal	Distinctive
		Low level	1.7 0	0.4 5				
	3	High level	3.0 0	0.0 0	25.73	0.0 0	Dal	Distinctive
		Low level	1.5 8	0.4 9				
	4	High level	3.0 0	0.0 0	26.29	0.0 0	Dal	Distinctive
		Low level	1.7 8	0.4 1				
	5	High level	3.0 0	0.0 0	32.94	0.0 0	Dal	Distinctive
		Low level	1.9 0	0.3 0				

	6	High level	3.0 0	0.0 0	18.02	0.0 0	Dal	Distinctive
		Low level	2.2 0	0.4 0				
Health and environment	1	High level	3.0 0	0.0 0	9.51	0.0 0	Dal	Distinctive
		Low level	2.4 7	0.5 0				
	2	high level	3.0 0	0.0 0	34.58	0.0 0	Dal	Distinctive
		Low level	1.9 1	0.2 8				
	3	high level	3.0 0	0.0 0	26.57	0.0 0	Dal	Distinctive
		Low level	1.7 9	0.4 1				
	4	high level	3.0 0	0.0 0	25.57	0.0 0	Dal	Distinctive
		Low level	1.7 3	0.4 4				
	5	high level	3.0 0	0.0 0	32.94	0.0 0	Dal	Distinctive
		Low level	1.9 0	0.3 0				

	6	high level	3.0 0	0.0 0	19.56	0.0 0	Dal	Distinctive
		Low level	2.1 7	0.3 8				
Educationa 1	1	high level	3.0 0	0.0 0	25.29	0.0 0	Dal	Distinctive
		Low level	1.6 7	0.4 7				
	2	high level	3.0 0	0.0 0	12.11	0.0 0	Dal	Distinctive
		Low level	2.2 5	0.5 6				
	3	high level	3.0 0	0.0 0	31.62	0.0 0	Dal	Distinctive
		Low level	1.8 9	0.3 1				
	4	High level	3.0 0	0.0 0	30.54	0.0 0	Dal	Distinctive
		Low level	1.8 8	0.3 3				
	5	High level	3.0 0	0.0 0	9.77	0.0 0	Dal	Distinctive
		Low level	2.3 7	0.5 8				

	6	high level	3.0 0	0.0 0	18.02	0.0 0	Dal	Distinctive
		Low level	2.2 0	0.4 0				
Security	1	high level	3.0 0	0.0 0	32.94	0.0 0	Dal	Distinctive
		Low level	1.9 0	0.3 0				
	2	high level	3.0 0	0.0 0	2.75	0.0 0	Dal	Distinctive
		Low level	2.9 1	0.2 8				
	3	high level	3.0 0	0.0 0	36.68	0.0 0	Dal	Distinctive
		Low level	1.9 3	0.2 6				
	4	high level	3.0 0	0.0 0	6.86	0.0 0	Dal	Distinctive
		Low level	2.6 3	0.4 8				
	5	high level	3.0 0	0.0 0	10.51	0.0 0	Dal	Distinctive
		Low level	2.4 2	0.4 9				

		high level	3.0 0	0.0 0				
	6	Low level	1.9 1	0.2 8	34.58	0.0 0	Dal	Distinctive

Significance level (0.05) degree of freedom(N1+N2-2) = 160The meaning of discrimination if it was degree (Say)(0.05) ≤

The results of Table (11) show that the number of paragraphs of the sports media multiplicity scale, amounting to (30) paragraphs, was maintained.

Internal consistency

The researcher used the internal consistency coefficient, which is the second type of construct validity, through which it is possible to know the relationship between the total score of the scale and the scores of each paragraph, because the discrimination coefficient does not determine the homogeneity of each paragraph with the total measurement of the scale“. The discrimination coefficient between the upper and lower groups measures the discrimination of each paragraph and does not determine the degree of homogeneity of the paragraphs in measuring the behavioral phenomenon) ”Tariq Hamid Al-Baldawi, 1987 AD: p. 92 .(Therefore, the researcher resorted to using the internal consistency coefficient, as it“ provides us with evidence of the homogeneity of the paragraphs ,Through which the homogeneity of the scale can be known, as its fields and paragraphs proceed in one order, meaning that if the degrees of each of them rise, it raises the total degree of the scale, and if it falls, the opposite is true". (Abdulameer & Ismail, 2024) The internal consistency coefficient is“ the correlation coefficient between the scores of each paragraph and the total score of the scale ”(Ali Mahdi Kazim, 1994: p. 113). The researcher relied on the scores of applying the scale to the construction sample, which numbered (300) individuals, in the same discriminatory ability procedures, considering that the paragraphs were not deleted or their number differed in the scale, and processing these scores statistically, using the simple Pearson correlation coefficient in three ways for the sports media multiplicity scale. The first is to find the simple Pearson correlation coefficient between the total score of each field with the total score of the scale to which it belongs, as shown in the following two tables (13), and the second is to find the simple Pearson correlation coefficient between the score of each paragraph with the total score of the field to which it belongs, as shown in the following two tables (15), and the third method is to find the simple Pearson correlation coefficient between the score of each paragraph with the total score of the scale to which it belongs, as shown in the following two tables (17) and:(18)

Table (13) shows the consistency of the fields of multiple sports media.(Salih et al., 2024)

Name of agreed-upon domains	(r) Between the field score and the total score of the scale	degree)Say(	Morale of association	Field consistency
knowledge	0.984	0.000	spiritual	consistent
Educational	0.986	0.000	spiritual	consistent
Health and environment	0.993	0.000	spiritual	consistent
Educational	0.991	0.000	spiritual	consistent
Security	0.968	0.000	spiritual	consistent

$n = 300$ degrees of freedom $n - 2 = (298)$ significance level (0.05), the fields are consistent if the degree (Sig)(0.05) \leq

It is clear from the results of Table (13) that the number of fields in the scale was kept without deleting any of them.

Table (15) shows the consistency of the paragraphs of the sports media multiplicity scale.

field	T	(r) Between the paragraph and the total score for the field	degree)Say(	consistency
knowledge	1	0.811	0.000	consistent
	2	0.889	0.000	consistent
	3	0.888	0.000	consistent
	4	0.877	0.000	consistent
	5	0.842	0.000	consistent
	6	0.799	0.000	consistent
Educational	1	0.887	0.000	consistent
	2	0.922	0.000	consistent
	3	0.930	0.000	consistent
	4	0.796	0.000	consistent
	5	0.888	0.000	consistent
	6	0.846	0.000	consistent

Health and environment	1	0.779	0.000	consistent
	2	0.909	0.000	consistent
	3	0.873	0.000	consistent
	4	0.919	0.000	consistent
	5	0.889	0.000	consistent
	6	0.849	0.000	consistent
Educational	1	0.877	0.000	consistent
	2	0.824	0.000	consistent
	3	0.914	0.000	consistent
	4	0.901	0.000	consistent
	5	0.807	0.000	consistent
	6	0.846	0.000	consistent
Security	1	0.910	0.000	consistent
	2	0.451	0.000	consistent
	3	0.657	0.000	consistent
	4	0.706	0.000	consistent
	5	0.799	0.000	consistent
	6	0.909	0.000	consistent

n = 300 Degree of freedom n - 2 = (298) Significance level (0.05), paragraphs are consistent if the degree (Sig)(0.05) ≤

From observing the results of Table (15), it is clear that the number of scale paragraphs was kept without deleting any of them to achieve the conditions of consistency.

Wahib Majeed mentions that there are several criteria for accepting the paragraph using the internal consistency method, including the (Abel) criterion: if the correlation coefficient is (0.40) or higher, the paragraph is very good, and from (0.20) to (0.39), the paragraph is marginal and good but subject to modification, and less than (0.19) it is weak and is deleted, even if the correlation coefficient is significant, thus matching the (Stanley and Hopkins) criterion, which indicates that the acceptance of the paragraph is determined if the correlation coefficient between the paragraph and the total score is higher than (0.20) (Wahib Majeed Al-Kubaisi, 2010 AD: pp. 47-48).

Research scale stability

A good test is characterized by reliability. A reliable test means that “if the test is repeated on a sample, the results of the two tests will be similar” (Muhammad Subhi Hassanein, 2001: p. 124). Calculating the reliability of the scale is also one of the characteristics of a good scale because it shows the consistency of the scale items in measuring what the scale is supposed to measure with an acceptable degree of accuracy. A reliable test means that a test that gives the same or similar results to the same or similar sample and under the same conditions is considered statistically reliable if the correlation coefficient appears significant) ”Louay Ghanem Al-Sumaidaie et al., 2010: p. 120“. (Reliability is extracted in multiple ways, including applying the test and re-application, split-half, the equivalent images method, Cronbach’s alpha equation, Kyodo Richardson, and Hoyt’s equation for analyzing variance) ”Ali Salloum Jawad Al-Hakim, 2004: p. 34)

Split-half method

In order for the researcher to verify the stability of the scale, he adopted the degrees of its application on the construction sample, which numbered (300) individuals, in the same formative validity procedures, considering that the paragraphs were not deleted or their number changed, by adopting the split-half method. This method depends on dividing the test paragraphs into two halves, the first containing the paragraphs with odd numbers and the other containing the paragraphs with even numbers. Thus, this method covers equivalent degrees for the two halves of the paragraphs (Faisal Abbas: 1996 AD, p. 24), & (Kadhim, 2024) for the scale separately, so that the first part of the sports media pluralism scale contains the paragraphs with an odd sequence, which amounted to (15) paragraphs, and the second part contains the paragraphs with an even sequence, which amounted to (15) paragraphs. By using Pearson’s simple correlation coefficient between the scores of the two groups, the correlation coefficient reached (0.990), and after correcting it with the (Spearman-Brown) equation, the stability coefficient of the scale became (0.994), because the correlation coefficient represents a coefficient Half-test stability, as shown in Table:(17)

Table (17) shows the values of the stability coefficient of the two scales.

T	Scale name	Number of paragraphs	Correlation coefficient	Spearman-Brown equation	degree)Say(	Morale of association	Notes
1	Multiple sports media	30	0.990	0.994	0.000	spiritual	Steady and high

$n = 300$ Degree of freedom $n - 2 = (298)$ Significance level (0.05), significant if $(Sig)(0.05) \leq$

The results of Table (17) show that the values of the stability coefficients of the scale are high, which is a high and acceptable indicator of the stability of the scale for adopting measurement tools in sports management.

Objectivity of the research scale

The researcher used the method of repeating a group of paragraphs by selecting the paragraphs of the scale and formulating paragraphs similar to them in meaning but different in wording. It became clear to him later that all the phrases were clear to the sample and that they were characterized by multiple choice alternatives and did not accept answering with more than one alternative and did not contain a phrase for an open answer, as the questionnaire was approved as being highly objective and there could be no disagreement on the scores obtained by the sample members.

Normal distribution and final statistical parameters of the scale construction sample

After the researcher has carried out the previous steps to achieve acceptance of the scientific foundations and transactions of the scale, however, its suitability for those in charge of managing the security of sports stadiums in Iraq must be verified by verifying the natural distribution of the scale's degrees when applying it to the sample of the building specialized in the scientific foundations and transactions in this research, as shown in Table- :(18)

Table (18) shows the final statistical parameters and the two normal distribution values of the scale.

T	Scale name	Number of paragraphs	Total score	arithmetic mean	standard deviation	Coefficient of skewness
1	Multiple sports media	30	90	78.680	12.798	1.073-

N300 = The normal distribution of the Gaussian curve if the value of the skewness coefficient is specified between(± 3)

The results of Table (18) show that the values of the scale skewness coefficients fall within the limits of the normal distribution of the normal Gauss curve determined between (3 ,(\pm and upon completion of this procedure, the work with the building sample is completed.

Final scale image description

After the researcher completed the procedural and statistical construction steps on the construction sample and the survey sample, the researcher arrived at the final images of the scale^{[3]**}The acceptable level of it is that the individual's score exceeds the value of the hypothetical mean of the scale. The scale also contains restricted instructions for the respondents in order to reach the data required to solve the study's problem and achieve its objectives. Table (19) below shows the researcher's verification of the processing of the research results by using the statistical package system (SPSS) version (V26), (statistical package for social sciences) to extract the statistical coefficients.

Table (19) shows the description of the structure of the scale image in the final form.

Scale	Agreed upon separate areas	Number of paragraphs	Paragraph answer alternatives	Correction key
Multiple sports media	knowledge	6	always, sometimes, never	1 ,2 ,3
	Educational	6		
	Health and environment	6		
	Educational	6		
	Security	6		
the total		30	3	3



Conclusions

-1My sports media multi-media scale is suitable for what it was built for and meets the criteria for acceptance as a measurement tool in sports management.

-2Various sports media contribute to security education in Iraqi sports stadiums, with a contribution rate of (58.6%), from the point of view of those in charge of managing sports stadium security.

-3The level of the sports media pluralism scale domains is highly positively related to security education in Iraqi sports stadiums.

Recommendations

.1 Conducting comprehensive research studies to examine and evaluate the work of the media in general and sports in particular, to develop a media strategy and standardized media discourse that will support the efforts of specialized security agencies.

.2 Coordination with the Ministry of Higher Education and Scientific Research, the Ministry of Education, the Ministry of Youth, the Iraqi National Olympic Committee, the Ministry of Interior, and specialized security agencies to utilize the outcomes of this study in addressing and addressing the issue by utilizing various sports media outlets to provide security education in football stadiums.

Appendices

Appendix (1) Names of the accredited academic experts specializing in determining the validity of the fields and paragraphs of the Sports Media Multimedia and Security Cultural Awareness scales.

workplace	Specialization	Academic title	Name and certificate	T
University of Baghdad / College of Physical Education and Sports Sciences	Test and Measure	Mr	Dr. Thaer Daoud	1
Al-Mustansiriya University/College of Physical Education and Sports Sciences	Sports management	assistant professor	Dr. Zainab Falah Hassan	2
University of Baghdad / College of Physical Education and Sports Sciences	Sports management	assistant professor	Dr. Ali Abdel Latif	3
Al-Mustansiriya University / College of Basic Education / Department of Physical Education and Sports Sciences	Test and Measure	assistant professor	of the. Muhammad Ali Jalal	4
Al-Mustansiriya University / College of Basic Education / Department of Physical Education and Sports Sciences	Sports management	Mr	of the. Hi Hantoosh	5
University of Baghdad / College of Physical Education and Sports Sciences	Sports management	Mr	at. Sindus Musa Jawad	6
University of Baghdad / College of Physical Education and Sports Sciences	Sports management	Mr	Dr. Salah Wahab Shaker	7
University of Baghdad / College of Physical Education and Sports Sciences	Sports management	assistant professor	of the. Samer Hamad	8
University of Baghdad / College of Physical Education and Sports Sciences	Sports management	assistant professor	at. Soheir Munab	9

University of Baghdad / College of Physical Education and Sports Sciences	Test and Measure	Mr	Dr. Fares Sami Yousef	10
University of Diyala / College of Physical Education and Sports Sciences	Sports management	Mr	Dr. Othman Mahmoud Shahada	11
University of Baghdad / College of Physical Education and Sports Sciences	Sports management	Mr	Dr. Mohsen Ali Naseef	12
University of Kufa / College of Physical Education and Sports Sciences	Sports management	Mr	Dr. Ghassan Mohammed Abdel	13
Al-Muthanna University / College of Physical Education and Sports Sciences	Sports Management	Mr	Dr. Khaled Aswad Laith	14
University of Kufa / College of Physical Education and Sports Sciences	Tests and Measurements	Mr	Dr. Ayman Hani Abdel	15
University of Maysan / College of Physical Education and Sports Sciences	Tests and Measurements	Mr	Dr. Rahim Attia Al-Zubaidi	16
University of Baghdad / College of Physical Education and Sports Sciences	Sports management	assistant professor	of the. Muhammad Qasi Muhammad	17
University of Basra/College of Physical Education and Sports Sciences	Sports Management	Mr	Dr. Halim Nazzal Jabr	18
University of Basra/College of Physical Education and Sports Sciences	Tests and Measurements	Mr	at. Susan Jawad	19
University of Basra/College of Physical Education and Sports Sciences	Tests and Measurements	Mr	Dr. Qusay Fawzi	20

University of Karbala / College of Physical Education and Sports Sciences	Sports Management	Mr	Dr. Amer Hussein Ali	21
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attached (2) The final version of the Sports Multimedia Scale for Security Education in Iraqi Football Stadiums

First field: Knowledge

T	Paragraph phrases	Answer alternatives		
		always	sometimes	never
1	Various sports media outlets contribute to clarifying the laws and instructions issued by the International Federation, the Iraqi Federation, and the stadium security formations.			
2	Various sports media outlets are interested in publishing announcements and bulletins issued by stadium security units.			
3	Various sports media outlets are keen to host specialists. BamanIraqi sports stadiums in their media coverage.			
4	Various sports media outlets are interested in introducing a list of the most important prohibitions and inappropriate practices in sports stadiums.			
5	Various sports media outlets contribute to informing the public about the mission of sports stadium security units.			
6	Various sports media outlets work to highlight Iraq's identity and cultural history in their media coverage.			

Second field: educational

T	Paragraph phrases	Answer alternatives		
		always	sometimes	never
1	Contribute Various sports media outlets explain the methods and techniques of security training for stadium security formations.			
2	Various sports media outlets review specialized scientific research and studies in the field of stadium security.			

3	Multi-media sports helpOn teaching IT security skills for stadium security.			
4	Various sports media outlets contribute to security education in the sports community through their media discourse.			
5	Various sports media outlets are keen to present educational and preventative programmes to confront the dangers of natural disasters.			
6	Various sports media contribute to clarifying the meaning of traffic signals and signs.			

Third field: health and environment

T	Paragraph phrases	Answer alternatives		
		always	sometimes	never
1	Various sports media outlets contribute to highlighting the dangers of drug and substance abuse.			
2	Various sports media outlets are keen to clarify ways to prevent the risk of infection with infectious epidemic viruses.			
3	Various sports media outlets are interested in broadcasting programs that address the treatment and rehabilitation of sports injuries and stadium safety incidents.			
4	Multiple sports media outlets are working to increase environmental awareness in sports stadiums.			
5	Various sports media outlets are keen to broadcast programmes on healthy nutrition and highlight the dangers of stimulants.			
6	Various sports media outlets contribute to disseminating the most important recommendations of the World Health Organization and local authorities.			

Fourth field: educational

T	Paragraph phrases	Answer alternatives		
		always	sometimes	never
1	Various sports media outlets are interested in reviewing the history and stages of stadium security formations.			
2	Various sports media encourage the proper use of sports websites and social media.			
3	Various sports media outlets are keen to broadcast security education programmes for sports stadiums.			
4	Various sports media outlets are keen to host specialized academics to explain the rules of sports.			
5	Various sports media outlets are keen to adopt a moderate and civilized sports discourse.			
6	Various sports media outlets work to spread community awareness in sports stadiums.			

Fifth field: Security

T	Paragraph phrases	Answer alternatives		
		always	sometimes	never
1	Various sports media outlets are showcasing the strength and preparedness of sports stadium security forces.			
2	Various sports media outlets are keen to show the stadiums as safe and stable.			
3	Multiple sports media outlets host leaders and managers of sports stadium security formations.			
4	Contribute Various sports media outlets are highlighting the role of the Iraqi security forces in sports stadiums.			
5	keen Various sports media outlets are promoting a culture of cooperation with security personnel in sports stadiums.			
6	Various sports media outlets review the security regulations for the most important prohibited items and substances in stadiums.			

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The role of sports investment and marketing in raising the level of administrative and technical efficiency of Iraqi sports clubs

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2250](https://doi.org/10.37359/JOPE.V37(2)2025.2250)

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Article history: Received 3/ March /2025 Accepted 14/ April /2025 Available online 28/ June/2025

Abstract

The research aims to: build a scale for investment and sports marketing for Iraqi sports clubs, and to identify the role of investment and sports marketing for Iraqi sports clubs from the point of view of members of the administrative bodies. The researchers used the descriptive approach with the survey method to suit the nature of the problem. The research community was represented by members of the administrative bodies of the clubs of Baghdad Governorate, while the research sample was represented by (25) clubs with a number of members (200) members of the administrative body. The sample was divided into several samples: the exploratory experiment sample (10) members, the construction sample (100) members, and the application sample (90) members. A number of phrases were formulated, numbering (25) phrases, and they were presented to a group of experts. After applying the scientific foundations, the scale became composed of (25) phrases, as no phrase was deleted. Then the final image of the scale was applied to the research sample. The researchers concluded that they had reached the construction of a scale for entrepreneurial creativity at the Iraqi National Olympic Committee. The scale proved its validity for measuring creativity, investment and marketing for Iraqi sports clubs, and the possibility of applying the scale for investment and sports marketing to other samples. The research sample acknowledges that investment and sports marketing has a major role in raising the efficiency of Iraqi sports clubs.

Keywords: Investment, Marketing, Sports Clubs, Board Members.

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Introduction

Sports management refers to the effective and strategic management of sports clubs and organizations, aiming to achieve sporting, financial, and marketing objectives in an integrated manner. Sports management enhances the chances of success and sustainability for sports clubs by improving internal organization, developing training and development programs for athletes, and fostering partnerships with fans and sponsors. It also plays a vital role in attracting talent and managing resources effectively, contributing to enhancing the identity and social and economic standing of sports organizations in local and global communities.(Fadel & Kadem, 2021)

Investment and marketing in sports clubs play a crucial role in enhancing their financial and sporting success. By attracting investments and employing effective marketing strategies, clubs can increase their revenues and attract more fans and sponsors, strengthening their position and ability to achieve success in sporting competitions and achieve sustainable development. Investment and marketing in sports clubs are two essential pillars in building the sustainability and prosperity of clubs. Investment relies on attracting capital from investors to enhance the team's structure and develop its facilities and technology, while marketing contributes to attracting fans and sponsors through advanced promotional and public relations strategies, enhancing the club's ability to achieve sporting success and increase financial revenues.(Ibrahim et al., 2006)

Iraqi sports clubs in general, and the Iraqi Premier League football clubs in particular, face major financial problems. There is also a lack of qualified individuals in the club's administrations due to the high costs of player and coach contracts and the teams' needs, which necessitates the search for highly qualified administrations and avoiding reliance on government financial support. One of the most important means to achieve this trend is sports investment and marketing, which is one of the most prominent changes adopted in the world of sports, especially for football clubs whose management is headed by companies or wealthy individuals (Raheem & AlShafai, 2019, p. 3). Hence, the research problem arose to answer the following question: Do sports investment and marketing play a role in raising the efficiency of Iraqi sports clubs. (Moayd et al., 2019)

The research aims to: build a scale for sports investment and marketing for Iraqi sports clubs, and identify the role of sports investment and marketing for Iraqi sports clubs from the perspective of members of the administrative bodies. (Kadhim, 2024)

One of the studies that dealt with sports investment and marketing is the study (Bashir & Naji, 2014). The scope of sports investment has expanded and has become an economic process in our contemporary world, and its growth has become large, which has made commercial companies compete to sponsor sports events. Organizing sports activities at the local and international levels requires a lot of money, and due to the lack of financial support provided by the state, this lack hinders the achievement of the desired goals of the institution and the sports authority. Therefore, the researcher identified the importance of private sector companies in supporting sports institutions in Iraq, as the research community included managers of private

sector companies, and they were randomly selected. The role of sports marketing and investment in supporting sports institutions was addressed. The researcher used the descriptive approach with the survey method, as the research sample consisted of (100) individuals from managers of private sector companies. The researcher used a questionnaire for the companies. In light of this, results were extracted and discussed. The most important conclusion reached by the researcher is the effective role of private sector companies in supporting sports institutions and thus supporting the national economy. (Wahed Issa et al., 2024)

A study by Hamid (2023) addressed the relationship and impact between internal marketing practiced by employees in Iraqi sports clubs and the competitive advantage achieved that ensures their survival and protects them from the repercussions of exiting the sports competition. The researcher attempted to present a practical and analytical framework for the opinions of the research sample, especially since the independent variable represented by internal marketing is of great importance in preparing human resources with high capabilities and skills capable of assuming responsibility and providing services of a high level of quality, in addition to the role played by the dependent variable represented by the competitive advantage. The research attempted to answer a set of questions that formed the research problem, most notably: What are the internal marketing procedures followed in Iraqi sports clubs? Do Iraqi sports clubs seek to achieve a competitive advantage? The researcher tested the correlation and impact relationship between internal marketing, which represents the behavior of members of Iraqi sports clubs as individuals, and the competitive advantage of their clubs as sports institutions. The research reached several theoretical and practical conclusions, the most important of which was that the explanatory ability of this model was excellent, as the coefficient of determination reached (0.956) and the corrective coefficient of determination (0.955). This indicates the ability of the independent variable (internal marketing) to explain (95.6%) of the changes occurring in the dependent variable (competitive advantage). In addition, there is a significant correlation and impact relationship between internal marketing and competitive advantage. (Redha & Sekhi, 2020)

The study (Raheem and AlShafai, 2019) aimed to know the administrative trend towards sports privatization of Baghdad clubs participating in the Iraqi Premier League in football from the point of view of coaches and players. The researchers used the descriptive approach with the survey method to suit the nature of the problem. The research sample consisted of coaches and players of Baghdad clubs participating in the Iraqi Premier League in football for the sports season (2018-2019) and their number was (290) individuals. The researcher proposed (25) phrases for the scale and presented them to (15) experts who agreed on (20) phrases. After that, the scale was applied to the construction sample, which numbered (180) individuals, to extract the scientific foundations. After that, the scale was applied to the research sample, which numbered (100) individuals, to extract and discuss the results of the study. It appeared that there was a trend by coaches and players of Baghdad clubs participating in the Iraqi Premier League in football towards sports privatization. (Sikhe & Yasir, 2020)

Method and tools:

The researchers used the descriptive approach with the survey method because it is suitable for the nature of the problem.

The research community was represented by members of the administrative bodies of the clubs of Baghdad Governorate, while the research sample was represented by (25) clubs with (200) members of the administrative body. The sample was divided into several samples, as shown in Table.(1)

table(1)

Shows the distribution of the research sample

T	Research sample	pilot study sample	Building sample	Application
1	200	10	100	90

The following devices, tools and means of collecting information were used: (paper forms, computer (laptop), electronic calculator, Arab and foreign sources, field visits to collect information, the information network (Internet), personal interviews).

To complete the steps of constructing the scale for this study, the researchers conducted a statistical analysis of the scale's phrases. Through the statistical process, the scientific conditions for the scale, namely validity and reliability, were confirmed.

Scale validity: The researchers used several types of validity to verify the scale:

Apparent honesty: It depends on presenting the scale phrases to a group of experts and specialists to estimate the extent of their validity in measuring the phenomenon to be measured (Raheem & Shakir, 2023). For the purpose of determining the scale phrases, the researchers reviewed the literature, sources, scientific references and previous studies. In order to achieve the research objectives and in order to determine the validity of the phrases specific to the sports investment and marketing scale, the researchers prepared a questionnaire form for the scale for the purpose of determining the valid phrases, which included (25) phrases and were presented to a group of experts and specialists, amounting to (11) experts. This is for the purpose of obtaining its validity, and a mark should be placed) ü)On the designated box_((Not valid) After collecting the questionnaire, it was found that all the statements were valid after obtaining a percentage higher than (75%), and thus the statements that contribute to the study were adopted. The researchers adopted the Liker method in constructing the scale questionnaire, and based on that, a five-point scale was used to express the degree of agreement with each statement, which are (always, often,

sometimes, rarely, never). After that, the researchers conducted the exploratory experiment before the final application of the study at an appropriate time on a sample consisting of (10) members, on (03/15/2024) for the purpose of preparing the appropriate conditions when applying the main test to the construction and application sample, and to ensure the sample's understanding of the phrases of the two scales, and in order to avoid any errors or difficulties during application during the main test of the research. After that, the scale was applied to the construction sample, which numbered (100) members, for the period from (03/20/2024) to (04/15/2024). The purpose of conducting this experiment is to build a scale of sports investment and marketing for Iraqi sports clubs.

Construction honesty: This type of validity is achieved by conducting statistical analysis of the statements. The researchers verified this by extracting the following indicators:

1.Discriminating ability of phrases: To verify this, the researchers adopted the two-party group method in calculating the discriminating ability of the statements using the T-Test for independent samples. The goal of analyzing the statements is to keep the statements with high discrimination, which are the good statements in the scale (Radhi & Wahab, 2024). (Experts indicate that the percentage of (27%) of the lower group and (27%) of the upper group is the best percentage by which we can obtain the highest discrimination coefficients. Therefore, the (T-Test) test was used to indicate the differences in the arithmetic means between the lower and upper groups, and it was found that all the statements are statistically significant at a significance level of (0.05), as shown in Table.(2)

table(2) Demonstrates the discriminating ability of scale items between the upper and lower groups.

phrases	The group	Q	A	Calculated value of (T)	*Say	significance
1	Alia	4.2963	.46532	15.251	0.000	spiritual
	the world	2.3333	.48038			
2	Alia	4.6296	.49210	16.081	0.000	spiritual
	the world	2.4444	.50637			

3	Alia	4.7407	.44658	17.073	0.000	spiritual
	the world	2.8519	.36201			
4	Alia	4.1481	.36201	13.554	0.000	spiritual
	the world	2.5185	.50918			
5	Alia	4.2963	.46532	17.956	0.000	spiritual
	the world	2.1852	.39585			
6	Alia	4.7407	.44658	28.891	0.000	spiritual
	the world	2.0370	.19245			
7	Alia	4.5926	.50071	14.359	0.000	spiritual
	the world	2.7037	.46532			
8	Alia	4.4074	.50071	13.317	0.000	spiritual
	the world	2.5926	.50071			
9	Alia	4.3333	.48038	14.832	0.000	spiritual
	the world	2.3704	.49210			
10	Alia	4.5556	.50637	24.158	0.000	spiritual
	the world	2.0370	.19245			
11	Alia	4.4815	.50918	13.428	0.000	spiritual

	the world	2.8148	.39585			
12	Alia	4.2963	.46532	13.153	0.000	spiritual
	the world	2.5556	.50637			
13	Alia	4.7778	.42366	18.014	0.000	spiritual
	the world	2.4815	.50918			
14	Alia	4.4444	.50637	14.822	0.000	spiritual
	the world	3.0000	.00000			
15	Alia	4.7407	.44658	16.637	0.000	spiritual
	the world	2.5926	.50071			
16	Alia	4.1852	.39585	13.175	0.000	spiritual
	the world	2.5556	.50637			
17	Alia	4.8148	.39585	21.421	0.000	spiritual
	the world	2.2963	.46532			
18	Alia	4.2593	.44658	12.533	0.000	spiritual
	the world	2.7037	.46532			
19	Alia	4.5926	.50071	16.447	0.000	spiritual
	the world	2.3704	.49210			

20	Alia	4.2963	.46532	15.792	0.000	spiritual
	the world	2.2963	.46532			
21	Alia	4.5556	.50637	15.674	0.000	spiritual
	the world	2.4074	.50071			
22	Alia	4.4074	.50071	14.014	0.000	spiritual
	the world	2.4815	.50918			
23	Alia	4.3333	.48038	21.362	0.000	spiritual
	the world	2.0741	.26688			
24	Alia	4.5926	.50071	15.092	0.000	spiritual
	the world	2.5185	.50918			
25	Alia	4.3704	.49210	13.158	0.000	spiritual
	the world	2.5926	.50071			

Significance.(0.05) >

Internal consistency coefficient: Internal consistency aims to verify the homogeneity and consistency of the statements in studying the phenomenon under study. In order to verify the validity of the scale using the internal consistency coefficient, the researchers identified the extent of the correlation between the score of each statement of the scale and the total score of the scale using the simple Pearson correlation coefficient. All statements appeared consistent because they were below the significance level (0.05), as shown in Table.(3)

Table (3) shows the correlation coefficients between the scale statements and the total score of the scale using the internal consistency method.

Phrase number	Correlation coefficient	*say	significance	Phrase number	Correlation coefficient	*say	significance
1	**311.	0.000	spiritual	14	*258.	0.000	spiritual
2	**322.	0.000	spiritual	15	**337.	0.000	spiritual
3	**348.	0.000	spiritual	16	**283.	0.000	spiritual
4	**428.	0.000	spiritual	17	**326.	0.000	spiritual
5	**458.	0.000	spiritual	18	**541.	0.000	spiritual
6	*244.	0.000	spiritual	19	**322.	0.000	spiritual
7	**334.	0.000	spiritual	20	**270.	0.000	spiritual
8	**428.	0.000	spiritual	21	**290.	0.000	spiritual
9	**411.	0.000	spiritual	22	**298.	0.000	spiritual
10	**274.	0.001	spiritual	23	*218.	0.000	spiritual
11	**487.	0.000	spiritual	24	**256.	0.000	spiritual
12	**291.	0.000	spiritual	25	**265.	0.000	spiritual
13	**360.	0.001	spiritual				

Spiritual(0.05) >

Scale stability:A good scale is one that is characterized by stability, and accordingly, the researchers confirmed the stability of the scale by using the Cronbach's alpha coefficient using the Statistical Package for the Social Sciences (SPSS). When this coefficient was applied to the building sample of (100) members, it was found that the stability coefficient is (0.877), which is considered a high value for stability at a significance level of.(0.05)

Scale application:Then, the researchers, along with the support team, applied the scale to the research sample, which numbered (90) members, for the period from (04/22/2024) to .(2024/18/05)

3Results and discussion:

Table(4) Shows the statistical data display for the research sample specifications

Scale	arithmetic mean	standard deviation	Coefficient of skewness
Sports investment and marketing	86.000	4.763	0.160

The sports investment and marketing scale consisting of (25) statements was applied to the application sample numbering (90) members, and to calculate the significance of the questionnaire, the hypothetical arithmetic mean of the questionnaire was found by applying the following law (Goodness, 2008, page 178).

Hypothetical mean = (total of alternatives ÷ highest score for alternative) X number of scale items

Therefore, the hypothetical mean of the questionnaire as a whole = (1+2+3+4+5) ÷ 5) X 25 = 75

table(5) Shows the arithmetic mean, hypothetical mean, standard deviation, calculated (T) value, true significance and type of difference for the leadership skills scale

Variables	arithmetic mean	standard deviation	Calculated value of (T)	significance value	Type of difference
Entrepreneurial creativity	86.000	4.737	23.094	0.000	spiritual
Hypothetical mean			75		

Significance 0.05 >

The results of the table above showed that the arithmetic mean was (86.000) degree with standard deviation (4.737) and the hypothetical mean reached (75) Since the arithmetic mean was higher than the hypothetical mean, this means that the difference is significant and in favor of the arithmetic mean of the sample. To determine the significance of the differences between the arithmetic and hypothetical means, the researchers used the t-test, and the results showed the presence of a statistically significant difference between the means, which amounted to (0.000) at the significance level (0.05) Researchers see from the above results that members of the administrative bodies of Iraqi sports clubs emphasize the role of sports investment and marketing in raising the efficiency of sports clubs. (Shukr, 2024)

Shank (2009) states that sports investment and marketing in clubs represents an important area for generating revenue and enhancing the brand of sports clubs. This includes using marketing and investment strategies to achieve the clubs' financial and sporting goals.

Kahle & Riley (2004) believe that investment and marketing in sports are essential components of achieving financial success for sports clubs and organizations. Investment involves allocating financial and human resources in a way that promotes the sustainable growth and development of sports clubs. This can include investing in team facilities, technology, equipment, and enhancing team capabilities by attracting outstanding players and developing new talent. Marketing in sports focuses on marketing the brand of a team or sports organization and increasing its appeal to fans and sponsoring companies. This includes the use of digital marketing strategies, social media, and partnerships with companies to generate revenue through sponsorship and sports marketing, in addition to organizing events and promotional activities to attract and motivate audiences. (Ali, 2014)



Appendices:

attached(1)

M/ Sports Investment and Marketing Scale Questionnaire in its final form

Dear respected professor

Best regards...

The researchers aim to conduct a study entitled):**The role of sports investment and marketing in raising the efficiency of Iraqi sports clubs from the point of view of members of the administrative bodies** (Please Please choose the answer that best represents your opinion on the statements presented to you. Please note that your answer will be treated with complete confidentiality and is for academic research purposes only. Therefore, there is no need to write your name. We also ask that you do not leave any of the statements unanswered (Radhi & Wahab, 2024)

T	phrases	always	mostly	sometimes	rarely	never
1	Investment and marketing in sports clubs play a role in increasing financial inputs.					
2	Sports investment and marketing play an important role in developing the sports activities of clubs.					
3	Sports investment and marketing play a role in encouraging businessmen to invest their money in sports clubs.					
4	Iraqi sports clubs are facing financial crises that are hindering their ability to improve their performance.					

5	Sports investment and marketing play a role in raising the efficiency of sports clubs.					
6	Sports investment and marketing play a role in increasing the financial revenues of sports clubs.					
7	Sports investment and marketing play a role in implementing professional sports for sports clubs.					
8	There is a desire among Iraqi sports clubs to implement sports investment and marketing.					
9	We lack a culture of investment and sports marketing in our clubs.					
10	Sports investment and marketing are important methods for raising the efficiency of sports in the country.					
11	There is a lack of interest in studies and research on the subject of sports investment and marketing.					
12	Sports investment and marketing play a role in developing the resources of sports clubs.					
13	Sports investment and marketing play a role in expanding the sports activities of clubs.					

14	Sports investment and marketing play a role in attracting more fans.					
15	Sports investment and marketing play a role in organizing the club's administrative work.					
16	Sports investment and marketing play a role in sound planning for sports clubs.					
17	Sports investment and marketing in sports clubs play a role in achieving the set goals correctly.					
18	The sports movement has become an investment opportunity to support the national economy through sports investment and marketing.					
19	Sports investment and marketing play an important role in supporting sports clubs.					
20	Sports investment and marketing is a tool for achieving economic development for sports clubs.					
21	Sports investment and marketing is an economic tool with positive returns for sports clubs.					



22	Sports investment and marketing play a role in ensuring the independence of sports clubs and preventing their association with government institutions.					
23	Sports investment and marketing contribute to building commercial facilities for sports clubs.					
24	Sports investment and marketing contribute to providing financial benefits to members, coaches, and players.					
25	The club's sports investment and marketing helps cover its various activities.					



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The effect of rehabilitation exercises with diversity of resistors and moving balance tools in rehabilitating rupture of the second type of muscles for the thigh of the soccer players

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2276](https://doi.org/10.37359/JOPE.V37(2)2025.2276)

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Article history: Received 17/ October/2024 Accepted 4/ November/2024 Available online 28/ June/2025

Abstract

The aim of the research is to prepare rehabilitation with the diversity of resistors and moving balance tools for football players with rupture of the second type of muscles of the thigh, identifying the effect of qualifying exercises with the diversity of resistors and moving balance tools in developing the angle of dimensions out and the strength of the connective muscles of the interior and the level of pain for football players with a rupture of the second type of muscles of the thigh, Experimental design, the experimental and control groups, and the boundaries of the research community with football players who are injured by the Physiotherapy Division of the Baghdad Education Hospital in the Department of Medicine City, whose total number (17) were injured, and they are in nature from various popular clubs in Baghdad and they are ages between (17-19) years, of whom he was chosen for the research sample (16) injured (94.118 %) of their society. Then they divided into two equal number groups, and one of them was chosen as a livestock to be the experimental group, and the other is controlled, and the tests of the identical to recover from this injury were identified, and the preparation of (18) treatment sessions were applied by (3) sessions per week, and for a period of (6) weeks on the injured of the experimental group, and treatment of tribal and remote tests after the experiment ends with a system (SPSS) for the conclusions that the qualifying exercises with the diversity of resistors and moving balance tools are suitable for therapeutic sessions of the injured football players., And it has a positive effect in developing a force that includes the interior of the connective muscles of the thigh, and it has a positive impact on developing the dimensions of the dimensions outside of the connective muscles of the thigh, and it has a positive effect in reducing the level of pain degree V The

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connective of the thigh is for football players with a rupture of the second type, The recommendations were that it was necessary not to exaggerate the diversification between resistors and moving balance tools in therapeutic sessions of the luxury muscles of the thigh of the soccer players with rupture of the second type, and the level of pain degree (V.A.S) must be adopted) and with caveats when the difficulties of the qualifying exercises for the rehabilitation of the connective muscles of the thigh for the soccer players with the rupture of the second type to preserve Muscle fiber from increased rupture in this affected muscle.

Keywords: rehabilitation exercises, balance tools, soccer players.

Introduction:

Adder muscle injuries in soccer players are among the most common field injuries in sports rehabilitation. Although sources vary in their percentage of the type and level of injuries due to this prevalence, it is necessary for it to receive the attention of researchers to help enable players to return to the field to practice their training and participate in matches. Although this injury is classified as a minor injury, neglecting it or continuing training while the player is injured can lead to dire consequences unless a complete recovery is ensured. (Al-Azawi & Kathom, 2012)

“As for the types of injuries that occur to players during training or sports competitions in local and international tournaments, for all reasons, injuries to ligaments, muscles, and tendons rank first among them) ”.Abdul-Kazem and Aboud, 2018, p. 37(

"In addition" ,due to the tremendous leap in the nature of technical performance and the enormous increase in training work that this requires, both in terms of intensity and volume, it was necessary for the coach to be aware of the physiological effects resulting from training loads on the players, in addition to paying attention to the elements of physical fitness, especially strength and flexibility, to ensure their positive effects on the players and avoid the negative effects that appear through the players' exposure to injuries) ".Shahata, 2006, p. 17)

“Statistics on sports injuries indicate that football injuries constitute 3.2% of all sports injuries, and they are distributed across various parts of the body as follows: head (10%), arm (7%), ribs (7%), rib cage (7%), thigh (18%), knee (25%), leg (9%), and ankle ”.(%17))Ehsan, 2015, p. 55)

Likewise" ,statistics in the field of sports rehabilitation indicate that adductor femoris muscle injuries constitute approximately 23% of the various muscle injuries in soccer players)".Gomez & Other, 2022, P: 4)

“The adductor muscles of the thigh are one of the basic groups working on the joint and are used according to their anatomical structure and the nature of their work in

performing and executing many basic and derivative skills in football and hockey due to the strong and continuous support during training and competitions. Muscle tear injury to these muscles occurs in the muscle components, whether in the sac surrounding the muscle or in the muscle fibers (muscle belly), (Kadhim & Mousa, 2024) or in their effects. The adductor muscle tear injury often occurs in their tendons, especially the tendons of origin, as it is known that the blood supply to the tendons is less than in the muscle bellies. This, in addition to several other reasons, makes its treatment take a long time) "Abdel Nasser, 2004, 17)

"Poor balance, coordination and control of the lumbar flexors can have an impact due to the impact of their compression on the pelvis and the movement pattern of the thighs. Force imbalances between the hamstrings and the bilateral anterior thigh muscles also cause this type of injury, as well as a strength deficit only in the supporting hamstrings in the high-velocity phase. An uneven force balance or strength deficit can lead to a reduced number of contractile units in a chain) ".Sansonnet & ,Other, 2020, P: 436)

Also, one of the causes of injury to the adductor muscle of the thigh is when the muscle or muscles are exposed to a force or intensity greater than the strength of the muscles themselves .Increased exposure of the muscle or muscles to tearing in the event that it does not receive sufficient warm-up, increased strength of muscle contraction, especially in the muscles of this area, which leads to an increase in the speed of muscle work greater than its capacity, and then the occurrence of injury is The gathering bloody Clear around place Injury Especially after“ Approximately (48) hours have passed ”.)Rahma, 2016, p. 91)

"Poor eccentric muscle contractions in explosive phases of football such as acceleration, deceleration and change of direction may be associated with an increased risk of joint and muscle injury. As a result, training interventions are constantly evolving to address this problem. For example, adding pre-season strength training of the hamstring muscles through eccentric training brings significant benefits to elite footballers, both from the perspective of injury prevention and performance improvement) .Giacchino & Sestina, 2013, P: 59) & (Kzar & Kadhim, 2020)

"It is necessary to exploit the modifiable risk factors responsible for quadriceps injuries for the purpose of optimal return of the injured player, adopting them in rehabilitation programs to strengthen the muscles by eccentric contraction, and to increase neuromuscular control in an excellent way by means of lumbosacral stability, balance and coordination of the lower body and trunk, while paying attention to psychological and social factors. It is necessary to take into account the analysis of the athlete's activity in order to get as close as possible to the specificity of the playing position and his physical characteristics before the injury) ".Sansonnet & Other,2020, p. 22) & (Salman et al., 2022)

The main symptoms of a thigh adductor muscle injury are pain in the injured part during rest and movement within the normal range of motion, pain when pressing on the injured site, swelling at the site of the injury due to bleeding, deformity at the site of the injury, instability of the injured part, the player's inability to walk or move normally, and a change in the skin color in the injured area. The worsening of the injury leads to muscle weakness or atrophy)..Suwaidan, 2018, p. 97)



Figure (1) shows the anatomical locations and the location of the pain of the adductor femoris muscle injury.

"Therefore, it is necessary to work on all limbs and muscle groups in football, as strength imbalances are a contributing factor in lower limb injuries. This is because players typically always use the same side of their lower limbs when kicking. This alters the strength balance between the legs and between opposing muscle groups. Players with strength imbalances are four to five times more likely to suffer a thigh muscle injury)".Buckthorpe, 2019, P: 7)

Also“ ,developing the condition of the muscles requires a lot of potential for exercise duration, repetitions, and intensity, and the more we master this accurately, the more we develop its physiological potential) ”.Abu Jameel, 2015, p. 145(

Therefore, the importance of addressing the rehabilitation of type II ruptures of the adductor muscles of the thigh in football players in this research lies in two important aspects, as follows:

Theoretical importance:

An attempt by the researcher to draw the attention of academic researchers in sports rehabilitation to the importance of trying rehabilitation exercises with various resistances and mobile balance tools to rehabilitate type II tears of the adductor femoris muscles to return football players to the field.

An attempt by the researcher to contribute to supporting theoretical and applied studies in sports rehabilitation for the benefit of those concerned with the importance of

rehabilitating type II ruptures of the adductor muscles of the thigh in soccer players by experimenting with rehabilitation exercises with a variety of resistances and mobile balance tools.

Practical importance:

Providing rehabilitation exercises with a variety of resistance and balance tools to accelerate recovery and avoid the risk of aggravating type II hamstring tear in soccer players.

An attempt by the researcher to support the efforts of physical therapists in hospitals and increase their knowledge and capabilities regarding the importance of rehabilitation exercises with a variety of resistances and mobile balance tools.

This digression explains the injury under investigation, its causes, symptoms and the importance of addressing recovery methods. The research problem is determined by the researcher's observation of the delay in the return of football players who suffered from a partial tear of the second type of the adductor muscles of the thigh. After reviewing the physical therapy department at Baghdad Teaching Hospital and discussing with specialist doctors, it became clear that there is a need to try a variety of resistance and mobile balance tools and not to be satisfied with one repetitive movement or limited rehabilitation treatment methods at the same pace, so that rehabilitation through them goes hand in hand with the medical care provided by doctors and therapists, in an attempt by the researcher to answer the following research question:

Can the application of rehabilitation exercises with varied resistances and dynamic balance tools have a positive impact on the rehabilitation of type II hamstring tears in soccer players?

The aim of this research is to prepare a rehabilitation program with various resistances and dynamic balance tools for soccer players with type II ruptures of the adductor muscles of the thigh, and to identify the effect of rehabilitation exercises with various resistances and dynamic balance tools in developing the angle of the external dimensions, the strength of the internal adductor muscles, and the level of pain for soccer players with type II ruptures of the adductor muscles of the thigh. The researcher hypothesized that there are statistically significant differences between the results of the pre-post tests of the experimental and control research groups in the angle of the external dimensions, the strength of the internal adductor muscles, and the level of pain. There are statistically significant differences between the results of the post-tests between the experimental and control research groups in the angle of the external dimensions, the strength of the internal adductor muscles, and the level of pain.

Method and procedures:

According to the research problem, the researcher adopted the experimental method by designing the equivalent experimental and control groups. The boundaries of the

research community were represented by football players who suffered from a second type of tear in the adductor muscles of the thigh and did not have inflammation or complications from the regular visitors of the Physical Therapy Department at Baghdad Teaching Hospital in the Medical City Department. They were procedurally limited to those who had been injured before (1-2) with this injury, whose number reached (17) injured, and they were naturally from various popular clubs in Baghdad, and their ages ranged between (17-19) years. The researcher deliberately chose them because of the availability of what indicates their achievement of the research purposes after excluding one player from them who had symptoms and double injuries, so that the research sample would be (16) injured, at a rate of (94.118%) of their original community. After taking written consents directly from them, they were divided into two groups of equal numbers according to the experimental design of the current research. One of them was chosen randomly to be the experimental group, with the number of injured in it (8) injured, and the other as a control group with a number of (8) injured.

The researcher also adopted the rehabilitation tests for type II tear of the adductor muscles of the thigh, based on the opinion of the consultant doctors at Baghdad Teaching Hospital, as follows: (Appendix 1)

Dynamometer test)Dynamometer(Attached to the lateral wall to measure the internal extension of the adductor femoris muscle after isolation of the accessory muscle groups, in (kg).

Device testGoniometer ((To measure the angle of abduction of the lateral part of the body, in units of (angle degrees.(

Pain score questionnaireV.A.S ((listed between (0-10) degrees when testing dimensions outwards.

Rehabilitation exercises were prepared with various resistances and moving balance tools and tested on the injured in the experimental group. As for the injured in the control group, they applied the training methods as they were without the researcher's intervention, and according to following the following steps:

The researcher identified the rehabilitation exercises with a variety of resistances and mobile balance tools after conducting many direct personal interviews with academic experts in sports rehabilitation, and then presented them to the consultant doctors at Baghdad Teaching Hospital so that their content includes commitment to the principle of diversification in the use of resistances and mobile balance tools, Appendix (2), with a focus on fixed exercises, stretching when the muscle contracts according to the degree of pain in determining the difficulty of each exercise, especially in exercises to support and support the body. To include standing on a mobile balance table, wearing relative weights at a rate of (5%) of the relative weight of the leg according to the (Bernstein) table, placed on the ankle joint and the movement is performed from the hip joint without bending at

the knee joint, walking on pieces of foam in a specific path and line of (3-5) meters, standing on the healthy foot and moving the injured one while carrying the added weight, carrying dumbbells in the hands and raising and lowering the injured and healthy legs upwards from the hip joint alternately according to the degree of pain for the injured leg, leaning on the back on a Chinese medicine ball and the legs on two balance bases and pressing on them with the moving contraction alternately, and exchanging pressure with the legs from a standing position on half of the balance ball for each palm of the leg.

The duration of each exercise was (20) seconds, with a number of repetitions ranging from (10-15) times, and in groups of (1-3), with a rest interval of (1-3) minutes between one exercise and another, and the duration of one session ranged from (22-27) minutes, at a rate of (4) exercises for each one.

(3) rehabilitation sessions were applied per week, applied every other day of each week, for a period of (6) weeks without interruption or stoppage, under the supervision of specialist doctors, and the follow-up of the researcher.

All tests and rehabilitation exercises were supervised by specialists and consultants in the Physical Therapy Department of Baghdad Teaching Hospital.

The injury was minor, a type II simple injury, and the duration of treatment was determined to be one month, under the guidance of the consultant physicians at this hospital.

The research experiment began by applying pre-tests on the injured in the experimental and control research groups, numbering (16) injured, according to the requirements of the experimental design of the research experiment, after the researcher determined the tests that give an indication of similarity in recovery from a second type tear injury to the adductor muscles of the thigh, and completing the preparation of rehabilitation exercises with various resistances and mobile balance tools, as these tests were applied at exactly nine o'clock in the morning on Thursday corresponding to the date (6/6/2024) in the Physical Therapy Department of Baghdad Teaching Hospital.

Rehabilitation exercises were carried out with various resistances and mobile balance tools, with (18) rehabilitation sessions for the injured in the experimental group, numbering (8) injured, in the physical therapy department of Baghdad Teaching Hospital, for a period of (6) weeks, continuing from Sunday corresponding to the date (6/9/2024) until Thursday corresponding to the date.(2024/18/7)

After completing the rehabilitation exercises, post-tests were applied for the three dependent research variables that give a meaning or indication of similarity to healing from a type II tear of the adductor femoris muscles under the same pre-test conditions, on Sunday, July 21, 2024.

The research experiment data was processed with the system) SPSS (To automatically check the percentage, mean, standard deviation, and test values).To live(For homogeneity of variance, test)t-test(For linked samples, test)t-test(For unrelated samples.

Results:

table (1) Shows the results of the pre-tests between the two research groups.

Variables	Group number	Statistical comparison between the difference						
		Q	+A	)The liv	)Say	)t(	)Say	
Inward contraction force (kg)	empiricism	8	5.88	2.29	1.077	0.31	0.25	0.80
	The office	8	6.13	1.53				Not significant
Abduction angle of the late part of the body (angle degree)	empiricism	8	15	1.30	4.9	0.00	1.25	0.22
	The office	8	16.1	2.10				Not significant
V.A.S) ((degree(	empiricism	8	7.63	0.51	0.467	0.50	0.47	0.64
	The office	8	7.5	0.53				Not significant

The statistical difference is not significant at)) Say(0.05)< at degree of freedom(14)and significance level(0.05)

table (2) Shows the results of the pre- and post-tests for both research groups.

Variables	Group number	compari	Correlative comparison for each group						the difference
			Q	+A	So	So	)t(	)Say	
Inward contraction force (kg)	empiricism	previous	5.88	2.29	25	2.20	31.18	0.00	Dal
		the next	30.8	0.99					
	The office	previous	6.13	1.53	16.5	4.37	10.66	0.00	Dal
		the next	22.6	3.42					
Abduction angle of the late part of the body (angle degrees)	empiricism	previous	15	1.30	21.2	1.58	38.01	0.00	Dal
		the next	36.2	0.40					
	The office	previous	16.1	2.10	15.7	3.61	12.32	0.00	Dal
		the next	31.8	2.29					
V.A.S) ((degree(	empiricism	previous	7.63	0.51	6.5	0.53	34.39	0.00	Dal

		the next	1.13	0.35					
	The office	previous	7.5	0.53	4.37	1.18	10.41	0.00	Dal
		the next	3.13	1.12					

The statistical difference is significant at)) Say(0.05)> at degree of freedom(7)and significance level(0.05)

table (3) Shows the results of the post-tests between the two research groups.

Variables	Group number	Statistical comparison between two unrelated groups				the difference
		Q	+A	)t(	)Say(
Inward contraction force (kg)	empiricist	8	30.88	0.991	6.553	0.000
	The office	8	22.63	3.42		
Abduction angle of the lateral of the body (angle degrees)	empiricist	8	36.25	0.463	5.285	0.000
	The office	8	31.88	2.295		
V.A.S) ((degree(	empiricist	8	1.13	0.354	4.793	0.000
	The office	8	3.13	1.126		

The statistical difference is significant at)) Say (0.05)> at degree of freedom (14) and significance level(0.05)

Discussion:

The results of the pre- and post-statistical comparison of the injured members of the two research groups, as shown in Table (2), showed that all of them had developed positively in the post-arithmetic mean values for each of the angle of the outward dimensions, the strength of the inward contraction of the adductor muscles, and the level of pain compared to what their results were in the pre-tests. By reviewing the results of the post-statistical comparison between the injured members of the two research groups, as shown in Table (3), it is clear that the injured members of the experimental group who received rehabilitation with resistance diversity exercises and mobile balance tools outperformed the injured members of the control group. The researcher attributes the emergence of these results to the effectiveness of these rehabilitation exercises in targeting the developments required in the rehabilitation of this injury, in which the principle of diversity helped in the participation of the various adductor muscles in the mobile contraction movements to confront the burden of resistance on the one hand and maintain posture during movement in each exercise on the other, and the suitability of the duration of their application in conjunction with the therapeutic medical care provided by the physiotherapy department in the hospital, as these exercises were prepared completely

devoid of personal efforts, in addition to their application in accordance with what was indicated by Specialized academic studies have been conducted to rehabilitate this injury, and the commitment to apply them according to its recommendations has helped the burden of movements by combining resistance with moving balance to help the muscles respond to confront this burden by gradually improving the contractile processes according to the degree of pain. V.A.S ,((and not putting pressure on the patient's ability to cope with the difficulty of each rehabilitation exercise, which led to an improvement in muscle function imposed by the instability in the dynamic balance exercises with rehabilitation resistance using both The mobile balance table, with relative weights of (5%) of the relative leg weight according to the Bernstein table and walking on pieces of foam, played an effective role in restoring function in muscle strength and enabling it to regain the position of extension and contraction, which appeared clearly in the increase in the level of the angle of abduction outward, standing on the healthy foot and moving the injured person while carrying the added weight, carrying dumbbells in the hands and raising and lowering the injured and healthy legs upwards from the hip joint alternately according to the degree of pain for the injured leg, leaning on the back on a Chinese medicine ball with the legs on two balance bases and pressing on them with the mobile contraction alternately, and exchanging pressure with the legs from the standing position on half of the balance ball for each palm of the leg, which together and the good distribution of their sequence in the application from easy to difficult in the application helped to show the result of this development and superiority in the results of the post-tests for the injured members of the experimental group who applied the rehabilitation exercises with various resistances and mobile balance tools.(Kadhim & Mahmood, 2023)

In a study that included a strength training protocol called the Adder Strengthening Program) ,ASP(This protocol was included 2-3 times per week during the pre-season period of (6-8) weeks) .Gomez & Other, 2022, P: 11)(Farhan et al., 2016)

Also" ,achievement conditions Implementation Resistance exercises that Be she has Functional benefits And moral And development For health And more power and hardness Bones and ligaments and fabric Link And it improves Function of joints And reduces Injury And it improves shape External For the body According to Why publish it ? medicine athlete American Van situation carry on muscles Structure and gradual in this Pregnancy become stronger ,And showed Studies show that training power Muscular and resistance Regular Leads to power And tighten muscles and tissues The Association And increase mass Bones and flexibility and acting Food In addition to aesthetics" The form ".)Faraj, 2011, p. 340) & (Kzar & Kadhim, 2020)

Because“ when performing exercises for specific muscle groups, it results in adaptations in specific muscle areas) ”.Abu Al-Rumi, 2018, p. 25)

"Exposure to rehabilitation programs that train to develop muscle strength helps increase bone density, muscle size and strength, as well as the strength of ligaments and tendons. This improvement in internal structure is one of the best ways to avoid injuries ".)Abdul Maaboud, 2016, p. 66)

"Developing muscle condition requires a lot of potential for exercise duration, repetitions, and intensity. The more precisely we master this, the more we develop its physiological potential) ".Abu Jameel 2015, 145-147)

"The amount of speed achieved in muscle contraction and the extent of muscle shortening are closely related to external loads, and the amount of shortening speed is at its maximum value when the external load reaches zero. After that, the speed begins to decrease with the increase of loads imposed on the contracting muscle. If the amount of external load reaches the maximum load that the muscle can bear, then the speed of muscle contraction is equal to zero, and the form of contraction here is observed as a constant contraction. However, if the load continues to increase to more than the maximum capacity of the muscle, then eccentric muscle contraction occurs) ".Abdul Karim, 2010, p. 46)

Also", exercises Balance with exercise biliometrics and exercises power greatly affect in capacity to improve Mechanics Vitality For the parties" The lower one)".Clark & Other, 2012, P: 233-234)

As" rehabilitation exercises, when applied continuously without breaks, can increase muscle elasticity to the desired levels if they are accompanied by stretching with resistances not exceeding (%50) of the patients' susceptibility, and with strict precautions when lengthening the muscle, and under the supervision of doctors to avoid aggravating the injury to the joint tendons, which are the sum of the muscle fiber membranes .)Yamada & Other, 2018, 195-204)

"Moving balance is one of the most important muscle strengthening exercises ". strengthening Muscular without Using weights as resistance on the body) the work of reinforcement without load) Thus, it is possible to develop muscle tension in the various muscles of the body with the aim of maintaining fitness. However, this stage of exercises cannot be applied in the early stages of rehabilitation) ".Al-Shafi'i, 2024, 18)

"Exercises must take into account the rules of balance, both in performance and stability, and support the improvement of balance by relying on increasing the activation of the widespread muscle sensors, because the vestibular system does not develop with training, as it is like a scale that informs the brain about the body's positions without issuing orders. This confirms that the role of the vestibular system is informative and not controlling, as is the prevailing idea, and it is possible to improve the effectiveness of its neurophysiological work, not develop its structures) ".Arthur 2012, 151)

"It can also be said that motor rehabilitation represents an effective treatment for balance disorders in general, and contributes to improving the physical condition and motor functions of individuals with injuries or medical conditions that affect balance and stability. With the development of modern motor rehabilitation techniques, better results can be achieved in the treatment and prevention of balance disorders. Numerous scientific studies have been found that indicate the effectiveness of motor rehabilitation in treating balance disorders. This effectiveness relies on stimulating the motor system to improve performance, motor coordination, and balance) ".Yahya, 2018, p. 118)

"There are basic goals for rehabilitation, the most important of which are reducing the degree of pain, improving the level of muscle strength, and restoring the joint's range of motion) ".Ayad, 2014, p. 124)

Considering that“ we would be completely unable to coordinate our body movements without the sensors, which provide us with information about our muscles, the positions of our movements and our joints, the receptors for the nerve endings in the muscles, tendons and joints and the information coming from them give us the basis and sensation to make the movements coordinated, and cooperate with the vestibular sense (the sense of orientation or balance of the body))”.Michael & Ronald, 2001, P: 305)

"Motor rehabilitation exercises can be simple and easy, or more challenging and require more experience and physical fitness. Overall, it can be said that motor rehabilitation is an important component in the treatment and prevention of balance disorders, and it can be used to improve the physical condition and overall health of individuals. It is recommended to speak with a doctor or sports trainer to design the most appropriate motor rehabilitation program for the individual suffering from body balance disorders) ".Sabbagh, 2019, pp. 87-92)

"Rehabilitation exercises designed to improve balance must rely on a direct measurement approach before they are designed to suit the specificity of each medical condition and the extent of their impact on muscle damage or damage to the physiology of balance, including the vestibular system and neuromuscular control. Time is often used to measure these conditions) ".Azmi, 2018, p. 144)

Conclusions:

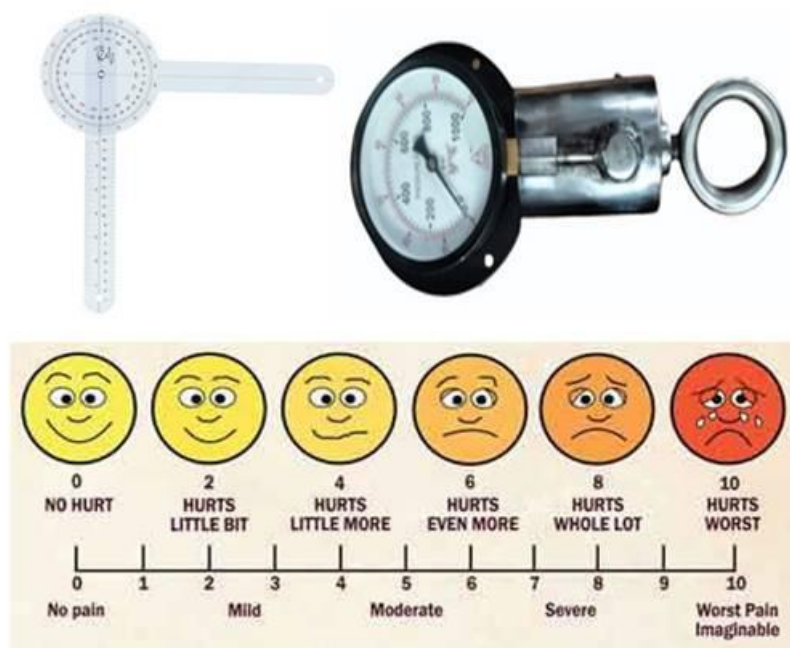
- 1- Rehabilitation exercises with a variety of resistance and movable balance tools Suitable for treatment sessions for injured football players.
- 2- positive effect on developing the inward adductor strength of the thigh muscles in soccer players with type II ruptures..
- 3- balance tools has a positive effect on developing the external angle of the adductor muscles of the thigh in soccer players with type II ruptures..

- 4- Applying rehabilitation exercises with various resistances and mobile balance tools has a positive effect in reducing the level of pain.V.A.S ((In the outward dimensional movement of the adductor muscles of the thigh in soccer players with type II tears.

Recommendations:

- 1- It is necessary not to over-diversify between resistances and moving balance tools inRehabilitation therapy sessionsThe adductor muscles of the thigh in soccer players with a type II tear.
- 2- The level of pain must be determined.V.A.S ((And with caution when avoiding the difficulties of rehabilitation exercises. Rehabilitation-relatedThe adductor muscles of the thigh for football players with type II tears to preserve muscle fibers from further tearing in this damaged muscle.

Appendix (1) shows pictures of the three research test methods.



Appendix (2) shows pictures of rehabilitation exercise methods with various resistances and mobile balance tools.



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The effect of using the strategy Learning by playing for some skills handball patting According to the curriculum for female students Second stage, College of Physical Education and Sports Sciences, University of Baghdad

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2302](https://doi.org/10.37359/JOPE.V37(2)2025.2302)

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Article history: Received 29/ May /2025 Accepted 17/ June /2025 Available online 28/ June/2025

Abstract

The aim of the research was to identify On the effect of the learning-by-play strategy on learning some handball skills among second-stage female students, Comparing the results of students' performance before and after implementing the learning by playing strategy, Providing development proposals for teaching handball skills in light of the research results., I depend researcher Curriculum experimental In research procedures as an appropriate approach to achieving research objectives, For two groups, one experimental and the other control, Community of female students Second For the academic year 2024-2025, consisting of (4 Female people (numbering) 151) Student Chosen. Research sample 30 female students from Section (B) were selected and (4) female students were excluded for the exploratory experiment. The researcher divided the sample, which numbered (26) female students, into two groups randomly: an experimental group in which the (learning by playing method) was used, and a control group (in which the extended curriculum was used). Conclusions Interactive activities and games accompanying the educational units contributed to developing and enhancing understanding and practical application of the skill. Educational units prepared and designed according to the play method proved to be effective in achieving the cognitive and skill objectives of the subject. The play-based learning method enhanced students' motivation towards good learning, and raised the level of participation and interaction within the educational unit. Recommendations: - Involve students in evaluating educational activities. Adopt the play-based learning method in teaching basic skills for all sports. Encourage teachers to design educational units that integrate play-based learning in the early stages of education. Conduct more research on

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other handball skills and other activities. Conduct more modern strategies for learning sports skills and compare them with traditional ones.

Keywords: Learning by playing, teaching methods, handball dribbling, second-year students.

Introduction

Witness Modern teaching methods in the field of physical education are constantly evolving, aiming to improve the effectiveness of learning sports skills and make them more attractive to students. Learning by playing is an educational method that combines fun and learning, providing an interactive environment that develops students' skills, social skills, and cognitive aspects. Since handball requires the development of various skills such as handling, dribbling, and shooting, the use of teaching methods that focus on interaction and motivation may contribute significantly to improving the learning of these skills. The modern educational process in the field of teaching takes on a distinct, unique, and independent character, and scientific knowledge different from other sciences and experiments. It is distinguished by how and how to crystallize the idea and organize education for learners in the simplest form, and by providing educational capabilities that help them achieve good cognitive achievement for female students. The roots of education extend to deep ideas. It is centered All for learners in providing means of knowledge and educational abundance extending to the depths of the learners' cognitive roots in terms of the method of learning. Educational games are one of the modern means that contribute to making the learning environment for me Mand learning More interactive and exciting for learners, providing opportunities to acquire skills through (Activities the Fun and the interesting) And She won The method of learning through play has received wide attention in educational and sports circles, as it is considered... same strategy Distinguished and effective in the educational process It combines educational and entertainment aspects, which helps develop self-motivation among learners and achieve the goals of the educational process in a better way.. (Al-Shammari, Ahmed Jassim. (2021).) Handball skills are complex motor skills that require a high degree of coordination between the physical and mental aspects. This calls for the use of flexible and innovative teaching methods that are compatible with the nature of these skills. Hence, the need to adopt unconventional strategies, such as learning through play, emerged. This strategy enables students to practice educational activities within game-like contexts, contributing to improved technical performance and interaction within the classroom., From this standpoint, this study came to demonstrate impact The learning-by-play method for learning handball skills female students stage The second stage, however, Research problem Despite the multiplicity of teaching methods and approaches in physical education lessons, some... Instructors They still rely on traditional methods that lack excitement and interaction, which weakens students' motivation and negatively impacts their acquisition of motor skills. Furthermore, basic handball skills require appropriate teaching methods that allow for repetition and practice in a stimulating environment. Hence, the research problem emerged with the following question:: What is the effect of using the learning-by-play strategy in teaching

some handball skills to second-year female students? The aim of the research was to identify On the effect of the learning-by-play strategy on learning some handball skills among second-stage female students, Comparing the results of students' performance before and after implementing the learning by playing strategy, Providing development proposals for teaching handball skills in light of the research results.,

theoretical importance: The research contributes to enriching educational knowledge about the effectiveness of modern strategies such as learning through play in the field of teaching physical education.. **Practical importance:** The research provides practical guidance. For teachers On how to use the learning-by-play strategy to develop female students' performance in handball, and enhance the effectiveness of educational programs directed at second-stage female students

Learning strategy through play

It is a modern educational style that depends on integrating educational content within purposeful recreational activities and events, which work to stimulate the motivation of learners and contribute to the development of scientific, motor and social knowledge. This strategy focuses on changing the educational situation to situations similar to games with an enjoyable nature that help consolidate knowledge and information in an indirect and effective way. (Wood, 2005) Play-based learning promotes active thinking, encourages children to solve problems, and interact with their surroundings in a meaningful way.

Previous studies

1-study (Hamdi and 2025) **The effect of using the learning method through play situations in learning some basic skills for the specialized training center in handball (Experimental approach)** The research sample included players from the training center for the intermediate stage in the Hit Education Department (for the academic year 202/2023), numbering (10) players, representing 70% of the Yemeni community of origin. Three players were selected to conduct the exploratory experiment. Some players were excluded due to exceeding the birth rate specified for the training center. The conclusions included: The method of learning through playing situations is an effective method for learning offensive handball skills. There is a positive impact of the method of learning through playing situations on learning basic handball skills for the research sample. It included the use of the method of learning through playing situations for the study used not only for the stage but for other educational stages, the use of the method of learning through playing situations within similar studies and different samples as it introduces the learner to an atmosphere of competition.

2- Study (Yassin Al-Takriti, Awat Ahmed, and others, 2013) impact Games small in to learn some Skills Basic early hand For cubs club Sulaymaniyah athlete, Recognition on impact Games Little one learning some skills Basic early hand For the cubs of Sulaymaniyah Sports Club. -Recognition on Differences between The two groups Experimental and control in

learning some skills Basic Handball for the cubs of Sulaymaniyah Sports Club. use Researchers experimental approach The experimental and control groups with pre- and post-tests. The research sample consisted of (22) players aged (12-13). year Distribute equally between the two groups. use Researchers The interview character And the note and tests And the measurement means to collect Data And it took Curriculum Educational (12) units at a rate of (3) units weekly To teach handling, shooting and taming skills, and I was treated Data Statistically Using Average Arithmetic and deviation Standard and test (T) For samples Associated and test (T) For samples Independent.

And it was done Reach to Conclusions The following :- The experimental group achieved remarkable improvement in all variables under study. And it was For games small Dora "Active" And big "in to learn skills Which led to Differences Moral between Tests Tribalism And the dimension For the benefit of Tests Dimensionality . I achieved The control group improved in all variables under study. And it led to Methodology Training from Before the coach to appearance Differences Moral between Tests Tribalism And the dimension I have individuals The group The officer In a way marked Which I submitted For the curriculum Follower from before The coach For the benefit of Tests Dimensionality, - affected Games small During the experimental group units positively in to learn skills aiming and handling And patting in ball hand For players Cubs in The group empiricism comparison In the group The officer Which led to Differences Moral between Tests Dimensionality For the benefit of The group empiricism.

3- Study (Jalti Tayeb, 2017) The research represented in studying the effect of semi-sports games on learning some basic skills in handball for male juniors. The aim of the research was to know the effect of semi-sports games on learning basic skills (passing and receiving, dribbling, shooting) in handball for male juniors. The hypothesis of the study was that semi-sports games have a positive impact on learning some basic skills in handball for male juniors. After presenting, analyzing and discussing the results of the study, and in light of the research results and within the limits of the research sample, the researcher concluded that the proposed training program using semi-sports games achieved a positive development in the results of the post-tests between the control and experimental groups, in favor of the experimental group. This indicates the effect of the proposed training program using semi-sports games on the development of the level of some basic skills (passing and receiving, dribbling, shooting) for the research sample.

4- Study (Mahmoud Nabil, 2018) The effect of a program using some recreational games on learning some handball skills for middle school integration students: Research Summary The research aims to identify the effect of a program using some recreational games on learning some handball skills for middle school integration students. The researcher used the experimental method using a single-group experimental design using pre-post measurement. The research community was selected intentionally randomly from integration students with learning difficulties aged (12-14) years at Al-Manshiya Preparatory School for the academic year 2016/2017 AD, numbering (30) students. The research sample was selected intentionally from the research community, numbering (26) at a rate of 86% of the total

research community. The program was applied to one experimental group using pre-post measurement, and the data were statistically processed using appropriate statistical methods. The researcher concluded that the proposed educational program using the proposed recreational games had a positive impact on the level of basic skills "under study" in handball, as evidenced by the rates of improvement. The researcher recommends the necessity of conducting similar studies on aspects that were not addressed in this study.

5- Study(Jassim: Abeer: Haider, 2024) **The effect of special educational games on some visual abilities and the performance of complex offensive handball skills for players under 15 years of age:** The researcher used the experimental method using the two equivalent groups (control and experimental) with pre- and post-tests to suit the research objectives. The research community was determined as players of specialized handball schools under 15 years old in the Middle Euphrates region affiliated with the Iraqi Central Handball Federation, numbering (80) players. The research sample was represented by players of the specialized handball school in Najaf Governorate, who were chosen by simple random lottery, numbering (24) players, and they were distributed equally into two groups (experimental, control) by simple random method, with (12) players in each group. The researcher prepared and designed educational games, numbering (24) games, which were applied for a period of (8) weeks, at a rate of (3) units per week, on the experimental research sample. The researcher concluded that the educational games applied to the experimental group had a positive role in developing some of the visual abilities of the players. The educational games applied to the group had a major role in learning complex offensive handball skills..

Field research procedures:-

Procedures and tools:-

- I depend researcher Curriculum experimental IN research procedures as an appropriate approach to achieving research objectives, For two groups, one experimental and the other control, Community of female students Second For the academic year 2024-2025, consisting of (4 Female people (numbering) 151) Student.
- Chosen Research sample 30 female students from Section (B) were selected and (4) female students were excluded for the exploratory experiment. The researcher divided the sample, which numbered (26) female students, into two groups randomly: an experimental group in which the (learning by playing method) was used, and a control group (in which the extended curriculum was used).

Table 1: Shows the distribution of the research community, the research sample, and the sample for preparing and applying the scale.

Description	Total number	percentag	Sample applicatio	Percentage of	explorator y	Survey percentag
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Research community	151	100%	26	17.2%	4	0.02
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table2:Description of the research object.

Total application sample	Percentage of application	Basic sample		%
30	19.8%	The officer	13	17.2
		empiricism	13	
		exploratory	4	0.2
		Total sample	30	19.8

4.distribution individuals Homogeneity of the research sample

table3: It is clear Mean, median, and standard deviation of the research sample individuals

Variables	Unit of measurement	empiricism		The officer		degree of freedom	value (t)	significance
		S	A	S	A			
the age	year	9.40	1.08	9:30	1.22	24	0.22	Moral
height	poison	2.30	0.05	2.30	0.03	24	0.00	Moral
the weight	kg	33.12	4.74	34.11	5.47	24	0.49	Moral

From the table above, the t-value for all research variables (age - height - weight) is less than the tabular value at a significance level of (0.005) and a degree of freedom of 24, indicating that there are no statistically significant differences between the experimental and control groups.

5. Design of educational units:-

After much reading and reviewing many Arab and foreign sources on how to design educational units, some of these sources are:(Al-Hamid, (2002)).and(The Curtain, (2010))and(Hassan, (2014)).The researcher designed the educational units for (the handball dribbling skill) in a way that suits the female students in terms of ease and difficulty, as the female students have physical characteristics that differ from the male students. Therefore, individual differences were taken into account in designing the educational units. The researcher relied on integrating the educational and play aspects in the educational class.One of the basic components in planning and implementing lessons within the curriculum, it aims to organize educational content and activities in a way that contributes to achieving the

specified educational objectives and using the activities Kinetics Different that fit Stage character is tied educational For learners. male(Liu, 2020)Using play-based learning in motor learning contributes to increasing student participation and developing their basic motor skills in a fun and effective way. Below is a method for designing educational units and how to calculate their evaluation.

Objectives of evaluating educational units:After reviewing Arabic and foreign books and sources, the researcher decided to set goals and standards for female students to begin with before designing the educational units, in order to establish appropriate educational plans (educational units) that are suitable for them, according to what was mentioned.(Hastie, 2011).

- Measuring the level of students before starting education.
- Measuring the extent to which students have learned the skill in each unit.
- Verify learning objectives and learning outcomes.
- Knowing the students' ability points and developing an appropriate plan for them.

1. Evaluation:-Forming four areas of evaluation specialized in the educational unit, on the basis of which the suitability of the educational units for the students is determined, is considered an important factor in providing incentive and motivation in the educational process, as well as providing them with feedback that helps learners develop their practical skills, especially in the game of handball, due to its importance in learning. Table (4)

Evaluation type	the time	Objectives	The tool used
tribal	Before starting the training unit	Knowing the student's level	Simple practical test of tapping with a handball
My formation	After the end of each unit	Measuring the extent of skill acquisition	Performance note through follow-up
final	After the third unit	Final performance measurement	practical control
Self	End of each unit	Promote self-awareness, support and motivation	Oral questions

1. Practical evaluation criteria for female students:

After the researcher reviewed many Arab and foreign sources, he reviewed (Bloom's Model of Educational Objectives). (Bloom, (1956). and (Fathi Abdel Rahman, 2001) The application evaluation process was conducted according to criteria whereby the student is awarded 1-5 points for each performance indicator. The final scores for each unit are then totaled and calculated as a percentage for the students. These results are used to interpret whether the educational objectives have been achieved and to measure the extent of the students' individual needs, according to the table below (Table 5).

Educational unit	Fields	Activities and Standards	Performance indicator	Evaluation
First: Pat From stability	Cognitive	Understanding the concept of firm patting	The learner explains the steps of correct firm tapping.	
	My skills	Performing a firm tap with the dominant hand	Perform the tap without dropping the ball for 15 seconds.	
	declamatory	Compliance with instructions	Adheres to activity instructions and interacts positively.	
Second: Patting Race	Cognitive	Understanding tapping during movement	Explains the difference between fixed and mobile tapping.	
	My skills	Patting while advancing	Moves with a tap for 10 meters without losing control	
	declamatory	Teamwork	The team participates in the Tabtaba race with sportsmanship.	
Third: The Labyrinth of Patting	Cognitive	Realizing changing trends	Determines when to change direction during tapping	

	My skills	Patting control	Patting leads in a zigzag path without stopping	
	declamatory	psychological flexibility	Accept mistakes and try again with a positive spirit	

2. **Preparing competitive games:-** The researcher reviewed scientific sources, including Arab and foreign sources, as well as social networking sites and many other sites, on learning handball skills. Games were prepared to suit learners, taking into account individual differences and the physical condition of female students, as they lack many qualities, whether physical or skill-related. Games were chosen in a competitive and flexible manner in terms of educational and pedagogical objectives, and included them within the physical education lesson on handball.

3. **Design of educational unit content:-**

The researcher carried out the design of the educational units, consisting of (3) educational units and one unit that includes everything that was taught to the students, and it serves as feedback for the students. In fact, the basis of learning handball is the basic skills of the game as well as other games. The table below shows how the educational units were carried out for the students according to the table below, noting that this table is a miniature of the educational unit for the students. (Table 6)

Sections	Time of unity	Activities
Preparation Section	10 minutes	warm-up-progress-trot-Body preparation
Main Section	40 minutes	the explanation-Application-educational games
Final section	10 minutes	Back to normal, relax and get back to studying

4. **Exploratory experiment:-**

The pilot experiment was conducted on a sample of (4) female students from the same department outside the researcher's department. The aim was to verify the tools used on the sample, how the sample was performed, to know the difficulty faced by the sample members, to prepare all the requirements for the research in terms of balls, indicators, hoops, and to implement some of the game methods specific to the educational unit.

5. Pre-tests:-The researcher conducted pre-tests for the research sample to know the level of the experimental research sample of second-stage female students for the academic year 2024-2025 in the first semester in the dormitories of the College of Physical Education and Sports Sciences / University of Baghdad.

6. Main experience:-

The researcher conducted the main tests after completing the pre-test requirements on the experimental research sample over a period of 3 weeks at a rate of one educational unit per week. The sample implemented 3-5 educational competitive games. If the lesson was divided into two groups, the first group with the instructor takes the control group and provides it with the curriculum, and the second group with the researcher is also given the curriculum items approved by the scientific committee with the addition of competitive games in the educational unit. Through the table below, the researcher shows the educational units that he distributed during the educational lesson to the female students. Table (7)

Curriculum vocabulary	Educational units	Educational activity	Competitive games	The educational objective of the unit
Feeling the ball	First educational unit	Developing ball sense and firm tapping	3	The student should master tapping from a stationary position.
After the end of the first unit, performance evaluation is conducted to assess the extent of skill acquisition and provide motivation and moral incentive.				
One-handed tapping with a handball	The second educational unit	tapping the ball in a straight line	4	The student performs the patting movement.
Tap the ball with both hands	Educational Unit 3	Tap, switch hands, control, and pass	3	Use both hands to pat.
Re-do all units in the fourth week and give feedback to students.				

7. Post-tests:- After completing the requirements of the main experiment, the post-tests were conducted on the main research sample. These were the same tests that were conducted on the sample of pre-tests for female students.

results:-

- (Table 8) Displaying the results of the pre- and post-tests for the control group: -

control group	Test	The middleArithmetic	standard deviation	degree of freedom	Calculated value of (t)	Table (t) value
	tribal	4.12	0.87	12	2.15	2.18
	The distant	5.03	0.79	12	2.15	2.18

- (Table 9) Displaying the results of the pre- and post-tests for the experimental group:-

experimental group	Test	The middleArithmetic	standard deviation	degree of freedom	Calculated value of (t)	Table (t) value	Statistical significance
	tribal	4.22	0.81	12	4.92	2.18	function
	The distant	6.31	0.65	12	4.92	2.18	function

- Table (10) Comparison of results between the experimental and control groups:-

The two groups	The middleArithmetic	standard deviation	degree of freedom	Calculated value of (t)	Table (t) value	Statistical significance
The officer	5.03	0.79	24	3.42	2.06	function
empiricism	6.31	0.65	24	3.42	2.06	function

Discussion of results:-

The results in Table (8) indicate that there is a significant difference in the performance of the control group. The arithmetic mean ranged from 4.12 to 5.03, but the difference was not statistically significant, as the calculated (t) value was 2.15 and the tabular (t) value was 2.18. This indicates that education according to traditional teaching was not effective in creating these

significant differences, as it indicates:(Alyan, 2000)However, traditional programs in physical education may lack the motivation and interactive aspect required to develop motor skills effectively, especially those related to precision and control, such as (patting). Table (9) indicates a good improvement in performance if the arithmetic mean reached 4.22 -6.31. The value of (calculated t 4.92) is higher than the tabular value 2.18, which indicates the presence of a significant statistical function, confirming that the use of the learning by playing strategy in teaching the patting skill was effective in developing the skill, motor and cognitive performance of female students. Everyone who sees(Amal, 2016)The use of the play-based learning method contributes to the development of internal motivation and increases concentration and attention, which is positively reflected in the learning of motor skills among students. (Table 10) indicates that the difference between the two groups was statistically significant in favor of the experimental group, as the calculated t-value reached 3.42, which is higher than the tabular value of 2.06, while the arithmetic mean of the experimental group reached 6.31 compared to the control group, which reached 5.03. The researcher attributes this method of learning through play to a positive impact on learners in developing skill and cognitive performance, enhancing their ability to learn, and achieving defensiveness and psychological state among female students. The development in skill performance has a significant impact on learners, as the method of learning through play has a noticeable impact beyond traditional methods. A study has proven(Mawer, 1999)Play-based learning improves motor comprehension and long-term skill retention. The researcher believes, based on what has been reached, that the method of learning through play is of great importance in developing the skills of learners, whether they are technical, physical or intellectual skills. Learning through play is an effective core in the educational process, as it revolves around conveying the skill or idea that the learner is intended to apply in a simple way through creating small, simplified games that contribute to applying this idea in the simplest learning methods. Learning according to play contributes to reducing individual differences among learners, as the focus of the skill will be consistent with all learners. The method of learning through play provides learners with an image stored in mental memory, whether long-term or short-term.(Jawad Kadhim, 2016)



Conclusions and recommendations:-

Conclusions:-

- Interactive activities and games accompanying the learning units contributed to developing and enhancing understanding and practical application of the skill.
- Educational units prepared and designed according to the game method have proven to be effective in achieving the cognitive and skill objectives of the subject.
- The game-based learning method enhanced students' motivation to learn well and raised the level of participation and interaction within the educational unit.

Recommendations:-

- Involving students in evaluating educational activities.
- Adopting the learning-by-play method in teaching the basic skills of all sports.
- Encourage teachers to design educational units that integrate play-based learning in early education.
- Conduct more research on other handball skills and activities.
- Conduct more modern strategies on learning mathematical skills and compare them with traditional ones.

Appendix (1)

Sample of an educational unit using the learning-by-play method

Educational unit using the learning by playing strategy and

Skill: Handball dribbling

stage Second-year students

the time: 60 minutes

Objective: To learn and improve the skill of tapping using play activities.

Type of activity	Activities and motor skills	organization	Notes
Preparatory Section	Preparing lesson materials, students standing to take attendance, explaining lesson vocabulary	Organize the students in a semicircle.	Emphasize a good warm-up.
General warm-up	Performing the sports salute. Regular gait, instep gait, heel gait, outside gait, regular trot, swing trot, inward lateral trot, touch trot, regular trot, regular walk.		
Special warm-up	Special warm-up exercises (ball exercise: passing, light tapping).		Ensure the requests understand the skill.
Main Section Educational aspect	1. Explain the skill to the students in an interesting and smooth manner, giving examples regarding the skill and knowing the pros and cons of the skill.	Organizing students in the form of square minus one side	Objective: To develop the ability to control the ball while dribbling..
The practical side	2. Explain to the students that the application of the skill will be according to the educational activities (Learning by playing strategy.		- Reinforcement: Give points to the best group, encourage cooperation and participation. And
The final part	Example: Activity title: Patting and dodging race.)	- Tools Handballs, colored cones.	1. Quick discussion with students about what was done. 2. Reinforce and support the students who are

	<p>How to do it: Divide the students into two groups, each group lining up behind the starting line. Each student dribbles the ball and moves in a zigzag motion between the cones, then returns and hands the ball to the next student..</p> <p>Instructions: Focus on tapping with your dominant hand, keep looking forward, don't lose control of the ball., Repetition: 3 times for each student</p> <p>Calming exercises (deep breathing, stretching, returning to the normal body position)</p>		<p>engaged. Remind them of the importance of patting each other in teamwork.</p>
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The effect of special preparation exercises (cardio) on some forms of strength for the arm muscles for bodybuilding players in the Classic Physique class

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2017](https://doi.org/10.37359/JOPE.V37(2)2025.2017)

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Article history: Received 10/ January/2024 Accepted 20/ February/2025 Available online 28/ June/2025

Abstract

Bodybuilding is a sport that relies on exercises with varying intensity and training loads in order to gain strength and large muscle masses. The external appearance has a special evaluation that we seek to reach through physical training that achieves high physical coordination because it is the key to rising to the first ranks in competitions. From this, the concept of modern training has led to the discovery of many new training methods, techniques and exercises, which have been applied to most sports and have obtained results that should be paid attention to. Among these exercises are modern cardio exercises, which work to develop the circulatory functional systems (cardiac and respiratory systems) and raise endurance physical fitness. It also significantly helps to get rid of excess weight by reducing the amount of body fat for bodybuilding athletes in particular and for other sports in general. “This type of exercise can be adopted continuously to be an incentive to raise the athletic level. (Faisal, Bahaa Dhiab, 2019) The most difficult period faced by a bodybuilding athlete is the special preparation period because the athlete is under the influence of relatively high-repetition exercises with

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submaximal intensity and is subject to a strict, precise, and specific diet. This is what is applicable in the traditional methods of bodybuilding, and in contrast to these followed methods, other, updated methods have emerged. It is one of the cardio exercises that helps bodybuilders face the difficulty of the special preparation period, as it may have an impact on the level of achieving prominence and muscle definition of the player in a healthy and sound manner while saving time. The research aims to prepare exercises for the special preparation stage of bodybuilding in the cardio style for the players of the Classic Physique category and to identify the effect of the exercises of the special preparation stage for body building in the cardio style on some forms of strength of the arm muscles for the bodybuilding players of the Classic Physique category. The hypothesis of the research was that there is a positive effect. For exercises in the special preparation phase for body building in the cardio style between pre- and post-tests, and for the benefit of post-tests in some forms of strength for the arm muscles for body-building players in the Classic Physique category. The researchers used the experimental method by designing an equal experimental group with two pre- and post-tests. The researchers chose a random sample consisting of (14) bodybuilding players in the Classic Physique category from the participants in the recent Iraqi championship. Their heights ranged between (171 cm - 175 cm) and their weights (77-83) and who They represent (35%) of the research population of (40) players in Baghdad. The homogeneity of the research sample was calculated in terms of age, weight, height, and training age, as shown in Table (3), and the value of the skewness factor (+1) was extracted to indicate the homogeneity of the research sample. The results of the research were positive through the results of post-tests of cardio exercises, and the researchers recommended using cardio exercises for bodybuilding athletes in the Classic Physique category during the special preparation period instead of traditional exercises.

Keywords: special preparation exercises, cardio, body building, Classic Physique class.

Introduction

Bodybuilding is a sport that requires high efficiency in physical training, resistance to relatively high weights, and a special nutritional program, as well as different training methods and styles, which start with medium intensity and high repetitions and end with high intensity and few repetitions. Depending on the training goal and the preparation period, we find that bodybuilders need different training methods. Therefore, the modern training concept has turned to discovering exercises that have been applied to most sports, including bodybuilding, and have obtained results that should be paid attention to. Among these exercises are cardio exercises, which work to highlight and define the muscles better and show the muscle sections, and give great and rapid results. These methods may be the most appropriate for the (Classic Physique) category, which is one of the important categories in bodybuilding, which is characterized by its reliance on the aesthetics of the body and great coordination, in addition to its avoidance of the use of stimulants, which are prohibited for players when participating in this category.(Easa et al., 2022)

The training work carried out in such events is directed towards developing the relevant physical abilities, which in turn works to show the body composition in the optimal form, especially during the special preparation period, which the player must deal with carefully in terms of the type of training and nutrition. During the special preparation period, it is necessary to use high repetitions with moderate intensity or sub-maximal intensity in such types of training to develop strength characterized by speed and maximum strength endurance, which in turn will give returns at the level of functional systems, most notably the muscular system. The result of using these methods in these preparation periods has been achieved, represented by the body composition in terms of muscle coordination, as well as endurance of the results resulting from the accumulation of lactic acid and the body's responses to the secretion of (crohn's hormone), in addition to the responses of the heart muscle in terms of heart rate and the development and raising of maximum endurance physical fitness, which works significantly to reduce the amount of fat in the body, especially for bodybuilding athletes.(Kazim et al., 2019)

Here lies the importance of research in developing updated exercises represented by cardio exercises and standardizing those exercises in a way that is compatible with the



special preparation period for bodybuilding athletes in the (Classic Physique) category in the hands of trainers in order to deal with the player in the optimal way during this sensitive period, hoping that it will bring better returns than previous methods.(Kadhim & Mousa, 2024)

Fatima Hassan Abdel Basset's study([1])(2023) The study aimed to identify the effectiveness of cardio exercises on body composition and some physiological variables among female students at Sohar University in the Sultanate of Oman. The researcher used the experimental method for one group on a sample of (40) female students from the dormitories at Sohar University. The researcher confirmed the existence of statistically significant differences between the pre- and post-measurements of the experimental group in the level of some body composition variables, body weight without fat, fat mass, body mass index in favor of the post-measurement, and the existence of statistically significant differences between the pre- and post-measurements in some physical variables (abdominal muscle strength, trunk flexibility, vertical jump, agility, grip strength).

Study by Yardon Hussein Ali([2]) (2022) The study aimed to identify the effect of cardio exercises (HIIT) accompanied by music on the physical fitness of the cardiovascular system, the respiratory system, growth hormone and some body components for female trainees aged 30-35 years. The researcher used the experimental method by designing two equivalent experimental groups with pre- and post-measurement. She confirmed that cardio exercises (HIIT) are effective in developing cardiorespiratory fitness. (Salman et al., 2022)

Study by Ala Rahim Hassan([3])(2021) The study aimed to identify the effect of cardio and intermittent exercises on some biochemical variables, weight and percentage of fat for female trainees of fitness centers in Karbala, aged (25-35) years. The researcher used the experimental method with pre- and post-test for the two groups. The researcher confirmed that cardio exercises have a significant effect on biochemical variables, weight and percentage of fat for female trainees, and that intermittent exercises have a greater effect than cardio exercises on biochemical variables, weight and percentage of fat for female trainees in the female fitness center.

A study by Iman Faeq Saleh and others ([4]) (2020) The study aimed to identify the importance of cardio exercises, especially for increasing strength and physical fitness among players, and to inform coaches of the importance of these exercises. The researcher used the experimental method with one group, with pre-test and post-test. The researcher confirmed that the proposed cardio exercises had a positive impact on developing the speed-specific strength of the arm and leg muscles. (Munaf et al., 2021)

Study by Doha Abdul Jabbar Muhammad([5]) (2021) The aim of the study was to identify the use of elastic bands before performing the rear deadlift and bench press. The study hypothesis was that there were statistically significant differences between strength before and after using the elastic bands. The sample consisted of 10 first-year students. The researchers used the single-group experimental method and statistical bag to extract the results. They concluded that the weight lifted increased when wearing the elastic bands in the bench press, and increased when wearing a back belt and elastic bands in the rear deadlift. The researchers recommend the necessity of emphasizing the use of elastic bands during training, especially when taking additional weights, and the necessity of conducting such a study on an advanced sample.

Research objectives:

- 1-Preparing special preparation exercises for bodybuilding using cardio for Classic Physique category players.
- 2-To identify the effect of cardio-based bodybuilding preparatory exercises on some forms of arm strength for bodybuilders in the Classic Physique category.

Research hypotheses:

There is a positive effect of cardio training exercises in the pre- and post-tests on some forms of arm muscle strength for bodybuilders in the Classic Physique category.

Method Tools

The researchers used the experimental method with an equivalent experimental group design with pre-test and post-test, as shown in Table (1), as this design is considered to have tight control and is suitable for the research procedures“ ,since the experimental method depends on introducing a deliberate variable that is controlled for the specific conditions of an incident and observing the resulting changes in the incident itself and

interpreting them([6])”.Therefore, the researchers chose a random sample consisting of (14) bodybuilding players in the classic physique category who participated in the last Iraqi championship, and their heights ranged between (171 cm - 175 cm) and their weights (77-83), and who represent (35%) of the research community of (40) players in Baghdad, and this is what is shown in Table.(2)

Table (1) shows the experimental design of the research group.

The group	Pre-test	Pilot Program	Post-test
experimental group First	*Maximum arm strength test *Speed specific strength test for arms *Arm endurance test	Cardio exercises + Training program	*Maximum arm strength test *Speed specific strength test for arms *Arm endurance test

Table (2) shows the sample details.

T	the society	number	percentage
1	Research Community/Baghdad	40players	%100
2	Research sample	14players	%35
3	Survey sample	2players	%5

The homogeneity of the research sample was calculated in terms of age, weight, height, and training age, as shown in Table (3), and the value of the skewness coefficient (+1) was extracted to indicate the homogeneity of the research sample.

Table (3) shows the homogeneity of the sample.

Variables	arithmetic mean	The mediator	standard deviation	Coefficient of skewness
the age	21.4167	21.0000	2.06522	0.604
the weight	80.4167	80.5000	1.83196	0.137
height	173.1667	173.0000	1.46680	0.399
Training age	53.6667	54.0000	4.07505	0.490

The means of collecting information, devices and tools used were as follows:

The researchers used the following methods of collecting information: observation, experimentation, measurement and testing, personal interviews, and Arabic and foreign references and sources.

The devices used in the research were a Chinese-made Lenovo laptop, a medical scale (Chinese-made electronic), and the tools used in the research were iron bars and iron discs of different weights (2.5 kg - 25 kg), iron dumbbells of different weights (2.5 kg - 25 kg), benches of different heights, adhesive tapes, and iron holders.

Cardio exercises (high-intensity interval training)

It is a high-intensity exercise that relies entirely on intense physical effort for short periods, followed by short rest periods between exercises during the training session. It is currently considered a very important exercise because it attracts many individuals who have a desire for a healthy body and high physical fitness([7]). Parker defined it as aerobic physical exercises that help the body obtain a large amount of oxygen during physical activity, which works to burn blood glucose with the help of oxygen, which is met by stimulating energy through aerobic metabolism([8]). Nahla Al-Did Darwish defines it as high-intensity exercises interspersed with short rest periods, and based on a combination of aerobic and anaerobic work.([9]).

Cardio is the most popular cardiovascular exercise in training sessions and is believed to be one of the most effective ways to improve cardiovascular fitness. Cardio is known to be very effective, particularly for developing cardiorespiratory fitness, economy of movement, and performance of specific endurance training. It also works to increase heart stroke volume, improve fatigue resistance, develop neuromuscular coordination, reduce blood lactate levels, and increase the recruitment of slow-twitch muscle fibers.([10]).

It was named (cardio) in reference to the medical anatomical description of the heart muscle, as the intensity in these exercises targets the heart muscle more directly than the rest of the body's organs and systems, as cardio exercises are done at two levels of intensity.

Low level: heart rate reaches 150 bpm

High level: heart rate reaches 180 bpm or more

Researchers believe that cardio exercises are a method that directly affects the heart and blood vessels for short periods of great and high effort followed by periods of rest. The athlete can perform these exercises with any method that suits the heart condition and is beneficial to him, such as bodyweight exercises and others. The application of high-intensity exercises (cardio) is necessary for anyone working to apply this method to achieve high physical fitness. While the technique of cardio exercises has proven to be of great benefit to advanced athletes, it has also contributed to improving and developing skill performance. The use of cardio exercises helps athletes in the pre-competition stages to get rid of unwanted excess fat and fluids and highlight the body's muscles in a manner consistent with the requirements of physical perfection.

Cardio exercise classification

Cardio exercises are a training method that falls within the aerobic training methods. Aerobic training means physical effort in which the athlete's need to breathe outside air increases during performance. In simpler terms, it is any athletic performance in which the duration of the work is more than 3 minutes.

Therefore, cardio exercises are classified as one of the many aerobic training methods, which are:

- 1 Continuous exercise method
- 2 Fartlek method
- 3 altitude training method
- 4 Aerobic style
- 5 Tae Bo style
- 6 Cardio style

It's important to note that cardio training is a form of aerobic exercise, but it differs from other aerobic exercise methods in terms of their primary goal, as they serve different purposes. Therefore, cardio training is considered a high-intensity exercise (HIIT), meaning that the intensity is high despite being classified as a low-intensity aerobic training method. This is its most prominent feature among other aerobic training methods.

The main experiment of the cardio research sample

- The number of training units per week is between (4-5) units.
- Every two consecutive days, exercise and the third day, rest.
- The duration of the training program is 45 days, which is the special preparation period.
- Number of training units: 24 training units.
- Each training unit consists of at least five exercises.
- Exercise intensity is approximately submaximal.%(95-90)
- The duration of each exercise (station) is not less than (30-45) seconds.
- The rest period between one exercise (station) and the next is (10-15) seconds.
- The set of exercises (stations) is repeated for (4-5) sets.
- Rest after each set, i.e. series of exercises (stations), for (3-4) minutes.
- The exercise (station) should be performed at maximum speed.
- Each exercise targets specific muscle groups in rotation.
- The exercises are done with body weight or some suitable equipment and tools that serve the purpose, and they can be either jumping, alternating vertical or horizontal steps, or staying in a certain position.
- The duration of a cardio training session should not exceed 45 minutes.

- It is used more by bodybuilders during the special preparation period.
- The exercise should be independent of the basic exercises, before or after it, by at least 6 hours.

After completing the main experiment, the researchers conducted the post-tests. The researchers took care to ensure that the procedures were as similar to the conditions of the pre-tests as possible in terms of timing and exercise performance. The researchers used the statistical package for the social sciences (SPSS) as follows:

- v Arithmetic mean.
- v The mediator.
- v Standard deviation.
- v T-test for matched samples.
- v Coefficient of skewness

Results

Table(4) It shows the arithmetic mean, standard deviation, calculated t-value, error level, significance, differences between arithmetic means, and deviation of differences in the pre- and post-tests, the speed-characterized strength of the arms, the strength endurance measurement of the arms, and the maximum strength of the arms for the research sample.

T	Variables	Unit of measurement	tribal		The distant		So	A F	calculated t value	Error level	Significance level
			Q	A	Q	A					
1	Speed - specific strength of	Number of repetitions	6.5000	1.04881	8.3333	81650	1.83-333	47726	-3.841-	012	spiritual

	arms										
2	Arm strength endurance test	Number of repetitions	9.0000	.89443	10.1667	.75277	-1.16667	.16667	-7.0000	.0001	spiritual
3	Maximum arm strength	kg	115.6667	13.88044	128.3333	8.75595	12.66667	2.33333	-5.4290	.0003	spiritual

*Significant at an error level of $\leq (0.05)$ with a degree of freedom of(5)

Discussion

By displaying the results of Table (4), we note that the superiority of the results of the research group in (the strength characterized by speed for the arms, the strength endurance for the arms, and the maximum strength for the arms). The researchers believe that the reason for the superiority of the research group is due to the nature of the exercises (cardio that were applied to the research sample for the first time, which are known for their high intensity, as well as the exercises that were prepared and applied during the training units, which are the exercise of opening and closing the legs and arms by jumping, the running movement with raising the knees high and to the left and right ,The forward leaning exercise, then the player stands up, the forward leaning exercise, then running, then standing up, the squat exercise, then standing up for running. The players performed the exercises regularly, with high training intensity and repetitions for 45 seconds of work and 30 seconds of rest. Ghassan Adeeb Abdul Hassan confirms that the high-speed frequency of the nerve fluid makes the muscle work with a very high contraction, which leaves adaptations that are reflected in the form of maximum contractions resulting from

accustoming to maximum work and the amount of height of the curve that represents the peak of the muscle contraction([11]).

Cardio exercises are considered to be of great benefit in bodybuilding, as they are exercises used for the first time after the basic training units, and there was no existing method or method followed by players in using cardio exercises, which gave a great benefit in the physical adaptations that occur as a result of its use, and this is what (Adel Abdel Basir) confirms by saying that“ each group of exercises, by any means, must be prepared in a way that gives an effective impact in developing all the capabilities specific to the type of activity ([12])”.From all of this, researchers believe that regular training of players on cardio exercises, as they are modern exercises, gives positive returns in terms of getting rid of unwanted excess and fluids and showing the body in the optimal form to complete the best physical image. The results came out positive in the post-tests of the arm muscles as a result of the muscles adapting to these exercises and not wasting and scattering the muscle contraction by involving muscle parts that are not needed during performance, which is reflected positively on the strength of the contraction, which gives positive results.

Conclusions

Based on the results of the statistical analysis that the researcher reached within the limits of the research community, it was possible to reach the following conclusions:

- 1-Cardio exercises had a positive impact on Classic Physique bodybuilders during their preparation period, giving the players better muscle definition and definition, revealing their muscle sections, and yielding significant and rapid results.
- 2-Cardio exercises are effective in developing cardiorespiratory fitness because they directly work the cardiovascular, respiratory, and muscular systems.

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Artificial intelligence is employed in studying the relationship between some physical measurements and the accuracy to the young goalkeepers in football

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2287](https://doi.org/10.37359/JOPE.V37(2)2025.2287)

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Article history: Received 24/ April/2025 Accepted 25/ May/2025 Available online 28/ June/2025

Abstract

Physical measurements are one of the basic factors that affect the performance of the goalkeeper, especially when confronting fixed kicks that require special skills such as the reaction and accuracy in concentration, and with technological development artificial intelligence has become an effective tool for analyzing mathematical data that is difficult to discover in traditional methods The study aims to employ techniques Artificial intelligence to study the relationship between physical measurements and the accuracy of confronting the fixed kicks of goalkeepers in football. This study will contribute to providing a deeper understanding of physical factors that affect the performance of goalkeepers, in addition to designing dedicated training models and programs that depend on scientific data and the research sample was for specialized school players. For football (12) players. As for the research curriculum, the researcher used the descriptive analytical approach, studying correlation relationships, to comprehend them, and the nature of the problem. As for the procedures used, it was through the

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use of the GPT application and using libraries such as Python and a questionnaire. The search results were the mass 0.004 and the total length 0.001 The length of the arm is 0.001, the width of the shoulders 0.062, and the length of the man 0.061 is moral with the degree of freedom 11 at an error ratio 0.05

As for the conclusions, there is a relationship between physical measurements and the accuracy of confronting high -minded and opposition kicks. The research problem was to study the physical measurements of emerging players and identify their relationship accurately to confront fixed kicks because of its great importance in achieving good results during the match.

Keywords: Artificial intelligence, Physical measurements, accuracy, fixed kicks in football

Introduction

Football is one of the most popular sports in the world, with goalkeepers playing a pivotal role in determining the outcome of matches. Goalkeeper duties require high levels of concentration, skill, and physical ability, making the selection and development of goalkeepers a complex process that requires precise scientific foundations. This is why research into A study of the impact of body measurements on the accuracy of set-piece saves, and the use of artificial intelligence to analyze performance, draw conclusions, and improve training programs for young goalkeepers based on the results. (Kadhim & Mahmood, 2023) There are a number of recent studies that have addressed this specialty from various aspects, including: A comparative study of some anthropometric measurements and functional variables among football and futsal goalkeepers. (Issa et al., 2024) This study examined the differences in anthropometric and functional measurements between soccer goalkeepers and futsal goalkeepers. The results showed that coaches relied on variables such as body height and leg length in the selection process, with little attention paid to functional variables (Science, 2022). Predicting the contribution of the most important body measurements to the performance of some football skills for young players: This study aimed to determine the extent to which anthropometric measurements influence the performance of specific skills among junior players. (Kadhim & Majid, 2023) The results indicated a statistically significant relationship between some anthropometric measurements and skill performance (gpt, 2025). Artificial intelligence and improvements in sports performance analysis and outcome prediction. This study examined the role of artificial intelligence in analyzing player performance data in real time by tracking metrics such as player movement, positioning, and physical effort. (Mondher & Khalaf, 2023) This analysis helps coaches and



analysts understand players' strengths and weaknesses and make informed decisions during matches (Scikit-learn, 2025). Artificial Intelligence in Football: Transforming the Game with Technology: This study discusses how AI is used to analyze match data, such as analyzing more than 500 passes in each match to help commentators and teams understand tactical trends. AI is also used to identify talent and develop player development strategies (gpt, 2025).

Artificial Intelligence and the Future of Football: Reality and Hope:

This study explores the role of artificial intelligence in referee decision-making, match outcome prediction, injury prevention, and performance improvement, as well as player selection (Specialized, 2022). The players of the specialized schools of the Ministry of Youth and Sports are distinguished by their unique physical and skill capabilities that have surpassed their peers of the same age to be accepted into these schools. This calls for attention to the field of their tests in a manner that is commensurate with their distinctive abilities and attention to evaluating training curricula in the players' privacy and level of progress. It is necessary to know the players' levels by conducting follow-up tests to know the extent of development achieved by the players in all physical and skill aspects in the training process and then raise them to achieve the desired goals through evaluating physical and skill capabilities and skills (Mahdi Zadan Hemood, 2019). Considering that the researcher is a lecturer in the College of Physical Education and Sports Sciences and a football coach at the same time, the problem is considered part of their work and through the use of the artificial intelligence program (gpt) and conducting private interviews with coaches specializing in goalkeeping for age groups, as studying the relationship between these two important variables, we mean body measurements and their relationship to skill performance (skill), gives positive indicators of the health and mastery of performance and clarification. Its strengths and weaknesses, the suitability of these measurements, and their relationship to the achievement of this skill, given its great importance in achieving good results during the match.

Method and tools

Research methodology The researcher will use the descriptive analytical approach and study the correlational relationships for their suitability and the nature of the research problem. **Research community and sample** The researcher conducted his research on a sample of (12) goalkeepers from specialized football schools at the training center in Baghdad. They represent (40%) of the entire research community, which numbered (30) young players. The percentage was calculated using the law of the part divided by the whole multiplied by the number 100.. **Search procedures** In order to determine the physical measurements for skills, a special questionnaire was distributed to a group of specialists (football and tests) to choose some of them, adding what



they see as important in this sport and using some artificial intelligence programs to collect data for the purpose of reducing effort, shortening time and material cost due to what these modern technologies provide in terms of accurate information, which became clear to us through this research after comparing the data collected manually in the traditional way of questionnaires and personal interviews and the information found in the targeted artificial intelligence applications. Thus, the following measurements and variables were chosen in light of what was agreed upon and according to the relative importance, the variables that achieved more than 50% were chosen. The goalkeeper is considered the most important player among the players and is distinguished by physical, skill, tactical and psychological specifications that differ from the rest of the players. It is also impossible to play without a goalkeeper at any time during the match, as he occupies the most sensitive and important position on the field because he is the last player who defends his goal, that is, the last player in the team's defense, and any mistake from this player most likely causes the goal to be hit by a goal. The owner of this position is distinguished from other players by the fact that international law Football allows him to touch and hold the ball with his hands inside his team's penalty area, and also allows the goalkeeper to play inside the field with his feet (Hammoud, 2019).

table(1)

Illustrates the relative importance of body measurements for the research sample members.

T	variable	The achieved score is(50)	Average(5)	percentage	choice	
1	Total length	50	5	%100	Yes	both
2	trunk length	20	2	%40		
3	arm length	41	401	%82		
4	thigh length	23	203	%46		
5	forearm length	35	305	%70		
6	Shoulder width	9	0.9	%18		
7	Lower limb length	47	407	%94		
8	mass	35	305	%70		
9	Chest width	40	4	%80		
10	pelvic display	17	107	%34		
11	Shoulder circumference	9	0.9	%18		
12	Chest circumference	20	2	%40		

The sample members were subjected to these measurements before starting to conduct the technical test. During the experiment, work was carried out according to the prepared plan using the targeted tests, which are:

- High kick test
- Low set kick test (ground)

Statistical method

The researchers used the SPSS statistical package. After collecting the data, the researcher analyzed it statistically using the following laws: arithmetic mean, percentage (%), standard deviation, simple correlation coefficient, relative importance(

Presentation, analysis and discussion of results

Table(2) Evaluate the correlation relationships between the body measurements of the research sample members and the accuracy of the overwhelming and projected tax

T	Variables	Low set pieces (ground)				High kicks			
		simple association	Calculated value of r	themselves	Moral e	simple association	Calculated value of r	themselves	
1	mass	0.646	0.3022	0.001	spiritual		0.323	0.004	spiritual
2	Total length	0.574		0.001	spiritual			0.001	spiritual
3	arm length	0.233		0.062	spiritual			0.001	spiritual
4	Shoulder width	0.1189		0.022	spiritual			0.062	spiritual
5	man's height	0.433		0.001	spiritual			0.061	spiritual

Degree of freedom 11 at 0.05 margin of error



By observing Table (2), it becomes clear to us that there is a correlation between mass and low fixed kicks, because low fixed kicks do not require a very high jump and a height above the level close to the crossbar, and therefore the mass variable was influential on the jump distance. There is also a correlation between mass and fixed kicks higher than the head level (high) because fixed kicks higher than the head level (high) require a high jump distance and a height above the level of the crossbar. (Kazim et al., 2019) As for the relationship between the variable of total length, the researcher noticed the existence of a correlation with fixed kicks above head level (high) and fixed kicks that are low (ground). (Sikhe & Khalid, 2022) This is because the total length means that the center of gravity of the body is at the highest point, as well as the height of the launch point, which is the most important factor affecting the launch of the projectile (body). It also plays a clear role in determining the angle of launch of the body, as the better the launch angle, the more accurate the skill is. (Sikhe & Yasir, 2020) As for the relationship between the variable arm length, there is no correlation with it, and there is a correlation with fixed kicks higher than head level (high), and this is because low fixed kicks (ground) do not require a very high height and extension in arm length, but fixed kicks higher than head level (high) require an extension in arm length and a very high height. As for the relationship between the shoulder width variable, there is no correlation between it and fixed kicks higher than head level (high) and low fixed kicks (ground). This is because the shoulder width variable does not affect the strength and accuracy of low fixed kicks (ground) and fixed kicks higher than head level (high). As for the relationship between the variable of leg length, there is a correlation between it and fixed kicks higher than head level (high) and there is no correlation between it and fixed kicks that are low (ground) because fixed kicks higher than head level (high) require a high height from the base and precision in performance. (Munaf et al., 2021)



Appendices

Attached (1)

Dear experts, who were presented with the questionnaire forms to select the appropriate body measurements.

T	Specialist's name	Title	University and major
1	Naji Kazim	Professor Dr.	Football / University of Baghdad, College of Physical Education and Sports Sciences
2	Ali Saad	Assistant Professor Dr.	Football / University of Baghdad, College of Physical Education and Sports Sciences
3	Mecca delegate	Doctor teacher	Football / University of Baghdad, College of Physical Education and Sports Sciences

attached(2)

Support staff

T	The three-part name	The attribute	University and major
1	Ali Musa Jawad	Lecturer at the College of Physical Education and Sports Sciences	University of Baghdad / History of Volleyball
2	Mohammed Nahed Obaid	Lecturer at the College of Physical Education and Sports Sciences	University of Baghdad / Field and Field Training
3	Fahim Abdel Wahid	Lecturer at the College of Physical Education and Sports Sciences	University of Baghdad / Training Physiology Field and Square



Appendix(3)

Questionnaire to determine the ideal and important measurements for the goalkeeper position

Dear Professor.....

Best regards...

The researchers (Mahdi Zidane, Youssef Kazim, Safwan Abdul Ghani), lecturers at the College of Physical Education and Sports Sciences - University of Baghdad, aim to conduct their research entitled):Using artificial intelligence programs to study the relationship between some body measurements and the accuracy of stopping set pieces among young football goalkeepers(Given your expertise in your field, we ask you to identify the ideal and important measurements for the goalkeeper position to reduce the chances of scoring goals.

Thank you for your cooperation. With great appreciation...

Expert's name:

Scientific title:

Specialization:

Workplace:

Date/ : 2025 /

.



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Psychological skills of Iraq fencing clubs' players aged 17 and above for the central and southern regions

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2091](https://doi.org/10.37359/JOPE.V37(2)2025.2091)

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Article history: Received 19/ April/2024 Accepted 6/ May/2024 Available online 28/ June/2025

Abstract

The aim of the research is to study the reality of psychological skills among fencing players aged 17 and above for the central and southern regions for the 2022-2023 season. The researchers used the descriptive method (survey method) to suit the nature of the research problem, and the community is represented by the players of Iraq clubs to duel for the central and southern regions for the 2022-2023 season, which number (111) players. The researchers used the questionnaire to collect the necessary data to achieve the research goal by building and applying a psychological skills scale aimed at identifying the reality of psychological skills among fencing players, and the most important findings of the researchers were that the reality of psychological skills among fencing players came statistically significant in general, which indicates that fencing players possess some psychological skills (self-confidence, motivation for achievement, concentration of attention) while some skills were not at the required level and did not achieve statistical significance (mental perception, relaxation, coping with anxiety, managing psychological stress). It turns out that fencing players have a weakness in these skills. The researchers recommend preparing special training programs for training in psychological skills by specialists in psychological counseling and guidance or subjecting trainers to courses to train psychological skills.

Key words: mental visualization, relaxation, coping with anxiety, stress management, self-confidence, achievement motivation, concentration of attention.

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Introduction

Sports psychology is linked to other sciences and has gained great importance in studying the psychological and mental aspects related to athlete behavior, as it goes hand in hand with other theoretical and applied sciences in ascending the sports games to the forefront of progress in all sports fields. It works to create a suitable environment for players to achieve their psychological balance, maintain their psychological health, increase their level of abilities and improve their athletic performance, by preparing and preparing players mentally and psychologically to participate in sports activities. Preparing athletes includes physical, cognitive, skill, tactical, and finally psychological preparation. Therefore, psychological preparation is an integral part of the process of training players and preparing them to enter into sports competition. This is confirmed by (Arab and Kazem, 2001, p. 35)“ Psychological preparation is one of the pillars upon which the training process is based, in addition to other training elements ”.It is done in many ways, including developing and enhancing psychological skills, as it is one of the important pillars of psychological preparation. Psychological skills are one of the fundamental pillars of the study of sports psychology because they represent an important dimension in preparing players. They play a fundamental role in developing performance and are now viewed as one of the variables that must be taken into account when trying to prepare players to achieve the required performance. Their importance increases significantly as the challenge intensifies in games that require individual competition between players due to the changing situations during competitions, including fencing. The better prepared psychological skills are, the more capable the player is of continuing to perform well throughout the fight and achieving athletic excellence. Through the above, the researchers noticed that players are affected by some symptoms represented by psychological problems, whether before their actual participation in the sports competition, during or after the sports competition, which can clearly affect the level of performance. Therefore, the researchers believe that the reason for this is due to the lack of interest in developing psychological skills by coaches, which leads to the emergence of psychological problems that produce undesirable behaviors that affect the level of performance. Therefore, the researchers believe it is necessary to know the impact of psychological skills on fencing players and work on developing and improving them to limit and reduce the psychological pressures that players face in training or competition as a result of negative thoughts that come to the minds of players as they approach participation in the competitive situation. As a result of the above, the researchers reviewed some studies that have a relationship with the studied variable. Among these related studies are: A study on the effect of psychological preparation on combating sports competition anxiety and developing some psychological skills during the competition phase among senior football players).Bashir, Saadneh, and Nawasriya, 2019(This research aims to identify the effect of psychological preparation in dealing with sports competition anxiety and developing some psychological skills during the competition phase among senior football players. The researchers used the experimental method with a single-sample design through pre- and post-measurement of a group of 16 football players in the Annaba Regional League. After applying statistical treatments to determine the significance of the difference between the pre- and post-measurements, the results were analyzed, which supported the hypotheses. The researcher concluded the following: The results showed an improvement in the players' psychological skills in favor of the post-measurement after applying the psychological preparation program. The

results showed a decrease in the level of sports competition anxiety. From the above, we conclude that psychological preparation has a positive impact in dealing with sports competition anxiety and developing some psychological skills during the competition phase among football players. A study on (psychological skills and their relationship to the level of shooting skill performance among handball juniors))Al-Shaalan, 2023(This study aims to identify psychological skills and their relationship to the level of performance related to shooting skills among young handball players in Jordan. The study used the descriptive approach, and the study population consisted of Jordanian handball juniors participating in the Junior League for the 2021/2022 season and born between 2006 and 2007. The study sample consisted of (122) juniors who were randomly selected. The psychological skills scale developed by Bullet al (1996) was used, which measures six skills and consists of (24) items. The following classification was used as a criterion to judge psychological skills: (1-1.83) not having (4.35), skill (1.84-2.66) very, very low score, (2.67-3.50) low score, (3.51-4.34) medium score, (5.17) high score, (5.18-6) very high score. The split goal test was used to measure shooting accuracy.

Results: The study concluded that the psychological skills of handball juniors in Jordan came in the following order: first place was the skill of sports achievement motivation to a high degree, second place was the skill of self-confidence to a medium degree, third place was the skill of visualization to a medium degree, fourth place was the skill of focusing attention to a small degree, fifth place was the skill of dealing with anxiety to a very small degree, sixth and last place was the skill of relaxation to a degree that represents the lack of this skill. It also showed the existence of a direct correlation between all psychological skills: sports achievement motivation, self-confidence, visualization, focusing attention, dealing with anxiety, relaxation, and the level of performance of the shooting skill in handball. A study on the predictive value of skill self-esteem in relation to psychological skills among volleyball players in the 17-18 year old category).Ayesh wa Baoush, 2017)

The study aimed to identify the predictive value of skill self-esteem in terms of psychological skills among volleyball players in the junior category of 17-18 years. The study was conducted on a sample of 20 players who were selected randomly from the original community of 120 players, i.e. 20% of the players active in the clubs of the second national division of the central region of volleyball in Algeria. The descriptive approach was followed by distributing two scales of psychological skills and skill self-esteem to the players. The SPSS 23 program was used to analyze the results of the study. A statistically significant correlation was found between the psychological skills and skill self-esteem of the players. A predictive equation was also extracted to predict the level of skill self-esteem in terms of psychological skills. Accordingly, the researchers recommended the need to pay attention to the psychological preparation of athletes in a manner that is compatible with their psychological needs, relying on the predictive equation that resulted from this study. A study on (psychological skills and their relationship to competitive anxiety among football players))Umar, 2016)

This study aims to highlight the relationship between psychological skills and competitive anxiety among Algerian football players. We adopted a descriptive approach appropriate for such studies, using a psychological skills scale and a competitive anxiety scale, both of which were intentionally distributed to a sample of 40 players active in the Mouloudia Club of Algiers and Nasr Hussein Dey. Both players are playing in the bottom two this season, and we therefore assume an increase in their anxiety levels. Study (constructing a scale of psychological skills for gymnasts))Zaki, 2010)

This study aimed to identify the construction of a scale of psychological skills for gymnasts to identify the most important psychological skills that distinguish gymnasts. The researcher used the descriptive approach on a sample of (221) gymnasts representing gymnasts in the Arab Republic of Egypt for the age group (159) years, where they were chosen intentionally. The results of the study showed that the psychological skills were ranked highest in the field of sports achievement motivation and lowest in the field of anxiety. The ranking of psychological skills was as follows: sports achievement motivation, self-confidence, relaxation, mental imagery, focus of attention, and anxiety.

Method and tools:

The researchers used the descriptive approach with the survey method due to its suitability to the research problem. The researchers contacted the Iraqi Fencing and Modern Pentathlon Federation to identify fencing players for the 2022-2023 sports season in order to identify the size of the total research community, which amounted to (111) players from the youth and advanced categories for the central and southern regions. The research sample was selected, consisting of (111) players, representing (100%) of the research community, as shown in Table.(1)

Table(1)

Shows the number of players within the governorates

	Governor	Original population (total number)	Category		pilot study sample		Building sample	Main experiment sample
			yo	Applic	Firs	Seco		
	Baghdad	44	2	24	4	—	40	
	Karbala	6	4	2	—	-	6	
	Al-Muthana	5	3	2	—	-	5	
	Najaf	6	3	3	—	-	6	
	Diyala	28	1	12	—	—	28	
	Basra	8	5	3	—	4	8	
	Maysan	14	8	6	—	—	—	14
	Total	111	5	52	8	—	93	14
	percentage	%100	%5	%46	%7.20	—	%83.78	%12.61

The research tools used were references and sources that were employed from books, studies, articles, university theses and the Internet. As for the field application aspect, the researchers relied on field visits that they conducted to the fencing halls of Iraqi clubs in the central and southern regions for the 2022-2023 season. The main tool consisted of a psychological skills scale form that the researchers

relied on in collecting data, which consisted of seven areas: (mental visualization, relaxation, coping with anxiety, managing psychological stress, self-confidence, achievement motivation, and focusing attention). The researchers counted and applied the scale to the research sample. After analyzing the responses of the research sample, the data was collected in a special form, so that each player had his own score.

Scientific transactions of psychological skills:

First: Validity of the scale: Validity is considered one of the basic conditions that must be available in scales, as it indicates the extent to which the scale items converge or diverge from the trait it aims to measure. The researchers arrived at indicators of apparent validity, as they tested the validity of the scale by presenting it with its items and domains to specialized experts who arbitrated its suitability for application, and thus the scale recorded apparent validity. The discriminatory power was also calculated, as the arithmetic mean and standard deviation were calculated for the scores of the upper and lower groups for each domain of the scale, and then the (t-test) for independent samples was applied to identify the statistical significance of the differences between the upper and lower groups. After statistically processing the data, it was found that the scale had a discriminatory ability between the upper and lower groups, as the significance values were smaller than the significance level.(0.05)

Second: Scale stability: Stability is an important condition for good performance. This means that if the measurement processes of the same individual are repeated, their score will appear somewhat stable. The stability coefficient is the correlation coefficient between individuals' scores on the test over the number of different procedures. To find the stability coefficient for the psychological skills scale, the researchers used the split-half method and the Cronbach's coefficient to extract stability. After statistical treatments, it became clear that the scale has a high and reliable stability value.

Results:

Presentation and analysis of the results of the psychological skills scale for Iraqi fencing club players in the central and southern regions. The arithmetic means and standard deviations of the research sample's responses to all the statements of the psychological skills scale for fencing players were calculated according to the seven areas (mental visualization, relaxation, coping with anxiety, managing psychological stress, self-confidence, achievement motivation, and focusing attention). Table (2) shows this.

Table (No. 2)

Display the results of arithmetic means, standard deviations, hypothetical mean, t-value, and significance level.

Variables	Paragra	Hypothetic mean	arithmeti mean	Coefficient of skewness	devia Stand	Calculated value (t)	va sa	funct
mental imagery	8	24	24.35	0.27	1.2	1.04	0	Nor mor
Relaxation	8	24	24.85	0.11	1.9	1.60	0	Nor mor
focus of attentio	9	27	30.35	0.02	2.2	5.69	0	spirit

Facing anxiety	8	24	23.85	0.35	1.7	0.30	0	Normal
self-confidence	7	21	26.71	0.21	1.7	12.06	0	spirit
Achievement motivation	7	21	27.00	0.38	1.6	13.88	0	spirit
Stress management	6	18	17.42	0.72	1.5	1.37	0	Normal
Psychological skills	53	159	174.57	0.10	3.7	15.68	0	spirit
The tabular value (2.16) at a degree of freedom (13) and a significance level of (0.05)								

The table above shows that the number of paragraphs of the scale as a whole (psychological skills) is (53) paragraphs, with a hypothetical average of (159), while the arithmetic average of the research sample in the scale was (174.57) with a standard deviation of (3.71), as the (t-value) between the hypothetical average and the arithmetic average of the research sample was (15.68) with a significance level of (0.00), which indicates its significance at a significance level of (0.05) and a skewness coefficient of (0.10), which means that the sample is normally distributed. It was found that the arithmetic average is greater than the hypothetical average, i.e. there are significant differences in favor of the arithmetic average, and this indicates that fencing players have an acceptable level in the (psychological skills) scale during their athletic performance.

As shown in the table above, there is a difference in the dimensions of psychological skills. Some of them obtained a score within the hypothetical average, which is a case that may fall under the heading of a decline in the reality of psychological skills and needs improvement. Therefore, we must verify the reality of each skill among the fencers in order to reveal to us the strengths and weaknesses of each dimension of psychological skills. (Salih et al., 2024)

The researcher attributes the reason for the discrepancy in the dimensions of psychological skills and obtaining scores within the hypothetical mean to the fact that psychological training by coaches does not lead players to master all psychological skills, and this is specific to each sport, whether individual or team, due to the emotions accompanying each activity, as emotions in group activities differ from emotions in individual activities. (Jawad Kadhim, M., & Salman Ahmed, 2016) Therefore, a player in group activities may differ from a player in individual activities in a number of psychological characteristics that enable him to adapt to playing situations and impose on him to possess high capabilities in psychological skills. The researcher agrees with a study conducted by (Abu Talib, 2003) studying the psychological characteristics and athletic orientation of 440 young athletes, and the most important conclusion he reached was “the distinction of players in group activities with a higher degree of some psychological characteristics compared to players in individual activities” (Abu Talib, 2003). Khoja, 2017, p. 202, also confirms, quoting (Rateb, 2007) “the difference in some personal characteristics among athletes according to the type or style of sport practiced”. Examples of this are “the studies conducted by each of (Kroll) and (Crenshaw) in 1970 on high-level athletes in football, gymnastics, wrestling and karate, and showed that there are psychological characteristics that distinguish football and wrestling athletes compared to other



psychological characteristics that distinguish gymnastics and karate athletes (Khoja, 2017, p. 202). We note that these psychological characteristics are acquired as a result of training and practice. There is a focus by coaches on some psychological skills without others. The reason for the decline in the psychological aspect among players may be due to their lack of comprehensive psychological preparation and the coaches' focus on the physical, skill and tactical aspect, although most studies emphasize the importance of psychological training and that preparation must be comprehensive in all physical, skill, tactical, psychological and mental aspects, and no aspect of these can be separated. Aspects from each other to ensure that the training process reaches the best results and the highest levels. However, coaches neglect the psychological aspect for several reasons, among which (Alawi, 2002) states: "Because of the lack of knowledge and information about psychological skills training, the lack of sufficient time to train psychological skills, and some misconceptions associated with psychological skills training. Psychological skills training is only suitable for players with psychological problems, and psychological skills training can be innate" (Alawi, "The Psychology of Training and Satisfied Competition, 2002", pp. 206-207). However, what they do not realize is that psychological training has a significant impact on developing competencies and improving players' performance. This is done by identifying the psychological and personal factors of each athlete, conducting psychological and emotional tests, and creating a physical program linked to a psychological training plan by the coach based on psychological requirements. Fawzi, 2003, states: "One of the goals of psychological preparation is to guide the athlete psychologically to help him psychologically adapt between the physical and psychological loads in training and competitions with his work and social life to avoid the psychological pressures associated with competitive sports practice" (Fawzi, 2003, p. 162). Although there are some Psychological skills that a coach can develop by providing encouragement, reinforcement, raising the morale of players, raising and developing self-confidence, and contributing to focusing attention, such as saying (Trust in yourself and have faith in your abilities) or saying (Focus your attention on the exposed area of the goal or focus your attention on the movement of the armed hand) or providing moral support to increase the motivation of players to achieve the best possible achievement. It may help to overcome the difficult circumstances that players go through during the competition phase by allowing players to adapt to the conditions of the competition environment as a result of continuous training on the conditions of the competition environment. Players acquire some psychological skills, but they remain not at the required level because each skill has its own specificity in training on it, and most psychological skills require a specialist to develop and train on them according to scientific foundations. Training psychological skills should be planned, supervised, and evaluated by a sports psychologist, and this is noticeably reflected in the player's personality and performance. Bahi and Jad (1999) explain that "psychological skills are important in performing sports skills, as they enable the athlete to reach a mental state that prevents the entry of negative and distracting thoughts". To his athletic activity, if the athlete is able to successfully perform a psychological skill, this means that he has the physical ability to achieve it whenever he tries). Bahi and Jad, 1999, p. 10 (In addition to the above, the researcher attributes the reason for some dimensions achieving an acceptable level and others achieving an unacceptable level to the experience factor, which plays a role in providing players with psychological skills such as self-confidence, focus, and attention, as well as to individual differences among players with long

experience. Despite players having a low score in some dimensions such as visualization, relaxation, coping with anxiety, and managing pressure, experience helps players acquire the ability to adapt to high concentration, self-confidence, and motivation to achieve accomplishments. The reason for this is due to the role of the coach in training players in the training environment and the competition environment, which has become something natural for them. As a result of their exposure to different playing situations, this has resulted in the ability to overcome difficult situations and focus on performance, as experienced players have the ability to withstand pressure and emotions, control their behavior, and reduce tension, which is confirmed by (Badr Al-Din, 2014)“ Psychological skills are the athlete’s skill in properly employing and investing his psychological skills to achieve motor and tactical goals during training and competition situations ”(Badr Al-Din, (2014), p. 38). This, in turn, helps them focus their attention on the desired goal. Since fencing has its own peculiarity in terms of stopping after each touch achieved by one of the competitors and then preparing and starting again, this helps to make room for focusing attention, while we find the opposite in other skills, as it is difficult to use the skill of mental visualization, relaxation, confronting anxiety, and managing psychological pressures during the fight, because fencing is an individual sport with a charged nature that is characterized by high anxiety and is characterized by speed in performance for a short period and the absence of a long pause during the fight to practice relaxation and calming down. Therefore, we find players find it difficult to practice some skills such as relaxation, as this requires appropriate training and the use of training strategies and techniques, and requires special programs to prepare the appropriate environment and isolate thoughts, which is what coaches lack. The researcher may attribute the reason to the fact that players do not use the skill of relaxation during the fight, because relaxation in This time requires withdrawal from the fighting situation. It is difficult for players to isolate thoughts and emotions because the fight is tense and charged. There is not enough time to relax due to the few breaks during the fight. (Kazim et al., 2019)

Through the results of the study conducted by the researchers, they reached a set of conclusions as follows:

The reality of psychological skills among fencers was statistically significant, indicating that fencers possess a certain degree of psychological skills in general.

The effectiveness of psychological skills among fencers according to the scale magazines was for the dimension of self-confidence, focus of attention, and achievement motivation, while there was weakness in other dimensions such as mental imagery, relaxation, dealing with anxiety, and managing psychological pressures.

In light of the findings, the researchers propose the following recommendations:

- Developing programs to develop and train psychological skills through specialists in the field of sports psychological counseling.
- Conducting psychological skills tests and measurements throughout the sports season to determine the players' psychological skills and identify any psychological problems they may be facing.
- Involving coaches in development courses to train them on psychological skills, as coaches are closer to players.



Appendix No. (1) Psychological Skills Scale

T	Paragraphs	alwa	mos	som	rare	neve
.1	I have the ability to visualize some of the opponent's offensive skills.					
.2	I can visualize how to perform defensive moves before executing them.					
.3	I can prepare a preliminary idea of the movement stages before perform the offensive skills.					
.4	I have difficulty visualizing when an opponent is performing trick moves.					
.5	The opposing player's arm movements allow me to visualize how to def against him.					
.6	Through the opposing player's advance and retreat movements, I visualize what he intends to do.					
.7	When the fight is over I can picture everything I did while playing.					
.8	I have the ability to visualize the remaining distance around the perimete the field while I am retreating due to the opposing attack.					
.9	I have the ability to relax in between touches.					
.10	I have a high ability to relax before I enter the fight.					
.11	I stay calm and relaxed no matter the outcome of the fight.					
.12	I am good at relaxing under intense competitive conditions.					
.13	I relax as much as possible between fights.					
.14	I'm nervous and tense before I get into a fight.					
.15	My intense desire to win makes me more hesitant and anxious.					
.16	Relax so I can review the mistakes I made during the fight.					
.17	During the fight, many thoughts come to my mind that affect concentration.					
.18	I suffer from loss of focus when I lose some points					
.19	During the fight, my attention is focused on the movement of the oppone armed arm.					

.20	When the opponent changes his attacking move, I focus my attention choosing the appropriate defensive position.					
.21	I make fake movements to deceive the opponent in order to focus attention on a specific area of the target.					
.22	I can isolate what's happening outside the fight and focus my attention on opponent.					
.23	I focus my attention on the opponent's blade during a fight.					
.24	Provocative moves and deception by the opponent make me lose the ability to focus attention.					
.25	My constant thinking about the outcome causes me to lose focus.					
.26	I try as much as possible to get rid of anxiety while participating in fights.					
.27	When I make some mistakes during a fight, I feel anxious.					
.28	I feel more likely to be defeated by my opponent when I show excessive anxiety.					
.29	Dedication to playing enables me to overcome the anxiety I face.					
.30	I seem to get very anxious when there is a big gap between me and opponent.					
.31	I get anxious when I'm not fully prepared for a fight.					
.32	The coach's advice helps me get rid of anxiety.					
.33	When the club's expectations of me achieving something rise, it makes me feel more anxious and stressed.					
.34	My high self-confidence enables me to keep up with my competitor despite his high skills.					
.35	My self-confidence enables me to achieve decisive touches in the final moments of the fight.					
.36	I have the confidence to make crucial decisions at critical times.					
.37	I trust myself when I retreat or retreat to respond to an opponent's attack.					
.38	My confidence drops when my opponent gets too many touches.					
.39	Making repeated mistakes when performing some offensive skills weakens my self-confidence.					
.40	My self-confidence gradually fades away whenever the coach criticizes					

	performance.					
.41	I feel excited most of the time during the fight.					
.42	I have a drive that makes me want to participate in all tournaments.					
.43	The lack of rewards and material incentives weakens my motivation to achieve accomplishments.					
.44	My desire to win drives me to play aggressively in the crucial moments of the fight.					
.45	I am motivated to achieve success despite my lack of commitment to training sessions.					
.46	Be motivated to follow the coach's instructions even if they are difficult.					
.47	My frequent mistakes during fights lead to frustration and reduce motivation to win.					
.48	The pressure from the club's management makes it difficult for me to achieve victory.					
.49	I have the ability to keep up with my competitors despite the psychological pressures I face.					
.50	Respond calmly to provocative movements made by your opponent during the fight.					
.51	I try to accept the fans' criticism of my performance so that it does not put pressure on me.					
.52	I try my best to perform well despite the constant cheering from the fans of my opponent.					
.53	The financial rewards offered by the club increase my determination and resolve to face pressures and difficulties.					

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Preparing a scale for transformational leadership for administrative bodies from the point of view of Iraqi football club coaches

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2210](https://doi.org/10.37359/JOPE.V37(2)2025.2210)

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Article history: Received 18/ September /2024 Accepted 30/ September/2024 Available online 28/ June/2025

Abstract

The research aimed to build a scale of transformational leadership for administrative bodies from the point of view of coaches of Iraqi sports clubs in football, which affects the performance of human resources, and to identify the reality of transformational leadership among the administrative bodies in Iraqi sports clubs, as the problem revolves around identifying the reality of the study variables and for transformational leadership and proposing solutions that would raise the level of performance in Iraqi sports clubs in football. The references and studies related to transformational leadership were reviewed, and the review contained topics related to the research, and the researcher used the descriptive approach in the survey method, and the research community included the coaches of the Iraqi Stars League and Elite clubs for the advanced and youth categories for the sports season (2023-2024), which numbered (325) coaches, including (210) coaches for the advanced category, who constituted a percentage of (65%) of the community, including (115) coaches for the youth category, who constituted a percentage of 35%, and 30 coaches were selected in a simple random manner to be an exploratory sample by 9% of The research community and the selection of 100 trainers in a simple random method to be the sample of building the scale and formed a percentage (31%) and (150) trainers were selected as the sample of the head and constituted (46%).

The most important conclusions were the existence of a moral link between the transformational leadership and the reality of the members of the administrative bodies from the point of view of the coaches of the clubs participating in the Iraqi Stars League and the Iraqi football elite, and the researchers reached the most important recommendations, which is to focus on the development of mental and psychological capabilities and skills and develop them

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among members of the administrative bodies as the most important pillars of achieving sports achievements.

Keywords: transformational leadership, football coaches, governing bodies.

Introduction:

Everyone is looking forward to the future and reaching the best level in sports, as these aspirations have made the sports environment a changing and unstable environment; due to the intensity of competition, and therefore we need leaders who master how to deal with the future and plan for it, as the new challenge is not managing the institution or sports club, but the challenge is how to manage it effectively in a way that is consistent with the changes in the work environment and its requirements in sports clubs according to the element of initiative and adaptation and not according to the continuity of workflow. (Jawad Kadhim, M., & Salman Ahmed, 2016)

The ability of sports management to build strong and solid foundations and rules helps in facing any problem or obstacle that may prevent the athlete from achieving the achievement or the coaches from achieving the goal of the club and its administrations in all their types, such as infrastructure, strategic plans, or good and qualified management to lead the institutions or their employees, as the presence of distinguished administrative groups and individuals with high professionalism at the top of the institutional pyramid is part of the success process, and has become one of the most important necessities that must be available in order to achieve the goals. (HalalAtiyah et al., 2024)

This does not happen unless the leader has a future vision that contributes to the rapid achievement of goals in light of the changes and their effective impact on the club's survival in light of the competition by setting its priorities and paying attention to the continuous creativity of work and staying away from personal benefits and focusing on achieving the club's plan. One of the priorities of every club that seeks to achieve its goals is the presence of a manager whose basic tasks include his ability to make appropriate and essential decisions and how to deal with the problems and variables facing the work by making effective and balanced decisions in finding ways to solve them. (Atiyah et al., 2024)

Given the changes mentioned above in the work environment and the social, political and economic circumstances that cast their shadows on the sports field, it has become necessary for every sports institution, including sports clubs, to arm themselves in order to be able to confront all these circumstances. They are basically capabilities directed towards change that help clubs and support them to redeploy and form the resource base and to form it to meet the requirements of the changing work environment, and to confront the strategies of competing clubs at the same time. (Kadhim, 2023)

The importance of the research comes from the importance of transformational leadership, as in light of all that was mentioned above of the change in the sports work environment and the decline in resources, comes the study of (transformational leadership) that affects the

performance of human resources, which the researchers see as one of the most important reasons for the continuation of the sports career of clubs, in addition to the importance of the game of football as it represents the first popular sport in Iraqi society and most of the media and social activities focus on it. (Majid, S., & Jawad, 2023)

Transformational leadership is of utmost importance in management topics. Many management studies have addressed important topics related to management and its important determinants.

The most important of them must be mentioned briefly:

The study (Anmar Ahmed Sobhi, Ahmed Mohamed Abdel Khaleq 2023) entitled (Transformational leadership and its relationship to creativity in job performance from the point of view of employees of the Ministry of Youth and Sports in Iraq) aimed to demonstrate the extent of the impact of transformational leadership on the level of creativity in job performance in the Department of Regional and Provincial Affairs in the Ministry of Youth and Sports, as the researchers built two scales, one for transformational leadership and the other for creativity in job performance, and to achieve the goals, the researchers adopted the descriptive approach using the survey method on the research sample that was deliberately selected to suit the research goals, which included (300) employees in the Department of Regional and Provincial Affairs in the Ministry of Youth and Sports, after which two scales were built and prepared for transformational leadership and creativity in job performance by distributing questionnaires to experts and choosing the most appropriate fields and paragraphs for the scale, and conducting the special foundations for building and modifying the scales from validity, reliability and objectivity, and after distributing them to the individuals of the research sample and collecting them and conducting statistical operations and extracting the correlations and then analyzing the results obtained by the researchers in the statistical bag to identify The relationship between the variables to be studied by the researchers, as the results showed that there is a direct relationship between the two variables and that there is a significant impact of transformational leadership on creativity in job performance. The researchers recommended relying more on transformational leadership in managing the affairs of the department and the rest of the ministry's departments. (Sobhi, Abdel Khaleq 2023)

As for the study (Heba Abbas, Ali Jalal 2021) entitled (Building and standardizing the transformational leadership scale for administrative bodies in the central Olympic federations from the point of view of the general bodies), the importance of the research lies in addressing the topic of transformational leadership, which is relatively new in administrative thought in general, and its adherence as a leadership trait for members of the administrative bodies in the Iraqi national Olympic federations in particular, which is positively reflected in stimulating and enhancing high self-confidence among players and members of the general body in the Iraqi national Olympic federations and national teams to ensure efficient performance, in addition to active participation in the vision and drawing up the strategy and planning that the concerned federation draws up and hopes to implement in the fields of play and achieve excellence and



victory in competitions. It was reached to build a transformational leadership scale for members of the Olympic federations from the point of view of members of the administrative bodies. According to (8) fields, distributed over them (73) paragraphs. And standardizing the transformational leadership scale for members of the Olympic federations from the point of view of members of the administrative bodies. And that members of the Olympic federations were distinguished by several standard levels. Members of public bodies are at an average level of opinions on the transformational leadership scale. (Abbas, Jalal 2021)

The study (Rahim and Shaker, 2024) entitled (Creative Performance of the Iraqi National Olympic Committee from the Perspective of Members of the Administrative Bodies in Sports Federations) dealt with building a creative performance scale for the Iraqi National Olympic Committee, and identifying creative performance for the Iraqi National Olympic Committee from the perspective of members of the administrative bodies in sports federations. The researchers adopted the descriptive survey approach to suit the nature of the research. The research community was determined from members of the administrative bodies in the Olympic sports federations, numbering (26) federations, with a number of members reaching (210) members. The researchers selected the research sample from the research community itself, and a number of phrases were formulated, numbering (29) phrases, and they were presented to the experts, and (9) phrases were deleted from them. After applying the scientific foundations, the scale became composed of (20) phrases, and then the final image of the scale was applied to the research sample.

As for the study (Falah Hassan Shadhan, Ali Abdul Latif Ali 2021) entitled (Administrative creativity and its relationship to transformational leadership of the directorates of sports and school activities in Baghdad Governorate from the point of view of teachers), the importance of the research lies in the importance of the topic it addresses, as the topic of administrative creativity and transformational leadership is one of the important topics that has received and continues to receive great attention from those interested in this field, as the progress of schools in the sports field, their development and continuity depend mainly on the leaderships that move them and draw up their plans and policies and what those leaderships possess of transformational leadership behaviors in developing their efficiency in administrative work, so the researchers put some of the following questions: What is the relationship between administrative creativity and transformational leadership behaviors? The descriptive approach was used using the survey method and the correlation method. The research sample was selected from physical education teachers (preparatory study), totaling (250) for the study application sample. The statistical description of the data of the administrative creativity and transformational leadership scales was presented and discussed, in addition to presenting the results of the correlation between the administrative creativity and transformational leadership scales and discussing them. The results showed that physical education teachers in schools enjoy encouragement from the administration to learn and

develop themselves. The results also showed that physical education teachers have the ability to communicate and influence others in a positive way. And that physical education teachers seek to develop current work to create creative work. And that there is a relationship between transformational leadership behaviors and creativity among physical education teachers. (Shadhan, Ali 2021)

procedures:

Research methodology and field procedures:

Research methodology:

Choosing the appropriate method to research any problem is one of the steps that lead to the success of the research, considering that the method is “the methods, procedures or approach used in the research to collect data material and reach results, interpretations or predictions related to the research topic (Raheem, Shakir, Hashim, 2024), as the researchers used the descriptive method using the survey method and mutual and predictive relationships because it aims to determine the conditions and relationships between reality and appearance and collect data from members of society to determine the current state of society in many variables (Gharabiyya, 2002, p. 120), which he sees as consistent and compatible with the specifications of his research and achieving the objectives of his study.

Research community and sample:

The research community included the coaches of the Iraqi Premier League and Elite clubs for the advanced and youth categories for the sports season (2023-2024), numbering (325) coaches, including (210) coaches for the advanced category, who constituted a percentage of (65%) of the community, and (115) coaches for the youth category, who constituted a percentage of (35%). (30) coaches were selected using the simple random method as a survey sample, representing (9%) of the research community, and (100) coaches were selected using the simple random method as a sample for constructing the measures, representing (31%), and (150) coaches were selected as a main experimental sample, representing (46%), and (45) coaches were neglected, some of whom did not complete their responses to the questionnaires, and some of them did not return the questionnaires. Table (1) shows this.

Table(1) shows the distribution of the research community and samples among the Iraqi stars and elite clubs.

Sports clubs	Survey sample		Sample building scales		Main sample		The excluded		the total
	Adults	youths	Adults	youths	Adults	youths	Adults	youths	
Stars League	10	5	35	15	50	25	5	20	165
Elite League	10	5	35	15	50	25	15	5	160
Total	30		100		150		45		325



Ratios	%9	%31	%46	14%	100%
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Research methods, devices and tools used:

The description of the tools used in the research gives an indication of the need for them in all field procedures (Raheem, Salah, 2023), as the following was adopted from them:

- Arabic and foreign sources.
- The Internet.
- Paper forms.
- Field visits to collect information.
- Electronic calculator.
- (SPSS) program to process data statistically.

Field research procedures (procedures for determining variables):

Procedures for measuring transformational leadership:

In order to measure the transformational leadership variable among coaches of the Iraqi Premier League and Elite clubs for the sports season (2023-2024), this requires the researchers to construct a scale according to the following steps and procedures- :

Determine the goal and purpose of building the scale:

The aim of constructing the transformational leadership scale is to develop a scientific measuring tool, and the purpose of constructing it is to identify the transformational leadership possessed by the coaches of the Iraqi Premier League and Elite clubs. In light of the definitions and theoretical frameworks of the concept of transformational leadership, the researchers sought to divide the concept into areas and distinctive features and to formulate and collect paragraphs concerned with measuring it.

Defining the theoretical framework:

The researchers adopted one of the world's leadership theories (BASS) as a theoretical framework in forming the fields and formulating the paragraphs concerned with measuring transformational leadership among coaches of the Iraqi Premier League and Elite clubs.

Defining the domains of the transformational leadership scale:

After adopting the theoretical frameworks of the concept of transformational leadership in forming the fields and formulating the scale paragraphs, the researchers divided the scale into its primary elements so that each element represents a specific field or dimension. After reviewing the relevant sources and literature, the researchers were able to identify (10) fields for the transformational leadership scale, Appendix (1). In order to identify the validity of those fields, the researchers resorted to presenting them to a group of specialists, Appendix (3), in testing, measurement, management and sports organization within a questionnaire, in which the

importance of each field was determined. After collecting the forms and processing their data statistically, the relative importance value was extracted when collecting half the maximum value of the experts' agreement with half the value of the range (importance) found within the form. As for the relative importance value, it is dividing the importance by the maximum value of the agreement multiplied by one hundred (Hussein, 2011, p. 70).

This can be explained as follows:

- Maximum agreement value = Number of experts \times Importance level = $17 \times 10 = 170$
- Half of maximum agreement value = $170/2 = 85$
- Half of importance level = $10/2 = 5$
- Importance value = Half of range + Half of maximum value = $85 + 5 = 90$
- Relative importance value = $90/170 \times 100 = 53\%$.

After collecting the forms, transcribing the data and processing it, the fields that received less than (90) importance, or less than (53%) relative importance, were excluded by taking the opinions of (17) experts and specialists, and Table (2) shows that.

Table (2) shows the degree of importance and relative importance of the areas of the transformational leadership scale.

N	Areas	Degree of importance	relative importance	Accept nomination	
				Yes	No
1	Attractiveness and Ideal Influence	160	94%	√	
2	Inspirational Motivation and Distinctive Motivation	55	32%		√
3	Intellectual Stimulation	150	88%	√	
4	Individual Consideration	65	38%		√
5	Sensitivity for Others	60	35%		√
6	Deductive Thinking	150	88%	√	
7	Self-Confidence and Confidence	55	32%		√
8	Mental Flexibility	65	38%		√
9	Ability to Analyze and Connect	60	35%		√
10	Administrative Creativity	155	91%	√	

Collecting, preparing and formulating paragraphs:

In order to collect, prepare and formulate an appropriate number of paragraphs concerned with measuring the areas of transformational leadership, the researchers sought to review the sources, literature and previous studies. After that, (36) paragraphs concerned with measuring the areas of transformational leadership were formulated, Appendix (4), with (9) paragraphs for each area, and they were presented to ((15 experts and specialists, Appendix (6) in the field of measurement and evaluation, sports psychology, management and organization, for the purpose of evaluating them and judging the extent of the suitability of each paragraph in measuring

what it was designed to measure, with the necessary comments if required, in addition to expressing an opinion on the suitability of the alternative answers adopted for the scale. After collecting the forms, transcribing the data and analyzing the opinions of experts and specialists on the suitability of the paragraphs, they suggested deleting and changing a section of the paragraphs, either because they were repeated in meaning with other paragraphs or because they were not suitable for measuring what they were designed for, and modifying and transferring the other section from one area to another. They also suggested that the alternative answers (the five-point) be (I completely agree, I agree, neutral, I disagree, I do not agree at all). In light of that, the opinions of experts and specialists were taken into account regarding the adoption of the proposed alternative answers, and then modifying a section of Paragraphs and the deletion of the other section as a result of the experts' agreement on that, and by using the experts' agreement percentage on the validity of the paragraphs and keeping the paragraphs that received an agreement percentage of (80%) from the experts or more, it retained (32) paragraphs concerned with measuring transformational leadership and distributed as follows: (8) paragraphs concerned with measuring the field of attraction and ideal influence, (8) paragraphs concerned with measuring the field of intellectual stimulation, (8) paragraphs concerned with measuring the field of strategic thinking, (8) paragraphs concerned with measuring the field of administrative creativity, and Table (3) shows that.

Table (3) shows the percentages of agreement between experts regarding the validity of the transformational leadership scale items.

No	Areas	Paragraph sequence	Number of paragraphs	Number of Approvers	Percentage	Disagree	percentage	Accept nomination	
								Yes	No
1	Attractiveness and ideal influence	1-3-5-6-7	5	15	%100	0	0	√	
		4-8-9	3	13	%87	2	13%	√	
		2	1	11	73%	0	27%		√
2	intellectual stimulation	2-4-5-8	4	15	%100	0	0	√	
		1-3-6-7	4	14	93%	1	7%	√	
		9	1	10	67%	5	33%		√
3	strategic thinking	2-5-8-9	4	15	%100	0	0	√	
		6-4-1-3	4	13	%87	2	13%	√	
		7	1	11	73%	4	27%		√
4	Administrative creativity	2-3-4-5-7-9	6	15	%100	0	0	√	
		6-8	2	14	93%	1	7%	√	



		1	1	11	73%	4	27%		√
		the total	36						

In order to ensure the validity of the modifications made by the researcher to the paragraphs, he presented them to the linguistic expert to modify the wording of the scale paragraphs in a way that does not conflict with their linguistic integrity.

Setting up the scale instructions:

In order to complete the initial picture of the transformational leadership scale so that it can be applied to coaches of the Iraqi Premier League and Elite clubs, the researcher set instructions for the scale, which are as follows:

1. It is necessary to answer honestly and accurately.
2. You are not allowed to ask another colleague to answer.
3. Answer all paragraphs.
4. Put a check mark (☐) in front of each paragraph and in the field you see fit.

The researchers took care in these instructions to conceal the real purpose of the scale, as the name of the scale was not mentioned in order to obtain accurate data. The instructions also included an example of how to answer the paragraphs and Appendix (7) showing the instructions for the transformational leadership scale with (36) paragraphs, of which (32) paragraphs remained from the experts' nomination and (4) paragraphs for the objectivity of the response (lie detection paragraphs), i.e. one paragraph for each field, which were written together and without mentioning the name of the field in preparation for surveying it on a sample of trainers.

Transformational Leadership Scale Survey:

In order to know the clarity of the instructions, paragraphs and answer alternatives by the members of the research sample, as well as to determine the time required to answer the paragraphs of the scales and to identify the difficulties that the researchers may face when applying the scale to the members of the building sample and thus avoid them (Raheem, AlShafai, 2019), the scale was surveyed during the period between (7/1/2024 to 11/1/2024), on the members of the survey sample, numbering (30) trainers who were randomly selected from the elements of the research community, as previously indicated in Table (1). It was shown from the survey experiment that the instructions were clear by the trainers and that the time taken to answer the paragraphs of the scale was between (10 - 15) minutes, and that the answer alternatives and paragraphs were clear to the trainers, and thus the scale, with its instructions, paragraphs and answer alternatives, became ready for application to the members of the building sample.

Application of the transformational leadership scale to the construction sample members:

After completing the procedures that qualify for the application of the transformational leadership scale consisting of (4) fields and (36) paragraphs after adding (4) paragraphs for the objectivity of the response, Appendix (7), on the sample members of the construction,

numbering (100) trainers during the period between Sunday, corresponding to 1/14/2024, and Thursday, corresponding to 2/1/2024, and after completing the implementation of the scale, the researchers collected the trainers' questionnaires in preparation for identifying the objectivity of the response and then analyzing the data statistically.

Objectivity of response:

To reveal the objectivity of the response, there are several methods, including hiding the real purpose of the scale and merging all the paragraphs of the scale together without mentioning the field or component, in addition to using the method of repeating a group of paragraphs to the original paragraphs that are similar in meaning and different in content (text). The researchers followed the methods concerned with the objectivity of the response and the method of repeating a group of paragraphs is the most common in revealing the falseness of the response, as the researchers chose (4) paragraphs from the paragraphs of transformational leadership, i.e. one paragraph from each field, after which they formulated (4) paragraphs for the transformational leadership scale, and Table (4) shows the original paragraphs and the repeated paragraphs.

Table (4) shows the sequence of the original paragraphs and the sequence of the duplicate paragraphs of the transformational leadership scale.

NO	ORIGINAL PARAGRAPH SEQUENCE	REPEATED PARAGRAPH SEQUENCE	THE FIELD
1	2	33	Attractiveness and Ideal Influence
2	10	34	Intellectual Stimulation
3	21	35	Strategic Thinking
4	25	36	Administrative Creativity

To achieve this purpose, the following was done:

- 1- Extracting the absolute difference between the original and duplicate paragraph scores for each questionnaire. The differences for the transformational leadership scale ranged between (1-20).
- 2- Extracting the sums of the absolute differences between these scores for each trainer from the sample members.

3- Extracting the values of the arithmetic mean and standard deviation for the sums of the differences. The values of the arithmetic mean and standard deviation reached, respectively, for the transformational leadership scale (3.47) and (1.03).

4- Collecting the values of the arithmetic mean and standard deviation for the purpose of finding the spoken score at which or below which the answer of any trainer from the sample members is accepted. The value of the sum of the mean and standard deviation for the transformational leadership scale reached (4.5).

Since the construction sample consisted of (100) trained people, we must have (100) forms. After these forms were subjected to the objectivity of the response and the necessary procedures were applied and the values of the sum of the absolute differences were compared with the value of the sum of the mean and the standard deviation of the sum of the differences (the reported value). For all the construction sample forms, no forms were excluded from the transformational leadership scale if the values of the sum of the absolute differences were less than the value of the sum of the mean and the deviation (the reported value). Thus, the number of forms for the transformational leadership scale became (100) valid forms for the purposes of statistical analysis of the data.

Transformational Leadership Scale Correction:

The process of correcting the scales is done by assigning an appropriate degree to each paragraph according to the respondent's answer through a correction key prepared for this purpose, which is "the tool by which the examiner reveals the answers that indicate the existence of the result being measured (Alam, 2000, p. 21). The five-point answer alternatives (completely agree, agree, neutral, disagree, disagree at all) were given degrees (1-2-3-4-5) for the positive paragraphs, from which the degrees of transformational leadership were determined for each trainer from the individuals in the construction sample, and by calculating the total sum of the degrees of each field that they obtain after answering each paragraph.

The transformational leadership scale consisted of (32) paragraphs, and after excluding (4) paragraphs that were placed in order to reveal the falseness of the response, the highest score that could be obtained was (160), while the lowest score that could be obtained was (32). After that, the statistical description of the transformational leadership scale for the trainers was calculated through their answers to the paragraphs, and Table (5) shows that.

Table (5) shows the statistical description of the transformational leadership scale for trainers.

Sample number	100
Mean	109.74
Standard error of the mean	2.314
Median	114
Mode	132
Standard deviation	23.147
Variance	535.81
Coefficient of skewness	-.652
Standard error of the coefficient of skewness	.241
Coefficient of kurtosis	-.289
Standard error of the coefficient of kurtosis	.478
Range	97
Least value	50
Highest value	147

Statistical analysis of paragraphs:

The quality of the scales depends on the paragraphs that make them up. It is necessary to analyze each paragraph and reveal its efficiency and to retain the paragraphs that fit the logical foundations for which they were built (Abdul Hamid, Bahi, 2000, page 219).

There are several methods for analyzing the paragraphs of the scales, including the two-party group method to extract the paragraph discrimination coefficient, which is “the ability of the paragraph to distinguish individual differences between the examinees (Al-Zaghbi, 2007, p. 190)” and the internal consistency coefficient “which provides us with evidence of the homogeneity of the paragraphs through the relationship of the paragraph score to the total score of the field to which it belongs and the relationship of the field score to the total score of the scale (Alam, 2000, p. 279)”. The researchers used the statistical analysis of the paragraphs of the Transformational Leadership Scale for Iraqi Stars and Elite League Coaches, the two-party group method to reveal the ability of the scale paragraphs to distinguish between the examinees or reveal the differences between the examinees and the internal consistency coefficient method

by calculating the correlation coefficient (Pearson) between the paragraph score and the total score of the field or pattern to which it belongs.

Two-party method:

In order to extract the ability of the paragraphs of the transformational leadership scale for trainers, there are several steps that must be followed, which are (Al-Zaghbi, 2007, p. 197):

1. Arrange the scores obtained by the trainers on each paragraph in descending order from the highest score to the lowest score.
2. We take two groups of scores, the first represents the trainers who obtained the highest scores and the second represents those who obtained the lowest scores in each paragraph.
3. We take a percentage (27%) from the highest and lowest groups, and this percentage represents the best percentage that can be taken because it provides us with two groups with the maximum possible amount of differentiation, as the number of trainers in the highest group reached (27) trainers and the number of trainers in the lowest group reached (27) trainers.

After following the steps, the scale paragraphs were analyzed by using the (T) test for independent and equal samples in number to test the differences between the means of the two extreme groups for each paragraph separately, as the calculated (T) value represents the discriminating power of the paragraph between the upper and lower groups. Thus, the results of the analysis came out that all the scale paragraphs have a significant discriminating power between individuals by comparing the values of the significance level (sig) as it is less than (0.05), and Table (6) shows that.

Table (6) shows the values of the discriminating ability and the moral significance of the items of the transformational leadership scale.

PARAGRAPH	TOP GROUP		LOWER GROUP		TEST VALUE	SIG	DISTINCTIVE SIGNIFICANCE
1	4.52	.657	2.84	.419	14.44	.000	Distinctive
2	4.67	.559	2.73	.491	17.53	.000	Distinctive
3	4.89	.314	3.43	.620	14.22	.000	Distinctive
4	4.93	.249	3.58	.580	14.47	.000	Distinctive
5	5.00	.000	3.84	.868	8.99	.000	Distinctive
6	5.00	.000	4.21	.786	6.75	.000	Distinctive
7	4.97	.147	3.63	.741	12.09	.000	Distinctive
8	5.00	.000	3.82	.768	10.35	.000	Distinctive
9	5.00	.000	3.91	.724	10.16	.000	Distinctive
10	4.97	.147	3.78	.467	16.55	.000	Distinctive
11	4.97	.147	3.50	.658	14.86	.000	Distinctive
12	5.00	.000	4.04	.469	13.82	.000	Distinctive
13	4.93	.249	3.82	.569	12.08	.000	Distinctive

14	4.93	.249	3.71	.750	10.44	.000	Distinctive
15	4.84	.363	3.78	.629	9.95	.000	Distinctive
16	4.97	.147	3.86	.452	15.77	.000	Distinctive
17	4.89	.314	3.78	.512	12.52	.000	Distinctive
18	4.91	.284	3.78	.593	11.66	.000	Distinctive
19	4.80	.401	3.80	.499	10.57	.000	Distinctive
20	4.76	.431	3.80	.499	9.83	.000	Distinctive
21	4.86	.340	3.82	.437	12.66	.000	Distinctive
22	4.93	.249	3.67	.668	11.68	.000	Distinctive
23	4.82	.383	3.56	.620	11.74	.000	Distinctive
24	4.89	.314	3.52	.547	14.73	.000	Distinctive
25	4.67	.473	3.30	.591	12.26	.000	Distinctive
26	4.65	.481	3.28	.544	12.77	.000	Distinctive
27	4.73	.443	3.06	.490	17.57	.000	Distinctive
28	4.58	.580	2.84	.363	17.28	.000	Distinctive
29	4.89	.314	3.43	.654	13.79	.000	Distinctive
30	5.00	.000	3.76	.873	9.61	.000	Distinctive
31	4.97	.147	3.50	.658	14.66	.000	Distinctive
32	4.76	.431	3.26	.574	14.35	.000	Distinctive

***Significant at a significance level of (0.05) and a degree of freedom of(52)**

Internal consistency coefficient method:

The researchers used another method to detect the efficiency of the transformational leadership scale paragraphs that differs from the previous method (the two-party groups). This method depends on finding the value of the correlation coefficient between the paragraph score and the total score of the field to which it belongs, as well as the paragraph score and the total score of the scale. The researchers extracted the values of the (Pearson) correlation coefficient between the paragraph score and the total score of each field, the paragraph score and the total score of the transformational leadership scale consisting of (32) paragraphs for the sample of the construction, numbering (100) trainers. As a result of this procedure, the moral significance appeared in all calculated correlation coefficients, and Tables (8-7) show this.

Table (7) shows the correlation values between the paragraph score and the total score of the field to which the paragraph belongs for the transformational leadership scale and the type of statistical significance.

THE FIELD	NO	CORRELATION COEFFICIENT VALUE	SIG	RESULT
Attractiveness and ideal influence	1	.459**	.000	positive
	2	.581**	.000	positive
	3	.449**	.000	positive
	4	.499**	.000	positive
	5	.569**	.000	positive
	6	.443**	.000	positive
	7	.527**	.000	positive
	8	.439**	.000	positive
intellectual stimulation	1	.348**	.000	positive
	2	.440**	.000	positive
	3	.469**	.000	positive
	4	.507**	.000	positive
	5	.428**	.000	positive
	6	.383**	.000	positive
	7	.421**	.000	positive
	8	.377**	.000	positive
strategic thinking	1	.391**	.000	positive
	2	.379**	.000	positive
	3	.409**	.000	positive
	4	.439**	.000	positive
	5	.383**	.000	positive
	6	.427**	.000	positive
	7	.429**	.000	positive
	8	.484**	.000	positive
Administrative creativity	1	.414**	.000	positive
	2	.396**	.000	positive
	3	.367**	.000	positive
	4	.468*	.000	positive
	5	.444**	.000	positive
	6	.393**	.000	positive
	7	.458**	.000	positive

	8	.460**	.000	positive
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*Significant at a significance level of (0.05) and a degree of freedom of.(98)

Table (8) shows the correlation values of the paragraph score with the total score of the transformational leadership scale and the statistical significance.

No	Correlation coefficient	SIG	RESULT	No	Correlation coefficient	SIG	RESULT
1	.361**	.000	positive	17	.000	.289**	positive
2	.330**	.000	positive	18	.000	.337**	positive
3	.357**	.000	positive	19	.000	.422**	positive
4	.352**	.000	positive	20	.000	.416**	positive
5	.379**	.000	positive	21	.000	.479**	positive
6	.391**	.000	positive	22	.000	.447**	positive
7	.349**	.000	positive	23	.000	.418**	positive
8	.329**	.000	positive	24	.000	.353**	positive
9	.389**	.000	positive	25	.000	.404**	positive
10	.393**	.000	positive	26	.000	.364**	positive
11	.357**	.000	positive	27	.000	.417**	positive
12	.339**	.000	positive	28	.000	.344**	positive
13	.324**	.000	positive	29	.000	.296**	positive
14	.397**	.000	positive	30	.000	.347**	positive
15	.366**	.000	positive	31	.000	.348**	positive
16	.367**	.000	positive	32	.000	.344**	positive

*Significant at a significance level of (0.05) and a degree of freedom of.(98)

Scientific foundations of the transformational leadership scale:

Validity and reliability are among the most important psychometric properties that must be present in a psychological scale, regardless of the purpose of its use. Accordingly, these properties and conditions must be verified in order to ensure the quality and validity of the scales used in measurement and evaluation (Alam, 2006, p. 88).

Scale validity:

Test validity refers to the “correctness or validity that the test actually measures the function it is intended to measure without measuring another function besides it (Mustafa et al., 2006, p. 111), and the validity of the scale also provides us with “direct evidence of the validity of the scale to perform its function and achieve the purposes for which it was developed” (Najati, 1999, p. 215). The researchers verified the validity of the transformational leadership scale through the content validity index when the scale was presented in its initial form to a group of experts and specialists to approve the validity of the scale’s paragraphs in measuring what it was developed for. Through statistical analysis of the scale’s paragraphs, the validity of the

structure was verified using the internal consistency coefficient method, which is one of the most common types of validity in the field of educational and sports research. This was achieved by finding:

Correlation coefficient of the paragraph score with the total score of the domain to which the paragraph belongs:

The transformational leadership scale included four domains, and for this reason the researchers sought to extract the value of the Pearson correlation coefficient between the paragraph score and the total score of the domain to which it belongs for the questionnaires of the building sample members, numbering (100). To know the type of statistical significance, the researchers compared the calculated correlation coefficient value shown in Tables (8-7) with the values of the significance level (sig) at a degree of freedom of (98), which showed the significance of all correlation coefficients.

Scale stability:

The concept of stability is one of the basic concepts in psychological and achievement scales and must be available in the scale in order for it to be valid for use. The stability of the scale means that “the test is reliable and dependable or that the individual’s score does not change substantially with repeated measurement or the consistency of the scale results with themselves” (Kawafha, 2005, p. 83). To verify the stability of the transformational leadership scale for Iraqi stars and elite club coaches, the researchers used the split-half method and the (alpha-Cronbach) method.

First: The half-split method:

It may be difficult for the researcher to apply two equivalent measurements to the trainers or it may be difficult for him to examine the examinees twice with the same scale, so the researchers resorted to using the fairness method. In this method, the scale is given in full and then divided when correcting into two equal parts so that all averages and standard deviations are equal in both halves. Usually, the first part contains the paragraphs with odd numbers and the second part contains the paragraphs with even numbers. The scores of each part are added separately, so we have two scores for each examinee (Al-Naimi and Taama, 2008, p. 413). The researchers adopted the odd and even numbers method in dividing the paragraphs of the transformational leadership scale (32) paragraphs into two halves. The first half included the paragraphs with odd numbers and the second half included the paragraphs with even numbers. After ensuring the homogeneity of the two halves using the (F) test by extracting the values of the arithmetic means and standard deviations and then the variance values for each part, the values of the arithmetic mean, standard deviation and variance for the first part of the transformational leadership scale reached, respectively, the values (55.21) and (13.48) and (181.74) and the values of the arithmetic mean, standard deviation and variance for the second section of the transformational leadership scale reached, respectively, values (55.42), (11.87) and (140.91) and by applying the equation of the absolute proportions, which confirms the randomness of the differences between the two halves of the scale and that they are homogeneous at a good



rate because the significance level (sig) is less than (0.05) and at two degrees of freedom (98-98). After that, the Pearson correlation coefficient was calculated between the halves of the scale (the partition stability coefficient), which showed that the value of the correlation coefficient of the two halves of the transformational leadership scale reached (0.801). Since these values represent the stability of one half of the scale, the researchers sought to use the (Spearman-Brown) equation to modify and extract the stability value of the entire scales after applying the correction equation and obtaining the stability degree of the scale, as the value of the stability coefficient of the transformational leadership scale reached (0.889), which confirms that the scale enjoys a high and reliable stability degree.

Second: Cronbach's Alpha Method:

This method aims to reach an estimated value for the stability coefficient of the scale, which has multiple item scores, i.e. it requires answering the questionnaire from among multiple alternatives. The idea of this method is based on the consistency of individuals' responses across the scale items and the extent of the correlation of the paragraphs with each other within the scale, as well as the correlation of each paragraph with the scale as a whole, as the rate of internal correlation coefficients between the paragraphs with the number of paragraphs is what determines the alpha coefficient (Costa. P. T. (Ondorhers), 1992, p. 44). To find the stability of the Cronbach's alpha coefficient for the transformational leadership scale, the researchers relied on data from the construction sample individuals, numbering (100) trainers, and using the Statistical Package for Social Sciences (SPSS), the stability coefficient was extracted, which amounted to (0.868), which is a high stability coefficient that indicates the consistency of the scale paragraphs.

Basic research experience:

After completing the construction of the transformational leadership scale with its (4) fields and (32) paragraphs for the coaches of the Iraqi Premier League and Elite League for the sports season (2024-2023), the researchers began applying the scale to the members of the main research sample, numbering (150) coaches, as shown in Table (1), who were selected from the members of the community using the simple random method, during the period between Sunday, corresponding to 4/3/2024 and Thursday, corresponding to 29/3/2024. After completing the application of the two scales and implementing the main experiment, the researchers collected the forms, transcribed their data, and arranged them in preparation for conducting statistical treatments on them.

Statistical methods used:

The researcher used the Statistical Package for Social Sciences (SPSS) to process the data to extract the results.

Hypothetical mean = the highest score that can be obtained in the scale - the lowest score that can be obtained in the scale / 2 (Al-Dardir, 2005, p. 175).

Discussion of results:

Presentation of the initial data for the studied variables:

After measuring the transformational leadership variables by applying the relevant scales to measure them and obtaining data for the individuals of the basic experiment from the coaches of the Iraqi Stars and Elite League for the sports season (2024-2023), numbering (150) coaches, the researchers sought to extract descriptive statistics indicators represented by the values of the arithmetic mean, standard deviation, standard error, skewness coefficient, and the largest and smallest value, for the study variables. The results related to the statistical treatments showed that the values of the skewness coefficient and for all variables were (zero), which is an indicator that the research sample is distributed in a moderate distribution, and that the value of the standard error indicates the suitability of the sample size for statistical analysis, and Table (9) shows this.

Table (9) shows the unit of measurement and descriptive statistics indicators for the variables under study.

Variables	Sample number	The mediator	Minimum value	The largest value	Standard error	Arithmetic means	Standard deviations	Coefficient of skewness
Transformational Leadership	150	113.00	50.00	147.00	1.82	109.74	22.32	-0.70

Presentation, analysis and discussion of the reality of the level of transformational leadership:

After completing the construction of the transformational leadership scale and applying it to the coaches of the Iraqi Premier League and Elite clubs for the basic research sample of (150) coaches, which included (4) fields and (32) paragraphs, distributed at (8) paragraphs for each field, the researchers then sought to extract the values of the arithmetic mean and standard deviation of the coaches' scores on the scale and then calculate the value of the hypothetical mean of the scale. After inferring the significance of the differences between the two means (the achieved arithmetic mean and the hypothetical mean of the scale) by using the (t) test for a single sample as a statistical means to achieve this purpose and identify the reality of the level of transformational leadership among members of the administrative bodies of the Iraqi Premier League and Elite clubs from the point of view of the coaches for the sports season (2024-2023), the results related to analyzing the data and conducting a comparison between the achieved arithmetic mean and the hypothetical mean of the scale amounting to (96) showed that there is a statistically significant difference between the two means, and that the calculated (t)

value is statistically significant at a degree of freedom (149) And under the significance level (0.05), Table (10) shows that:

Table (10) shows the significance of the differences between the achieved arithmetic mean and the hypothetical mean for the transformational leadership scale.

SAMPLE	MEAN	ST.D	HYPOTHETICAL MEDIUM	DEGREE OF FREEDOM	TEST VALUE	RESULT
150	109.74	22.32	96	149	7.54	0.00

From Table (10), it is clear that the difference is in favor of the achieved arithmetic mean, and this indicates that the level of transformational leadership among the members of the administrative bodies of the Iraqi Premier League and Elite clubs, from the point of view of the coaches, is above average. The researchers believe that the opinions, tendencies, and beliefs of the study sample members play an important role in their positions and responses. This is based on the feelings of love and hate that the coaches have toward the members of the administrative bodies through the culture of teamwork and the feeling of belonging to the group, "because it is a group with a specific number of individuals in a state of interaction to achieve a common goal whose importance is agreed upon, within the framework of interaction through different but interconnected roles. The level of interaction varies according to the goals and members, and achieving goals or accomplishment is done through the group, through continuous interaction and cooperation, not through individual work. The group works to satisfy the needs of the individual as a social being, and it is a source of information for the individual, provides the return, and achieves goals for the individual that are difficult for him to achieve alone" (Al-Qaryouti, 2000, p. 286).

And trying to participate in making decisions related to collective and group work, which indicates the degree of sense of responsibility placed on their shoulders, and the ability to encourage creativity and innovation in sports administrative work, "because creativity is every process that results in a new outcome as a result of interaction between individuals using a new method that achieves distinction and superiority and gives greater flexibility (Masoud, 2012, p. 13)" The researchers believe that the culture of innovative administrative bodies is characterized by a tendency to emphasize the spirit of initiative and the priority of individuals over specific rules and procedures, with an open vision to accept any new idea with the least amount of objections that frustrate innovation and its initiatives. In order for sports institutions to achieve this, ready-made work rules and work guides must be reduced. Trainers and administrators who feel a high degree of perceived organizational support feel that they owe the sports institution and thus the need to exchange good organizational treatment with positive trends and behaviors towards the institution. Among these behaviors are working to improve productivity, innovation and achieve victory, in addition to the culture of self-development, commitment and respect for time. The researchers believe that the importance of



transformational leadership among members of federations is a social and civilizational gain. And cultural, which is the result of personal, psychological and social reasons linked to personal, social and economic compatibility and the nature of society and the required responsibilities, and it is consistent with what was indicated by (Darwish 1998, page 176) that mental, emotional and behavioral elements enter into the formation of transformational leadership, and the strongest types of cultures are those that charge psychologically and acquire emotional intensity, and the most effective of them is that which imprints its character on behavior. Transformational leadership is the result of what the members of administrative bodies have acquired in terms of behavioral patterns, ways of thinking, values, customs, trends and technical skills before joining the clubs and the sports work in which they work. Then the clubs add that cultural system to their members from their characteristics, interests, policies, goals and values, which determine the personality of the clubs and distinguish them from other clubs, and it is the sum of shared values and behaviors, mentalities and actions that direct the efforts of individuals towards achieving common goals. This means that the members of administrative bodies believe that each individual has a unique personality that must be respected, and that the average individual is able to think objectively if he is given the opportunity away from Personal considerations to a large extent, and that he is able to reach rational decisions based on sound scientific foundations in the situations he encounters or the problems that arise before him (Hareem, 2006, p. 154). The researchers believe that the transformational leadership of the members of the administrative bodies of the Iraqi Premier League and Elite clubs is considered one of the most important components of the internal environment of the sports institution, which affects the behavior of individuals within the sports club and constitutes an important motive towards achievement. There must be clear and explicit rules and a job description for mutual responsibilities between members and developing the belief that the time element is an important element and should not be wasted and that sincerity in sports administrative work leads to satisfactory results. These values and beliefs are among the priorities of the vision and mission of sports clubs. The researchers also believe that one of the underlying reasons behind this is the cultural value that sports have come to represent for individuals and its contribution to the formation of the cultural identity of societies. Since knowledge and experiences are the foundations of cultural construction, the large amount that physical education and sports sciences contain, due to the multiplicity of their fields and their diversity between health, educational, social, psychological, physical and recreational, makes sports culture. A tributary of the general culture of the individual and society. This is what (Fahmi Mustafa Al-Zayat 2009) confirmed: “The ability to sacrifice and serve others is one of the most important characteristics of a person who enjoys leadership and his ability to give, give and produce. The leadership personality is the one that contributes to serving humanity in general to achieve happiness for the largest possible number of people. In addition, transformational leadership is the ability of the individual to establish fruitful and enjoyable social relationships with others characterized by the individual’s tendency to love, give and



cooperate (Al-Zayat, 2009, p. 215)”, and what (Fakhri Abdel Hadi) indicated in his study: “He showed that leadership individuals who are psychologically and socially compatible possess certain characteristics such as loving others, integrating and interacting with them and the desire to provide them with aid and assistance (Abdel Hadi, 2010, p. 127).”

Conclusions and applications:

Through the procedures and data processing, the researchers reached the following conclusions :

-

1. Developing scientific research tools concerned with measuring and identifying transformational leadership among members of administrative bodies from the point of view of coaches of clubs participating in the Iraqi Stars and Elite Football League.
2. Members of administrative bodies of clubs are characterized by a high level of transformational leadership from the point of view of coaches.
3. In light of the research results, the researchers concluded several recommendations, which are:
4. The necessity of adopting the prepared scale as scientific research tools in identifying transformational leadership.
5. The necessity of developing the axes of transformational leadership among members of administrative bodies due to their great importance in management.
6. The necessity of conducting studies that include psychological, social, mental and motor variables with other variables among members of administrative bodies in football.



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The effect of special exercises on the speed of motor response and performance of the snatch skill for wrestling players under (16) years old

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2265](https://doi.org/10.37359/JOPE.V37(2)2025.2265)

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Article history: Received 20/ February/2025 Accepted 7/ April/2025 Available online 28/ June/2025

Abstract

The problem of the research is that the level of performance of wrestling players is not at the required level, and from the researcher's point of view, he believes that one of the reasons for this is due to the weakness of the player's response speed, since wrestling requires a quick reaction, through which the wrestler's level of skill performance can improve. The research aimed to prepare special exercises and know their effect on the speed of motor response and performance of the snatch skill for wrestling players aged under (16) years old. It was assumed that there are statistically significant differences between the experimental and control groups in the post-tests in both the speed of motor response and the level of performance of the snatch skill. The researcher used the experimental method by designing two equivalent experimental and control groups with a pre-test and post-test, on a sample of wrestling players under (16) years old, numbering (14) players. The variable of response speed and snatch skill in wrestling was tested for the research sample after the completion of the main experiment. After processing the data statistically, the researcher concluded that the exercises prepared by the researcher proved effective in improving the speed of motor response and the snatch skill of the players.

Keywords: special exercises on the speed, motor response, snatch skill, wrestling.

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Introduction

Wrestling is an individual sport characterized by its many grips and various basic defensive and offensive motor skills. It depends on the wrestler's physical, skillful, tactical and psychological abilities to achieve the best results, as proper scientific training is the main factor in achieving the performance of basic sports skills with high accuracy, and higher mental processes will affect the level of psychological preparation of players, including attention, perception, speed of reaction and others. The speed of motor response is considered one of the important physical qualities in most sports activities, and activities differ among themselves in the extent of their need for it according to the special requirements of each activity, and it is one of the important qualities that a wrestling player needs, so the importance of the research lies in the use of special exercises through which we can develop the skill, physical and mental aspects of the player, because the game of wrestling requires other conditions that the young wrestler is exposed to in order to achieve technical grips in a way through which he can perform at a high level and confuse the competitor and overcome him. As for the problem of the research, through the researcher's field follow-up, he noticed that the level of performance of wrestling players is not at the required level, and from the researcher's point of view, he sees that one of the reasons for this is due to a weakness in the player's speed of response, since the game of wrestling requires a quick reaction through which the wrestler's level in his skill performance can improve, so the researcher decided to prepare special exercises that develop the skill and physical aspect of him. The research aimed to prepare special exercises and know their effect on the speed of motor response and performance of the snatch skill among wrestling players aged under (16) years. The research hypotheses included that there are statistically significant differences between pre-and post-tests of the experimental and control research sample in the speed of motor response and the level of performance of the snatch skill. There are also statistically significant differences between the experimental and control groups in the post-tests in both the speed of motor response and the level of performance of the snatch skill. In this field, some studies were conducted, including the study (Hazem Abdel Karim) which aimed to identify the degree of visual selective attention among university students and the statistical differences in the degree of selective attention according to the variable of gender, specialization and the degree of cognitive failures among university students. The most important results were that university students enjoy visual selective attention and low cognitive failures among them and that the relationship between visual selective attention and cognitive failures is an inverse relationship, and the study (Linda Mahmoud Al-Jumaili) Which aimed to identify the effect of exercises with a dummy device of different intensities on some snatch holds from above the chest for wrestling juniors. The most important results were reached, which are that exercises with a dummy device of different intensities have a positive effect on developing some over-the-chest throw holds (snatch)

Method and tools:

The experiment was conducted in Al-Kadhimiya Sports Wrestling Club. The researcher used the experimental method by designing two equivalent groups, experimental and control, with pre-test and post-test, on a sample of wrestling players under (16) years of age, numbering (14) players. By lottery, they were divided into two experimental and control groups (7) players in each group. Before starting with one starting line, an equivalence test was conducted in the research variables, including the speed of motor response and the skill of snatching to start with one starting line, as shown in Table.(1)

Table(1)

Shows the arithmetic means, standard deviations, and calculated t-value for the research variables in the pre-test.

Significance	Error level	Calculated value(t)	control group		experimental group		Unit of measurement	Variables
			A	Q	A	Q		
random	0.102	1.770	0.040	1.845	0.041	1.884	second	motor response speed
random	0.626	0.500	0.534	7.428	0.534	7.571	degree	Snatching skill

Significant (0.05) > at (12) degrees of freedom.

A variety of tools, equipment, and methods were used, including a performance evaluation form, the internet, observation and experimentation, a computer, a recording camera, and a wrestling mat. Before beginning the experiment, the researcher prepared a series of specific exercises aimed at improving the level of performance in the wrestling snatch skill and also developing the players' motor response speed, relying on scientific sources.

Tests used in the research:

-1 Nelson's motor response test:

- Test objective: To measure motor response speed.
- Test specifications: The test area is marked with three lines, the distance between each line is (6.40) m, and the length of each line is (1 m).
- Performance Method: The examiner stands at the end of the middle line facing the referee who is standing at the other end of the line. The examiner assumes a ready position with the middle line between the feet and his body bends forward so that he assumes a ready position for the start.

The referee holds the stopwatch in one hand and raises it up, then quickly moves his arm either to the right or to the left, simultaneously starting the watch.

The test subject responds to the hand signal and tries to run as fast as possible in the specified direction to reach the side line which is (6.40) m away from the centre line.

- When the tester crosses the correct side line, the referee stops the clock.
- If the tester starts running in the wrong direction, the referee continues to run the clock until the tester changes direction and reaches the sideline.
- Registration method:
 - The tester gives (10) consecutive attempts, with a rest period of (20) seconds between each attempt, at a rate of five random attempts.
 - Trials are randomly selected on each side.
 - The final grade for the test is calculated from the sum of the ten side attempts.

-2Wrestling Snatch Skill Test: The snatch skill test was conducted based on the evaluation of the skill level of performance (10) points for performance, as shown in Appendix (1), which shows the performance evaluation form [1]. The performance was evaluated by three experts in wrestling, and the arithmetic mean of the score was taken.

The researcher conducted two exploratory experiments on a sample of wrestling players, numbering (2) players outside the research sample. The first exploratory experiment was for educational units using special exercises, and it was on (Monday) corresponding to (9/9/2024). As for the second exploratory experiment, it was for the skill test and motor response speed, and it was on (Wednesday) corresponding to (9/11/2024). After that, the pre-tests were conducted for the research sample (experimental and control) with variables in Al-Kadhimiya

Sports Club on (Saturday) corresponding to (9/14/2024) at (5:00 PM). The conditions related to the tests were fixed in terms of time and place, and the tests were photographed to be presented to experts for the purpose of evaluating them. The special exercises were applied to the experimental group, as it took a month to implement, at a rate of three educational units per week for each group of the research groups, starting from (Monday) corresponding to (9/16/2024) until (Monday) corresponding to (10/14/2024), so that the number of educational units would be (12) units, as The duration of the educational unit was (90) minutes, where special exercises were applied in the main part of the educational unit with the help of the assistant work team and under the supervision of the researcher, who was divided into the applied and educational sides, as follows:

-1The preparatory section: its duration is (20 minutes) and includes organizational activities and warm-up.

-2The main section: its duration is (65 minutes) and it includes:

-The educational aspect: Its duration was (15 minutes). In this section, the specialized grips for each player were explained and presented by the coach.

-The practical side: Its duration was (50 minutes) and the grips were applied according to the exercises prepared by the players.

-3The final section: It lasts (5 minutes) and includes some calming exercises for the body, in addition to educational instructions, then the class ends.

After completing the implementation of the educational units, the post-test was conducted on the research sample in the research variables and under the direct supervision of the researcher on (Wednesday) corresponding to (10/16/2024). The researcher was keen for the post-tests to be under the same conditions in which the pre-tests were conducted in terms of the assistant work team, time, place, tools, and calculating the score in the same way as in the pre-test and by the same evaluating committee. The following statistical methods were used in processing the data- :

Arithmetic mean.

Variables	Pre-test		Post-test		F	F H	(T) calculate d	moral significanc e	the differenc e
	Q	A	Q	A					
motor response speed	1.88 4	0.041 1	1.63 2	0.03 2	0.52 1	0.06 5	10.089	0.000	spiritual
Snatchin g skill	7.57 1	0.534	9.42 8	0.53 4	1.85 7	0.37 7	13.000	0.000	spiritual

-Standard deviation.

_T-test for independent and equal samples.

Independent samples t-test.

Results: Displaying the results of the pre- and post-tests for the experimental group.

Table(2)

It shows the arithmetic mean, standard deviation, and t-test for the experimental group in the pre- and post-tests.

Significant (0.05) > at (6) degrees of freedom

Table(3) Shows the arithmetic mean, standard deviation, and t-test for the control group in the pre- and post-tests.

Variables	Pre-test		Post-test		F	F H	(T) calculated	moral significance	the difference
	Q	A	Q	A					
motor response speed	1.845	0.040	1.740	0.053	0.105	0.031	9.018	0.000	spiritual
Snatching skill	7.428	0.534	8.571	0.534	1.142	0.899	3.361		spiritual

Significant (0.05) > at (6) degrees of freedom.

Table(4)

Shows the arithmetic means, standard deviations, and calculated t-value for the research variables in the post-test.

Significance	Error level	Calculated value(t)	control group		experimental group		Unit of measurement	Variables
			A	Q	A	Q		
spiritual	0.001	4.525	0.053	1.740	0.032	1.632	second	motor response speed
spiritual	0.011	3.000	0.534	8.571	0.534	9.428	degree	Snatching skill

Significant (0.05) > at (12) degrees of freedom.

Results

From the results obtained by the researcher from the above tables, it became clear that the two research groups had learned the motor skill and their level of motor response speed improved. The researcher attributes this to the trainer's adherence to important learning principles, such as explanation, presentation, and correction of errors, directing reinforcement feedback, and repeating correct responses, which accelerated the improvement of the research variables, as "the process of repeating correct responses to the same educational and training situation leads the player to a high degree of mastery through the method of repeating the educational situation and its correct responses. The errors accompanying it are eliminated and the correct aspects are maintained and confirmed Also", learning can only occur through practice, and there can be no learning unless it occurs repeatedly with change, even if this change is simple. Through repetition and reinforced practice, there is a gradual improvement in the performance of the skill, and training is the only way to discover errors and then correct them.

One of the basic principles of wrestling is that it requires muscular and nervous effort and speed of performance, especially when executing technical holds, in addition to the



position of the body, legs, and foot movement. Therefore, continuous training by players improves their level of performance and the player has a new reaction in the central nervous system. One of the most important aspects that have been focused on is the level of attention and speed of response, as they have an effective role in the performance of holds by players . “The wrestler cannot master the skillful performance of throwing holds in the absence of the special physical qualities necessary in the main muscles working in the performance. Therefore, the coach must take into account the close connection between the process of physical and skill preparation in the training process. (Jawad, M., & Jabbar Shinen, 2016)

A wrestler needs to possess physical, motor and mental abilities, including speed of motor response when executing holds. Therefore, developing these abilities is a necessary requirement for wrestlers to achieve the best achievements. Special exercises helped to consolidate motor performance in memory and generalize it according to changing situations during the game, as the player was able to implement the decision to choose the correct hold at the appropriate speed. This can only be achieved through diversification in the application of exercises during the educational unit. Therefore, it is important to apply diversification in exercises to achieve the best results. The researcher believes that the special exercises were consistent with the physical ability of the players, and that a single exercise develops more than one variable of the research variables. It helped the player to generalize the motor program for the skill, as“ the exercises that the coach sets for one player or several players are within special laws to develop the player physically, skillfully and tactically, and to develop motor speed and basic skills that affect game plans and depend on an atmosphere similar to the atmosphere of matches that depend on the motor chain [5]”. Thus, the first hypothesis of the research is achieved, that there are statistically significant differences between the pre- and post-tests, in favor of the post-tests. For both experimental and control groups. (Salman et al., 2022)

After reaching the results, the researcher concluded the following:

- 1The exercises prepared by the researcher have proven effective in improving the performance level of the players 'snatch skill.
- 2The exercises prepared by the researcher have proven effective in improving the players 'motor response speed.
- 3The experimental group that adopted the special exercises outperformed the control group that adopted the established method in the research variables.

The researcher recommended the following:

- 1Using special exercises prepared by the researcher in the training units, as they have a positive role in improving the research variables (technical grips - speed of motor response).
- 2Paying attention to the response speed variable, as it is one of the important variables on which the wrestling game depends.
- 3Diversify the exercises so that their goal is to develop physical and motor qualities in addition to the motor path of the skill.

attached(1)

Skill Performance Evaluation Form

T	wrestler's name	Preparatory Section (2)degree	Main Section (5)degree	Final section (3)degree	the total (10)degrees
1					
2					
3					
4					
5					
6					
7					



Expert's name:

the signature:

the date:

Model of an educational unit for the experimental group

First week Location: Al-Kadhimiya Sports Club

First educational unit.. Time/90 minutes the date :

Educational objective: To teach players the snatch grip and selective attention.

Department	the time	Implementation method	Notes
Preparatory section	(20) d	Introduction: (3) d, to take attendance, and prepare the tools. General warm-up: (9) minutes, general preparation for all body parts. Special warm-up: (8) d, giving a set of exercises specific to motor skills.	Emphasis on attendance and commitment

Main Section	(65) d	The exercises are explained by the trainer.	
Educational aspect	(15) d		
The practical side	(50) d	Exercises applied by players Exercise No(1) . Exercise No(2) . Marin No(3) .	Explain the exercises adequately and correctly.
Final section	(5)d	Calming and distraction exercises	Emphasis on optimal performance in subsequent units

Special exercises prepared by the researcher

Firstweek

Side dive and encircle the partner's waist:

Method of performanceOn the signal right or left enter on the colleague's waist.

the goalDevelop response speed and learn to enter the snatch application

Pay attention to the color of the side dive and the encirclement of the colleague's waist:

Method of performanceStand in front of two wrestlers, one in blue and the other in red, and upon the color signal (red or blue), step on the waist of the other.

the goalDevelop response speed and learn to enter the snatch application.

Pay attention to the color and direction of the side dive and encircling the colleague's waist:

Method of performanceStand in front of two wrestlers, one in blue and the other in red, and follow the color (red or blue) and any direction, right or left, to enter the waist of the colleague.the goalDevelop response speed and learn to enter the snatch application

The second week

Pay attention to the direction of the partner diving sideways and encircling the waist:

Method of performance Standing between two wrestlers, right and left, and upon the direction indicated (right wrestler or left wrestler), enter on the waist of the partner.

the goal Develop response speed and learn to enter the snatch application

Touch the arranged shapes in a systematic manner using one hand:

Method of performance Stand in front of shapes (square, triangle, circle, rectangle) and be prompted to touch the desired shape with one of your hands.

the goal Developing response speed and learning to move the trunk to apply the snatch grip.

Pay attention to the shape and color. Touch the arranged shapes in a systematic manner with one hand:

Method of performance Stand in front of shapes (square, triangle, circle, rectangle) and each shape has two colours: red and blue. Upon receiving the shape and colour, touch the desired shape with one of your hands. the goal Developing response speed and learning to move the trunk to apply the snatch grip.

The third week

Pay attention to the direction of the colleague and apply the snatch grip:

Method of performance Stand between two wrestlers, right and left, and apply the snatch hold on the direction indicated by the wrestler on the right or the wrestler on the left.

the goal Develop response speed and learn to apply the snatch grip.

Touch the arranged shapes in a systematic manner with one foot:

Method of performance Stand in front of shapes (square, triangle, circle, rectangle) and be prompted to touch the desired shape with one of your feet.

the goal Developing response speed and learning to move the foot to apply the throwing grip by blocking the arm and head (hand and head) and the throwing grip by turning the arm (snatch grip).

Touch the square shapes using one hand:

Method of performance Stand in the middle of shapes (square, triangle, circle, rectangle) arranged in a square with the wrestler in the middle, and upon command touch the desired shape with one of the palms.

the goal Developing response speed and learning to move the trunk to apply the snatch grip.



Fourth week

Pay attention to the colleague's number and apply the snatch hold:

Method of performance Standing in the middle of 6 wrestlers arranged in a circle, each wrestler has a number known in advance to the performer. Upon the number's command, the wrestler performs the snatch hold.

Pay attention to the unknown wrestler's number and apply the snatch hold:

Method of performance The wrestler stands with his back to 6 wrestlers arranged in a straight line. Each wrestler has a number that the performer is not aware of in advance. Upon receiving the number, the wrestler with the number must be found and then the snatch hold must be applied. (Note: The positions of the 6 wrestlers change each time.)

the goal Develop response speed and learn to apply the snatch grip.

Pay attention to the wrestler's number, the direction of the grip, and the application of the snatch grip:



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[https://doi.org/10.37359/JOPE.V28\(3\)2016.1063](https://doi.org/10.37359/JOPE.V28(3)2016.1063)
- Method of performance The wrestler stands with his back to 6 wrestlers arranged in a row. Each wrestler has a number that the performer is not aware of in advance. Upon being given the number and the direction of the grab, right or left, the wrestler with the number must be found and then the snatch must be applied. the goal Develop response speed and learn to apply the snatch grip.
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The effect of special exercises using a random visual device to develop the response speed of goalkeepers in futsal

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2312](https://doi.org/10.37359/JOPE.V37(2)2025.2312)

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Article history: Received 6/ June /2025 Accepted 23/ June /2025 Available online 28/ June/2025

Abstract

The objective of the research was to develop the response speed of futsal goalkeepers through the use of a random optical device due to the importance of the goalkeepers' response speed in blocking the ball. The lack of response speed in blocking the ball is a problem, in addition to the lack of training of goalkeepers with advanced devices. The experimental method was used by designing the control and experimental groups in a manner that suited the nature of the study problem. The study sample was deliberately selected from some teams of the colleges of the University of Baghdad, numbering 16 futsal goalkeepers, 8 in the experimental group, and 8 in the control group. After conducting the exercises, analyzing, and discussing the results, the researcher concluded that statistically significant differences were found in the post-tests in favor of the experimental group. Through this, the researcher reached some conclusions and recommendations, the most important of which is that the use of the random optical device develops the response speed of futsal goalkeepers. Additionally, the effect of repeated exercises had a positive impact on the performance results.

Keywords: optical random-access device, response speed, futsal, goalkeepers.

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Introduction

Futsal is a popular sport both locally and internationally, due to its aesthetic appeal and enjoyment of technical and tactical performance. Furthermore, it can be played on small fields and is available in many locations. It is a dynamic and constantly evolving game that is easy to play in small spaces. (Murray 2010) One of its advantages is that it is a dynamic, fast-paced, and attractive game that requires a high degree of skill. (Hermans 2011) The most important thing that distinguishes futsal is the speed of performance as well as the response, especially the goalkeeper's response in blocking the opposing team's balls. Otherwise, it causes the team to lose and lose opportunities to win. Not exposing it to random stimuli in the speed of response and reaction in blocking balls is a problem. Hence, the importance of research into ways to improve goalkeeper response. The research aimed to identify the effect of specific exercises using a random visual device on improving the response speed of futsal goalkeepers.

Some studies have addressed the importance of training response speed, as well as using visual and auditory stimuli and tools to develop it:

The study (Ismael Qasim 2012) aimed to develop the response speed of futsal players through the use of audio-visual devices, especially the (random shot) device, where the researcher used the experimental method by designing two equivalent groups, the experimental and the control, and the sample was chosen intentionally and included 80 players from Baghdad clubs of the elite league to design the tests in addition to the exploratory experiment, and included the main sample which represents the players of the national futsal team.

The study (Ismael Qasim 2012) aimed to develop the response speed of futsal players through the use of audio-visual devices, especially the (random shot) device, where the researcher used the experimental method by designing two equivalent groups, the experimental and the control, and the sample was chosen intentionally and included 80 players from Baghdad clubs of the elite league to design the tests in addition to the exploratory experiment, and included the main sample which represents the players of the national futsal team. The conclusions were that the use of audio-visual devices improved the players' motor response speed.

The study (Ammar 2013) also aimed to develop the speed of motor response among young soccer goalkeepers through some exercises and auxiliary tools. The researcher chose the experimental method by designing the control and experimental groups. The researcher

concluded that exercises using auxiliary tools contributed to developing the motor response among young goalkeepers.

Ismael's study (2017) aimed to develop the skill performance of handling through complex exercises in which the researcher used audio and visual stimuli devices. The researcher used the experimental method with a two-group equivalent design. The sample size was 20 players who were divided into two groups, a control and an experimental group, each group containing 10 players. The duration of the curriculum was 8 weeks, with 3 units per week. After arriving at the results, presenting and analyzing them, the researcher concluded that the exercises used in the research had a positive impact on developing the skill performance of handling.

The study (Muhammad Jabbar, Ahmad Khamis, 2019) aimed to design a device as well as prepare special exercises to develop response speed and some blocking skills among handball goalkeepers. The researchers used the experimental method with a single-group design with pre- and post-tests and reached the conclusion that the use of the designed device had developed response speed among goalkeepers through special exercises for ages 15-16 years.

Mustafa's study (2019) aimed to design an electronic target to develop simple and complex motor responses in handball goalkeepers. The method used was experimental, while the sample was deliberately selected, comprising six goalkeepers. After conducting the main experiment, the researcher concluded that the use of simple and complex visual exercises and devices improved goalkeepers' motor response speed.

Method and tools:

The researcher used the experimental method by designing two equal groups, control and experimental. The sample was chosen intentionally. The sample consisted of 16 goalkeepers from Bab Al-Muadham Colleges. The main sample was divided into two equal groups, 8 control and 8 experimental, using the odd and even arrangement method after conducting the pre-test. The exercises took place over 8 weeks, with 3 units per week, from 29/10/2023 to 28/12/2023. The experimental group was divided into two groups using two optical devices, with each target assigned a random optical device to maximize time and effort. The exercises were applied to the experimental group, while the control group trained with their teams. The experimental group's performance is divided into four players, with each player performing one goal. In the first and second weeks, each goalkeeper performs four sets, each with 10 repetitions. Each set is timed to 30 seconds, while the rest

period for each player is the waiting period for the other three players to perform. The total number of repetitions in the unit is 40. In the following weeks, the device is gradually accelerated, as the number of repetitions increases gradually with constant time to become 16 repetitions, and the daily repetition number for each goalkeeper is 64.

The pilot experiment was conducted on a sample of 4 goalkeepers from some teams of the University of Baghdad colleges at the College of Arts stadium on 15/10/2023 to learn how the tests and exercises were conducted, how they were distributed, the method of organization, and the time taken.

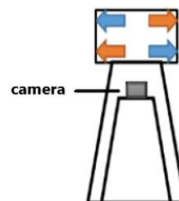
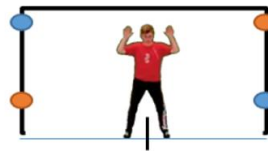
Test: Futsal goalkeepers' response speed using a random optical device

Objective: To measure the response time of futsal goalkeepers.

Tools and equipment used: 1 Futsal soccer goal, 1 random optical device, 1 high-speed digital camera, 1 laptop, measuring tape, and adhesive tape.

How to perform: The goalkeeper stands in the middle of the goal, which is marked by a vertical line on the goal line, with his feet on both sides. When the device is turned on, which is 7m away, one of the arrows lights up simultaneously with the corresponding lamp on the goalpost (the purpose of the lamps on the goalposts is to photograph them when lit and record the start and end time of the response when the lamp is touched by the goalkeeper). Note that the device works randomly.

Recording: Each goalkeeper is given 4 attempts, and the arithmetic mean time of the four attempts is extracted. Note that the response time is extracted using the Kinovea program.



The scientific basis for the test:

Validity: Self-validity was used through a reliability root of $(0.986) = (0.993)$.

Reliability: The test was conducted on five goalkeepers from various teams at the Faculty of Arts on 18/10/2023, and repeated on 23/10/2023 under the same conditions. Reliability was calculated using a simple correlation coefficient.

(Table 1)

It shows the reliability of the test for the research variables using the test-retest method.

stability coefficient	sig
0.986	0.002

Objectivity:

The test relies on conclusive evidence and is free from subjective evaluation. Judges and scorers are neutral instructors, with the examinees' understanding and appreciation of the test's vocabulary and content. (Ismael 2009)

In addition, the test leaves no room for subjective judgment or bias, as precise numbers are measured using a high-resolution camera and an accurate measurement program, resulting in no margin of error. (Asaad and Ismael 2017)

Discrimination Ability:

After confirming the scientific basis of the test and determining its ability to differentiate between high- and low-level groups, the test was administered to 21 guards representing teams from 10 departments of the College of Languages on October 24, 2023. After collecting the data, the scores were ranked from lowest to highest, with 27% of the lowest scores and 27% of the highest scores. An independent samples t-test was used, and the data were statistically processed. The p-value was found to be less than 0.05.

(Table 2)

Demonstrates the discriminating ability of the search engine.

Unit of measurement	Total of the upper levels		Total minimum levels		t	sig
	mean	Std. deviation	mean	Std. deviation		
Time: second	0.977	0.070	1.085	0.016	3.976	0.002

After that, the pre-test was conducted on the research sample in its two groups in the same stadium on 25/10/2023. rates the discriminating ability of the search engine.

(Table 3)

It shows the equivalence of arithmetic means, standard deviations, the value of (t), and the significance of the differences between the control and experimental groups for the research variable

Unit of measurement	control group		experimental group		t	sig
	mean	Std. deviation	mean	Std. deviation		
Time: second	1.097	0.030	1.116	0.030	1.224	0.241

After conducting the main experiment on the experimental group, post-tests were conducted on the control and experimental groups on 2/1/2024 in the same place and under the same conditions as the pre-test. The researcher used the statistical package (SPSS) to apply the appropriate statistical treatments. (Kadhim & Mahmood, 2023)

Presentation and discussion of results:

(Table 4)

Shows the arithmetic means, standard deviations, t-value, and their statistical significance for the test results for the control and experimental groups (pre-test-post-test).

The group	Pre-test		Post-test		t	sig
	mean	Std. deviation	mean	Std. deviation		
control	1.097	0.030	1.085	0.045	1.667	0.14
experimental	1.116	0.030	0.916	0.025	31.429	0.001

Discussion of the results (Table 4):

The researcher attributes the improvement achieved by the experimental group to the efficiency of the random visual device, as well as the repetition used. That is, repeating the exercise on devices with visual or auditory stimuli and responding to these stimuli in a deliberate manner improves response time. Also, using the device with stimuli that are in harmony with the players' response through ease of operation in performance has improved response time. When there is harmony between the characteristics of stimuli or incentives and the response requirements, performance time decreases. (Magill 2010) Since there are stimuli at different speeds, the athlete must respond in rapid succession. (Cashmore 2002) Moreover, automatic execution and changes in stimuli lead to the development of the player's skill in responding. (Luiselli 2011) Finally, repeating the correct performance helps to improve execution. (Mufti Ibrahim 1998)

(Table 5)

shows the arithmetic means, standard deviations, t-value, and their statistical significance for the test results for the control and experimental groups (post-test).

Unit of measurement	control group		experimental group		t	sig
	mean	Std. deviation	mean	Std. deviation		
Time: second	1.085	0.045	0.916	0.025	9.121	0.001

Discussion of the results (Table 5):

When the exercises are properly implemented, as well as their consistency and the use of appropriate tools, they lead to improved response time for the player, and this is what has been worked on. Reaction and response training can reduce response time to stimuli when

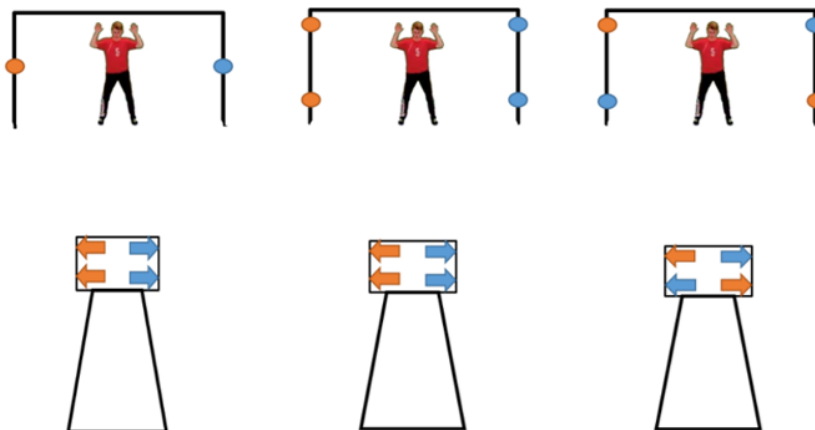
performed correctly. (Bompa 2009) Continuous training, in addition to its diversity, helps develop reaction time, which adapts the player to this performance and hones his skills. (Mulqueen & Others, 2010) Practicing tasks reduces errors and enhances responses. (Williams 1999) Taking full advantage of modern and advanced technologies in training equipment and tools can raise players to a better level... Through this, the coach can give exercises in an easy or difficult way, or by gradually moving from easy to more difficult, as he wishes, and in a way that achieves the purpose of developing the players. (Hanfy 1998) This is what we have gone for in terms of using appropriate devices and repetitions to develop the goalkeepers' response speed. (Jawad, M., & Jabbar Shinen, 2016)

Conclusions:

- The use of a random visual device has a positive effect on developing the response speed of futsal goalkeepers.
- The use of a random visual device reduces the development time of futsal goalkeepers, saving time and effort.
- The appropriate repetition of the exercises used had a positive impact on performance outcomes.

Appendix 1

In the first and second weeks, the exercises were performed using only two lights aligned with the arrows, with specific repetitions. In the third and fourth weeks, four lights were used instead of two, also aligned with the arrows, with slightly more repetitions. In the remaining weeks, the order of the lights was changed to increase the difficulty, with more repetitions, and with a gradual increase.





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The effect of the (K.W.L.H) strategy in learning the skill of smashing in volleyball for second-stage female students, College of Physical Education and Sports Sciences

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2252](https://doi.org/10.37359/JOPE.V37(2)2025.2252)

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Article history: Received 24/ February/2025 Accepted 6/ April/2025 Available online 28/ June/2025

Abstract

The importance of the study stands out in identifying the impact of the learning style for mastery in the educational process in general and skill learning in particular, through which learners can reach mastery in performing skills equally by giving the appropriate opportunity to all learners and providing sufficient time to learn the required skills, as well as Learners can be given additional time to enable them to acquire the required skills if the specified time is not sufficient The problem of the research lies in the dependence of some teachers in the process of learning the skills of the game of volleyball, including the skill of crushing hitting, educational methods and methods that do not achieve great benefit from the learning process, which made the educational process a process that moves away in most of its aspects from excitement and suspense .The study aimed to find out the impact of the learning style for the empowerment of those with motor performance difficulties for the students of the second academic year, and to know the effect of the learning style for the empowerment of those with motor performance difficulties in learning the skill of hitting the volleyball for the students of the second school year, and to know the effect preference of the learning style for mastery In learning the skill of crushing hitting the volleyball and the method used between the pre and post tests.The research assumed: that there are statistically significant differences between the results of the pre and posttests in learning the skill of crushing hitting the volleyball for people with motor performance difficulties for the experimental and control groups, there are statistically significant differences between the results of the tests of the experimental and control groups in learning the skill of crushing hitting the volleyball for students with difficulties Dimensional motor performance .The researcher used the experimental method with the design of equal groups, random selection with pre and posttest, and the study was conducted on second year students in the College of Physical Education and Sports Sciences / University of Diyala for the academic year 2021/2022, whose number is (40) students, who were divided into two groups, control and experimental. With (20) students per group, the experimental group implemented the method

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of learning in order to empower those with motor performance difficulties, and the control group implemented the method used in the college, as the experiment included educational units implemented for the period from 3/20/2022 to 4/25/2022 by (8) educational units for the skill of overwhelming multiplication, and the time of one educational unit was (90) minutes. One of the most important conclusions reached by the researcher is that the use of a scale for people with motor performance difficulties for the skill of crushing hitting with volleyball has achieved a positive effect in identifying students who have difficulties in motor performance in the research task. The research recommends the need to introduce the curriculum prepared with the learning method for mastery, which is based on giving additional time invested in providing corrective feedback and explanatory information for basic skills in volleyball to benefit from it in the educational process.

Keywords: K.W.L.H strategy, motor learning, smash, volleyball.

Introduction

The great scientific progress achieved in the field of sports has only happened due to the great and continuous scientific efforts of specialists and workers in the field of sports and their search for the most important methods and approaches to modern and diverse scientific strategies that provide the elements for the success of the educational process in all sports sciences. (Easa et al., 2022)

In order to achieve progress in the educational process, many educational practitioners have long sought to find diverse methods, approaches, and strategies that help raise the level of learning and performance of learners by allowing them to participate in the educational process". This is an attempt to increase the number of female students who can achieve a satisfactory level of performance. (Mondher & Khalaf, 2023)

Volleyball is a sport characterized by a variety of athletic skills, as well as the close interconnectedness between them. This makes the opportunity to achieve progress in skill achievement linked to the quality of performance provided by the previous skill to serve the subsequent skill. This situation imposes attention to the quality of skill performance through the use of different educational methods and strategies to develop that performance, including the skill of smashing with a volleyball. (Kanger Hamdan & Sukny, 2017)

In order to be able to reach the required level in the process of learning skills, we must analyze these skills into their stages and know the difficulties that face the learner through the use of the appropriate method, approach or strategy that achieves the desired benefit in acquiring and mastering the skills and being able to perform them smoothly and accurately while saving the effort and time needed to implement them. From here, the research gains its importance as it addresses a vital topic related to those in charge of the educational process by knowing the effect of the (K.W.L.H) strategy in learning the skill of smashing in volleyball for female students.

Research problem:

The process of teaching sports skills requires the adoption of multiple educational methods, techniques and strategies, selecting the most appropriate ones to serve the nature of the game and its skills. Through the researcher's follow-up of many educational units for second-year female students, as the researcher is a volleyball teacher, it was noted that there are female students who have difficulty in performing the motor skills of volleyball in general and the smash skill in particular. The researcher believes that some of the methods adopted by some teachers of the subject do not achieve the desired benefit from the learning process, which has led to the educational process moving away in most of its aspects from excitement, suspense and motivation. The researcher believes that adopting new methods, techniques and strategies is the ideal solution to achieve the goal of every teacher to achieve the best learning. Therefore, the researcher decided to study this problem by adopting the (K.W.L.H) strategy to know its impact and importance in the educational process, which would save effort and time.

Research objectives:

- 1The aim of the research was to know the effect of the (K.W.L.H) strategy in learning the skill of smashing volleyball for second-year female students.
- 2Knowing the superiority of the impact of the (K.W.L.H) strategy in learning the skill of smashing in volleyball and the method followed between the pre- and post-tests.

Research hypothesis:

- 1There are statistically significant differences between the results of the pre- and post-tests in learning the skill of smashing volleyball between the experimental group and the control group.
- 2There are statistically significant differences between the results of the tests of the two groups, the experimental and the control, in learning the skill of smashing volleyball in the post-tests.

Research areas:

Human field: A sample of second-year female students for the academic year(2024-2023)

Time frame: 1/3/2024 to 3/5/2024

Spatial area: The closed hall in the College of Physical Education and Sports Sciences/University of Diyala.

Research methodology and field procedures:

Research Methodology:

The experimental method was used with a randomly selected equivalent group design with pre- and post-tests due to its suitability to the nature of the research.

Research community and sample:

The research community is represented by the second-year female students at the College of Physical Education and Sports Sciences/University of Diyala for the academic year 2024/2025, numbering (75) female students representing (2) academic departments, where the failed female students were excluded, numbering (13) female students, the female students who were not committed to attendance, numbering (20) male students, and the male students who practice volleyball, numbering (2) female students.

Thus, the final number of the sample became (20) female students who have difficulties in motor performance, representing the experimental group, and (20) female students representing the control group, representing a percentage of (53.3%) of the research

community, which is (75) female students, and this is an appropriate percentage to represent the research community in a true and honest manner.

table(1)

Shows the arithmetic means, standard deviations, standard errors, and coefficient of skewness.

For the research sample in the research variables (mass, age, and height)

Processors Statistics		lonliness Measure ment	Q	±	stand ard error	Coeffic ient of skewne ss
Varia bles physi cal	hei ght	right	1.7 05	0.0 55	0.00 9	0.674-
	the wei ght	kg	67. 900	6.1 64	0.97 5	1.608
the age		year	20. 825	0.9 58	0.15 1	1.865

Table (2) shows that all values of the skewness coefficients for the research sample ranged between (-0.674,

1.865 ,1.608and that these values were limited between (± 1) as“ whenever the values of the skewness coefficient were limited between (± 3) this indicates that the degrees are distributed in a normal distribution, but if they are more or less than that, this means that there is a defect in choosing the sample ”([i]), which confirms that all the data are under the normal curve, and this indicates the good normal distribution of the individuals of the research sample because all the extracted values were under this value. In the variables (height, mass, age)

Devices, tools and means of collecting information:

Devices used in the research:

- (1)German-made electronic device for measuring mass and length.
- (1)Dell laptop, made in China.
- (1)Canon Japanese video camera with stand.

(2) -Chinese-made digital electronic timers.

Tools used in the research:

-Legal volleyball court - (12) DVDs for evaluators - (2) Fox whistles - (10) legal volleyballs, Japanese-made (Mikasa)

Information collection methods:

- References and sources, Arabic and foreign - observation - tests and measurements.
- Names of experts and specialists consulted by the researcher, Appendix.(1)
- A questionnaire form to survey the opinions of experts and specialists to determine the validity of the motor performance difficulties scale for the smash skill in volleyball, Appendices (1 and 2).
- Questionnaire form to evaluate the technical performance level of the smash skill in volleyball, Appendix (1 and 3).

Field research procedures:

1 – 4-2The test used in the research:

High Facing Smash Skill Test (Najla Abbas Naseef) and others, 2012, 225.(

-Purpose of the test: To measure the level of technical performance of the smash skill.

-Equipment used: Legal volleyball court, (10) volleyballs.

-Performance specifications: The tester performs the crushing strike from the (2) or (4) position.

The trainer prepares from center (3) using the long diagonal preparation, and the examinee must perform (5) attempts, and the correct attempts are counted for the examinee in accordance with the law and registration rules.

-Registration:

Each lab has five attempts.

-The preparation must be good in every attempt.

-Points are calculated for the technical performance stages of the diagonal or linear smash skill.

The lab is given three marks for the preparatory section, and five marks for the main section. And two points for the final section of the technical performance of the skill, so the maximum points for this test are.(10)

Exploratory experiment:

The exploratory experiment was conducted on the skill of smashing in volleyball. This experiment was conducted on a sample of (12) students from Section (B) who were randomly selected from among the sections and are outside the main research sample. The experiment was conducted on 3/6/2024, in the closed sports hall of the martyr (Walhan Hamid Hadi) for sports games in the College of Physical Education and Sports Sciences / University of Diyala.

Pre-tests:

The pre-tests were conducted in the skill of crushing, and the test was conducted in the closed hall of the martyr Walhan Hamid Hadi for sports games over two days at exactly nine o'clock in the morning on Sunday and Monday corresponding to 13-14/3/2024, under the direct supervision of the researcher and in the presence of the assistant work team, for both groups, taking into account the conditions related to the tests, represented by the place, time, devices and tools used, and the method of implementing the test, with the aim of creating the same conditions as much as possible in the post-tests.

Main experiment:

.1 It was implemented by the subject teacher and under the supervision of the researcher in the second semester of the academic year 2024/2025 for the period from 3/1/2024 to 4/25/2024. The implementation of the educational units took (4) weeks. The educational units were implemented at a rate of (2) educational units per week.

.2 The skill exercises prepared based on the K.W.L.H strategy were relied upon by the researcher to be applied by the students in the practical part of the main section of the educational unit.

.3 The teacher applied some therapeutic methods, including the therapeutic method of small cooperative groups in the experimental research group, i.e. dividing the students into small groups.

Post-tests:

After completing the application of the vocabulary of the educational units using the (K.W.L.H) strategy

Over the course of (8) educational units, the post-test was conducted for both the control and experimental groups, taking into account the conditions related to the tests, represented by the place, time, tools used, and method of implementing the test, with the aim of creating the same conditions as much as possible as in the pre-tests, as the test was conducted over two days at exactly nine o'clock in the closed hall of the martyr Walhan Hamid Hadi for sports games in the College of Physical Education and Sports Sciences/University of Diyala, at a rate of one day for each group, and under the direct supervision of the researcher.

10-2Statistical methods:

The researcher used the statistical package (SPSS-20) to extract data.

Presentation and discussion of the results:

Presenting the results of the test and evaluation of the performance level of the volleyball smash skill before and after the experimental group and the control group.

Table(2)

Shows the values of the arithmetic means, standard deviations, standard errors, and evaluation of the performance level of the volleyball smash skill before and after the experimental and control groups.

Var iabl es	Tests	lonliness M easurement	Test	The mid dle Arit hmet ic	dev iati on Sta nda rd	err or Sta nda rd
crus hin g skil l	Experi menta l	degree	tribal	4.39 0	0.3 40	0.0 76
			Dime nsion Y	8.20 0	0.3 61	0.0 81
crus hin g skil l	Office r	degree	tribal	4.53 3	0.3 38	0.0 76
			Dime nsion Y	6.62 0	0.7 56	0.1 69

Table(3)

It shows the mean, deviation of the differences, the standard error, the calculated (t) value, the error percentage, their statistical significance, and the evaluation of the performance level of the volleyball smash skill before and after the experimental and control groups.

Tests	S-F	A F	stand ard error	(T) calcul ated	er ro r rat e	Signific ance Statistic s
Experim ental	3.8 10	0.4 08	0.09 1	41.79 4	00 0	spiritual
Officer	2.0 -87	0.9 16	0.20 5	10.19 -0	00 0	spiritual

Degree of freedom.(19) =

Table(4)

It shows the values of the arithmetic means, standard deviations, standard error, calculated t-test, error percentage, statistical significance, and evaluation of the performance level of the volleyball smash skill for the control and experimental groups.

Group s	arith metic mean	stand ard devia tion	stan dard error	(T) The accou ntant	er ro r ra te	Statisti cal signific ance
empiri cism	8.200	0.36 1	0.08 1	8.429	0 0	spiritu al
The officer	6.620	0.75 6	0.1 69		.0	

The tabular value of (t) is (2.024) at a degree of freedom of (38) and a significance level of.(0.05)

Discussion of results:

Discussing the results of the two tests (pre- and post-test) for the experimental and control groups in the research skill.

Tables (2 and 3) show that there is a significant difference between the results of the pre- and post-tests in learning the search skill in favor of the post-test. The difference is attributed to: the effect of the curriculum prepared using the (K.W.L.H) strategy, which takes into account various scientific and practical aspects by selecting the appropriate educational units and skill exercises, implementing them and distributing them regularly in a manner that is consistent with the students' capabilities, in addition to watching the technical performance in volleyball and also the time allocated to practice the skill using the (K.W.L.H) strategy, as

repetition and actual practice are an educational method with a positive effect in improving the skill required to be learned, and this is what was indicated by (Nabil Mahmoud Shaker, 2007, 121) Practice is a basic condition for learning. Learning does not happen without practice that achieves the acquisition of the skill in its initial form, then improves coordination and consolidates it. The more repetition of the type of skill practiced, (Issa et al., 2024) the more accurate the motor memory becomes in determining the motor program required for that skill through interaction between the stock and the stimulus to make the appropriate decision. The repetition of the correct response results in the student reaching an advanced stage of successful performance. This is what was confirmed by (Ali Mustafa Taha, 1999, 10) that the stimulus constitutes the event that is entered as an external factor and requires a reaction, and the response constitutes a reaction to the stimulus, which is the process of learning, i.e. change. Tables (2, 3) for the control group show a slight significant difference between the results of the pre- and post-tests in the research skill, in favor of the post-test. The researcher attributes this slight improvement to the fact that the control group uses the method approved by the college, subject to the teacher's instructions. Therefore, the student does not feel free to perform, as each method has its effect on the learner in varying proportions. This was confirmed by (Jamal Saleh et al., 2000, 94)“ .Each method has its own place in achieving a specific set of goals, and there is no method that is considered the best in itself, but it achieves varying percentages ”.Also, some of the educational units and the vocabulary they contain that were applied to the control group are not at the required level, which would contribute to improving the technical performance of the learner, in addition to the lack of consideration for the principle of gradual progression in exercises from simple to complex, which is what Abbas Abdul Karim (2014, 43) indicated, that“ not taking care to choose exercises that achieve the goal of learning delays the learner's arrival at the required level of performance within the specified time period for learning.”.

Discussion of the results (post-post) for the experimental and control groups in the research skill

The results of Table (4) showed statistically significant differences in the post-tests between the experimental and control groups, in favor of the experimental group in the post-tests. The researcher attributes these differences to the effect of the (K.W.L.H) strategy and what it included in terms of exercises, repetitions, group corrective methods, and providing feedback. Some individual and group methods were used to treat weak and average-level students by giving them an opportunity to learn the skill by giving them additional educational units that enable them to perform the skill correctly by avoiding errors and focusing on the correct performance of learning so that the student can reduce her errors and perform correctly. (Salman et al., 2022) This, in turn, was effective in enhancing the learning process and improving the skill performance in the post-test for the experimental group. It is known that progress and acquisition of skill performance is achieved through organized practice, and this was confirmed by (Muhammad Abdul Ghani, 1987, 172)“ :Progress in movement or skill is achieved through practice, repetition, and avoiding errors, and this is done through the practical performance of the learner under the guidance of the teacher, and this is limited to “It is one of the main steps followed in teaching motor skills ”.As for the control group, it also achieved a small percentage of learning, which was clear in the results of the post-test. The researcher explains that field application, (Kazim et al., 2019) repetition of skills in the practical aspect, and the effect of the teacher's explanation of the material had a role in

creating learning, as learning cannot occur unless there are repetitions that lead to a relative and sometimes constant change in skill learning. Repetition leads to the development of the skill and mastery of it sometimes if there is correction of errors and sound guidance from the subject teacher. The results were varied because“ individuals learn at different rates) ”Abu Zeina and Farid Kamel, 1998, 48)

Appendix(1)

Educational unit using the K.W.L.H strategy

Educational Unit(1)

Time: 90 min

Date: // 2024

Educational objectives

Learn the skill of crushing

-Instill a spirit of competition and hard work.

Educational unit sections	the time	Activities and skills	Direction	Notes
Preparatory section the introduction General warm-up Special warm-up	20d 5d 5d 10d	Preparing tools and taking absences General preparation for all parts of the body Special equipment serving the main section Gaining a sense of the ball and the field	xxxxxxx xx x	Emphasis on order Emphasis on general and specific warm-up
Main Section	60d	Explain the skill of smashing in detail and present it through pictures and display it on	xxxxxxx x x xx x xxxxxxx x	Focus on clarifying and simplifying the explanation,
Educational aspect	5d			

		<p>the computer and then by a model.</p> <p>.2 Explain the importance of the skill and its technical stages.</p>		<p>correcting errors and monitoring performance accurately, directing questions to everyone in a clear and simple manner, and using most of the time for application and repetition.</p>
The practical side	35d	<p>.Apply the exercises with the maximum number of repetitions, with guidance and correction of errors by the teacher.</p> <p>Direct the following questions:</p> <p>How to stand ready to perform a smash</p> <p>-How to throw the ball up in a way that suits the player's ability</p> <p>-How to hit the ball and return it to the designated place on the field</p>		

K.W.L.H Strategy	20d	Each student applies what she has learned in the educational unit by completing a number of attempts and determining the number of successful attempts required to achieve correct performance in the educational unit.		
Final section	10d			
recreational game Departure	7d 3d	A mini-game that serves as the main section. Standing - Saluting - Departing in a regular manner		Commitment to order and calm



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the effect of using a sports educational platform on the cognitive achievement of some team games for fifth grade middle school students

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.1946](https://doi.org/10.37359/JOPE.V37(2)2025.1946)

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Article history: Received 10/ September/2023 Accepted 11/ December/2023 Available online 28/ June/2025

Abstract

The aim of the research is to influence, using an educational platform, the artistic achievement of some team games, and it adopted experimental users appropriate to the types of research. The research community was determined from the students of the fifth year of middle school at Baghdad Al-Karkh/Second College Secondary School, who numbered (66) students, and two students chose creativity in research from the community itself. Randomization was chosen by drawing a lottery, and (10) students who practiced games and (22) students sensing previous experiences were excluded, and the sample became composed of (34) students. The scale phrases were formulated in its initial form, which numbered (59) phrases, and they were presented to the scientific committee to approve the title of the research, as well as a group of experts, so its phrases were reduced to 40 phrases in its final form, after which the researchers designed the educational platform, then introduced the content for some team games skills, and it became accessible to every student who could The content of the lesson is reviewed through it, and then the scale was applied to the research sample.

Key words: Educational platform, cognitive achievement, team games.

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Introduction

The world is witnessing rapid development and progress in various fields, which has been directly and positively reflected on physical education, which constitutes an important and vital part of modern education. It is a very important factor, so it is necessary to use means and applications to play a role in achieving specific goals for learning and training. Motor learning had the lion's share through the use of modern technologies to learn skills and pay attention to them, as they are the basic foundation. In this way, the researchers agree with what was mentioned by (Fleih, 2022, p. 194). Communication and information technologies have become one of the main and complementary sources of education in schools and universities, through which scientific content can be easily conveyed if used correctly.

The programmed learning that we witness today is used to support the educational process according to traditional learning, and through these technologies, electronic content can be provided, which in turn will enable the teacher or trainer to save time and constitute an advanced model through which it is possible to benefit from its positive impact in the educational field, in addition to the fact that it does not interfere with the traditional learning process, but rather enhances it by providing the opportunity for the learner to return to the material more than once, thus making the starting line for all learners close. Thus, we can say that it will eliminate individual differences, support feedback, and increase the effectiveness of the educational process by being a means of assistance to the learner, developing his skills, and saving time and effort. The researchers see what (Abdul Khaliq, 2021) saw, that the effectiveness of e-learning provides a store of information through the communication network and its programs, which facilitates the process of retrieving material to improve their learning through a comparison system. This leads to an increase in cognitive achievement, which (Abdul, 2020) defined as the knowledge that the learner obtains through the senses first, then mental analysis, and it is subject to sensory and practical tests.

Learning through educational platforms, which are interfaces through which all the contents of the material to be learned and the activities it contains for distance learning can be displayed through communication, interaction, and interaction to obtain various educational programs and information, and is useful because it combines audio, image, and video. The researchers agree with what the researchers (Hassoun, Elham Ali; Matar Shaimaa Abdel, 2021) said: The combination of watching videos, images, and texts with practical application, in addition to the electronic program, increased the opportunities for correct learning, and thus facilitates the process of identifying and learning skills, as the student uses the application and learns through it the skill set in the curriculum in an accurate and detailed manner, the educational steps and common mistakes, as well as correcting mistakes in order to achieve ideal performance. This is consistent with the study (Salem, 2020) that providing an environment rich in educational stimuli such as activities and displaying educational films makes the process of applying performance and acquiring knowledge more exciting.

In light of the current circumstances facing the educational process, which are not known at all times, students have become forced to learn and deal with educational materials available through electronic platforms to compensate for the curriculum of students, teachers and university professors, which prompted them to move to programmed learning through educational platforms, as it is a flexible style that can be relied upon in learning in general and sports skills for team games in particular, as well as the learning movement that must be kept pace with in order to advance the lesson of physical education that keeps pace with the information and knowledge revolution that the world is going through. The researchers see what

was mentioned by (Abdullah and Saeed, 2021) that modern and new technologies must be used that teach and encourage learners and make them an effective axis in the educational process and the reality of education and support the educational process for team games skills. It has become necessary to use modern platforms and technologies that students are attracted to because it is one of the modern methods that can be used in the educational process in its modern concept of learning based on preferred learning styles that aims to create a distinct educational environment that keeps pace with the needs of each learner. Not only that, but it has become necessary for us to find the most methods and means that are close to the desires The learner and his tendencies. The researchers believe that the best way to attract their passion is to use electronic devices such as computers, mobile phones, and tablets to use them in the learning process. This is consistent with what was mentioned by (Obaid and Jihad, 2021). Motor learning, like other movement sciences, has received the attention of specialists and researchers through the recent studies and research that have been presented. There are many and varied efforts to find means that help learn motor skills and develop them by using technology for skill performance situations and qualifying teachers on how to deal with them, as many of them have weak knowledge of the electronic aspect. There are also no platforms dedicated to learning skills for team games, due to its benefit to educational institutions, as there is no website dedicated to physical education that can provide the curriculum material set by the Ministry of Education. When the Corona pandemic swept the world and e-learning replaced traditional learning, there was no physical education lesson that could be practiced through the platforms. The same applies to the impact of educational platforms on the level of cognitive achievement and learning some skills among students, who have now become the main focus of the learning process. The researchers believe that the educational platform is a type of effective active learning that depends on The student transfers the content outside the classroom and the class becomes more interactive using modern technologies, as well as enriching the lesson with a scientific method through which the teacher can achieve the educational goals prepared and determined in advance.

As for the research problem, the researchers noticed the lack of interest in the physical education lesson, as it did not receive the appropriate attention and was not given enough, so we find most of the students who reach the preparatory stages are unable to perform sports skills, and because some of the physical education teachers do not have enough interest in the educational aspect of learning basic skills, and most of the lesson time is spent on the practical aspect, so we find most of them lose knowledge of the skills they practice, as well as not giving the learner the role he should have through learning and applying the skills and asking the question that comes to his mind, as in programmed learning it must be the focus of the learning process, as well as the lack of time for the lesson and not giving it the appropriate place and occupying it with other materials and supervisory visits that are included in the organizational aspect of the lesson, and all of these matters come together to indicate that they do not practice sports activities, as they were not practiced at all or were not given enough time, so the need has become urgent to search for means and methods of learning that help the teacher and enable students to learn different skills quickly, in addition to enabling the learner to depend on himself and control the skills without the presence of the teacher or coach, provided that he is present in the final stages of Yes, to supervise the learning process and to use electronic technologies represented by designing a sports educational platform for the physical education lesson to enhance the learning of skills and compensate for what was lost during the lesson by the students and to answer the following question: Can this technology represented by the use of an educational

platform affect the cognitive acquisition of basic skills in team games? To answer this question, we will know it through the results of the research.

Method and tools:

Since the research problem is experimental, the researchers used the experimental design with two groups with pre-tests and post-tests. The research community was determined by the fifth-grade science students of the second Baghdad Karkh College Secondary School affiliated with the second Baghdad Karkh Education Directorate for the academic year 2022/2023, numbering (66) students.

After the research community was determined, the researchers chose the sample using a simple random method by drawing lots. They chose (22) students representing the (C) group for the exploratory experiment, which was used in the skill performance and cognitive achievement test, and (17) students representing the (B) group, the experimental group, which uses the educational platform, and (17) students representing the (A) group, the control group, which uses the teacher's method, and excluding (10) students who practice the games. Thus, the sample percentage reached approximately (84.84%).

Table (1) Population, sample and percentage

ت	The group	Number	percentage
1.	Experimenta 1	17	84.84
2.	Control	17	
3.	Exploratory	22	
4.	Excluded Students	10	15.15
Total and Percentage		66	99.99

After reviewing many similar studies and research, the researchers selected a group of paragraphs of the cognitive achievement scale test for the research sample, consisting of (59) paragraphs, as this is the scale in its initial form. The researchers distributed them to a group of experts in paper form to a group of professors of faculties of physical education and sports sciences. Each paragraph contained three answer alternatives, and the key to correcting the answer was to give one point for the correct answers to each paragraph or phrase, and to give (zero) to each incorrect paragraph or phrase. The paragraphs of the scale were distributed over the fields (law, basic skills, common errors), and the highest score for the scale was (59) and the lowest was (zero) until the scale reached (40) paragraphs.

Determine the validity of the cognitive test.

To determine the validity of the cognitive achievement scale in its final form, consisting of (40) paragraphs, the aim of the test was to increase the aspect of some team game skills. The scientific material for the study topics was determined for the fifth grade students in the games they practice according to the plan prepared by the Ministry of Education and according to the curriculum set for the preparatory stage, relying on the educational material. After reviewing the sources and the skills practiced, the researchers analyzed the educational material through which they were able to derive the behavioral objectives of the paragraphs. A questionnaire was presented, the axes of which were presented to the scientific committee to choose the research title, represented by the axes (law, basic skills, common errors). The achievement tests (specifications table) were prepared, which included the distribution of questions according to

the behavioral objectives, in addition to the fact that it gives the educational material its true weight, and through it the behavioral objective can be known. In addition, all of its (40) paragraphs obtained complete agreement in their suitability for the test, with a total of (34) experts, and it became clear that the cognitive (Appendix 3) The researchers developed the test, consisting of (40) phrases. In its final form and answered by multiple choice method, it was statistically processed by extracting the discriminating power as in Table (2).

Table (2) shows the discriminatory power of the scale.

Phrase number	Number of people who answered correctly in the upper group	Number of people who answered correctly in the lower group	Discriminative score value	Twisting	The result
1	24	5	0.864	0.463	acceptable
2	23	2	0.956	0.674	acceptable
3	20	2	0.819	0.716	acceptable
4	21	2	0.864	0.463	acceptable
5	24	8	0.729	0.683	acceptable
6	20	2	0.819	0.716	acceptable
7	23	3	0.909	0.755	acceptable
8	21	2	0.865	0.462	acceptable
9	21	1	0.909	0.755	acceptable
10	23	2	0.955	0.674	acceptable
11	23	7	0.728	0.683	acceptable
12	24	4	0.909	0.754	acceptable
13	22	3	0.864	0.463	acceptable
14	22	4	0.819	0.716	acceptable
15	23	5	0.819	0.715	acceptable
16	24	5	0.863	0.463	acceptable
17	23	2	0.956	0.675	acceptable
18	23	4	0.864	0.464	acceptable
19	24	5	0.863	0.463	acceptable
20	24	6	0.819	0.716	acceptable
21	22	1	0.955	0.674	acceptable
22	21	5	0.728	0.863	acceptable
23	23	2	0.955	0.674	acceptable
24	23	3	0.909	0.755	acceptable
25	24	5	0.863	0.463	acceptable
26	23	7	0.727	0.862	acceptable
27	24	4	0.909	0.755	acceptable
28	22	4	0.819	0.716	acceptable
29	22	3	0.864	0.463	acceptable
30	22	1	0.957	0.676	acceptable
31	20	4	0.728	0.683	acceptable

32	22	3	0.865	0.464	acceptable
33	22	2	0.909	0.755	acceptable
34	21	3	0.819	0.716	acceptable
35	24	3	0.956	0.675	acceptable
36	23	7	0.729	0.863	acceptable
37	21	1	0.908	0.754	acceptable
38	22	3	0.865	0.464	acceptable
39	23	2	0.954	0.673	acceptable
40	23	5	0.817	0.714	acceptable

As for the content validity to find the validity of the scale, the researchers calculated the correlation coefficient between the sub-test scores with the total score of the scale and for each paragraph, as in Table (3).

Table (3) shows the discriminatory power of the scale.

Phrase number	simple correlation coefficient	Sig	The result	Phrase number	simple correlation coefficient	Sig	The result
1	0.751	.000	positive	21	0.902	.000	positive
2	0.723	.000	positive	22	0.883	.000	positive
3	0.678	.000	positive	23	0.764	.000	positive
4	0.682	.000	positive	24	0.757	.000	positive
5	0.814	.000	positive	25	0.715	.000	positive
6	0.731	.000	positive	26	0.738	.000	positive
7	0.818	.000	positive	27	0.774	.000	positive
8	0.763	.000	positive	28	0.863	.000	positive
9	0.692	.000	positive	29	0.870	.000	positive
10	0.771	.000	positive	30	0.677	.000	positive
11	0.804	.000	positive	31	0.914	.000	positive
12	0.836	.000	positive	32	0.893	.000	positive
13	0.752	.000	positive	33	0.769	.000	positive
14	0.863	.000	positive	34	0.844	.000	positive
15	0.848	.000	positive	35	0.816	.000	positive
16	0.892	.000	positive	36	0.758	.000	positive
17	0.857	.000	positive	37	0.682	.000	positive
18	0.784	.000	positive	38	0.758	.000	positive
19	0.674	.000	positive	39	0.863	.000	positive
20	0.862	.000	positive	40	0.863	.000	positive

Thus, all scale phrases are distinct.

To find the standard errors of the scale's reliability coefficient, which is one of the most important procedures that researchers should undertake, as the conditions that accompany the process of applying the scale generate errors in the scores that cannot be controlled by the person applying them. The significance of these errors is no less important than relying on reliability to express the acceptance of the scale, as these errors are inversely proportional to the correlation coefficients, i.e. the higher the value of the correlation coefficient, the lower the

value of the errors. Accordingly, the standard errors of the values of the reliability coefficients were calculated for each of the three methods, as shown in Table (4).

Table (4) shows the scale's stability coefficients and their standard errors.

	Methods of calculating stability	Stability coefficients	(sig)	Notes
1	Cronbach's Alpha	0.829	0.000	acceptable
2	Split-Half Reliability	0.847	0.000	acceptable
3	Spearman-Brown	0.828	0.000	acceptable

• Test instructions

The process of setting test instructions is of great importance and cannot be dispensed with to complete the test. Many studies have given attention to the major role it plays in changing or influencing test results. After formulating the cognitive achievement test paragraphs for team games, which amount to (40) test paragraphs, and in their final form, and in light of the opinions of experts and specialists, the researcher must set instructions for answering the paragraphs of the aforementioned test so that they are clear, easy, and understood by those concerned with the test, who are the research sample. Therefore, the instructions included how to answer, which indicates placing a mark (✓) in the correct answer field, and the necessity of answering all paragraphs without leaving any of them in the letter (A, B, C), as in, and indicating to them that the specified time is (20-30) minutes, in addition to not writing the name.

• Correction instructions:

In order to correct the sample's answers to the cognitive achievement test paragraphs, the researchers prepared model answers for all the test paragraphs after checking them with scientific sources. They were placed in the form of a key to correct the paragraphs of the aforementioned test.

Cognitive Achievement Test Methodology

The study content (research topic) includes the basic skills of team games, which are (rolling skills, suppression in football, dribbling, whipping at head level in handball, facing serve from below, receiving serve in volleyball, chest handing, dribbling in basketball). After completing the identification of the scientific material (the study content) and available in the curriculum prepared by the Ministry of Education, which was presented to the gentlemen experts and specialists in the fields of football, handball, volleyball and basketball for the members of the research community.

After the researchers determined the cognitive test for team games, which is a paper-and-pencil test that included vocabulary that required recognition among given answer alternatives, such as multiple choice.

• Curriculum design

The researchers, along with the supervisor and the course professors, prepared the theoretical material for learning basic skills (under study), which was placed on the electronic educational platform, which includes video clips, educational images, and theoretical material. The researchers used scientific sources for the theoretical material, images, and YouTube sites for educational video clips. Thus, the researchers agree with what was stated by (Khader and Jabbar, 2021, p. 135), who say that recently, many and varied efforts have emerged to find ways to deliver the material to be learned and develop it using technology, which allows for repeated

feedback for weak levels to consolidate and deepen skills until they reach mastery. Using one of the educational programs dedicated to producing platforms and websites, the program (WordPress) version (5.9.1), an educational platform was designed, through which the material vocabulary is collected by combining explanation, images, and videos. The design took into account the gradual provision of information, explanation, and video presentation by seeking the help of some engineers who designed these programs by setting a set of points that can be summarized as follows:

1. The primary goal of creating this platform is to teach the study sample students a set of skills (under investigation).

2. The platform was designed for learners after consulting with designers and specialists. It was developed using WordPress version 5.9.1, which is designed for websites and platforms. A domain is the name of your website, and it is the address users use to access your website. A domain may be a series of letters and symbols, such as www.pe@iraq.com. A domain contains several parts, including:

- Hostname: This is usually "www," which refers to the server that houses the website.
- Domain name: This is the primary part of the domain that is identified and registered, and is usually the name of the organization or brand.
- Domain extension: This refers to the last part of the domain and indicates the type of domain, such as ".com" or ".org."
- The Internet Domain Service Provider (DNS) converts this name to your website's IP address, allowing users to access your website. To register a domain name, contact a trusted registrar and enter the desired name and extension, if available. You can retain your domain for a fee.
- We also need to connect the files placed within the platform (the educational content program, WordPress) to the domain via a dedicated server, which is a computer dedicated to providing specific services to users on the network, such as storing data and files, managing databases, providing email and web services, and other services. The server is an important part of the Internet infrastructure and computing networks in companies and institutions.

1. The educational content provided on the educational platform must be of high quality, based on official sources, and compatible with the level of the sample. The researchers ensured that it was easy to use, simple, and appropriate to the level of the students in the research sample.

2. Security and Privacy: The platform's creators must ensure that the platform is well-secured to protect it. Each user is assigned a username and password without which entry is impossible. The platform was designed, periodically tested, and provided with correct instructions for the user, as well as ensuring its safety and quality. Continuous innovation and development, and proper training for the study sample, are also provided.

3. Technical support: Continuous monitoring of the platform's operation to assist learners and answer their inquiries to ensure a high-level educational experience that meets the aspirations and needs of users, resulting in a final, usable application.

- **The two identification units**

The researchers, accompanied by the course instructor, conducted two introductory lectures for the research sample members (the experimental group) and the support team on Wednesday and Thursday, October 19 and 20, 2022, at 8:45 a.m. The purpose of the lectures was to present the introductory lectures using the educational platform, highlighting its significant role in developing the cognitive aspect and increasing learning through an explanation of the educational material and the accompanying educational and illustrative images and video clips of the skills and theoretical content used for the mathematical skills under study in general,

followed by a simplified explanation of the skill to the sample members. At the end of the introductory lecture, the researchers posed a general question to the experimental sample members (the extent of the sample members' acceptance of programmed learning). The response was that the sample members accepted and were motivated to apply such a method, as it allows them to review vocabulary, which reduces individual differences, with the possibility of asking any question they may face while conducting the educational units.

Implementation of educational units

1. The researchers determined the main requirements of the experiment, and after referring to the sources, the main aspect of the educational unit was taken. The experiment began on Thursday, October 27, 2022, and ended on Sunday, January 22, 2023.

2. The number of educational units that were implemented using the educational platform, which is 24 educational units, distributed over 12 weeks, at a rate of two educational units per week, Appendix (3), in accordance with the prepared study schedule. The researchers used a set of exercises that the researchers collected, relying on previous studies and his being a physical education teacher and his practice of most team games and what students need to learn skills used during the quarterly school sports competitions, in addition to his use of a group of experts by submitting an electronic questionnaire to choose the exercises practiced for the study sample, which numbered (38). The duration of the educational unit is (45) minutes, distributed over (15) minutes allocated to the preparatory section, general warm-up and physical exercises. As for the main aspect of the educational unit, which is (25) minutes for the educational aspect (10) minutes and the practical aspect (15) minutes for the skills under study, the educational exercises for the skills are taken by the students. Here it is worth noting that the experimental sample took the educational aspect through the educational platform, which will open the way for it To ask questions or any inquiries that they will face while learning the skills, and after the class is divided into the experimental group for the researcher and the control group, the subject teacher will take them and discuss what they learned while taking the subject to be learned orally and according to the duty assigned to them and ask questions and the students' answers. This will give them feedback and review mistakes and thus will provide them with sufficient and additional time to learn through application, repetition and correction. This is the basic foundation of learning. As for the remaining time of the lesson, which is (5) minutes, it was allocated to the final section of the educational unit.

Post-tests of the cognitive achievement test:

The Cognitive Achievement Test will be administered on Monday, Tuesday, and Wednesday, January 23, 24, and 25, 2023, as shown in the final application of the test. Please note that the test is a post-test only, and will be administered at 8:45 a.m.

1. Statistical Methods:

The statistical package (SPSS) and the following statistical treatments were used:

- Arithmetic mean.
- Discrimination coefficient and ease and difficulty coefficient.
- Standard deviation.
- Paired samples t-test.
- Percentage.
- Pearson correlation coefficient.
- Spearman-Brown coefficient.
- Cronbach's alpha coefficient.

Results:

Table (5) shows the values of the arithmetic means and standard deviations of the differences and the calculated (T) value for the experimental and control groups for the cognitive achievement test.

N	Groups	Sample	Arithm etic mean	standar d deviatio n	Df	T-test	sig	The result
1.	experimental	17	20.529	3.808	32	4.970	0.000	positive
2.	control	17	26.529	3.203	31.086			

Discussion:

Discussion of the results

Table (2) above shows that there are statistically significant differences in the cognitive achievement test for the control and experimental groups in the cognitive achievement scale. No matter how positive the difference is, the learner cannot analyze it unless he has a good level of information about the skills he wants to learn. This is due to the use of programmed learning via the educational platform in terms of planning the educational units prepared by the researchers and implemented by the subject teacher, which made it easier for the sample to understand the skills and know the goal to be achieved, and thus improve information through the role played by the learner and his active role in giving him a greater role in the educational process. This is consistent with the study (Mohsen and Radhi, 2020) that the learning and teaching process must be based on the effectiveness and activity of the student, not on the activity of the teacher alone. Therefore, modern strategies must be applied that contribute to the love of the subject and increase the process of acceptance and understanding among learners. This is consistent with the study (Al-Shantawi and Al-Ubaidi, 2006) that effective active learning gives the learner better opportunities to participate effectively in the educational process, as learners show enthusiasm and drive towards learning, and this is what A study (Farhan, 2014) confirmed that paying attention to the learner and making him the focus of the educational process leads to faster learning that is more effective and time-efficient.

This was clearly evident in the cognitive achievement because the student took the time to learn and review the skills well through the diverse video presentation, multiple images, text and mind maps, which enriched his knowledge with the continuous explanation during the performance of the educational units and provided room for discussion and questioning, which led to a departure from the typical lesson. The researchers believe that learning through the educational platform has a fundamental and major role in increasing their motivation and desire to learn as a result of the use of modern technologies that help the learner to visualize the performance before taking the educational unit and trying to apply what he saw. Also, through it, he can learn the skills in a sequential and gradual manner from simple to more difficult and from the understood to the unknown, in addition to giving him feedback with each stage and reinforcement until reaching a good level as a result of increased practice and repetition with the least number of errors, which increases the learner's knowledge.

Hadi (2017, p. 62) stated that the cognitive achievement test is “a set of questions and paragraphs that represent the content of the academic subject to determine the student’s level of acquisition of information and skills in an academic subject that he had previously learned. It must be well prepared to suit the student’s ability and capacity to achieve the desired goal, because the lack of stability of the information for the student will greatly affect his level of thinking and thus affect the skill performance.”

The researchers attribute the superiority of the experimental group in the cognitive achievement scale over the control group to the use of the educational platform using computers, mobile communication devices and tablets, which the researchers sought to introduce into the educational program and which was provided by modern technology, which contributed greatly to increasing knowledge and perception of skill to provide the best they have to answer the scale in terms of law, skill performance and common errors that may be exposed to the learner, in addition to the quality of the sample available in the research, as they are students of distinguished schools who have excellent mental abilities, in addition to what the platform added to the excitement of students and increasing their motivation towards learning through the positive atmosphere that the platform employed in the form of effective roles for students to participate, as the student became an influential and main factor in obtaining results and the quality of the mutual relationship between them and the teacher. Learning is an emotional process, as it mixes the active learning position with feelings of excitement and suspense on the part of the student towards the material, so he is characterized by positivity and achieving understanding and feels confident in himself, and this is reflected in the learning outcomes (Ahmed A., 2002). This was confirmed by the study (Katea, 2020) The preparation of the educational program by the teacher that is compatible with the learner’s abilities and capabilities according to the correct foundations has a major role in the development process that occurs among students. This is consistent with the study (Ahmed and Shehab, 2020) that the role of the teacher in guiding and monitoring students’ performance and exchanging dialogue through mutual questions contributes a positive role to the learning process and skill acquisition. This is consistent with the study (Nasser, 2022) that educational questions help learners analyze and simplify the skill, know the parts of the movement, perceive relationships, and attract students’ attention to the skill being learned.

The researchers believe that the process of processing information acquired through the platform is very different from the usual processing method, which affected the process of motivating learners, gaining experience, and increasing their knowledge stock. This was confirmed by the study (Aboud, 2008) that the process of processing information and knowledge acquisition is a reciprocal relationship, as high knowledge acquisition is linked to a positive and effective method of processing information. This is consistent with the study (Eisan, 1994) that there is an increasing interest in processing information and its applications because it is linked to acquiring and storing information. This is also consistent with the study (Musa, 2016) that knowledge is built through the activity of learners and the mechanism of processing information through the integration of new information and experiences.

In addition, the researchers believe that the platform’s work and the introduction of educational content through it helped learners activate their mental processes, which affected the level of cognitive achievement. This is consistent with the study (Rumaidh, 2017) that modern electronic educational methods help raise the learner’s mental level and lead to positive participation in it. This is what was confirmed by the study (Radi and Hussein, 2011) that preparing an environment rich in influences leads to the maturity of learners’ thinking and the

creation of their abilities such as reasoning, analysis and evaluation, which are mental processes that require continuous thinking.

The researchers believe that the use of the electronic platform helped reduce individual differences among learners through learning according to the learner's ability and capacity. This is consistent with the study (Nasser, 2019) that when the teacher gives the student the opportunity to learn at his own pace, it is considered a means to eliminate individual differences. In addition, collaborative work in acquiring the content of the electronic platform plays a major role in blending learners' ideas and thinking out loud, which contributed to raising their knowledge stock. This is consistent with the study (Hamza, 2020) that the process of exchanging experiences among learners develops higher thinking abilities and skills, especially inference and investigation.

The researchers concluded the effectiveness of using educational platforms and their importance in developing cognitive skills and taking into account individual differences among learners.

The researchers recommend using educational platforms for learning purposes, particularly cognitive skills. They also recommend using different educational platforms and applying them to different age groups and sporting activities.

Appendix (1) Cognitive achievement test for some team game skills (football - handball - volleyball - basketball) in its final form

N	Phrases	Correction keys	the right answer
1.	When dribbling with the chest and pulling the ball to the side, the body position is...	A. Slightly twisted to the side	
		B. Spins when the ball touches the chest	
		C. Spins after the ball touches the chest	
2.	The dribbling skill is defined as...	A. Player moves with the ball under their control	
		B. Stops the ball and controls it	
		C. Controls the high ball	
3.	The player's arm is positioned while dribbling to defend the ball and himself.	A. Forward	
		B. Down	
		C. To the side	
4.	The dribbling skill is defined as...	A. A means of achieving a specific goal or the next activity	
		B. Demonstrate playing skill	
		C. Slow down play	

5.	The player's body and gaze are positioned while dribbling.	A. Straight and looking up	
		B. Bent forward and looking forward as well	
		C. Backward and looking up	
6.	When I give distant communion I use	A. Front of the foot	
		B. Inside of the foot	
		C. Outside of the foot	
7.	Extinguishing is of several types.	A. With the hands	
		B. With the chest, thigh, foot, and head	
		C. With the head and foot only	
8.	The extinguishing skill includes all parts of the body except	A. Head	
		B. Arms	
		C. Feet	
9.	When I head the ball, the position of the feet is	A. Feet together	
		B. One next to the other	
		C. One in front of the other, open	
10.	When dribbling, the dribbling foot and the ball landing area are the same.	A. Bent over and raised to belt level, with the ball landing in front of the pivot foot	
		B. Extended and raised slightly off the ground, with the ball landing next to the pivot foot	
		C. Raised higher than the belt, with the ball landing behind the player.	
11.	The whip-handling skill is useful if it ends with...	A. Good passing	
		B. Receiving the ball by a teammate	
		C. Accurate shooting on goal	
12.	The whip-handling skill is used by the player.	A. All playing areas	
		B. The (6) meter area	
		C. The (9) meter area	

13.	When tapping, I use...	A. Palm of the hand	
		B. Wrist of the hand	
		C. Fingers	
14.	The player uses tapping.	A. Surprising the defense and creating a gap in it	
		B. Passive play situation	
		C. Neither of them	
15.	The easiest type of handling for beginners.	A. Tapping by changing direction	
		B. Tapping by changing speed	
		C. High tap	
16.	One of the most commonly used types of handling.		
		A. Running tackle	
		C. Stationary tackle	
17.	The number of handball players is...	C. Lateral tackle	
		A. 5 players	
		B. 6 players	
18.	Handball is similar to basketball in that the dribbling skill (dribbling) is...	C. 7 players	
		A. Catch and dribble with one arm.	
		B. Catch and dribble with two arms.	
19.	The handball goal is 2 meters high and 3 meters wide, thus resembling a goal.	C. A + B	
		A. Lawn hockey	
		B. Futsal	
20.	The ball may not be held for more than 3 seconds, thus resembling a basketball goal.	C. Ice hockey	
		A. Length of attack	
		B. Leaving the team's backcourt	
21.	The length of the service area is...	A-9m	
		B-6m	

		C-3m	
22.	A volleyball team consists of...	A-12	
		B-10	
		C-8	
23.	A tie-breaker is decided by...	A-1 point	
		B-2 points	
		C-3 points	
24.	Among the conditions required for performing the underhand serve:	Arm Strength	
		B. Arm and Core Strength and Speed	
		C. Core Strength Only	
25.	The serving hand is always...	A. Extended	
		B. Bent	
		C. Away from the Body	
26.	What happens if the serving player touches the service line?	A. Team Loses Serve	
		B. Team Loses Point and Serve	
		C. Serve Regained	
27.	Among the common mistakes when performing the underhand serve:		
		A. Ball Thrown Away from the Body	
		B. Ball Thrown Up	
28.	Know the attempt to put the ball into play, and without it, the play does not begin.	C. Opening Between the Feet	
		A. Setting	
		B. Smashing	
29.	The player advances to receive the ball after gaining an idea of the...	C. Serving	
		A. Ball Speed	
		B. Ball Height	
30.		C. Ball Speed, Height, and Area	

	The underhand serve is often used because...	A. Ease of Performing	
		B. Forearm Width	
31.	When performing a tap-in with a change of direction, the ball's height is...	C. Does Not Require Great Effort	
		A. At Chest Level	
		B. At Hip Level	
32.	The tap-in with a change of direction is used when the opponent's defense is at a high level...	C. At Knee Level	
		A. Strong	
33.	An important point to consider when performing a tap-in is:	B. Weak	
		C. None	
		A. View of the Entire Court	
34.	Moving within the court by bouncing the ball off the ground with one hand by the attacking player.	B. The Ball	
		C. Neither	
		A. Tap	
35.	When performing a chest pass, the fingers of both hands are...	B. Receive the Ball	
		C. Shoot	
		A. Clenched on the Sides of the Ball	
36.	The goal of the tap-in skill is during an attack.	B. Spread Under the Ball	
		C. Spread on the Sides of the Ball With thumbs behind them	
		A. Reducing the points gap	
37.	When performing a chest pass, the player is allowed to...	B. Engaging the opponent	
		C. Getting rid of the opponent and advancing toward the basket	
		A. Arms are tensed	
38.		B. Pushing is done with the palm	



	When performing a pass, the player is allowed ...	C. Arms are relaxed and pushing with the fingers and wrist, with the fingers following the ball.	
		A. Any part of the body	
39.	The 8-second rule means...	B. With the foot	
		C. With one or both hands	
40.	The time to leave the backcourt is...	A. Staying in the opponents' restricted area	
		B. Length of the attack	
		C. Neither of these	



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The role of awareness media campaigns in spreading health awareness and sports culture among students of the College of Sports Sciences and Physical Activity, King Saud University, Saudi Arabia

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2256](https://doi.org/10.37359/JOPE.V37(2)2025.2256)

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Article history: Received 19/ February/2025 Accepted 12/ March /2025 Available online 28/ June/2025

Abstract

The current research aims to identify the role of awareness media campaigns in spreading health awareness and sports culture among students of the College of Sports Sciences and Physical Activity, King Saud University, Saudi Arabia. The researchers used the analytical approach with its steps and procedures through the analysis of previous studies and reference research related to the field of research in order to achieve the objectives of the research. The electronic questionnaire was used. The researchers randomly selected the research sample, which consisted of (503) female students. One of the most important results was that the awareness media campaigns emphasized the nation's interest in women's health in general and university students in particular. The media has an effective impact on increasing the health awareness of female students at the College of Sports Sciences and Physical Activity at King Saud University. Media campaigns have a significant impact on improving healthy habits, increasing health awareness, and promoting the concept of prevention. One of the most important recommendations was the need to form a committee to evaluate the awareness messages presented by media campaigns, as well as to use innovative methods in this field. Visual and audio media should commit to the continuity, development and sustainability of awareness media campaigns to spread health awareness and sports culture among the public, and to pay attention to presenting more details. The necessity of paying attention to sports media to familiarize female students with the various sports systems, laws and instructions, focusing on hosting analysts and experts in various health and sports specialties, and distinguished champions and players in various activities and all fields.

Keywords: awareness media campaigns, health awareness, sports culture, new media

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Introduction

The media, with all its traditional and modern means, is considered the most important means of mass influence, and it has played a role in the lives of human societies in various parts of the world, as the media has the ability to direct the behavior of individuals and change their beliefs. Therefore, the media in general and the new media in particular have become used in the organization and integrated social construction in order to achieve the interest of the individual and society, whether in various areas of life, including economic, social, health, sports, etc., especially in light of the fact that the media in general is one of the important basic needs of the individual and society. (Faisal, 2020)

The media is concerned with influencing its audience, which consists of individuals and groups who receive its messages, with the aim of investing and enjoying their free time, and then benefiting from this time in recreation and increasing awareness through the messages, programmes and media segments provided by its various means of communication.

Scholars have demonstrated the important role of the media in changing the prevailing norms and values in society. The media, in reality, is a profession and a message, not just slogans that change and alter with changing whims. Rather, it is a thinking mind with a goal and purpose, and a voice that addresses the minds of public opinion. It covers all fields and offers criticism, guidance, and evaluation in a way that benefits and benefits society.

Sports media is an essential element of any sports community, regardless of its level of development. Therefore, it is studied as a social sports phenomenon. However, sports media is nothing more than a branch of a larger and more comprehensive phenomenon, namely the phenomenon of communication. Sports media in all its forms is considered a means of awareness and dissemination of ideas and experiences in the field of sports. This contributes to enhancing sports practice as one of the reasons for advancement and development. The role of sports media is due to its easy access to all individuals at any time and at any point in the world, especially with the spread of modern means of communication. Sports media of all kinds, whether written, audio or visual, seeks, in addition to its media role represented in transmitting sports news and results of various local and international sports tournaments and competitions, to spread sports culture through the programs it broadcasts or the topics it writes. This contributes to the acquisition of a culture in the health, social, educational and cognitive fields, especially among male and female students. (Al-Din, 2019)

Sports media can have significant impacts on individuals and sports institutions, making it a true social force. Because sports media represents an accurate reflection of sports life, the role of sports media has become more important in identifying shortcomings and pointing out the right paths to promote health awareness and sports culture among members of society in general and female university students in particular. (Al-Qaisi, 2019)

A media campaign is a media program directed at specific audiences and seeking to achieve specific communication goals through a set of planned and deliberate efforts. The campaign usually covers a period of time during which it focuses on a number of means or sometimes a single message. Media campaigns involve an analysis of the situations and circumstances related to the audience, which may enable effective strategic decisions to be

made, which can be implemented through designing a series of advertisements and placing them in media messages.

Dr. Naji Al-Maala defined it as the dissemination of information about an idea, service, or product, in a planned and continuous manner, over a continuous period, with the aim of obtaining a response that is consistent with the advertiser's goal. (Habhouh, 2015)

Media campaigns are a general topic that has become a focus of global interest because they are a communication activity aimed at spreading awareness among the public through intensive and continuous efforts undertaken by the communicator, using the best methods and most appropriate media outlets to attract public opinion through appropriate foundations and standards. (Iman Kashid, 2019)

Given the essential role of the media in shouldering responsibility, the multiplicity of media outlets, and the characteristics they possess in effectively raising awareness and the ability to influence the masses, and given the utmost importance of health awareness and sports culture in the lives of individuals and societies, media campaigns have emerged that work to increase health awareness and spread sports culture. From here, the important role of awareness media campaigns in spreading awareness is evident by presenting facts and raising the level of awareness, as they involve an accurate analysis of situations.

With the emergence of new media and social networking sites, media campaigns, like other media outlets, have expanded to include social networking sites such as Twitter and Facebook, as they are considered fast-spreading, powerfully influential, and inexpensive tools (Qara, 2022).

Sports media campaigns are a contemporary means of performing many tasks, sending numerous messages, and expressing the level of development and progress of nations and their societies. Therefore, it is difficult to distinguish between sports and the media, especially satellite channels that broadcast sporting events, as watching and experiencing sports is ubiquitous. A new outlook has emerged in our current era regarding sports culture, the status of athletes, and the concept of sports as an activity or a commercial institution whose goal is profit, just like other activities and institutions. Some satellite channels have exploited their monopoly on broadcasting sporting events and promoting sports or a particular champion as a means of generating profit, while these sports satellite channels could be used to achieve development and social, cultural, and economic construction, or as part of general culture and national and regional development, and as a means of building competent individuals who are psychologically and physically balanced. There are systems that use sports satellite channels to achieve a kind of balance between different sports and between their cultural and educational nature and their economic and commercial nature. (Sama Walid Lahlouh, 2021)

Media thought and media campaigns play a crucial role in shaping attitudes, spreading health awareness, and increasing sports culture in various fields, including sports. This field abounds with numerous topics and issues that are in dire need of study and discussion within sports programs across various media and communication platforms, to prepare a conscious generation capable of assuming responsibility and embracing any change aimed at raising the profile of sports globally. From this perspective, the media has adopted a sports-oriented approach.

Media campaigns across traditional and new media platforms, such as social media, have an impact on personality, providing a valuable service to viewers across the world.

Given that these platforms spread health awareness and sports culture among viewers in general and athletes in particular, and given that female university students are an important segment upon which the process of societal advancement depends in various aspects of life, including the future of the country, it was necessary to identify the role of awareness media campaigns in spreading health awareness and sports culture among female students at Saudi universities in general and among female students at the College of Sports Sciences and Physical Activity at King Saud University in particular. The results of studies have shown that social media sites play a major role in spreading sports culture among young people, and that Facebook, Instagram, YouTube, and Twitter are the most used sites by sports coaches, as they encourage young people to practice sports through these sites, change the widespread misconceptions about some sports exercises, and clarify the correct methods of playing exercises inside the sports club. (Sama Walid Lahlouh, 2021), (Othman Mahmoud Shahada, 2021)

It can be said that watching and following these media campaigns in various media outlets greatly impacts the culture and knowledge of the youth segment in Saudi society. There is no family in Saudi society without one or more members who follow and interact with them, as many of them rely, in their various methods, on attracting viewers from all over the world in a charming and engaging way by presenting news and reports to their viewers in a beautiful and influential manner, featuring prominent specialized sports figures. These media sites help in bringing about cultural change and forming sports knowledge, as they analyze, explain, interpret, and comment on ideas and opinions while transmitting the facts of various sports competitions and games for various local, international, and global championships. (Osman Mahmoud Shahada, 2021)

The results of a Vansoon study showed that more than half of adults and college students who use websites including Facebook, YouTube, and Twitter admitted that they spend more time online than they do with real friends or family members.

The problem can be formulated through the following question: What is the role of awareness media campaigns in spreading health awareness and sports culture among female students of the College of Sports Sciences and Physical Activity at King Saud University.

Research objective:

The current research aims to identify the role of awareness media campaigns in spreading health awareness and sports culture among female students of the College of Sports Sciences and Physical Activity at King Saud University, by identifying:

-1 Habits and patterns of media students of the College of Sports Sciences and Physical Activity at King Saud University, regarding health awareness and sports culture.

-2 The role of television media campaigns in achieving health awareness priorities for female students of the College of Sports Sciences and Physical Activity at King Saud University.

-3 Cognitive, emotional and behavioral satisfactions of health and sports awareness media campaigns for female students of the College of Sports Sciences and Physical Activity, King Saud University.

Method and tools

Research community and sample:

The research community consists of female students from the College of Sports Sciences and Physical Activity at King Saud University, Riyadh, Kingdom of Saudi Arabia for the academic year 1445-1446 AH. The two researchers randomly selected the research sample, which consisted of (503) female students.

Search tool: Questionnaire form on the role of awareness media campaigns in spreading health awareness and sports culture among female students of the College of Sports Sciences and Physical Activity at King Saud University: Approval was obtained from the Ethics Committee for Human Research at King Saud University.

Survey description:

The researchers used the questionnaire prepared by Halima Haboub (2015), and it was standardized to suit the current environment and the variables of the current research.

Questionnaire axes: The questionnaire consists of (3) main axes, which are:

The first axis: Habits and patterns of female students of the College of Sports Sciences and Physical Activity at King Saud University, regarding media awareness and sports culture.

The second axis: The role of television media campaigns in achieving health awareness priorities for female students of the College of Sports Sciences and Physical Activity at King Saud University.

The third axis: Cognitive, emotional and behavioral satisfactions of health and sports awareness media campaigns for female students of the College of Sports Sciences and Physical Activity, King Saud University.

Survey phrases: The questionnaire consists of (24) phrases distributed over the main axes as follows:

- The first axis: (10) phrases. - The second axis: (7) phrases. - The third axis: (7) phrases.

Scientific transactions of the questionnaire: The researchers calculated the scientific coefficients of the questionnaire as follows:

A- Honesty: Instrument validity means the success of the measurement method in providing the information required to be measured. That is, does the measurement method measure what it is supposed to measure? Does it actually provide us with the required information? To achieve the degree of validity and reliability, the researchers followed the following:

.1A precise analysis of the questionnaire units and their categories and their precise and clear definition. To achieve this, the researchers referred to many previous studies for assistance.

.2To verify the validity of the questionnaire in measuring the research variables, the two researchers presented it to a group of specialists in the field of physical education consisting of (7) experts to judge the validity of the questionnaire in measuring the research variables and achieving its objectives, and reviewing the axes and questions, and their sufficiency in covering all dimensions of the problem that is the subject of the research. The two researchers made the amendments suggested by the questionnaire's judges to make it valid in its final form.



.3The researchers conducted a survey study on a sample of (40) female students. The questionnaire was applied to reduce ambiguity and errors in it, as well as to ensure the ease of the questions and their comprehension by the students. Some questions were modified and formulated according to what the researchers noticed during the application. The questionnaire was developed and formulated in its final form to be ready for application on the research sample.

B- Stability:

The researchers conducted the Test-Re-Test application reliability coefficient to measure the consistency of the answers of the research sample items after a period of time had passed since the study was conducted. This was done by re-applying the field questionnaire to (40) female students in the research sample and other than the primary sample after ten days had passed since the completion of the first study. Then the students ' answers to the questions of the first study were compared with their counterparts in the second study using the correlation coefficient between the two applications. The correlation coefficient between the first and second applications of the questionnaire reached (0.92), which is a statistically significant correlation coefficient, indicating the stability of the questionnaire.

Statistical treatments used:

After collecting and tabulating the data, it was processed statistically. To calculate the research results, the researchers used the following statistical methods:

Correlation coefficient. Frequencies. Percentage.

Results and discussion

Presentation and discussion of results:

Table (1) Frequency and percentage of university level female students in the research sample (n = 503)

Response	repetition	ratio	Arrangement
the second	46	%9.15	7
the third	52	%10.34	6
Fourth	80	15.90	3
Fifth	78	%15.51	4
Sixth	74	%14.71	5
Seventh	81	%16.10	2
The eighth	92	%18.29	1
Total	503	%100.00	

It is clear from Table (1): The first place in terms of the classification of female students according to the university level was (eighth), while the last place was (second).

Table (2) Frequency and percentage of sports practice for female students in the research sample) n = 503(

Response	repetition	ratio	Arrangement
player	138	%27.44	2
Recreational exercise only	329	%65.41	1
I only play sports for college.	36	%7.16	3
Total	503	%100.00	

It is clear from Table (2): The first place in terms of female students practicing sports was (recreational practice only), while the last place was (I am not interested in practicing sports except for studying at college).

The answer to the first question, which states:

What are the media habits and patterns of female students in the College of Sports Sciences and Physical Activity at King Saud University regarding health awareness and sports culture.

-1What are the programs you watch the most?The following table shows the programs that the sample of female students are most keen to watch.

Table (3) Frequency and percentage of the programs that the sample of female students are most keen to watch (n = 503)

Response	repetition	ratio	Arrangement
news	72	%14.31	6
films	422	%83.90	2
series	498	%99.01	1
religious programs	41	%8.15	7
Sports programs	224	%44.53	3
social programs	126	%25.05	4
Awareness campaigns	89	%17.69	5

Total number of people asked	503	%100.00	
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Table (3) shows that the first place in terms of the programs that the sample of female students are keen to watch is (series), while the last place is (religious programs). The researchers attribute this result to the interest of female students in watching series and films at that age, and the lack of sufficient interest in learning about all the media campaigns that aim at public health and supporting women in practicing sports activities. Also, the programs that include religious content are not followed in an integrated manner by female students at that stage compared to other media content that occupies their thoughts.

-2What times do you prefer to watch TV?The following table shows the times when female students prefer to watch TV most.Table (4) Frequency and percentage of the times female students prefer to watch television (n = 503)

Response	repetition	ratio	Arrangement
A.M	31	%6.16	4
midday	102	%20.28	2
Night time	328	%65.21	1
Depending on the circumstances	42	%8.35	3
Total	503	%100.00	

It is clear from Table (4): The first place in terms of the times that female students prefer to watch television was:

(The period of staying up late), while it came in the last order (morning).

The researchers attribute this result to the fact that female students at this stage tend to stay up late and not go to bed early, which contributes to their media tendencies to be more inclined to follow and watch during the evening hours.

-2How many hours do you spend watching daily?

The following table shows the number of hours students spend watching daily.

Table (5) Frequency and percentage of the number of hours spent by female students watching daily (n = 503)

Response	repetition	ratio	Arrangement
Less than an hour	18	%3.58	4
From 1 hour to 3 hours	114	%22.66	3
More than 3 hours	167	%33.20	2
There is no specific time	204	%40.56	1
Total	503	%100.00	

Table (5) shows that the first place in terms of the number of hours spent by female students watching daily was (no specific time), while the last place was (less than an hour). The researchers attribute this result to the fact that most female students do not tend to watch for a specific time, but this time is formed according to their free time as well as the day in which it is watched, whether it is at the beginning of the week or daily holidays. Therefore, the time watched varies according to the nature of the day and the nature of the period, whether it is during vacation time or study time. This is what was indicated by the study of

Darial Karima (2018), the results of which indicated that 56% of the sample members confirmed that they are exposed to the media daily.

-3Would you like to watch with?

The following table shows the preference for female students to watch TV with someone.

Table(6) Frequency and percentage of female students' preference for watching TV with someone (n = 503)

Response	repetition	ratio	Arrangement
Family	53	%10.54	2
Friends	28	%5.57	4
alone	38	%7.55	3
Depending on the circumstances	384	%76.34	1
Total	503	%100.00	

It is clear from Table (6): - The first place in terms of preference for female students to watch television was with someone (according to the circumstances), while the last place was with (friends). The researchers attribute this result to the fact that most female students do not think or plan to watch programs with a specific person, and they may watch alone or with family or friends without any prior planning from them.

-4Do you watch health awareness campaigns on TV.

The following table shows the extent to which female students watch health awareness campaigns shown on television.

Table (7) Frequency and percentage of female students 'viewing of health awareness campaigns shown on television (n = 503)

Response	repetition	ratio	Arrangement
always	62	%12.33	3
sometimes	317	%63.02	1
rarely	124	%24.65	2
Total	503	%100.00	

Table (7) shows that: The first place in terms of the extent to which female students watch health awareness campaigns shown on television was (sometimes), while the last place was (always). The researchers attribute this result to the fact that female students ' interest in the media campaigns shown was not as required, and that watching such campaigns was average without paying attention to their great importance. This is what was indicated by the study of Darial Karima (2018), whose results indicated that the most common reasons for exposure were following health topics and social issues.

-5Do you watch sports awareness campaigns on TV.

The following table shows the extent to which female students watch sports awareness campaigns shown on television.

Table (8) Frequency and percentage of female students 'viewing of sports awareness campaigns shown on television) n = 503)

Response	repetition	ratio	Arrangement
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always	111	%22.07	3
sometimes	264	%52.49	1
rarely	128	%25.45	2
Total	503	%100.00	

It is clear from Table (8): - The first place in terms of the extent to which female students watch sports awareness campaigns shown on television was (sometimes), while the last place was (always).

The researchers attribute this result to the fact that interest in sports is mainly represented by watching matches and following fitness programs, and that interest in awareness campaigns has not reached an acceptable level.

-6Which of these awareness campaigns interested you.

The following table shows the awareness campaigns that interest female students.

Table (9) Frequency and percentage of awareness campaigns that interest female students (n = 503)

Response	repetition	ratio	Arrangement
Blood donation campaign	345	%68.59	2
Seasonal vaccination campaign	104	%20.68	10
healthy nutrition	322	%64.02	3
Early Cancer Detection Campaign	245	%48.71	6
AIDS prevention campaign	152	%30.22	9
Diabetes and Blood Pressure Diet Maintenance Campaign	424	%84.29	1
Campaigns to raise awareness of the importance of exercise	188	%37.38	8
Obesity campaigns	274	%54.47	5
The Role of Sports in Disease Prevention Campaign	214	%42.54	7
The Role of Sports in Fitness Campaign	275	%54.67	4
Total number of people asked	503	%100.00	

It is clear from Table (9): The campaign to maintain a healthy diet for diabetes and blood pressure came in first place in terms of awareness campaigns that interest female students, while the seasonal vaccination campaign came in last place. The researchers attribute this result to the fact that interest in early detection of chronic diseases, the most important of which are blood pressure and diabetes, is the first concern that the state directs towards educating citizens about their danger and trying to confront them.

-6How long have you been watching these health and sports awareness campaigns?

The following table shows the extent of students' timelines for watching health and sports awareness campaigns.

Table (10) Frequency and percentage of the duration of female students' follow-up in watching health and sports awareness campaigns (n = 503)

Response	repetition	ratio	Arrangement
Less than a year	78	%15.51	3

From 1 to 3 years	141	%28.03	2
More than 3 years	284	%56.46	1
Total	503	%100.00	

It is clear from Table (10): The first place in terms of the extent of female students' time follow-up in watching health and sports awareness campaigns was (more than 3 years), while the last place was (less than a year). The researchers attribute this result to the fact that the field of media awareness has received great attention from governments for many years due to the state's interest in reducing undesirable behaviors and moving towards an integrated Saudi society free of diseases and possessing distinguished health through practicing various aspects of sports activity and staying away from wrong eating habits and traditions.

-7Why do you watch these awareness campaigns?

The following table shows the reasons why female students watch awareness campaigns.

Table (11) Frequency and percentage of reasons for female students watching awareness campaigns) n = 503)

Response	repetition	ratio	Arrangement
Fill in the blank	184	%36.58	3
Because you have to watch it while waiting for the show to come back on.	89	%17.69	4
Because you liked it	74	%14.71	5
Because you are concerned with the topic of this campaign	42	%8.35	6
Because I believe in the importance of exercise in disease prevention	384	%76.34	1
Because exercise contributes to achieving physical fitness and health.	302	%60.04	2
Total number of people asked	503	%100.00	

It is clear from Table (11): The first place in terms of the reasons for female students watching awareness campaigns was (because I believe in the importance of sports in preventing diseases), while the last place was (because you are interested in the topic of this campaign). The researchers attribute this result to the fact that there are many reasons for female students to follow and watch awareness campaigns because of their importance in informing society of the importance of practicing sports activities to reduce and prevent diseases. What are the programs you watched that didn't affect you? What are the reasons for The following table shows the reasons for not being affected by the programs watched.

Table (12) Frequency and percentage of reasons for not being affected by programs watched) n = 503(

Response	repetition	ratio	Arrangement
The topics raised do not interest you in form or content	174	%34.59	2
The rhetorical style is boring.	98	%19.48	3
It doesn't suit you	57	%11.33	4
Because it did not achieve the desired goal	402	%79.92	1
Total number of people asked	503	%100.00	

It is clear from Table (12): The first place in terms of reasons for not being affected by the programs that were watched was (because they did not achieve the desired goal), while the last place was (they do not suit you). The researchers attribute this result to the fact that despite the existence of these media campaigns that aim to improve the health of society and inform them of the importance of sports in their lives, the highest goal that is required to be achieved to a high degree has not reached the required level due to the scarcity of these campaigns and their failure to reach all sectors of society, as well as their lack of suitability for all spectrums and their focus on older groups that aim to deal with diseases. The answer to the second question, which states:

What is the role of television media campaigns in achieving health awareness priorities for female students in the College of Sports Sciences and Physical Activity at King Saud University.

-8Do you think that health and sports awareness campaigns were an alternative to direct health discourse?

The following table shows the extent to which health and sports awareness media campaigns can be an alternative to direct health discourse.

Table (13) Frequency and percentage of the extent to which health and sports awareness media campaigns can be an alternative to direct health discourse (n = 503)

Response	repetition	ratio	Arrangement
Yes	318	%63.22	1
no	185	%36.78	2
Total	503	%100.00	

It is clear from Table (13): The first place in terms of the ability of health and sports awareness media campaigns to be an alternative to direct health discourse was (yes), while the last place was (no).

The researchers attribute this result to the fact that media campaigns have the ability to raise health and sports awareness, such that they can be an alternative to direct health discourse, as these campaigns presented in various media have the ability to reach all

segments of society, transcending the barrier of time and place, such that they have the ability to direct their content through their various means and without the need for direct meeting with those concerned with the campaign.

-9If your answer is (yes), what are the reasons for that?

The following table shows the reasons why health and sports awareness campaigns can be an alternative to direct health discourse.

Table (14) Frequency and percentage of reasons for the ability of health and sports awareness media campaigns to be an alternative to direct health discourse(n = 503)

Response	repetition	ratio	Arrangement
Because it is carefully crafted with accompanying sound effects.	245	%77.04	1
Because you love her colloquial conversational style.	124	%38.99	2
Because it affects you away from the boring direct preaching	102	%32.08	3
Because it achieved the desired goal	54	%16.98	4
Total number of people asked	318	%100.00	

It is clear from Table (14): - It came in first place in terms of the reasons for the ability of health and sports awareness media campaigns to be an alternative to direct health discourse (because it has a well-thought-out structure with accompanying audio effects), while it came in last place (because it achieved the desired goal). The researchers attribute this result to the fact that one of the most important reasons for the ability of health and sports awareness media campaigns to be an alternative to direct health discourse is that it has a well-thought-out structure with accompanying audio effects, and this is what the media enjoys, which aims in its programs to provide its services through the use of all aspects and exciting audio and visual effects.

-10If your answer is (no), what are the reasons for that?

The following table illustrates the reasons why health and sports awareness campaigns cannot be a substitute for direct health discourse. Table (15) Frequency and percentage of reasons for the inability of health and sports awareness media campaigns to be an alternative to direct health discourse) n = 503

Response	repetition	ratio	Arrangement
Because it is short of the search period	79	%42.70	3
Because she is not familiar with the various aspects of the subject	128	%69.19	1
Because it does not serve the purpose of developing physical fitness and health.	104	%56.22	2
Total number of people asked	185	%100.00	

It is clear from Table (15): - It came in first place in terms of the reasons for the inability of health and sports awareness media campaigns to be an alternative to direct health discourse (because they are not familiar with the various aspects of the subject), while it came in last place (because the research period is short). The researchers attribute this result to the fact that one of the most important reasons for the inability of health and sports

awareness media campaigns to be an alternative to direct health discourse is that they are not familiar with the various aspects of the subject and have not reached the required level of mastery.

-11 Based on your observation of these awareness campaigns, what are the most important practices that you advocate the most?

The following table shows the most important practices advocated by awareness campaigns.

Table (16) Frequency and percentage of the most important practices called for by awareness campaigns (n = 503)

Response	repetition	ratio	Arrangement
Blood donation campaign	248	%49.30	1
Early Cancer Detection Campaign	145	%28.83	2
Awareness campaigns on the importance of exercising	110	%21.87	3
Total	503	%100.00	

Table (16) shows that the blood donation campaign ranked first in terms of the most important practices advocated by awareness campaigns, while the awareness campaigns on the importance of exercising ranked last. The researchers attribute this result to the fact that one of the most important practices advocated by awareness campaigns is blood donation campaigns, which aim to bring together all segments of society to help their families due to the ongoing need for blood transfusions for all surgical operations performed across the Kingdom, which calls for these campaigns to intensify their efforts to educate citizens about the importance of blood donation due to the ongoing need for it. This is what was indicated by the study by Darial Karima (2018), the results of which indicated that 66.7% of women confirmed that they relied on the media to learn about early detection of breast cancer.

-12 Have these awareness campaigns made you practice healthy sports activities in your daily life?

The following table shows the extent to which awareness campaigns can encourage female students to practice healthy sports activities in their daily lives.

Table (17) Frequency and percentage of the extent to which awareness campaigns can direct female students to practice healthy sports activities in daily life.(n = 503)

Response	repetition	ratio	Arrangement
Yes	288	%57.26	1
no	215	%42.74	2
Total	503	%100.00	

It is clear from Table (17): The first place in terms of the extent to which awareness campaigns are able to direct female students to practice healthy sports activities in daily life is (yes), while the last place is (no).

The researchers attribute this result to the ability of awareness campaigns to encourage female students to engage in healthy sports activities in their daily lives. This is what was indicated in the study by Darial Karima (2018), whose results indicated that 86.7% of the sample confirmed that the media has an effective impact on increasing their health awareness.

-13If the answer is (yes), what are the healthy activities?

The following table shows the most important health activities that directed female students to practice healthy sports activities in their daily lives.

Table (18) Frequency and percentage of the most important health activities that directed female students to practice healthy sports activities in daily life(n = 503)

Response	repetition	ratio	Arrangement
exercise	305	%60.64	1
diet	198	%39.36	2
Total	503	%100.00	

It is clear from Table (18): The first place in terms of the most important health activities that directed female students to practice healthy sports activities in daily life was (practicing sports), while the last place was (following a diet).

The researchers attribute this result to the fact that one of the most important health activities that directed female students to practice sports activities in daily life is due to the nature of the specialization in physical education and the focus on female students in following sports programs in order to reach the best level of performance. Therefore, following sound nutritional systems that complete reaching the best integrated body type comes in second place.

-14What are the problems facing the activation of the role of media campaigns in spreading health awareness and sports culture?

The following table shows the problems facing the activation of the role of media campaigns in spreading health awareness and sports culture .Table(19)

Frequency and percentage of problems facing the activation of the role of media campaigns in spreading health awareness and sports culture(n = 503)

Response	repetition	ratio	Arrangement
Lack of sports programs for women	204	%40.56	2
Discussing the role of sports in women's health education and health awareness is not enough.	345	%68.59	1
Not inviting prominent sports figures to highlight the importance of sports culture and health awareness.	177	%35.19	3
Focusing on other media fields at the expense of these campaigns	101	%20.08	4
Officials' lack of awareness of the importance of these awareness campaigns	41	%8.15	5
Total number of people asked	503	%100.00	

It is clear from Table (19): The first place in terms of the problems facing the activation of the role of media campaigns in spreading health awareness and sports culture

was (discussing the issues of the role of sports in women's health education and insufficient health awareness), while the last place was (the lack of awareness of officials of the importance of these awareness campaigns.)

The researchers attribute this result to the fact that there are many problems facing the activation of the role of media campaigns in spreading health awareness and sports culture, the most important of which is that discussing the issues of the role of sports in women's health education and health awareness is not sufficient, and that to achieve integration at this point, media campaigns have not achieved the best performance, and that this awareness needs more campaigns and media materials that highlight its importance and positive role in the lives of Saudi women.

This is what was indicated by the study by Iman Muqadish et al. (2021), whose results indicated that the absence of studies specific to the target audience led to the absence of good planning for media campaigns, which led to the absence of a clear policy pursued by the institution. The answer to the third question, which states:

What are the cognitive, emotional and behavioral satisfactions of health and sports awareness media campaigns for female students of the College of Sports Sciences and Physical Activity at King Saud University?

-15Did these campaigns bring you the following satisfaction?

The following tables show the extent to which the campaigns achieved cognitive, emotional and behavioral satisfaction.

Table (20) Frequency and percentage of the extent to which campaigns achieve cognitive satisfaction (n = 503)

Response	repetition	ratio	Arrangement
Yes	118	%37.38	2
to some extent	202	%40.16	1
no	113	%22.46	3
Total	503	%100.00	

It is clear from Table (20): - It came in first place in terms of the extent to which the campaigns achieved cognitive satisfaction (to some extent), while it came in last place (no). The researchers attribute this result to the fact that the media campaigns did not achieve cognitive satisfaction as planned by the campaigns, as these campaigns should focus on developing the cognitive aspects of the students in terms of introducing them to the theoretical aspects of ideal sports, their components and types of practice, and this should also be consistent with the health fields in order to reach the ideal body free of diseases and postural problems.

This is what was indicated by the study by Iman Muqadish and others (2021), the results of which indicated that the Youth Institutions Office lacks an accurate and specific knowledge background about the target audiences, as evidenced by the fact that it does not have sufficient information about the target audience. Table (21) Frequency and percentage of the extent to which campaigns achieve emotional satisfaction) n = 503(

Response	repetition	ratio	Arrangement
Yes	112	%22.27	2
to some extent	294	%58.45	1
no	97	%19.28	3
Total	503	%100.00	

It is clear from Table (21): - It came in first place in terms of the extent to which the campaigns achieved emotional satisfactions (to some extent), while it came in last place (no). The researchers attribute this result to the fact that achieving emotional satisfactions did not reach the integrated level and needs more focus in order to reach the best emotional state towards practicing sports and the desire to make it a lifestyle alongside the integration of the healthy element.

Table (22) Frequency and percentage of the extent to which campaigns achieve behavioral satisfactions) n = 503(

Response	repetition	ratio	Arrangement
Yes	204	%40.56	2
to some extent	215	%42.74	1
no	84	%16.70	3
Total	503	%100.00	

It is clear from Table (22): - It came in first place in terms of the extent to which the campaigns achieved behavioural satisfactions (to some extent), while it came in last place (no). The researchers attribute this result to the fact that the behavioural satisfactions achieved as a result of the media campaigns in the fields of health and sports did not completely affect the behaviours of the female students and they must be supported in order to achieve their behavioural goals in changing wrong lifestyles and applying sports, nutritional and health behaviours by the female students with some spontaneity and life practice.

-16Do you think these gratifications helped you watch these programs?

The following table shows the extent to which gratifications help female students watch awareness programmes.

Table (23) Frequency and percentage of the extent of the ability of gratifications to help female students watch awareness programmes

)n = 503(

Response	repetition	ratio	Arrangement
negative	161	%32.01	2
positive	342	%67.99	1
Total	503	%100.00	

Table (23) shows that the first rank in terms of the extent to which gratifications can help female students watch awareness programs was (positive), while the last rank was (negative). The researchers attribute this result to the fact that the students 'desire to achieve various gratifications helped them increase their desire to watch awareness programs and

learn about the best ways to benefit from sports and health programs in order to prevent diseases and reach a moderate and ideal health and posture. This is what was indicated by the study by Vanson (2010), whose results indicated that about 53% of those who participated in the survey changed their lifestyles.

-17Did these campaigns provide you with positive information that helped you change your lifestyle?

The following table shows the extent to which campaigns can provide students with positive information that helps them change their lifestyle. Table (24) Frequency and percentage of the extent to which campaigns are able to provide students with positive information that helps in changing lifestyle (n = 503)

Response	repetition	ratio	Arrangement
Yes	110	%21.87	2
to some extent	327	%65.01	1
no	66	%13.12	3
Total	503	%100.00	

It is clear from Table (24): It came in first place in terms of the extent of the campaigns 'ability to provide students with positive information that helps in changing lifestyle (to some extent), while it came in last place (no).

The researchers attribute this result to the fact that the ability of media campaigns to provide students with positive information to help them change their lifestyle did not reach the targeted level. Despite the campaigns' efforts to deliver the gains, they did not achieve integration in delivering their media message and achieving a healthy and athletic life for students through the health, nutritional and athletic information they provide, which helps them achieve the best health and physical condition. This is what was indicated by Halima Habhoub's study (2015), whose results indicated that health campaigns made 69% of the respondents practice healthy activities, 90% confirmed that these campaigns open up areas for them to acquire information, and 75% of these campaigns made them practice sports. Vansoon's study (2010) also indicated that about 53% of those who participated in the survey changed their lifestyles.

-18How do you feel when you watch these health and sports awareness campaigns?

The following table shows how students feel when watching health and sports awareness campaigns.

Table (25) Frequency and percentage of the extent to which female students feel about health and sports awareness campaigns (n = 503)

Response	repetition	ratio	Arrangement
fear	88	%17.50	3
anxiety	107	%21.27	2
Reza	286	%56.86	1
nothing	22	%4.37	4
Total	503	%100.00	

Table (25) shows that: The first place in terms of the extent of the students' feelings when watching health and sports awareness campaigns was (satisfaction), while the last place was (nothing). The researchers attribute this result to the fact that the feeling of satisfaction is the feeling that students feel when watching health and sports awareness campaigns due to the positive content that they provide to students and which aims to develop their physical and health capabilities. This is what was indicated by the study of Halima Habhoub (2015), the results of which indicated that 40% said that these campaigns made them feel satisfied, and 81% of the respondents confirmed that awareness campaigns are considered an alternative to direct health discourse.

-19 If you feel satisfied, what are the campaigns that make you feel this way the most?

The following table shows the campaigns that caused students to feel most satisfied.

Table (26) Frequency and percentage of the campaigns that caused students to feel satisfied the most (n = 503)

Response	repetition	ratio	Arrangement
blood donation	277	%96.85	1
The role of sports in achieving physical fitness	214	%74.83	2
Achieving psychological satisfaction through exercise	123	%43.01	3
Developing mental abilities	41	%14.34	4
Total number of people asked	286	%100.00	

Table (26) shows that the campaigns that caused the students to feel most satisfied were (blood donation), while the development of mental abilities came in last place. The researchers attribute this result to the fact that the campaigns that caused the students to feel most satisfied were the campaigns related to blood donation, as it expresses solidarity with all citizens for their healthy lives. This result is consistent with what was previously recorded by the research sample that blood donation campaigns are among the most awareness campaigns that attract the interest of the students.

-20 What is your evaluation of health and sports awareness campaigns?

The following table shows the evaluation of health and sports awareness campaigns.

Table (27) Frequency and percentage of evaluation of health and sports awareness campaigns (n = 503)

Response	repetition	ratio	Arrangement
Good	114	%22.66	3
Good	105	%20.87	2
Medium	245	%46.92	1
weak	48	%9.54	4
Total	503	%100.00	

Table (27) shows that the health and sports awareness campaigns were ranked first in terms of evaluation (average), while they were ranked last (weak). The researchers attribute this result to the fact that the health and sports awareness campaigns received an average evaluation due to the presence of some problems that hinder them and that must be

addressed in the future to achieve the desired goals. This is what was indicated by the study of Rana Marwan Al-Essa (2020), whose results indicated that young people acquired an average degree of good awareness of the importance of sports in our lives and good knowledge of how to play in the sports club.

-21 What are the proposals that would activate the role of media campaigns in spreading health awareness and sports culture The following table shows the proposals that would activate the role of media campaigns in spreading health awareness and sports culture.

Table(28)

The frequency and percentage of proposals that would activate the role of media campaigns in spreading health awareness and sports culture.(n = 503)

Response	repetition	ratio	Arrangement
Allocate a weekly television program to denounce inappropriate behavior in sports.	344	%68.39	7
Call for seminars at colleges to raise awareness of the role of sports on women's health	454	%90.26	2
To cover the media to spread awareness and knowledge about the relationship between sports practice and quality of life.	345	%68.59	6
Attracting female students to regular exercise to achieve physical fitness and maintain health	466	%92.64	1
Achieving an ideal body type by advocating regular exercise	421	%83.70	3
Defining the importance of exercise in achieving the elements of physical fitness to withstand the pressures of life and the hardships of work	411	%81.71	4
Making the appropriate effort for life practice by developing the elements of physical fitness represented by (speed, flexibility, endurance, heart efficiency, and developing cardio-respiratory endurance)	387	%76.94	5
Increase awareness of the type of exercises that are suitable for developing each organ of the body	249	%49.50	9
Emphasize the appropriate load for each training unit.	83	%16.50	16
Emphasizing the harm of stimulants and energy drinks	154	%30.62	14
Emphasizing the role of sports in recreation, improving mood and psychological characteristics, and spending free time in a positive way.	189	%37.57	13
Developing self-esteem, self-confidence, moral values, cooperation and responsibility through practicing sports.	122	%24.25	15
Developing healthy habits before and after exercise	247	%49.11	10
Emphasis on treating obesity through exercise and proper diet.	238	%47.32	12

Providing exercises that are compatible with different types of disabilities for people with disabilities	245	%48.71	11
Addressing uncivilized and inappropriate behavior	314	%62.43	8
Total number of people asked	503	%100.00	

Table (28) shows that: The first rank in terms of proposals that would activate the role of media campaigns in spreading health awareness and sports culture was (attracting female students to regular exercise to achieve physical fitness and maintain health), while the last rank was (emphasizing the appropriate load for each training unit). The researchers attribute this result to the presence of many proposals that would activate the role of media campaigns in spreading health awareness and sports culture, the most important of which is attracting female students to regular exercise to achieve physical fitness and maintain health, as well as calling for seminars to be held in colleges to raise awareness of the role of sports on women's health and to define the importance of sports practice in achieving the elements of physical fitness to withstand the pressures of life and the hardship of work, in order to direct female students to achieve an ideal body type by calling for regular exercise, through making the appropriate effort for life practice through developing the elements of physical fitness.

Conclusions

-1Media awareness campaigns emphasize the state's interest in women's health in general and female university students in particular.

-2The cognitive, emotional and behavioral satisfactions of the awareness media campaigns were achieved on an average level in the field of health and sports for female students of the College of Sports Sciences and Physical Activity at King Saud University.

-3Media campaigns in sports media have a moderate role in spreading health and cultural awareness among female university students, as sports media focuses on a specific sport such as football.

-4The lack of sufficient capacity of media campaigns to provide students with positive information that helps in changing their lifestyle.

-5The positive impact of the satisfaction achieved from media campaigns on helping female students watch awareness programmes.

-6The media has an effective impact on increasing health awareness among female Saudi university students.

-7Media campaigns have a significant impact on improving healthy habits, increasing health awareness, and promoting the concept of disease prevention.

-8The sports media has a great responsibility in raising health awareness and spreading sports culture.

-9The absence of studies on the target audience leads to the absence of good planning for media campaigns, which leads to the absence of a clear policy adopted by the organization.

-10Health issues require longer time and programmes to educate and raise awareness among female university students and increase sports culture.

-11There are some problems facing the activation of the role of media campaigns in spreading health awareness and sports culture, the most important of which is discussing the issues of the role of sports in women's health education and insufficient health awareness.

- 12There are many proposals that would work to activate the role of media campaigns in spreading health awareness and sports culture, the most important of which is attracting female students to practice sports regularly to achieve physical fitness and maintain health.



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The Effect of Gyro tonic Exercises on Developing Specific Strength and Performance Achievement in Young Rowers (2000 Meters)

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2254](https://doi.org/10.37359/JOPE.V37(2)2025.2254)

<https://creativecommons.org/licenses/by/4.0/>

Article history: Received 19/ April/2024 Accepted 6/ May/2024 Available online 28/ June/2025

Abstract

This study aimed to investigate the effect of Gyro tonic exercises on developing specific strength (speed-strength and strength endurance) and performance achievement in young rowers over a 2000-meter distance. An experimental approach was adopted, applying an 8-week training program to a sample of 8 rowers from the training center in Al-Karkh. The program included Gyro tonic exercises and core stability training to enhance the players' physical and skill performance. The results revealed statistically significant differences between pre- and post-tests in all studied variables, indicating that Gyro tonic training significantly improved muscular strength and performance achievement. The researcher attributes this improvement to the controlled application of training in terms of intensity, volume, and rest periods, which enhanced physical and skill performance. The findings align with previous studies indicating that Gyro tonic exercises improve flexibility, strength, and muscular coordination while enhancing mental and physiological aspects. The results emphasize the importance of incorporating such exercises into rowers' training programs to optimize athletic performance. The researcher recommends using Gyro tonic training to improve rowers' physical and technical performance and conducting further studies on Gyro tonic exercises with different programs and equipment to generalize benefits across other sports.

Keywords: Gyro tonic exercises, Specific strength, Speed-strength, Strength endurance, Performance achievement, Rowers.

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Introduction

Modern training methods are effective tools for developing athletes' physical, mental, and psychological capacities, which coaches strive to enhance to improve performance in various sports. Recent advancements in training techniques have introduced more sophisticated physical exercises based on rhythmic and continuous muscular work. Among these, Gyrotonic training has emerged as a notable method, characterized by circular movements that allow uninterrupted, fluid motion. These exercises stimulate muscles, the skeletal system, and the cardiorespiratory system while safely altering body positions in multiple directions. (Ibrahim et al., 2006)

The term "Gyrotonic" (hasan, 2021) combines "Gyro" (balance) and "Tonic" (muscular tension from isotonic contractions). This method achieves equilibrium between agonist and antagonist muscle groups, enhancing muscle lengthening and joint flexibility. It also emphasizes synchronized breathing with movement, making it an effective approach for simultaneously improving flexibility, muscle strength, and tendon resilience.

Gyrotonic exercises)Mohammed(2021 , are an effective means of enhancing mental, physical, psychological, and physiological aspects. They strengthen weak muscles, increase flexibility and coordination, improve strength, balance, and agility, reduce training-induced pain, boost self-confidence, alleviate anxiety, enhance focus, aid in weight loss, and prevent sports injuries.

(Mohamed, 2012)classifies Gyrotonic training as a resistance exercise using specialized equipment (e.g., pulley towers, weights, mats, or chairs), where resistance between the individual and the tool increases muscular strength and hypertrophy. Unlike traditional resistance training, Gyrotonics optimize nervous system function, improving motor coordination, sensory perception, and joint mobility. (Issa et al., 2024)

This study examines the effect of Gyrotonic exercises on developing specific strength (speed-strength and strength endurance) and performance achievement in 2000-meter rowing. It also assesses statistical differences between pre- and post-tests in specific strength and performance metrics. (Kadhim & Mousa, 2024)

Methodology and Tools

The researcher employed an experimental design suited to the study's objectives. The participants included 8 young rowers from the Al-Karkh training center, who trained daily without interruption. Physical variables were identified through scientific literature, prior studies, and expert consultations in measurement, evaluation, and rowing.

Equipment and Tools:

Devices: HP computer, iron rowing machine, elastic ropes, electronic whistle, microphone, SONY camera.

Tools: Single and double sculls, 2017 Hungarian-made motorboat.

Materials: Data recording forms.

Tests:

Specific Strength Tests:

Speed-strength (physical): 15-second prone rowing machine test at 80% intensity (repetitions counted).

Speed-strength (skill-based): 15-second rowing distance test.

Strength endurance (physical): 1-minute prone rowing machine test at 50% intensity (repetitions counted).

Strength endurance (skill-based): 1-minute rowing distance test.

Performance achievement: 2000-meter time trial.

Pre-Test:

Conducted on 8/11/2024 at 4 PM after player preparation, camera setup, and boat readiness. Players were first tested in the 2000-meter trial, followed by physical and skill tests after a 1-hour rest.

Main

The 8-week training program (10/11/2024–11/1/2025) included three weekly 60-minute sessions (Saturday, Monday, Wednesday), integrating Gyrotonic and core stability exercises to enhance physical and technical performance.

Experiment:

Post-Test:

Conducted on 13/1/2025 under identical pre-test conditions.

Statistical Analysis:

Mean, standard deviation, mean differences, and T-tests were used to analyze statistical differences.

Results and Discussion

Table (1): Significant differences between pre- and post-tests in specific strength and performance achievement.

Variable	Pre-Test (Mean ± SD)	Post-Test (Mean ± SD)	Mean Difference	T- value	Significance
Speed-strength (physical)	18 ± 2.45	22 ± 2.11	5	3.12	Significant
Strength endurance (physical)	66 ± 3.14	71 ± 2.66	5	2.65	Significant
Speed-strength (skill-based)	82 ± 1.98	85 ± 0.94	3	2.14	Significant
Strength endurance (skill- based)	264 ± 2.41	269 ± 1.65	5	3.61	Significant
2000m performance	7.30 ± 2.91	7.26 ± 1.31	4	3.47	Significant

The table shows statistically significant improvements in all variables, attributed to the regulated intensity, volume, and rest periods in the training program. The findings align with)Latif(2014 ‘who found that 8 weeks of Gyrotonic training (2–3 sessions/week, 30–60 minutes each) significantly improved flexibility, strength, coordination, and motor fitness. (Abdel-Azim, 2017)noted that Gyrotonic exercises enhance mental, physical, and physiological aspects by strengthening weak muscles, increasing flexibility, reducing pain, and preventing injuries.

Conclusions

1. Gyrotonic training significantly improves muscular strength, particularly speed-strength and endurance.
2. It enhances 2000-meter performance by boosting strength and endurance.
3. It improves neuromuscular coordination, crucial for rowing.
4. It strengthens mental resilience (e.g., focus, reduced anxiety).
5. It reduces injury risks by enhancing joint flexibility and muscle balance.

Recommendations

1. Integrate Gyrotonic exercises into regular rowing training programs.
2. Design individualized programs based on intensity, volume, and recovery.
3. Conduct further research on Gyrotonics in other sports (e.g., swimming, athletics).
4. Use advanced monitoring devices for precise performance tracking.
5. Train coaches in proper Gyrotonic techniques via workshops.
6. Implement periodic performance evaluations to adjust training.
7. Incorporate mental conditioning (e.g., breathing exercises) into training.
8. Collaborate with sports medicine specialists for injury prevention.



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The Effect of Specialized Exercises Based on Mechanical Principles on Diagonal Attacks from Positions (2) and (4) Among Third-Year Students in Volleyball

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2208](https://doi.org/10.37359/JOPE.V37(2)2025.2208)

<https://creativecommons.org/licenses/by/4.0/>

Article history: Received 17/ October/2024 Accepted 4/ November/2024 Available online 28/ June/2025

Abstract

Researchers and specialists in the fields of educational sciences strive to enhance the academic level of their students. Among the most prominent of these sciences is sports science, which encompasses various specializations, curricula, and theories. This has driven professionals in this field to constantly seek the most effective, shortest, and simplest ways to achieve high-quality outcomes through experimentation and practical application. The aim of this research was to develop specialized exercises based on mechanical principles for diagonal attacks from positions (2) and (4) among third-year volleyball students. The study also aimed to determine whether these exercises are more effective than conventional training in influencing the targeted research variables. The researchers employed an experimental approach involving both a control and an experimental group, using pre- and post-tests. Two specific tests were administered, focusing on diagonal attacking skills from positions (2) and (4). The research sample consisted of 12 third-year students from the Department of Physical Education and Sports Sciences at Al-Farahidi University (academic year 2024–2025), who were deliberately selected as top-performing students and divided into two groups (experimental and control),

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each comprising six students. The SPSS statistical software package was used to analyze the results. After presenting and discussing the results, the study concluded that there was a statistically significant improvement in both groups between the pre- and post-tests. Additionally, a significant difference was found in favor of the experimental group in the post-tests. The researchers recommend the adoption of these exercises due to their significant effectiveness.

Keywords: Mechanical principles, Diagonal attack, Volleyball.

Introduction

Volleyball is one of the most exciting and significant sports both locally and internationally. Like other sports, it holds a prestigious place in the academic field of sports sciences. It is taught in three academic stages in the colleges and departments of physical education and sports sciences. Volleyball is a sport that demands a high level of physical and technical performance, which cannot be achieved without the use of modern methods and renewed perspectives by integrating various sports sciences. Among the most prominent of these sciences are motor learning and sports biomechanics.

Motor learning provides learners with ample opportunities to acquire the required skill in an organized manner, enabling a sequential and complementary linking of concepts based on the learner's level. This is achieved by increasing the learner's awareness and understanding of the performance, and storing information in a way that ensures it can be retrieved when needed, especially at advanced stages of learning.

Biomechanics, on the other hand, serves as the mirror that reflects the nature of the performance to the expert eye—namely, the eye of the teacher or coach.

Based on the researchers' experience as volleyball specialists (players, coaches, and teachers) and their observations of volleyball classes in colleges and departments of physical education and sports sciences, they found that one of the most important offensive skills in volleyball is the spike. This skill often decides the points of the sets. Mastery of this skill depends on the ability to analyze it and understand its performance phases (approach, jump, and hit), as well as identifying the numerical values of its biomechanical indicators and conditions—especially at the moment of take-off when the student becomes a projectile.

Moreover, simple offensive attacks from the front zones (positions 2 and 4) were chosen because students are more capable of performing them and analyzing the player's position and the trajectory of the ball when hit diagonally to effectively impact the opponent.

Accordingly, the researchers began exploring and analyzing the key problem that may hinder learners' improvement of this skill: how to approach, jump, and hit diagonally. This was done first through observation of the external form, then through deeper quantitative analysis (assigning numerical values to the studied variables), and by drawing on their extensive

experience in teaching this subject continuously over many years to solve this problem from their professional perspective.

The importance and purpose of this research lie in developing specialized exercises based on mechanical principles for executing diagonal attacks from positions (2) and (4) among third-year volleyball students in colleges and departments of physical education and sports sciences. These exercises aim to enhance technical performance by integrating theoretical and applied sports sciences, thereby fulfilling all the general and specific requirements necessary for student success.

It is widely acknowledged that one of the most critical factors contributing to this success is biomechanics—specifically, how mechanical indicators can be first used diagnostically and then therapeutically by applying the principles and laws of movement sciences (mechanical foundations). The researchers regard these as theoretical sciences that are readily applicable in practical contexts.

The researchers hypothesize that there will be no statistically significant differences between the two research groups in the pre- and post-tests, and likewise, no statistically significant differences between the groups in the post-test results favoring one group over the other.

Upon reviewing the relevant literature and previous studies, the researchers found that improvements in volleyball skills performance are primarily influenced by two factors: (1) the method and style of instruction, and (2) the identification of biomechanical variables affecting performance. Numerous studies in the field of volleyball have addressed important topics related to motor learning and key mechanical indicators. The most significant of these can be summarized as follows:

Study by Hussein Farhan Al-Sheikh Ali and Munadhil Adel Qasim (2024), titled "The Effectiveness of Mastery Learning Strategy in Enhancing Skill Performance in Volleyball among Students" (Kadhim et al., 2021)

This study aimed to examine the effectiveness of the mastery learning strategy in developing the level of skill performance in volleyball among students in the College of Physical Education and Sports Sciences. The nature of the research required the use of the experimental method. The researchers applied a pre-test and post-test design for the two dependent variables within the research group. The research tools included the preparation of educational materials, testing instruments, and instructional units in accordance with the mastery learning strategy using Bloom's Model, as well as fundamental skill tests in volleyball. Data were statistically processed using the SPSS software. The researchers concluded that applying the mastery learning strategy, via Bloom's Model, had a significant impact on the learning of fundamental volleyball skills. They recommended the incorporation of problem-solving strategies in teaching basic volleyball skills within the educational curricula of colleges of physical education and sports sciences. (Sheikh Ali & Qasim, 2024)

Study by Amer & Khalil (2022), titled "The Effect of the Jigsaw Strategy on Learning the Spike Skill in Volleyball among Second-Year Students":

This research aimed to develop instructional units based on the Jigsaw strategy for learning the spike skill in volleyball and to assess its impact. The researchers employed the experimental method using a two-group design: experimental and control. The research population consisted of 385 male second-year students at the College of Physical Education and Sports Sciences, University of Baghdad, for the academic year 2021–2022. The research sample was randomly selected through a lottery system. One class of 25 students was designated as the experimental group, while another class of 27 students was assigned as the control group. Additionally, 15 students were randomly selected for conducting the pilot study. (Kadhim, 2024)

The researchers focused on the spike skill, administering pre-tests to ensure sample equivalence, followed by the implementation of the Jigsaw strategy and post-tests to collect raw data. The data were then statistically analyzed to extract and interpret the results. The study concluded that the Jigsaw strategy had a positive effect in achieving significant improvements in the experimental group and contributed meaningfully by accounting for individual differences. The researchers recommended the use of the Jigsaw strategy in learning and proposed conducting further studies applying this strategy to other samples and skills. (Amer & Khalil, 2022)

Study by Ya'rub Abdul-Baqi Daikh (2021), titled "A Comparative Analytical Study of the Variable of Maximum Center of Mass Height During the Flight Path and at the Moment of Performing the Main Phase of Movement in the Skills of Jump Shot in Handball and Spike/Serve in Volleyball": (Fadel & Kadem, 2021)

The study aimed to identify the differences in the values of the variable *maximum height reached by the center of mass* during the flight path and at the moment of performing the main phase of movement in the jump shot skills in handball and the spike and jump serve in volleyball. The researcher used a descriptive comparative methodology. The study sample included players from the national handball and volleyball teams. Motion was captured using a Sony camera at 100 frames per second, and the analysis was performed using Dartfish software. (Kadhim, 2023)

The researcher concluded that, in handball jump shots (either forward or upward), the action is typically executed after the athlete begins descending from the peak height of the center of mass—meaning the shot occurs below the maximum height. Similarly, in the spike and jump serve in volleyball, the ball is hit after the athlete has started descending from the peak flight height. The researcher recommended emphasizing that the main phase of performance usually occurs after descent, which can lower the contact point for striking or serving the ball. Thus, it is crucial to develop exercises aimed at increasing maximum height

and enhancing the athlete's ability to execute the skill quickly before significant descent occurs, especially for spiking and jump serving in volleyball. (Daikh, 2021)

Study by Saadoun & Saleh (2020), titled "The Strategy of Electronic Concept Maps and Their Impact on Cognitive Achievement in Some Technical Skills in Volleyball": This study aimed to modify a cognitive achievement test for selected volleyball technical skills among second-year students in the College of Physical Education and Sports Sciences. Additionally, it investigated the effect of using instructional units based on the electronic concept map strategy on students' cognitive achievement levels. The researchers adopted an experimental approach, with 15 students assigned to each of the experimental and control groups. (Issa et al., 2024)

The experimental group received one instructional unit per week over eight weeks, using electronic concept maps. The results indicated a statistically significant difference in the cognitive achievement test results between the two groups, in favor of the experimental group that utilized electronic concept maps. The findings support the effectiveness of this strategy in enhancing cognitive understanding of volleyball skills. (Saadoun & Saleh, 2020)

Study by Khummas & Subhan (2019), titled "The Effect of Specialized Exercises Using Certain Educational Aids on Learning Some Basic Volleyball Skills for First-Year Intermediate Students":

The study highlighted the importance of using specialized exercises supported by modern educational aids, technologies, and contemporary learning tools aligned with global advancements in education. These methods were found to be highly effective in developing basic volleyball skills among beginner students. The researchers identified a general weakness and lack of attention toward learning basic volleyball skills, based on their professional experience as physical education teachers and their observations of other instructors in the field.

The research population consisted of 3,200 students from the General Directorate of Education of Baghdad/Karkh 2 for the academic year 2018–2019. The sample was purposively selected from Al-Shuhadaa Palace Intermediate School for Boys, located in the Al-Risala Al-Oula area, due to the availability of an indoor hall designated for team sports such as volleyball, basketball, and handball. The researchers employed a one-group experimental design with pre- and post-testing. The study sample consisted of 10 first-year intermediate students, and the training program was implemented over 8 weeks.

The findings showed a positive improvement in the performance of the overhead and underhand passing skills in volleyball as a result of the specialized exercises designed by the researchers. Accordingly, they recommended conducting similar studies on other variables. (Khummas & Subhan, 2019)

Synthesis and Relevance to the Current Study:

This review of related literature has provided the researchers with a solid scientific foundation for launching their current study. The surveyed studies offer valuable insights into selecting the most effective teaching methods and strategies for high-speed skills such as the diagonal attack in volleyball. They also underscore the importance of identifying and analyzing influential kinematic indicators through motion analysis and choosing the most appropriate methodological framework to achieve the intended research goals.

Methodology and Tools:

The researchers employed the experimental method using two equivalent groups (experimental and control), as outlined by Al-Kadhimi (2012). The research population and sample were purposively selected from third-year students of the Department of Physical Education and Sports Sciences / College of Education / Al-Farahidi University, totaling 12 students specializing as attackers from positions (2) and (4). The participants were randomly assigned by lottery into two groups: experimental and control, with 6 students in each group for the academic year 2024–2025.

The first pilot study—focused on testing and camera setup—was conducted on Saturday, November 2, 2024, at 10:30 a.m. on the indoor volleyball court in the Department of Physical Education and Sports Sciences / College of Education / Al-Farahidi University. The pilot involved two students not included in the main sample. The purpose of this pilot study was to assess:

- The suitability of the location where the main experiment would be conducted.
- The functionality and reliability of the equipment and tools used in testing.
- The allocation of responsibilities among the research support team.
- The optimal placement, height, and distance of cameras relative to the movement area during the diagonal attack test.
- Potential challenges the researchers might encounter during the main experiment.

Subsequently, a second pilot study was conducted on Tuesday, November 5, 2024, also at 10:30 a.m. on the same volleyball court, again using two students outside the research sample. The objectives of this second pilot were to:

- Apply all biomechanical exercises developed by the researchers to evaluate their suitability and determine the appropriate number of repetitions for each drill.
- Assess the logical sequencing of the exercises for practical application.

All observations from both pilot studies were documented in order to avoid potential issues during the execution of the main experiment.

Subsequently, the main experiment (pre-tests) was conducted on Saturday, November 9, 2024, at exactly 10:30 a.m. at the volleyball court / the main indoor hall. The research sample underwent the diagonal spike test individually, allowing the motion analysis cameras to

accurately measure the variables. Two motion analysis cameras (type CASIO FH13.5) were set up, each operating at 120 frames per second.

The first camera was positioned at a height of 1.25 meters, perpendicular to the last step of the approach and take-off, and at a distance of 3.5 meters from the motion area. The second camera was placed at a height of 2.05 meters, perpendicular to the motion area at the moment of the diagonal spike. The purpose of this setup was to analyze the kinematic indicators and calculate their numerical values, which would then be used to design an appropriate educational program. The two tests were conducted as follows:

Test for Evaluating Technical Performance and Accuracy of the Diagonal Attack from Front-Row Positions (2) and (4) in Volleyball
(Taha, 1999, p. 184)

1. Test Objective:
To evaluate the performance and measure the accuracy of diagonal attacks from the front-row positions (2) and (4).

2. Equipment Used:
A standard volleyball court, six official volleyballs, a metal measuring tape, colored adhesive tape to divide the court, and a camera to record the performance for motion analysis and expert evaluation, as illustrated in Figures (1) and (2).

3. Performance Procedure:
The instructor tosses the ball upward, and the student being tested performs five diagonal attack attempts from position (2), followed by five from position (4), each set performed separately. The player aims to hit into one of the scoring zones:

- Zone (A): Highest score
- Zone (B)
- Zone (C)
- Zone (D): Lowest score

The student must strictly attack from the designated position and direct the ball toward the corresponding target zone for maximum scoring. After completing the five attempts from position (2), the student waits for their peers to finish before returning to perform from position (4). Each set of attempts is evaluated independently in terms of score and expert judgment.

4. Scoring:
The student receives points according to the zone in which the ball lands:

- Correct shot to Zone A: 4 points
- Correct shot to Zone B: 3 points

- Correct shot to Zone C: 2 points
- Correct shot to Zone D: 1 point
- If the ball lands outside the designated zones: 0 points
- Maximum Score for the Test: (20) points.

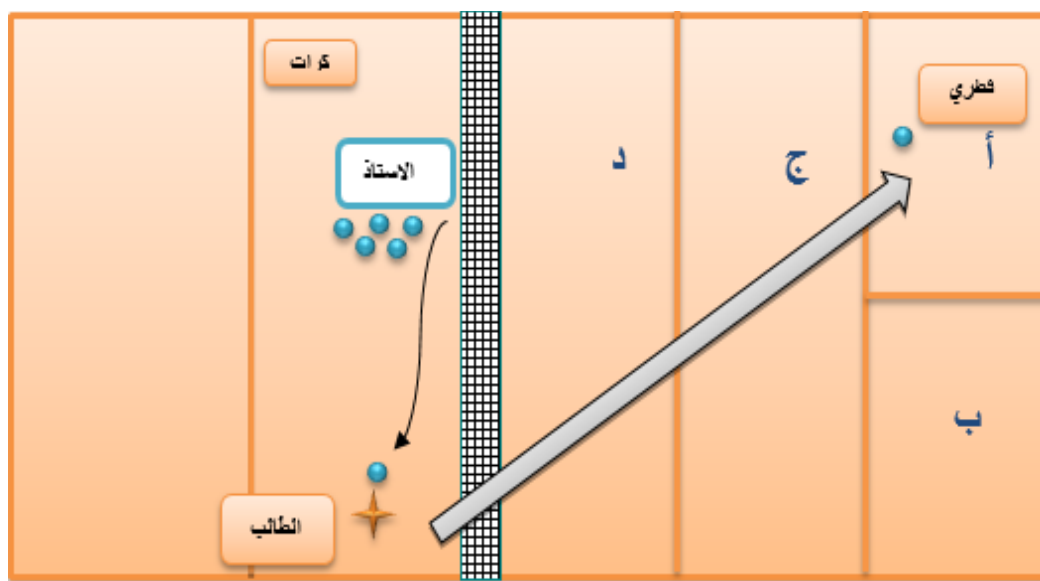


Figure (1)
Illustrates the method of executing the attack from position (2).
* The performance is evaluated by the specialists:
(1)Prof. Dr. Hussein Subhan, Prof. Dr. Basim Ibrahim, Asst. Prof. Dr. Ghaith Aryar

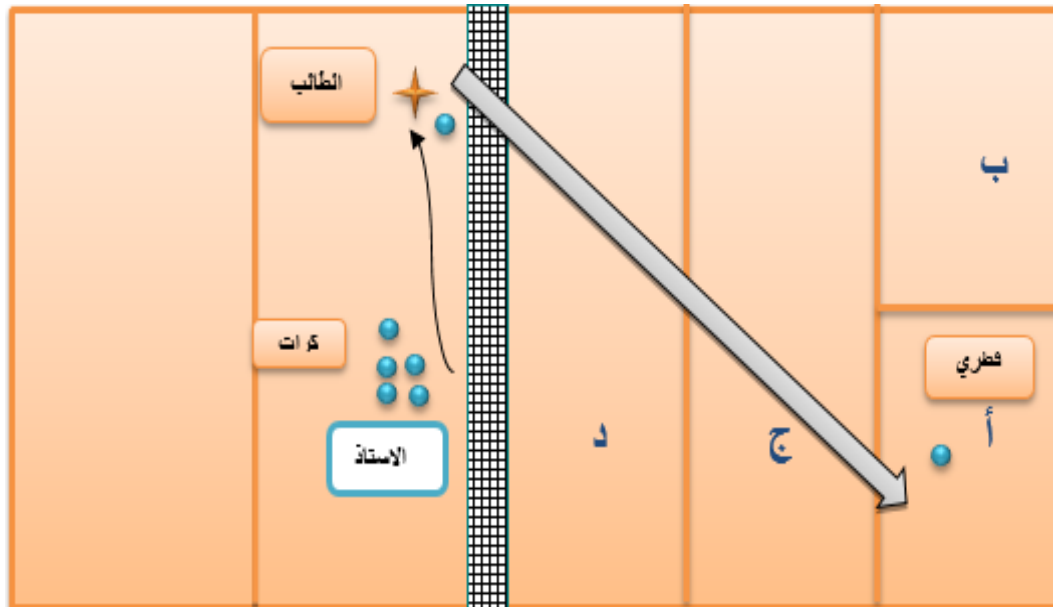


Figure (2)
Illustrates the method of executing the attack from position (4).

How to Calculate Kinematic Indicators Using the Analysis Software (Kenova):

1. Approach Speed in the Final Step:
This is calculated by dividing the horizontal distance between the front of the foot at the start of the final step and the front of the foot at the moment of ground contact by the time taken.
$$S = \frac{D}{T}$$

As illustrated in Figure (1).
(Al-Azzawi, 2014)



Figure (1)
Illustrates how to calculate the approach speed in the final step.

2. Ball Launch Speed:
The linear speed of the ball at launch is calculated by determining the scale of the diagram and the time it takes for the ball to move from one point to another, as shown in Figure (2).
(Akour, 2000)



Figure

(2)

Illustrates how to measure the ball's launch speed.

Homogeneity and Equivalence of the Research Groups: Before applying the specialized exercises based on biomechanical principles to the research sample, two important procedures must be carried out:

- The first is to determine the homogeneity among the sample members. This was done by calculating the coefficient of skewness to verify the homogeneity among the individuals—i.e., to ensure a normal distribution of the anthropometric measurement variables within the standard bell curve. Table (1) presents this data.

Statistical Parameters Variable	Unit	Mean	Median	Deviation Skewness	Coefficient
Length	poison	174	174.5	2.25	0.622
Mass	kg	72.33	72.5	2.77	- 0.485
Chronological age	year	21.36	21.5	1.28	0.144

Table (1): Shows the Homogeneity of the Sample Members

Table (1) shows the values of the mean, standard deviation, and skewness coefficient for the anthropometric variables. The mean values are greater than the standard deviations, indicating no significant dispersion among the members of the research sample. The skewness coefficients ranged between (0.622 to -0.485), which falls within the range of (± 1), indicating that the data follows a normal distribution curve.

As for the equivalence of the groups, the researchers sought to verify the equivalence between the experimental and control groups. *"The researcher should form equivalent groups, at least regarding the variables related to the research"* (Vandalen, 1985).

To control for variables that could affect the accuracy of the results—and to ensure that any differences in outcomes are due solely to the independent variable (the exercises designed according to biomechanical principles)—the researchers conducted an equivalence check between the two groups in the pre-test using the T-test for independent samples across all variables investigated in the study, as presented in Table (2).

Table (2) shows the equivalence process between the pre-tests of the two research groups.

Variable	Unit Measurement	Experimental Group (Pre-test)		Control Group (Pre-test)		Calculated t-value	Sig. Value	Significant
		M	SD	M	SD			
Center approach step speed (2)	m/s	3.22	0.132	3.23	0.085	0.352	0.721	Not significant
Ball Starting Speed Center (2)	m/s	12.29	0.761	12.41	0.592	1.274	0.318	Not significant
Precision Attack Center diagonal (2)	degree	12.45	0.711	12.66	0.592	1.276	0.219	Not significant
Country Attack Performance Assessment Center (2)	degree	4.75	0.393	4.592	0.285	1.154	0.262	Not significant
Speed Approach Step Center (4)	m/s	3.25	0.126	3.24	0.082	0.354	0.788	Not significant
Ball Starting Speed Center (4)	m/s	12.31	0.756	12.36	0.599	1.278	0.218	Not significant
Accuracy Attack Center (4)	degree	12.87	0.744	12.84	0.522	1.278	0.342	Not significant
Country Attack Performance Assessment Center (4)	degree	4.89	0.391	4.98	0.282	1.157	0.265	Not significant
Moral at \geq error rate (0.05) and in front of a degree of freedom (10)								

The results in Table (2) show that the two groups are equivalent in all research-related variables, as there are no significant differences between the participants in either group.

Exercises Designed According to Biomechanical Principles:

- The exercises prepared by the researchers were applied starting on Sunday, November 10, 2024, and continued until Thursday, January 2, 2025, at a rate of two instructional units per week for a period of eight weeks.
- The Sunday session represented the official volleyball class as part of the curriculum for third-year students in the Department of Physical Education and Sports Sciences, College of Education, Al-Farahidi University. The second instructional unit was conducted on Thursdays as an additional session in agreement with the research sample (both the experimental and control groups) and the course instructor.

- The researchers ensured that the exercises were designed to align with the participants' characteristics by satisfying internal conditions (learner-specific factors such as abilities, skills, and motivation) as well as external conditions (factors related to the learning environment, such as skill progression and instructional delivery, etc.).
- A blend of exercises was implemented that could help learners improve performance with each repetition, by applying biomechanical principles, especially in take-off and spiking. Mechanical aids were used, such as:
 - A spring board to assist in higher jumps,
 - Appropriately tall barriers,
 - Occasionally a box,
 - And a barrier set at net height to ensure diagonal spiking, etc.
- The exercises also focused on:
 - Capturing and maintaining the learner's attention,
 - Communicating the desired learning outcomes,
 - Stimulating recall of information,
 - Presenting and guiding the learned skill,
 - Providing appropriate feedback,
 - Encouraging self-assessment,
 - Reinforcing learning retention,
 - And promoting transfer of learning.
- The designed exercises included 16 instructional units over two months. Each session lasted 90 minutes, divided as follows:
 - 15 minutes: Preparatory segment,
 - 65 minutes: Main segment, which included:
 - 10 minutes: Educational task,
 - 55 minutes: Practical task (with an average of 5 exercises),
 - 10 minutes: Concluding segment.
- The researchers designed 20 specific exercises focused on attacking from positions (2) and (4)—with 5 exercises per instructional unit. These varied from week to week:
- After the first 4 instructional units, the same exercises were repeated in the next 4 units, but with modified repetitions and increased difficulty.
- In the third and fourth sets of 4 units each, exercises were rearranged in a randomized sequence to serve the instructional goal of each unit—whether targeting approach, take-off, or spiking.
- The researchers took care to maintain experimental control through the following steps:
 1. The course instructor implemented and applied the instructional units to the research sample under their supervision for both the experimental and control groups.

2. Both the experimental and control groups were taught the same skill (attacking from positions 2 and 4) exclusively in volleyball.
3. The tools and aids used in the exercises were selected to make the instructional units more engaging and enjoyable for the students.

Post-Tests:

The post-test was conducted on the research sample on Sunday, January 5, 2025, at exactly 10:30 a.m. in the main indoor volleyball court, under the same conditions as the pre-test.

Statistical

Tools:

The researchers used appropriate statistical tools via SPSS software (version 26) for data analysis.

Results

Table (3) shows the results of the pre-tests and post-tests for the control group participants.

Variable	Unit Measurement	Control Group Post-Test		Control Group Post-Test		Calculated T value	Sig value	Significant
		M	SD	M	SD			
Approach step speed – Position (2)	m/s	3.23	0.085	3.85	0.085	2.651	0.150	Not sign
Ball launch speed – Position (2)	m/s	12.41	0.592	12.74	0.592	2.780	0.035	Sign
Diagonal attack accuracy – Position (2)	degree	12.66	0.592	13.23	0.592	2.575	0.222	Not sign
Diagonal attack performance evaluation – Position (2)	degree	4.592	0.285	5.878	0.285	2.843	0.034	sign
Approach step speed – Position (4)	m/s	3.24	0.082	3.92	0.082	2.559	0.156	Not sign
Ball launch speed – Position (4)	m/s	12.36	0.599	13.45	0.599	3.009	0.008	sign
Diagonal attack accuracy – Position (4)	degree	12.84	0.522	13.13	0.522	2.512	0.276	Not sign
Diagonal attack performance evaluation – Position (4)	degree	4.98	0.282	5.61	0.282	2.782	0.031	Sign
(0.05) and in front of a degree of freedom (5)								

Table 4

Shows the results of pre-posttests for members of the experimental group

Search variables	Unit of measurement	Pre-test Experimental Group		Experimental Group Post-Test		Calculated T value	Sig value	Significant
		M	SD	M	SD			
Center approach step speed (2)	m/s	3.22	0.132	4.46	0.089	2.952	0.038	Significant
Ball Starting Speed Center (2)	m/s	12.29	0.761	13.47	0.690	3.112	0.009	Significant
Precision Attack Center diagonal (2)	degree	12.45	0.711	13.26	0.694	2.420	0.165	Not Sign
Country Attack Performance Assessment Center (2)	degree	4.75	0.393	6.054	0.282	3.105	0.020	Significant
Speed Approach Step Center (4)	m/s	3.25	0.126	4.56	0.084	3.098	0.026	Significant
Ball Starting Speed Center (4)	m/s	12.31	0.756	13.83	0.684	3.100	0.015	Significant
Accuracy Attack Center (4)	degree	12.87	0.744	13.93	0.527	2.422	0.043	Significant
Country Attack Performance Assessment Center (4)	degree	4.89	0.391	6.55	0.288	3.122	0.000	Significant
Significant at the error rate $\alpha \geq (0.05)$ and in front of the degree of freedom (5)								

Table (5) Shows the results of post-post-tests among members of the control and experimental groups

variables	Unit of measurement	Experimental Group Post-Test		Control Group Post-Test		Calculated T value	Sig value	Significant
		M	SD	M	SD			
Center approach step speed (2)	m/s	4.46	0.089	3.85	0.085	2.202	0.041	Significant
Ball Starting Speed Center (2)	m/s	13.47	0.690	12.74	0.592	2.182	0.046	Significant
Precision Attack Center diagonal (2)	degree	13.26	0.694	13.23	0.592	1.879	0.160	Not sign
Country Attack Performance Assessment Center (2)	degree	6.054	0.282	5.878	0.285	1.911	0.127	Not sign
Speed Approach Step Center (4)	m/s	4.56	0.084	3.92	0.082	2.196	0.048	Significant
Ball Starting Speed Center (4)	m/s	13.83	0.684	13.45	0.599	1.950	0.140	Not sign
Accuracy Attack Center (4)	degree	13.93	0.527	13.13	0.522	2.222	0.043	Significant
Country Attack Performance Assessment Center (4)	degree	6.55	0.288	5.61	0.282	2.523	0.002	Significant
Moral at \geq error rate (0.05) and in front of a degree of freedom (10)								

Discussion:

The results in Table (3), which pertain to the control group tests, showed statistically significant differences between the pre-tests and post-tests in favor of the post-tests for four variables:

- Ball launch speed from position (2)
- Evaluation of diagonal attack performance from position (2)
- Ball launch speed from position (4)
- Evaluation of diagonal attack performance from position (4)

As for the remaining four variables:

- Approach step speed from position (2)
- Diagonal attack accuracy from position (2)
- Approach step speed from position (4)

- Diagonal attack accuracy from position (4) they did not show statistically significant differences, although there was a slight improvement in the mean values in favor of the post-test.

The researchers attribute this improvement to the exercises included in the official curriculum, designed by subject instructors—who are a group of specialized professors—as well as the commitment of the control group members to both official and additional instructional sessions.

The researchers believe that one of the key reasons for the success of any instructional, training, or rehabilitative program lies in precision and sound scientific planning aimed at achieving the desired goals and outcomes.

They also believe this success is due to the diligence of the subject specialists and their diverse academic backgrounds. The researchers agree with Saad Mohsen, who emphasized: *"Regardless of the differences in scientific and practical methodologies, an educational program will undoubtedly lead to improved performance if it is built on a scientific foundation—by organizing and programming the educational process, applying appropriate and progressive intensity, observing individual differences, using optimal repetitions and effective rest intervals, and ensuring supervision by specialized teachers and coaches under proper learning or training conditions in terms of space, time, and tools."* (Ismail, 1996)

As for Table (4), which relates to the experimental group, the results showed statistically significant differences between the pre-tests and post-tests in favor of the post-tests across all variables, except for diagonal attack accuracy from position (2), which, despite showing notable improvement, did not reach statistical significance.

The researchers attribute the reason for these significant differences to their specially designed exercises, which were based on sound mechanical principles and rigorous scientific foundations in order to achieve their intended goal.

Regarding the variables of approach and its speed, the researchers believe that stride length is one of the key factors in increasing the speed of this step, particularly the final step before take-off. This step reflects the student's ability in terms of the speed achieved. It is known that any high horizontal speed results, during the braking phase, in a good vertical lift for the spiker. Therefore, special attention must be given to the final step, up to a certain point: the shorter and deeper this last step is in terms of time, the better the speed, and the more accurate the spike (Nafe' & Ghanem, 2009).

Hamid (2001) explains that "the horizontal speed of the body's center of gravity is related to increased motion speed and acceleration, and the higher the horizontal speed, the more it contributes to enhanced jumping and the conversion of horizontal speed into vertical speed after braking." Hochmuth also points out that there is a direct relationship between increased body speed and body extension, which requires synchronization in performance and motor

coordination between body parts and force application simultaneously in the shortest time possible (Hussein & Shakir, 1998).

Furthermore, Suleiman Ali Hassan and others assert that the coordination and harmony between the player's movement and progress, along with applying biomechanical principles in the shortest possible time, is what leads to a good performance (Hassan et al., 1980). This aligns with the mechanical principle that time is a critical factor for differentiating between the movements of bodies

This is exactly what the students in the experimental group achieved—reaching the shortest possible time. Thus, the rhythm is fundamentally (right, left, right, left), with the last two steps executed almost simultaneously (Crosiers & others, 2005).

Regarding the take-off and the strike, the researchers believe that increasing vertical speed leads to gaining greater vertical distance by enhancing the take-off speed and reducing the duration of the take-off. Qasim Hassan and Iman Shakir point out that vertical speed is directly related to the body's launch angle (Hussein & Shakir, 1998). The determination of the horizontal distance achieved by the student's body and the projectile in the air depends on the horizontal component of the launch speed at the moment of take-off. The greater the horizontal component of the launch speed, the longer the horizontal distance the projectile can travel (Hossam El-Din, 2014).

Alaa Mohsen Yasser, citing Sareeh Al-Fadhli, confirmed that the height of the body's center of mass is related to the time at the moment of push-off and the body's speed during launch. This relationship allows the body to gain substantial momentum with reduced push-off time, indicating the use of high force in a very short time, which results in the athlete achieving greater height (Yasser, 2007).

As for the performance evaluation by the expert assessors specialized in this field, the results aligned with the observed improvements across all kinematic indicators—naturally reflecting the enhancement in performance, which in turn led to the current results.

Regarding the results presented in Table (5), which pertains to the post-post tests between the two research groups, a statistically significant improvement was found in five variables in favor of the experimental group. These variables are:

- Approach step speed at position (2)
- Ball launch speed at position (2)
- Approach step speed at position (4)
- Diagonal attack accuracy at position (4)
- Diagonal attack performance evaluation at position (4)

The remaining three variables—diagonal attack accuracy at position (2), diagonal attack performance evaluation at position (2), and ball launch speed at position (4)—did not show statistically significant differences, although they all showed slight improvements in favor of the experimental group.

The researchers attribute this superiority to the special exercises based on mechanical principles, which precisely and accurately defined the required performance criteria. Additionally, they provided a comprehensive conceptualization of the movement and a methodical breakdown of the skill into components, each taught separately before integrating them into a complete, sequenced movement. The researchers adopted a gradual progression in their prepared training, moving from the simple to the complex, which played a role in organizing the educational content in a sequential manner, thereby facilitating the learning of the required material. Among the factors influencing a learner's acquisition of movements is the guidance provided by the instructor (Obaid, 2006). The researchers affirm what has been emphasized by Al-Rubaie and others, namely that "those responsible for the educational process help equip players with knowledge and capabilities, and create new and innovative ideas to systematically and purposefully raise their practical engagement" (Al-Rubaie et al., 1999). The researchers also took into account all mechanical aspects and conditions in their prepared training, which was reflected in their results. This is because the process of learning skills aims "to teach, master, and solidify motor skills in order to reach the best possible level through the methodology planned and implemented by the coach in training the players" (Al-Kadhimi & Al-Taie, 2012). The findings of this study align with several others, including the study by Ithraa et al. (Khader Abbas, Mushref, & Ameen, 2024). Thus, the research hypotheses were confirmed: there were no statistically significant differences between the two research groups in the pre- and post-tests, nor were there statistically significant differences in the post-tests in favor of either group. Therefore, the null hypothesis is rejected, and the alternative hypothesis—indicating statistically significant differences among individuals—is accepted.

Conclusions:

1. The specialized exercises based on mechanical principles had a positive effect on some kinematic indicators and on learning the skill of diagonal attack from positions (2) and (4) in volleyball for the students.
2. The improvement in some kinematic indicators (in the experimental group) was reflected in the results of the visual evaluation of the skill's form as assessed by performance experts.
3. The results also showed improvement in the performance of the control group members, attributed to the dedication and strong commitment of the subject teachers.

Recommendations:

1. Emphasize the preparation of specialized exercises based on mechanical principles due to their positive impact on learners.
2. Stress the necessity of applying exercises that target mechanical indicators, given their fundamental and effective role in learning technical performance.
3. These exercises can be applied to other student samples or youth groups and can be adapted to different sports or athletic activities.

Appendix (1) Table of Educational Units

weeks	Sunday / basic educational unit	Thursday/ Additional Educational Unit	weeks	Sunday / basic educational unit	Thursday/ Additional Educational Unit
first	10/11/2024	14/11/2024	fifth	8/12/2024	12/12/2024
Second	17/11/2024	21/11/2024	Sixth	15/12/2024	19/12/2024
Third	24/11/2024	28/11/2024	Seventh	22/12/2024	26/12/2024
Fourth	1/12/2024	5/12/2024	Eighth	29/12/2024	2/1/2025

Appendix (2) A model of an educational unit from the prepared courses

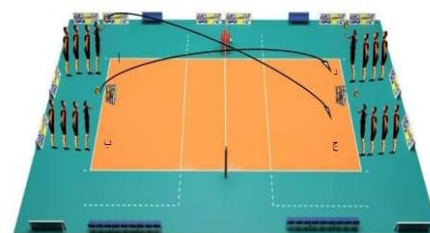
t	Sections of the educational unit	Time	Module content	marshalling	Observations
	Preparatory Department	15 min			
1	Introduction	3 min	Stand in one format to give some directions	xxxxxxxxx ▲	Emphasize that physical exercise is performed correctly.
	General warm-up	5 min	General preparation for all organs of the body to raise the basic physical capabilities of the body.		
	Private warm-up	7 min	Various and comprehensive exercises for the whole body serving the main part of the educational unit and special warm-up exercises by balls.	xxxxxxxxx xxxxxxxxx ■	
2	Main section	65 min			
	Educational aspect	10 min	Explain the skill and present a model from the teacher and a quick replay of what was discussed in the previous unit	xxxx x xxxx xxxx ■ xxxx	Emphasis on clarification, simplification of explanation, and students' understanding of the technical aspects of performance

	Sections of the educational unit	Time	Module content		
	Applied side	55 min The time of each exercise ranges from (11) d	Exercise: (P5, 4P, 3P, 2P, 1P) Students apply the exercises with as many repetitions as possible within the time specified for each 11-minute exercise	xxxxxxxxx ■ xxxxxxxxx	Emphasize the performance of exercises well and correct the mistakes that occur
3	Concluding Section	10 min 5 min 5 min	Conduct a test to see the extent to which players understand the performance of this level of training to take them to a higher level Feedback and departure.	xxxxxxxxx ▲	Adherence to the system.



The five exercises are applied sequentially, with each exercise lasting 10 minutes of activity followed by one minute of rest. It is worth noting that performance correction is carried out with low to moderate effort and a high number of repetitions.

0



Appendix (3) Sample Exercise Content Prepared (12 of 36) Applied Exercise

Icon	Exercise content	Learning Objective
P1	Learners stand in the form of two groups, each group in a playground in front of the net, and each learner performs approximate steps without using the ball	Emphasize the correct performance of approximate steps for the skill of overwhelming beating
P2	Learners stand in the form of two groups, each group in a court in front of the net, and each learner performs approximate steps with the use of the ball	Emphasize the correct performance of approximate steps for the skill of overwhelming beating
P3	Learners stand in two groups, each group next to the sides of the playground and each learner performs the three approximate steps with the help of three colored signs representing each step marker, then promotion and relegation.	Learn approximate steps correctly for the skill of overwhelming beating
P4	Dividing learners into two groups separated by the net The group stands sideways behind the offensive line, and each learner hits the ball on the ground from the bottom of the net to bounce to the colleague standing in front of him in the opposite field	Directing the ball to the wrist
P5	Each of the two learners stands together in front of the wall, constantly hitting the ball from standing on the floor to bounce off the wall mutually with a focus on wrist movement and full striking hand extension.	Teaching the skill of crushing hitting and emphasizing the movement of the wrist while not hitting the ball the wall
P6	Learners stand in the form of two groups in front of the network in front of each group a number of signs, and each learner runs between the signs and then upgrades and performs the skill of overwhelming beating without a ball	Teaching the skill of overwhelming beating and developing agility for the student
P7	Learners stand in the form of two groups in front of the net in front of each group a number of signs, and each learner runs between the signs and then upgrades and performs the skill of overwhelming beating with a ball / diagonal in front of me	Teaching the skill of overwhelming beating and developing agility for the student

Icon	Exercise content	Learning Objective
P8	Learners are divided into two groups, each group is in the form of a circle, one of them stands in the middle of the circle and numbers the ball to one of his colleagues to do the crushing beating to the student in the middle who raises it to the other	Teaching the skill of overwhelming hitting and the feeling of directing the ball towards a specific target
P9	The learners stand in the form of two groups in front of the network in front of each group a number of signs, and each learner runs between the signs, then performs the three approximate steps with the help of three colored signs, then rises to perform the skill of overwhelming beating without a ball and landing	Learn the approximate steps of the technical performance of the Overwhelming Beating Skill
P10	The learners stand in the form of two groups in front of the net in front of each group a number of signs, and each learner runs between the signs, then performs the three approximate steps with the help of three colored marks, and then rises to perform the skill of overwhelming beating with a ball and landing.	Learn the approximate steps of the technical performance of the crushing hitting skill and correctly direct the ball towards the specified target
P11	The learners stand in the form of two groups on both sides of the field in the form of a locomotive and the teacher stands on a deck behind the net holding the ball and the learners make approximate steps and perform the skill of overwhelming beating and touching the ball held	Learn approximate steps, correct elevation and extending a striking hand to touch the caught ball
P12	Two learners stand in front of the wall at a distance of (3 m), one of them numbers the ball to his colleague who does the overwhelming beating on the square drawn on the wall and measuring (60 cm x 60 cm) and then the switch is made after performing (3) repetitions for each student	Teaching the performance of overwhelming beating with the accuracy of directing the ball on the square drawn wall

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Psychological Shyness and its Relationship to Learning Motivation in Year Female Students in the Long Jump Performance Among First College of Physical Education and Sports Sciences, Al-Muthanna University

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2320](https://doi.org/10.37359/JOPE.V37(2)2025.2320)

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Article history: Received 12/ June/2025 Accepted 17/ June/2025 Available online 28/ June/2025

Abstract

The current research aims to develop a scale for psychological shyness and motivation to learn effectively through the long jump, and apply it to first-year female students in the College of Physical Education and Sports Sciences at al-muthana University. The aim is to identify the correlation between psychological shyness and motivation to learn effectively through the long jump. To achieve this goal, the researcher employed a descriptive approach, along with survey and correlational studies, as they are appropriate for the nature of the research problem. The research population comprised (52) first-year female students in the College of Physical Education and Sports Sciences at al-muthana University for the academic year (2024-2025). (The researcher then developed a scale for psychological shyness based on a scale prepared by Salwa Abdul Mahdi Manhil, consisting of (24) items with three alternatives: (fully applicable, sometimes applicable, and not applicable at all). The total score on the scale ranged from (24-72). The researcher also developed a learning motivation scale based on the scale prepared by Muhammad Jabbar Muhammad Al-Shammari. The scale consists of (27) items with five alternatives: (agree to a great extent, agree to a great extent, agree to a medium extent, agree to a small extent, agree to a very small extent). The total score for the scale ranges from (27-135). The researcher then conducted a pilot study and extracted the scientific foundations for the questionnaires. The two questionnaires were then ready for application. The researcher began implementing the main experiment on Sunday, January 11, 2025. After administering the questionnaires, the researcher was able to obtain the results. She then used the statistical program (SPSS) to analyze the data and obtain the results. Based on this, she concluded that

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psychological shyness plays an important and effective role in learning motivation towards the long jump, as the results revealed significant correlations.

Keywords: Psychological shyness, motivation to learn effectively in long jump.

Introduction

Lectures at the College of Physical Education are considered among the most important curricular lectures given to students due to their importance in reflecting their image from various aspects (physical, educational, and psychological). Any neglect affecting these lectures results in clear negative consequences for students, leading to a deterioration of their conditions due to the pressures they face from the abundance of curricular lectures in other subjects. This does not allow them the opportunity to express their internal emotions of joy or sadness physically through their participation in physical education lectures. Furthermore, physical education lectures have educational and pedagogical objectives that are not achieved merely by participating in play. (Jawad Kadhim, M., & Salman Ahmed, 2016) On the contrary, they require teachers to exert efforts in selecting concepts and using them optimally to achieve the desired benefit. Psychology is regarded as one of the oldest sciences, having garnered significant interest from researchers and scholars in their efforts to understand the human psyche, along with the characteristics and features associated with each stage of life. It is the science that has focused on studying and understanding the individual's personality and the possibility of controlling and developing it to achieve the necessary balance in human knowledge. Sports psychology, (Kadhim & Mahmood, 2023) as a branch of psychology, attempts to understand the behaviour and experience of individuals involved in sporting activities. It investigates the characteristics, traits, and psychological states of the personality to develop this activity and achieve sports achievements and desired results, whether in lectures or practice, which contain many requirements that the practitioner must fulfil. Therefore, it requires the individual to exert efforts to overcome performance obstacles in training and competition that may hinder the achievement of their goals. People differ among themselves in terms of their natures, traits, and temperaments. Among these individuals, we observe a range of personalities, including harsh and gentle, outgoing and introverted, as well as shy individuals. Every human being has their own unique nature. In reality, there are some traits that are initially considered normal and do not pose an obstacle to the individual, such as shyness, which we may observe more during a certain period, as the individual feels shy due to the emotions they experience. In some situations, like when someone is praised for an action, shyness is considered a normal and admirable human trait. However, if shyness is constant and at a high degree for an individual, it will inevitably become a personal and psychological problem with negative effects that put the person in unenviable situations. (Kadhim, 2023) Shyness hinders and paralyzes human movement, weakens productivity, and makes individuals unable to face life, mix with people, interact with them, and benefit from them. It also prevents them from social interaction and limits their ability to receive necessary guidance. The shy person imagines that everyone is watching them, anticipating them, and listening to their words to criticise them, find fault with them, and mock them. Therefore, shy individuals often avoid social situations and try to stay away from interacting with others. Shyness is a physiological phenomenon with physical symptoms that appear on a shy person, such as facial redness, muscle tension, increased heart rate, trembling voice, and sweating. These symptoms become an additional

source of anxiety and tension, leading to embarrassing situations for the person, causing them many problems that the shy person is unable to face or solve. As a result of our experiences as students, we have observed that some female students express feelings of shyness, which prevents them from interacting and participating effectively in lectures. We also see among shy female students that when they are asked a question or an explanation for some information, they become flustered, their face turns red, and their voice trembles, so they prefer silence. Also, their lack of confidence in playing, although sometimes their performance is correct, and their feeling of dread and shyness and that others are looking at them, makes them hesitate and prefer not to participate and interact in playing within the team. Similarly, we find that the shy female student cannot ask questions related to enquiring about some information related to the game or that is difficult for her to understand, (Fadel & Kadem, 2021) which may lead to a problem in learning for the student, especially in power games activities, including the long jump, because this activity requires many repetitions to acquire and learn the skill. Thus, the student who suffers from shyness performs the skill but not willingly, and from here the importance of the research emerges to know the nature of the relationship between psychological shyness and motivation towards learning.

Research Problem

The current research problem lies in answering the following questions:

- A- What is the reality of both (psychological shyness, long jump learning motivation) among first-year female students in the College of Physical Education and Sports Sciences, Al-Muthanna University?
- B- Is there a relationship between psychological shyness and long jump learning motivation among first-year female students in the College of Physical Education and Sports Sciences?

Research Objectives

1. Develop scales for psychological shyness and long jump learning motivation and apply them to first-year female students in the College of Physical Education and Sports Sciences, Al-Muthanna University.
2. Identify the level of both (psychological shyness, and long jump learning motivation) among first-year female students in the College of Physical Education and Sports Sciences, Al-Muthanna University. .
3. Identify the correlational relationship between psychological shyness and long jump learning motivation among first-year female students in the College of Physical Education and Sports Sciences.

Research Hypothesis

- A. There is a significant correlational relationship between psychological shyness and long jump learning motivation among first-year female students in the College of Physical Education and Sports Sciences.

Research Areas:

First - Human Scope: First-year female students in the College of Physical Education and Sports Sciences / Al-Muthanna University for the academic year (2024-2025).

Second - Time Scope: From (11/11/2024 to 22/2/2025) AD.

Third - Spatial Scope: The track and field stadium at the College of Physical Education and Sports Sciences / Al-Muthanna University.

Research Methodology and Field Procedures:

Research Methodology:

The researcher used the descriptive approach with two different methods:

First - Survey Studies Method:

Where data was collected on the level of psychological shyness and long jump learning motivation among first-year female students in the College of Physical Education and Sports Sciences for the academic year (2024-2025)

Second - Correlational Studies Method: To reveal the correlational relationships between psychological shyness and long jump learning motivation, to extract the factors underlying the nature of these relationships.

Research Population:

The researcher defined her research population by comprehensive enumeration, represented by first-year female students in the College of Physical Education and Sports Sciences, Al-Muthanna University for the academic year (2024-2025), with their number reaching students. As for the sample of technicians, it included Dhi Qar University, with their number reaching students.

Research Tools, Equipment, and Instruments Used:

Data Collection Tools –

Arabic and foreign sources.

Questionnaire.

Registration form.

International Internet network.

Survey

Equipment and Instruments Used: –

Personal computer (Laptop) of Chinese origin.

Scientific calculator (Casio) of Thai origin.

Office supplies (papers and pens).

Electronic stopwatch (Casio).

Research Procedures-

Steps for Preparing the Scales

First - Psychological Shyness Scale: The researcher reviewed many sources and previous studies, and accordingly adopted the psychological shyness scale prepared by (Salwa Abdul Mahdi Manhil:). This is because the scale measures the same objective that the researcher seeks, which is to measure the level of psychological shyness. The scale consists of items with

three alternatives: (fully applicable, sometimes applicable, and not applicable at all). The total score for the scale ranges from 24 - 72 degrees.

Second - Learning Motivation Scale:

The researcher reviewed many sources and previous studies, and accordingly adopted the learning motivation scale prepared by (Muhammad Jabbar Muhammad AlShammari:). This is because the scale measures the same objective that the researcher seeks, which is to measure the level of learning motivation. The scale consists of items with five alternatives: (agree to a very great extent, agree to a great extent, agree to a moderate extent, agree to a small extent, agree to a very small extent). The total score for the scale ranges from - degrees. Then the researcher made an adjustment to the scale items by changing the activity in each item from volleyball to long jump activity, in order to suit the required objective.

Questionnaire Instructions:

Setting instructions is of considerable importance in the success of the measurement process. Studies have proven the importance of the role these instructions play in interpreting or influencing the results, which makes it difficult to compare the results of the same measurement in different situations (Amin Kholi:). The instructions for the questionnaires (Psychological Shyness and Learning Motivation) were prepared to clarify to the female students how to answer the items. Care was taken in preparing these instructions to be clear and easy to understand. To increase clarity, the instructions included a special model on how to answer the questionnaire items. The instructions also indicated that there is no correct or incorrect answer, and the important thing is to choose the response that applies to the female students more than others. The female students were also asked to answer all questionnaire items honestly and accurately. The instructions for each questionnaire were written on a separate page of the questionnaire pages. To increase the clarity and understanding of the instructions, the researcher read them and explained them to the female students while answering questions and enquiries about them.

Implementing the Conditions for Applying (Questionnaires):

To get an honest answer, the researcher had to plan the questionnaire's application to create suitable conditions for the respondents and control factors that could interfere with the procedure's integrity. Among the most important of these factors are measurement conditions, standardisation of the measurement situation, and clarity of instructions (Sabah AlAjili:). The researcher tried to control the aforementioned factors to ensure the integrity of the procedure as much as possible and was keen to make the instructions clear in meaning to simplify the process of performing the measurement and achieve the desired goal.

Pilot Study:

Experts and specialists recommend ensuring the suitability of the measurement for the sample, by conducting a pilot study, which is an initial experiment conducted by the researcher, in order to identify the negatives and positives that may accompany it when conducting the main experiment, or the questionnaire items and their other details may not be as clear to the respondents as they are to the researcher. Therefore, a pilot study was conducted at 8:30 : AM on Sunday, January 5 ,2025 , in the indoor hall at the track and field stadium in the College of Physical Education and Sports Sciences, Al-Muthanna University. Questionnaires were

distributed to 10 female students, and the purpose of conducting the pilot study (sadeq:2025) was:

- 1- Identify the difficulties that the researcher may face when applying the questionnaires.
- 2- The content, and in answering the items in terms of their ease or difficulty; for the purpose of rephrasing.
- 3- The time taken by each for giving instructions.

The latter is calculated by extracting the average time resulting from dividing the sum of the times taken by the respondents: the first and the last divided by (2). It was clear from this that the response time for the Psychological Shyness questionnaire was 12 minutes, and the response time for the Learning Motivation questionnaire was 10 minutes. The results of this experiment also showed that all the aforementioned objectives were achieved, which indicates the good response of the female students and their eagerness to answer the questionnaires and their good presentation and organization. It also appeared to the researcher that all the questionnaire items were clear and understandable to the female students.

Calculating the psychometric properties of questionnaires:

The availability of psychometric properties in a questionnaire is a fundamental basis that contributes to determining the suitability of the questionnaire or test for application. These properties are important scientific indicators that should be achieved in order to obtain a good questionnaire or test. Therefore, the standardization process requires certain conditions that play a major role in confirming the validity and scientific nature of that standardization. The measurement tool's results' validity and reliability are among the most important conditions, as explained below:

A- The validity of the survey results:

It means that the test and its content are presented to a group of experts (Abdul Jalil: 1991: 44), and the researcher verified the validity by using the two extreme groups' validity, as the two extreme groups' validity is one of the important indicators of validity. To achieve this, the total scores of the tests were arranged from the highest to the lowest score, and the two extreme groups were determined from the total number of students (50) students, with a percentage of (50%) and an average of (25) student in each group. Then, the researcher used the (t) value for two independent samples to determine the significance of the difference between the two extreme groups. Table (1) illustrates this.

Table 1
The test results are accurate.

Variables	Unit of measurement	Minimum group		Senior group		Calculated value (of (t	Significance level	Statistical significance
		S	A	S	A			
Psychological shyness	degree	50.269	6.239	63.365	5.106	4.367	0.000	moral
Learning motivation	degree	85.631	6.569	114.236	6.217	3.981	0.000	Moral

The table above shows that the discriminant validity value was statistically significant, because the significance level value associated with the calculated (t) value was smaller than the error rate (0.05). This is an indication that the tests are capable of distinguishing between students with higher levels and students with lower levels

B- Stability of survey results:

To verify the stability of the questionnaire results, the researcher used the split-half method. This method has advantages (Sami Mohammed: 2001: 147), which are (economy in effort and time, and it eliminates the effect of changes in the examinee's scientific, psychological, and health conditions that may affect their performance level).

This method relies on dividing the questionnaire into two halves: the first half contains the odd-numbered items, and the second half contains the even-numbered items. Thus, this method provides equivalent scores for the two halves of the tests. To calculate reliability, data from 50 students were used.

Then, the researcher proceeded to verify the homogeneity of the two halves of the questionnaire by using the (LEVENE) test, and Table (2) illustrates this.

Table (2)
The consistency between the two halves of the form for the measures

	Scale	Value LEVENE	Significance level	Statistical significance
1	Psychological shyness scale	0.406	0.637	homogeneous
2	Learning motivation scale	0.412	0.558	homogeneous

Table (2) shows that the significance level value for the LEVENE test was greater than the error rate (0.05), and this is due to the absence of differences between the two halves of the questionnaire, which indicates the presence of homogeneity between the two halves of the questionnaire .

Then the researcher confirmed the reliability coefficient between the two halves of each scale by using the correlation coefficient (simple Pearson), and the value of the reliability coefficient of the half-test was modified by the reliability significance equation (Spearman-Brown) as in Table (3)

Table 3
Split-half test reliability coefficients with correction factor for scales

The scale	Pearson's correlation coefficient	Significance level	Statistical significance	Factorial Spearman Brown	Significance level	The significance statistic
Psychological shyness scale	0.886	0.000	Spiritual	0.939	0.000	Spiritual
Learning Motivation Scale	0.769	0.007	Spiritual	0.869	0.001	Spiritual

The table above shows that the significance level of the Pearson correlation coefficient and the Spearman-Brown correlation coefficient is less than the error rate (0.05), which means there is a significant correlation between the two halves of each scale, indicating that the scales are reliable.

C- Objectivity of survey results:

The researcher derived the objectivity coefficient of the questionnaires in the current study by finding the correlation between the results of the two judges who recorded the questionnaire results, and it was found that there is no difference between their recordings.

The main experiment

After conducting the exploratory experiment and confirming the validity of the questionnaires, the researcher began the main experiment on the research sample, which consisted of (42) female students. The results of the exploratory experiment, which involved (10) female students, were adopted, bringing the total number to (52) female students. This experiment was conducted on the field and track at the College of Physical Education and Sports Sciences, Al-Muthanna University, on Sunday, January 12, 2025, at 8:30 AM.

Statistical methods used in the research:

The researcher used the statistical program (IMB v27.1 – SPSS) to process the data and present the results. Below is a presentation of the statistical methods used:

- The arithmetic mean.
- The standard deviation.
- The standard error.
- Pearson correlation coefficient.
- Spearman-Brown correlation coefficient.
- The hypothetical medium.
- The value of (t) for a single sample.

- Presenting, analyzing, and interpreting the results

Statistical Description of Research Variables:

Table (5)

The statistical description of the research variables

The variable	Unit Measurement	Sample size	Scale degree	The arithmetic mean	Standard deviation	Hypothetical environment	Value (t)	Significance level	Statistical significance
Psychological shyness	Degree	52	72 - 24	67.192	5.045	48	27.432	0.000	Spiritual
Learning motivation	Degree	52	135 - 27	82.615	10.666	81	13.092	0.000	Spiritual

The table above indicates that the degree of shyness among first-year female students was elevated, as the significance level of the t-test above the error rate of 0.05. This is also substantiated by the observation that the mean value exceeded the hypothetical mean. The table indicated that the desire for learning among the students was not statistically significant, since the significance threshold exceeded the error rate. Despite the mean value exceeding the hypothetical mean, the motivation for learning in athletic skills fell short of expectations.

Presentation of the correlation results between the research variables

Table (6)

The correlation relationship between variables

Variables	Value (R)	Significance level	Contribution rate (R ²)	Adjusted contribution ratio	Standard error
Psychological shyness × Learning motivation	0.899**	0.000	0.802	0.798	1.85623

Table (5) shows a significant correlation between psychological shyness and learning motivation, as the significance level of the Pearson correlation coefficient is less than the error rate (0.05), indicating the significance of the correlation. The table also shows that learning motivation explains 80.2% of psychological shyness, meaning that learning motivation is not only affected by psychological shyness but also by other factors that the researcher did not address.

Discussion of the results

The results obtained by the researcher indicated that shyness has a significant impact on the motivation of female students. The researcher believes that psychological shyness leads to avoiding participation during lectures, and they hesitate to ask questions about the motor performance of the long jump skill for fear of being judged or asked to perform, which consequently reduces their educational material, their interaction in the lecture, and weakens their comprehension. This is supported by (Khouh, Hanan, 2002: 18) who stated, "Shyness causes a person to adopt a withdrawn behavior pattern and prevents opportunities to learn skills."

The researcher believes that psychological shyness leads to social isolation, as confirmed by (Maysara Nabil: 2005: 45) who stated, "The shy learner avoids group work or studying with classmates, missing out on the opportunity for cooperative learning, which plays a role in enhancing understanding and achievement."

The researcher also believes that fear of evaluation plays a role in shyness, which is confirmed by (Fadila Arafat: 2005: 27) "that anxiety about performing tests or public evaluations leads to avoiding educational situations and also avoiding practical application in front of students, which negatively affects academic achievement."

Conclusions and recommendations

Conclusions

By presenting and analyzing the research results, the researcher reached the following conclusions:

The psychological shyness scale, which the researcher prepared, was able to measure psychological shyness among first-year students in the College of Physical Education and Sports Sciences at Al-Muthanna University.

The motivation scale for learning the long jump skill, which the researcher prepared, was able to measure the motivation for learning the long jump skill among first-year female students in the College of Physical Education and Sports Sciences at Al-Muthanna University.

The motivation to learn the long jump skill among the female students was not at the desired level. The level of motivation to learn the long jump skill among the female students was not up to the expected standard.

The level of shyness among the female students was high. The level of shyness among the female students was high.

Psychological shyness plays an effective role in the motivation to learn among female students due to its impact and significant correlation. Psychological shyness plays an effective role in the motivation to learn among female students due to its impact and significant correlation.

Recommendations

1. Utilizing the scale of psychological shyness and motivation towards learning, which the researcher developed to measure the level of psychological shyness and motivation towards learning. The researcher prepared the scale of psychological shyness and motivation towards learning to gauge the degree of psychological shyness and motivation towards learning.

We are encouraging female students to engage in sports activities. We are encouraging female students to engage in sports activities.

Attention to guidance and psychological counseling programs in universities and family encouragement. Attention to psychological counseling and guidance programs in universities and family encouragement.

Diversifying activities among the students in the lecture and involving all the students to reduce shyness. Diversifying activities among students in the lecture and involving all students to reduce their shyness.

We are providing a learning environment to reduce social pressures. We are providing a learning environment to reduce social pressures.

Conduct similar studies to apply variables that the researcher did not address to understand their impact on motivation towards learning, as the results indicated that there are variables with contributions to motivation towards learning that the researcher did not address. Similar studies should be carried out to apply variables that the researcher overlooked to comprehend their influence on learning motivation, as the revealed results suggest the existence of variables with significant contributions to learning motivation that the researcher overlooked.

Conduct similar studies using the scale that the researcher employed with students from another stage. Conducting similar studies to apply the scale used by the researcher to students at another stage.

Table1
The final version of the psychological shyness scale

It does not apply to him at all.	Applicable Sometime s it happens to him.	Applicable Absolutely on him	Paragraphs	ت
			I hesitate a lot before participating in any lecture.	1
			I have difficulty talking to someone I don't know.	2
			I feel nervous before a sports event.	3
			I get annoyed when the students look at me during the performance.	4
			I am sweating while participating in the long jump event.	5
			I get very nervous before performing the long jump skill.	6
			I always hesitate when I'm asked about a topic in the lecture.	7
			I feel my mouth go dry when I'm asked to apply the skill.	8
			I get very nervous when I have to speak in front of a group of female students.	9
			My thoughts wander while practicing the skill.	10
			I get annoyed when others watch me while I'm exercising.	11
			My face sometimes turns red when I explain the skill in front of the students.	12
			I am unable to participate in the discussion if there is a group discussion about the long jump event.	13
			I feel nervous when I practice the skill in front of others.	14
			When I am among my colleagues, I try not to share the skill explanation with them.	15
			I avoid discussions with the students about the event.	16
			My heart rate increases when I'm asked to explain the skill.	17

It does not apply to him at all.	Applicable Sometime s it happens to him.	Applicable Absolutely on him	Paragraphs	ت
			I always feel physical reactions (like coughing, pain, and sweating) when I'm asked to explain the skill.	18
			I need time to overcome my shyness in unfamiliar situations.	19
			I feel a lack of confidence in myself when applying the skill in front of others.	20
			I feel like time moves slowly when I'm asked to explain the skill in front of others.	21
			I avoid participating in the lecture.	22
			I think about things that have nothing to do with the lesson I am in.	23
			I prefer silence for fear that others will turn their gaze towards me.	24

Table 2
The final version of the motivation towards learning scale

I agree to a very small extent.	I agree sometimes	I somewhat agree.	I strongly agree.	I strongly agree.	The phrases	ت
					The times spent teaching the long jump skill; I consider them enjoyable and exciting.	1
					I have great confidence in my skills and physical fitness.	2
					When I can't perform the skill, I give up easily.	3
					Coordination among colleagues to execute the exercises correctly.	4
					Learning to perform the skill is a real pleasure for me.	5
					What worries me is what others think about my physical and skill abilities.	6
					I blame my colleagues when I fail to execute what is required in learning the skill.	7
					Repetitive exercise bores me.	8
					It's difficult for me to keep learning the skill repeatedly every week.	9
					I avoid challenging my strong colleagues when executing the skill.	10
					I am not sure about my physical and skill abilities in long jump.	11

I agree to a very small extent.	I agree sometimes	I somewhat agree.	I strongly agree.	I strongly agree.	The phrases	ت
					I tell my colleagues when their performance in the skill is below their level.	12
					I apologize when participating in competitions with my strong fellow competitors.	13
					I respect the system and the rules of the lesson even if it conflicts with my interests.	14
					I do not accept the practice of artistic performance that lasts for long periods.	15
					I can't control my emotions when my colleagues make a mistake against me.	16
					I quickly regained my normal state after performing the skill or after the teacher criticized me.	17
					I possess a great deal of confidence in my skills and the ability to execute them successfully.	18
					It seems that I am not putting in my utmost effort in skill performance.	19
					I avoid taking on leadership positions in class because they cause stress.	20
					I avoid giving feedback to my colleagues in case they make some mistakes during practice.	21
					I ignore the rules and performance systems if they are not in my favor to excel.	22

I agree to a very small extent.	I agree sometimes	I somewhat agree.	I strongly agree.	I strongly agree.	The phrases	ت
					I consider myself one of the good athletes who help the teacher during the lesson.	23
					Sometimes I don't put in all my effort during long jump practice.	24
					I believe I can defeat any competitor in skill performance.	25
					Sometimes I apologize for not exercising or participating in it.	26
					I feel happy when my colleagues excel in performing the learned skill exercise.	27

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The Effect of TRX Suspension Resistance Exercises on Certain Physical Variables and the Accuracy of Performing the Offensive Block Skill in Volleyball

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2262](https://doi.org/10.37359/JOPE.V37(2)2025.2262)

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Article history: Received 12/ March /2025 Accepted 25/ March /2025 Available online 28/ June/2025

Abstract

The study aimed to develop resistance suspension (TRX) exercises to improve certain physical variables and the accuracy of performing the offensive block skill in volleyball. The experimental method was employed on a sample of 20 players from Al-Hussein Sports Club for Volleyball, who were intentionally selected. The sample's mean height was 171.25 cm with a standard deviation of 5.5 cm, the mean weight was 61.23 kg with a standard deviation of 4.656 kg, and the mean age was 16.88 years with a standard deviation of 0.52 years. Pre-tests were conducted on the sample before implementing the training program, which lasted for eight weeks at a frequency of three training sessions per week. After the program, post-tests were conducted, and data from physical and skill performance tests were collected and analyzed using the SPSS statistical program. The results showed statistically significant differences in all studied variables (arm strength endurance, leg strength endurance, physical-skill performance endurance, and blocking accuracy), with (Sig) values of (0.000, 0.005, 0.000, and 0.000) respectively. The researchers concluded that TRX suspension resistance exercises had a positive impact on the development of physical variables for volleyball players. These exercises also improved the accuracy of performing the offensive block skill, which was attributed to the physical development of the sample, leading to improved performance and better match outcomes. The researchers recommended conducting similar studies on other samples and incorporating TRX exercises in training units due to their effectiveness in developing physical qualities and enhancing the accuracy of the offensive block skill.

Keywords: TRX suspension resistance exercises, physical variables, offensive block skill accuracy.

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Introduction

Countries around the world are striving for a scientific revolution through research and studies in various fields, including sports training science, which is considered a balanced process based on solid scientific foundations. It is built upon experience and scientific knowledge aimed at preparing athletes to achieve the highest possible level of performance in their respective sports disciplines. In recent years, numerous training methods have emerged that enhance and develop physical traits and abilities through the use of unconventional training tools, such as the TRX suspension system. This tool is considered one of the most effective in enabling the body to move in different angles and directions while applying full resistance to muscle groups through various exercises such as squats, push-ups, and planks. These suspension exercises significantly impact the athletes' physical and motor abilities (Kadhim, 2024). Physical fitness, represented by the athletes' physical variables, is one of the essential aspects that a coach must understand accurately through regular tests and measurements, as it is a critical factor in winning matches. Physical variables are closely related to sports activities, although the degree of necessity varies depending on the requirements of each sport, event, and skill. Volleyball is a high-intensity sport that has specific physical demands. It requires speed, surprise attacks, coordination, and muscular strength and power in both the upper and lower body. Therefore, when designing training programs for volleyball players, the relationship between physical and skill-related variables should not be overlooked, as physical readiness forms the foundation for executing technical skills. This is particularly true for the offensive blocking skill, which is one of the most important technical skills. It is performed by front-row players near the net to intercept the opponent's ball and convert the situation into a scoring opportunity. (Kadhim, 2023) Thus, it is crucial that physical and skill training be integrated, as physical conditioning is one of the pillars of training and plays a vital role in players' development. Athletes with high physical capabilities are more likely to perform skills correctly and efficiently. Accordingly, the importance of this research lies in designing training exercises using full-body TRX suspension resistance. This is a form of suspension training that utilizes gravity and body weight to develop physical and skill-related variables. These exercises open up broad possibilities for coaches and professionals in volleyball training to use them to elevate the level of the game. The problem of the study stems from the researchers' experience in the sports field, a review of several scientific studies conducted by the researchers, and interviews with coaches and observation of their training practices. (Moayd et al., 2019) It was noticed that TRX suspension resistance exercises were not used in their training programs. Instead, traditional methods based on repetitions with appropriate rest intervals were used. Therefore, the researchers came up with the idea to explore this topic and propose TRX exercises that could develop physical variables and positively influence volleyball skill performance.

Research Objective:

To design TRX suspension resistance exercises that target specific physical variables and the accuracy of performing the offensive block skill in volleyball.

:Research Aim

To identify the effect of TRX suspension resistance exercises on certain physical variables .and the accuracy of the offensive block skill in volleyball

:Research Hypothesis

There are no statistically significant differences between the pre- and post-tests of the research sample in some physical variables and the accuracy of performing the offensive block skill in .volleyball

Time Frame

From January 3, 2025, to March 2, 2025

Location: Al-Hussein Sports Club Hall in Baghdad

Participants:

A sample of youth volleyball players under the age of 17 for the 2024–2025 season.

Materials and Methods

The researchers used the experimental method with a one-group pre-test/post-test design, which was suitable for the nature of the research problem. The experimental approach is considered the most reliable method for testing hypotheses about cause-effect relationships and is one of the most credible ways to solve scientific problems, contributing significantly to the advancement of scientific research (2:74). The research population included 130 volleyball players under the age of 17. The sample was intentionally selected from Al-Hussein Sports Club players for the 2024–2025 season. The total sample consisted of 16 players, with 4 players excluded for the pilot study, leaving 12 players as the final research sample. The researchers ensured homogeneity among participants in the variables likely to affect the research outcomes, such as height, age, and body mass, as shown in Table (1).

Table (1)

Variables	Unit of measurement	arithmetic mean	The mediator	standard deviation	Coefficient of skewness
height	poison	171.25	169.5	5.5	22.0
the weight	kg	23.61	61	4.656	65.0
the age	year	16.88	16.50	0.52	0.17

Shows homogeneity for research variables (length, Weight, age)

It is noted from Table (1) that the values of the coefficient of skewness are confined. For (+1) and it indicates homogeneity of the Sample, and it is within the normal distribution.

Purpose of the test: To measure the strength endurance of the arms.

Tools used: flat ground

Test description: The tester assumes a prone position on the floor with the body straight. The tester bends the arms to touch the floor with the chest and repeats.

Recording: Each flexion and extension of the arm is recorded as one repetition, and there must be no pause in the performance. The examinee is given one attempt.



Figure (1)

30-second forward lean test demonstrates

The second test: Vertical jump in place (30) seconds to measure the strength endurance of the legs (4:23)

Purpose of the test: To measure the strength endurance of the legs.

Tools A: Whistle, Stopwatch

Test Description: The test subject stands inside a drawn circle and starts jumping continuously without stopping until the test time is up.

Recording: The number of jumps is calculated during the time and each tester has one attempt.

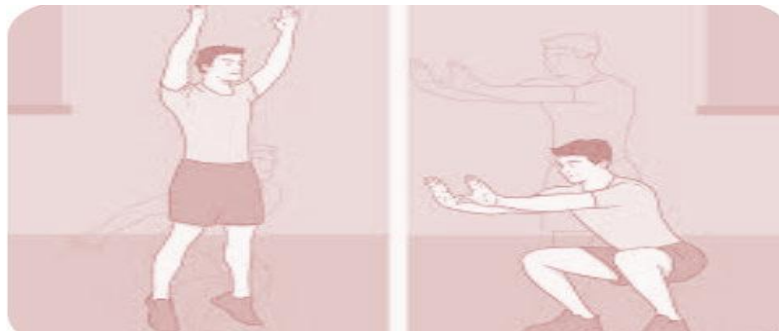


Figure (2)

Vertical jump 30 seconds

Third: Test Physical performance endurance in volleyball (9: 80)

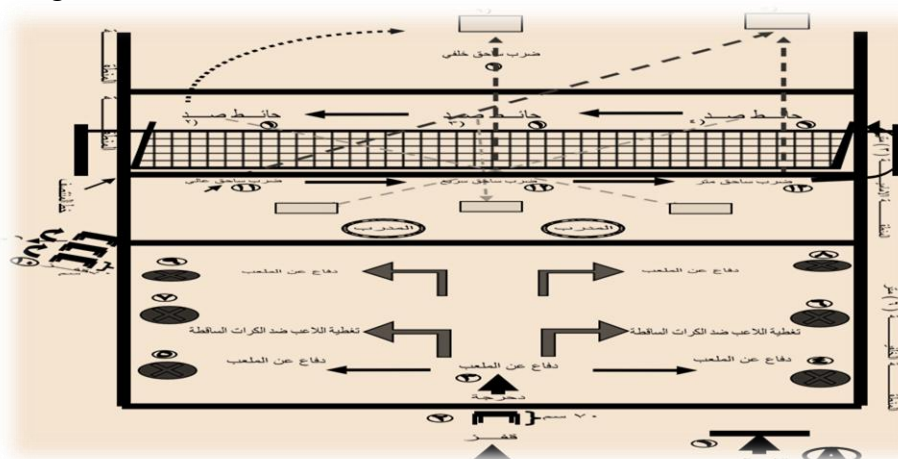
Purpose of the test Performance tolerance measurement

Tools Volleyball court, volleyballs, timer, hurdles (3) with a height of (5 cm, hurdle (1) with a height of (70) cm

Test description: This test contains (17) stations.

At station number 1, Player's nation (A) serves from the backcourt once the timing starts. Then, the player jumps over a barrier with a height of 70 cm placed near the back line in position number 6, which is considered station number 2. After that, the player performs a forward roll at station number 3. The trainer (2) will focus (3) on guiding the player in the center (6). Next, the player moves (A) to center (1), specified by number (4), to defend against a ball coming from the coach with a smash hit. Finally, they move to station number 5 with a quick side movement to defend the field against smashing balls from the second coach.

The player moves to station number (6) to cover the balls falling from the team. The counterpart or which bounces back Then he moves at maximum speed with a lateral movement to the other side of the field at station number (7), after which he moves to station number (8) to confront the skill of the crushing strike from the coach standing in the front area and delivering the ball to center (3) in the correct manner that enables the coach to prepare the balls for his team with the highest degree of accuracy. Player turned (A) To the other side of the field, arriving at station number (9) to defend the smashes, player (A) runs to station number (10) and the jump on three and barriers with a height of (50)It is station 11The distance between the barrier and (100) cm the performance Skill of smashing from the center (4)It is station 12And directing the ball in the center (5) the player changes the rhythm of the movement from offensive skills to defensive skills from the opposite side of the field It is station 13Where he performs the skill of blocking the wall in to focus(4)It is station 14After the trainer performs the crushing skill on him from position (4) and position (3). It is station 15Center (2)It is station 16, and after completing the blocking wall skill, the player moves to the back line from the backward position to perform the back smash skill. At station number 17, after the ball is prepared by the coach after completing the last station, the timer is stopped, and the player is recorded. Real time for Testing sickness



Appearance (3)

Shows performance endurance testing stations

The fourth test: Knock and skill wall to repel the attack (5: 314)

The goal of the test: measurement of offensive blocking skill accuracy

The tools: game ball the airplane legal, your Flying bird (5) tape despair colored to divide the field.

Performance specifications: The player stands in position 2, ready to perform the blocking skill, while the coach climbs onto a table to perform the smash in normal position.

Conditions To perform: to all players (3) Attempts From each position 2-3-4 It is counted Correct From it only offensive He is given a 15-second rest between attempts, and the maximum score for the test is 27. The player is given the score of the area in which the ball falls.

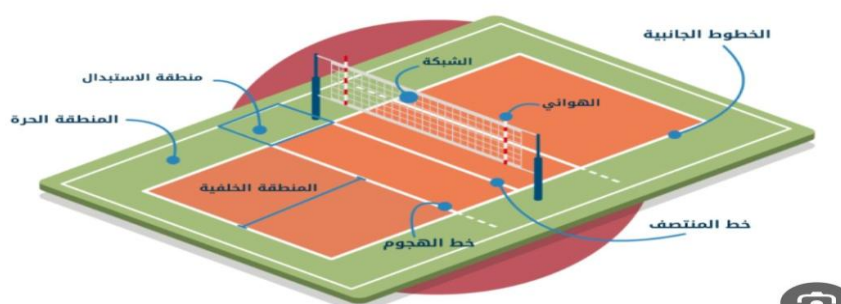


Figure (4)

The attacking block test from the 2-3-4 position is shown.

Exploratory experiment:- The researchers conducted a survey study to sample for urgent They are exploratory promise They are (4) players From the community of origin Monday 2/1/2025 10:00 AM at the club hall Hussein Athlete to ensure the validity of tools and equipment And its sufficiency And the time is set for conducting the tests and Reaching Difficulties Search that may occur during the main experiment How to overcome it And the suitability of the exercises prepared for the research sample as well Providing assistants with the necessary information, their tasks, and informing them of the study objectives.

Statistical Methods: To analyze the results, the researchers used the following statistical tools:

(mean, median, standard deviation, skewness coefficient, and paired t-test).

Results:

After completing the tests, collecting the results, and processing the data statistically, the findings were organized into tables, as they serve as clarifying tools for the research.

Presentation and Analysis of Physical and Skill Abilities Results and Their Discussion:

Table (3)

It shows the arithmetic means, standard deviations, the difference between the arithmetic means and standard deviations, and the calculated and tabulated t-value for the research sample in the pre- and post-tests...

Variables	Pre-tests		Post-tests				The calculated	values	Significance
	S	A	S	A	SF	A F			
Strength bearing arms	18.00	3.48	21.00	7.41	3.00	4.0	6.07	0.000	moral
Bearing power for the legs	20.00	2.89	22.00	3.96	2.00	1.13	3.86	0.005	moral
Endurance of skillful physical performance	53.00	3.7	41.00	2.01	8,000	1.6	3.15	0.000	moral
firewall accuracy	12.31	2.49	18.87	2.60	7.56	3.57	7.38	0.000	moral

Significant below the significance level $< _ (0.05)$ and degree of freedom (15)

Discussion:

From the results shown in Table (3), it is evident that the research sample achieved statistically significant improvement in the post-tests in the physical variables: arm strength endurance, leg strength endurance, and physical-skill performance endurance. The researchers attribute this to the use of TRX suspension resistance exercises and to the well-planned and structured training units that included diverse and varied exercises. These exercises contributed to developing the physical variables under investigation by recruiting and activating as many motor units as possible, thereby increasing the muscular force exerted during performance and overcoming resistance. This, in turn, enhanced muscle strength and endurance, enabling the body to resist fatigue and physical exertion for longer periods. The greater the muscle strength, the more delayed the onset of fatigue after intense physical activity. (Sikhe & Khalid, 2022)

Nasr Al-Din (2003) confirms that "organized training increases the ability of muscles to withstand the fatigue resulting from repeated high-force muscle contractions, which is referred to as endurance performance" (10:66.(Al-Saadi (2023) also notes that "resistance exercises using weights are among the effective methods for developing

physical abilities" (2:71). (The results of the current study align with those of Mustafa (2015) and Abdel-Moati (2016), which indicated that the use of TRX exercises led to improved specific physical fitness components and muscular abilities of the arms and legs, as well as general physical abilities (8:71; 6:20). (Koprince (2009) stated that training with modern equipment and tools is fundamental in physical preparation and has become a necessary requirement across various individual and team sports due to its impact on developing physical capacities (13:10). Additionally, the findings are consistent with the studies of Sukhjivan (2015) and Farag (2016), which showed that full-body TRX resistance training improved fitness components such as strength, flexibility, power, balance, agility, and enhanced abdominal muscles, trunk and pelvic flexibility (12:18; 7:106). (In this regard, Angus Gaedtke et al. (2015) point out that TRX suspension training is a form of functional training that activates core muscles and improves power, flexibility, and balance (11:2). (The researchers believe that the use of the TRX training tool contributed significantly to the development of physical abilities, which was reflected in the skill performance efficiency of the sample. (Sabhan & Abd AL-Hussein, 2015) Observing Table (3), there are statistically significant differences between the pre- and post-tests in favor of the post-test regarding the accuracy of the offensive block skill. The researchers attribute this to the scientifically structured training doses based on TRX suspension exercises, which helped enhance the performance level of the offensive block skill among the players. This improvement was evident through stronger hand contact with the ball, improved jumping ability, proper targeting of the ball's landing zone on the opponent's court, and better timing in jumping and landing — all achieved with fewer errors due to improved performance endurance. Hussein (2011) emphasizes that "blocking plays a crucial role in disrupting the opponent and potentially scoring a point when executed correctly" (1:17). Thus, the researchers conclude that improvements in arm and leg strength endurance, as well as performance endurance among players, played a vital role in enabling them to sustain effort and perform efficiently throughout the match. This also reflected in their awareness of the force applied during blocking and their ability to judge distances and target ball placement accurately (Munaf et al., 2021). The higher the muscular ability, the greater the improvement in performance accuracy.

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SCALE MANAGEMENT CONSTRAINTS OF E-LEARNING FROM THE PERSPECTIVE OF TEACHING THE FACULTY OF PHYSICAL EDUCATION AND SPORTS SCIENCE UNIVERSITY OF BAGHDAD. *Turkish Journal of Physiotherapy and Rehabilitation*, 32, 3.

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Analysis of chaotic behaviour according to the playing lines of Iraqi Premier League football players

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2204](https://doi.org/10.37359/JOPE.V37(2)2025.2204)

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Article history: Received 12/ September/2024 Accepted 13/ October/2024 Available online 28/ June/2025

Abstract

This research aims to analyze the chaotic behaviour of Iraqi Premier League football players according to the lines of play (defense, midfield, and attack). Chaotic behaviour refers to player actions that may deviate from the expected tactics on the field, affecting team performance. In light of the increasing competition in the Iraqi Premier League, understanding the impact of this behaviour on collective performance is essential to improving the effectiveness of team tactical plans. The research problem lies in the emergence of disorganized behaviour among Iraqi Premier League players, which directly impact team performance. These behaviours vary in their impact depending on the player's position and line of play. The research focuses on determining whether chaotic behaviour supports creativity and changes the flow of play for the better, or whether it leads to team chaos and declining performance. The research sample was selected from Iraqi Premier League players, including players from various lines of play: defence, midfield, and attack. Players were divided according to their positions on the field to analyse their behaviour in matches. The study relied on an analysis of

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league matches using questionnaires to measure psychological and physical factors associated with disruptive behaviour. The disruptive behaviour were categorized and their impact on the team's tactical plans was determined. The results revealed that chaotic behaviour varied from one line to another. Its negative impact was most evident in defence, where it led to errors and an increase in goals conceded. In midfield, the effect was twofold, as it sometimes facilitated creativity and positive interaction with the game. In attack, chaotic behaviour was beneficial in creating unexpected new scoring opportunities. The study recommends developing training programs that target reducing chaotic behaviour in defence and promoting it in attack in positive ways. It also recommends using continuous analysis of player performance to identify and address unhelpful chaotic patterns, while enhancing the ability to innovate on the field within a controlled tactical framework.

Keywords: Chaotic behaviour, game lines, football players

Introduction

Chaotic behaviour is a widespread phenomenon in sports communities, as this phenomenon threatens sports institutions, destabilizes them, affects the players' spirits, and threatens sports clubs. In addition, chaotic behaviour among players in clubs may be due to their inability to perform what is required of them in training sessions or local and official matches. This chaotic behaviour may be a form of release and frustration, due to the lack of ability to perform physically and skilfully for players in the club, and the training requirements desired from them by the coaching staff, which creates undesirable behaviours such as heated debate, verbal altercations, and disobeying the coach's instructions. Therefore, the importance of this research lies in identifying the level of chaotic behaviour among advanced players and comparing it according to the lines of play in an attempt to contribute to and facilitate future academic tasks. Research problem: Football is one of the most popular and widespread sports in the world, and it relies heavily on on-field organization to achieve optimal performance. However, players sometimes encounter chaotic behaviour that significantly impacts their collective and individual performance. This chaotic behaviour manifests itself in ill-advised decisions, excessive emotions, and poor understanding between the various lines of play (defence, midfield, and attack), leading to negative effects on the team's overall performance. With the

significant development of football and the increasing level of competition, understanding chaotic behaviour and its impact on the lines of play has become of paramount importance for coaches and players alike. Despite the importance of this topic, studies related to the impact of chaotic behaviour on the performance of the lines of play in football remain limited, leaving a knowledge gap that requires further research and investigation. Therefore, the research problem arises in an attempt to understand the chaotic behaviour between the different playing lines of advanced football players. This research endeavor leads us to explore the extent to which chaotic behaviour affects playing performance, cooperation between players, and the final results of matches.

Research objectives:

- 1- Recognizing the chaotic behavior between the three lines (defense line, midfield line, attack line).
- 2- Comparison of chaotic behavior among advanced soccer players according to their playing lines.

Research hypothesis:

There are statistically significant differences in the level of chaotic behaviour between the three playing lines (defense line, midfield line, attack line) of the Iraqi Premier League football players.

Research areas:

The researchers conducted their study on a sample of Iraqi Premier League football players in the stadiums of some Iraqi Premier League football clubs during the period from 3/28/2024 to 4/7/2024.

Definition of terms:

Chaotic behaviour:

(It is a set of behaviour represented by aggression, causing noise, disturbing others, vandalism, causing damage to devices and tools, and violating instructions and regulations, such as speaking to others without permission, interrupting the speaker, etc.) (Lamoza, 2021, p. 148).

Playing lines:

The playing methods have developed rapidly until they reached what they are now, and with the development of the playing methods, fundamental changes have occurred in the players' positions to serve the three playing lines in carrying out the players' duties in the required manner within the different playing methods. An invalid source has been specified.

- Defensive line players: Their first duty is to defend and their second duty is to attack.
- Midfielders: Their offensive duty is almost equal to their defensive duty.
- Offensive line players: Their first duty is to attack and their second duty is to defend.

An invalid source has been specified.

Research methodology and sample:

The method chosen by the researcher must be appropriate to solve the problem. Therefore, the researcher used the descriptive method with correlational relationships because it is appropriate to the nature of the research problem.

The research community refers to the total group of elements on which the researcher intends to generalize the results related to the research problem, while the sample is that group or elements that represent the community on which the researcher will conduct all of his work (Al-Kubaisi, 2004, p. 51).

The research community included the Iraqi Premier League football players for the sports season (2023/2024), numbering (22), and the research sample included (11) clubs.

Information collection methods:

- .1 Note.
- .2 The interview

- .3 Testing and measurement.
- .4 Arabic and foreign references and sources.
- .5 The Internet.

Devices and tools used in the research:

Chinese-made Lenovo laptop.

Sony camera for documentation purposes.(1)

A stopwatch to measure the time taken to complete the test items and the scales used in the study.

Electronic calculator, Sony type, made in China, number.(1)

A questionnaire to survey experts' opinions in order to identify the most important areas.

A questionnaire to survey experts' opinions in order to identify the most important paragraphs.

Papers and articles.

football field

Field research procedures:

The concept or phenomenon to be measured must be clearly and precisely defined. It must be linked to the researcher's desires and attitudes and be measurable. The target group within the study community is Iraqi Premier League football players.

Disruptive Behaviour Scale:

The researcher will use the Disruptive Behaviour Scale of (Karrar Mohsen Radhi) on the Iraqi Premier League football players (Radi, 2024).

The scale consisted of (6) fields distributed over (36) paragraphs. The first field (self-enhancement) contained (6) paragraphs. The second field (psychological endurance) contained (6) paragraphs. The third field (mental toughness) contained (7) paragraphs. The fourth field

(bearing responsibility) contained (3) paragraphs. The fifth field (anxiety) contained (8) paragraphs. The sixth field (disturbed behaviour) contained (6) paragraphs.

Paragraph correction key approval

The researcher adopted the Likert gradual measurement method as a key to correcting the scale items. This method is characterized by the following:

It is one of the most widely used methods of measurement (Zahran, 1973, p. 144).

It is a method characterized by a high degree of stability, because the presence of a number of alternatives in front of each paragraph, ranging from complete agreement to complete rejection, increases the degree of stability (Essawi, p. 38).

The Likert method gives the respondent great freedom to express his opinions about each paragraph.

)C.R and Hill, 1967, p. 199.)

The weights of the positively oriented paragraphs were calculated from (5-1) according to the sequence of their five alternatives, and thus the total score of the scale ranged from (40-200) points, as shown in Table.(1-3)

Table(3-1)

Between the key to correct the scale paragraphs, their direction, the type of their alternatives, and their weights in their initial form.

Paragraph direction		Always applies	Applies to most	sometimes applies	Applies to rarely	Never applies to
Positivity	the weight	5	4	3	2	1
Negativity	the weight	1	2	3	4	5

Exploratory experiment:

After completing the placement of the scale paragraphs and placing the correction key, the researcher subjected the sample of the exploratory experiment, numbering (10) players, as he conducted the exploratory experiment on Monday 3/18/2024 for the chaotic behaviour scale, and its purpose was the following:

Ensure that the content of the paragraphs and scale instructions are clear to the respondents.

To determine the time required to complete the scale for organizational purposes, which was calculated by averaging the time of the first responder with the time of the last responder, as it appeared to the researcher that the time to complete the chaotic behaviour scale ranged between (10-15 minutes). To train the support team (*) to implement the scale and measurement procedures, and to identify the obstacles that the researcher will face when conducting the main survey study.

The main experiment to construct the Disruptive Behaviour Scale:

On Thursday 3/28/2024, the researcher conducted an experiment to construct the scale on a construction sample of (160) players. He tested the sample each in its own club at the time the team was in its club. This experiment continued until Sunday 4/7/2024. The purpose of the experiment was to find the scientific coefficients for the chaotic behaviour scale (validity, reliability, discriminating power, difficulty factor, objectivity).

Scientific parameters of the scale:

Scale validity:

Apparent honesty:

Scale stability:

Objectivity of the scale:

The scale in its final form:

The scale in its final form contains six independent and separate areas, distributed over them (36) paragraphs with five alternatives (always applies, often applies, sometimes applies, rarely applies, never applies), with a correction key for their weights (5-1) in a positive direction, and with an answer time ranging between (10-15) minutes, and to avoid ambiguity or vagueness in its paragraphs and instructions without affecting the content and purpose of each paragraph, the scale was presented to a linguistic evaluator for linguistic review, and the researcher did not make any modifications to it after this procedure.

Results

After extracting the results of applying the scale to the application sample of the Iraqi Premier League football players and according to the research variables, and to achieve the research objectives, the researcher presents the statistical treatments of the scale results in the tables below with a discussion of them, and supporting them with sources and scientific studies as follows:

Presenting the statistical description of the chaotic behaviour scale and comparing it with the hypothetical mean for the entire application sample.

Table (1)

The statistical description of the scale of chaotic behaviour and its comparison with the hypothetical mean for the entire application sample

Statistical data		Premier League players	Defensive line players	Midfielders	Offensive line players
Mean	arithmetic mean	123.6500	135.9500	116.7000	118.3000
Median	The mediator	122.5000	140.0000	117.0000	116.0000

Std. Deviation	standard deviation	14.51688	12.86560	11.58992	10.69235
Skewness	twisting	3010.	0.958-	7570.	5690.
Std. Error of Skewness	standard error	3090.	5120.	5120.	5120.
Minimum	Lowest degree	100.00	105.00	100.00	103.00
Maximum	highest degree	153.00	153.00	148.00	144.00

Table(2)

It shows the level of chaotic behaviour and the value of (T) between the arithmetic mean and the hypothetical mean for Premier League players.

Operations AN o statistics variable	Unit of measurem ent	Hypotheti cal arithmetic mean	arithmet ic mean	Medi a team s	t value The accounta nt	significan ce value	significan ce
chaotic behaviour	degree	108	123.65	15.6 5	8.351	0.000	spiritual

The significance value is significant if it is < 0.05 at a degree of freedom of (95).

Table(3)

Shows the level of chaotic behaviour and the value of (T) between the arithmetic mean and the hypothetical mean for the Premier League defensive players.

Operations AN o statistics variable	Unit of measurment	Hypotheti cal arithmetic mean	arithmet ic mean	Medi a team s	t value The accounta nt	significan ce value	significan ce
chaotic behaviour	degree	108	135.95	27.9 5	9.716	0.000	spiritual

The significance value is significant if it is < 0.05 at a degree of freedom (19).

Table(4)

Shows the level of chaotic behaviour and the value of (T) between the arithmetic mean and the hypothetical mean for the Premier League players.

Operations AN o statistics variable	Unit of measurment	Hypotheti cal arithmetic mean	arithmet ic mean	Medi a team s	t value The accounta nt	significan ce value	significan ce
chaotic behaviour	degree	108	116.7	8.7	3.357	0.003	spiritual

The significance value is significant if it is < 0.05 at a degree of freedom (19).

Table (5)

Shows the level of chaotic behaviour and the value of (T) between the arithmetic mean and the hypothetical mean for attacking Premier League players.

Operations ANO statistics variable	Unit of measurement	Hypothetical arithmetic mean	arithmetic mean	Median teams	t value The accountant	significance value	significance
chaotic behaviour	degree	108	118.3	10.3	4.308	0.000	spiritual

The significance value is significant if it is < 0.05 at a degree of freedom (19).

Discussion

Discussing the level of chaotic behaviour of all sample members, and the sample is divided into (defenders, midfielders, attackers) By analyzing the results shown in the above tables (4-3/4-4/4-5), it becomes clear that there are statistically significant differences at a significance level ($\alpha = 0.05$) between the different sample groups (defenders, midfielders, attackers) in the level of chaotic behaviour, as the results showed that the group (defenders) recorded higher averages compared to the other groups, which indicates the presence of a clear effect of the position the player occupies on the field on the level of chaotic behaviour. The validity of these differences was verified using the statistical analysis program (SPSS) test - ANOVA), which confirmed the existence of significant differences between the three groups. These statistical differences reflect (the interpretation of the differences based on previous theories and studies. Chaotic behaviour is considered a psychological state in which players express what is happening inside them in order to release it, which creates tension or psychological pressure. Chaotic behaviour can arise from several factors, including genetic factors. Genetic factors are a very important and significant factor and may be a reason for

shaping the behaviour and attitudes of players, in addition to weak socialization, as social relationships play a major role in shaping the personality and behaviour of players. There are also many traits and characteristics related to interaction with parents and their children. Among the factors that contribute to the occurrence of chaotic behaviour among players is the failure to use the appropriate method of dealing with children, and the failure to care for them and meet their needs, which results in the emergence of various future deviations in children's behaviour, including chaotic behaviour (Al-Sumaili, 2009, p. 107). In addition to the environment in which players live within sports clubs and training units, it may not meet the needs and desires of the players, or it may foster negativity and harshness in dealing with players. This causes them to develop disorders and chaotic behaviour that affect their relationships with others and weaken their ability to focus to deliver good and excellent performance. The researcher also believes that bullying is one of the reasons for the emergence of chaotic behaviour among football players. Also, the art of imitation is another factor that causes chaotic behaviour, meaning that many players take players from different leagues as role models, and they work to imitate their behaviour on and off the field, especially if the players are chaotic and inherit their behaviour, then their behaviour will certainly be chaotic. The researcher believes that this result is attributed to the fact that the football team works as an integrated system and each line of play differs in its performance during the match according to the coach's plan. (Wahed Issa et al., 2024) Therefore, defensive players are usually distinguished by their physical strength and rough play in order to defend the goal from the opposing team's attack. This shows that the preparation of defensive players during training units does not focus on planning, organization, and choosing good behaviour during the match, but rather on how to defend the goal, regardless of the behaviour displayed by the defender, in addition to not Understanding the coach's plan or the lack of organization and evaluation of the players' behaviour is what causes defenders to display chaotic behaviour. Especially since the social environment in which the players live is characterized by chaos and disorganization, and is filled with anxiety and fear, these traits and chaos will certainly be ingrained in their behaviour and may affect their performance during matches. The researcher adds that a player who possesses a high degree of attention and concentration, (Kadhim & Mahmood, 2023) without engaging in unsportsmanlike or chaotic behaviour, can quickly shift their attention and

transfer the ball to the appropriate location, i.e. to a fellow player. Conversely, we see a player who cannot shift their attention and concentration easily because their attention is distracted by variables" . (Kadhim, 2024) In ball games, the player performs multiple reactions toward the ball. Many games require quick reactions to control the opposing player's manoeuvres, as well as quick reactions to keep up with the movement of team members. The player generates reactions to twenty or thirty situations in less than a second ".This requires a high degree of attentional control, as" the training curriculum inevitably leads to improved performance if it is built on a scientific foundation in organizing the training process) "Yasser, 2002, p. 98)

(6) Table

The results of the one-way variance test (ANOVA) show the arithmetic means, standard deviations, and the calculated (F) value between the groups and the type of difference in chaotic behaviour.

Groups	arithmetic mean	standard deviation	Calculated value of (F)	significance value	Type of difference
Defensive line players	135.95	12.8656	16.530	0.000	spiritual
Midfielders	116.7	11.58992			
Offensive line players	118.3	10.69235			

The significance value is significant if it is < 0.05 at a degree of freedom of (2 - 57).

In order to identify the true differences between the research groups and the best of them in the post-tests of the variables under study, the least significant difference (LSD) test was conducted between those groups.

Table(7) Shows the results of the LSD test to find out the least significant difference in chaotic behaviour.

Groups	Arithmetic means	Media teams	significance value	The result
Defensive line players	135.95	19.25	0.000	spiritual
Midfielders	116.7			
Midfielders	116.7	-1.6	0.000	spiritual
Offensive line players	118.3			
Offensive line players	118.3	17.65	0.000	spiritual
Defensive line players	135.95			

Discussing the comparison of chaotic behaviour between (defenders, midfielders, and attackers):

According to the data presented in Table (4-6/4-7) and Figure (4-9), the results show that defenders suffer from the highest levels of chaotic behaviour compared to attackers and midfielders, with the differences being statistically significant at the ($p (0.05 > \text{level})$). This high level of chaos among defenders can be attributed to the nature of the defensive role, which requires innovation and rapid interaction with playing situations, which can sometimes lead to random and ill-considered decisions. In contrast, the results showed that attackers and midfielders recorded the lowest levels of chaotic behaviour, reflecting the high discipline and tactical commitment required by this position. Midfielders ranked midway between attackers and defenders in terms of levels of chaotic behaviour, showing a balance between offensive and defensive demands, but with some chaos due to the multitasking they perform. (Khedir, 2018)



Conclusions:

- 1-The scale has proven effective in measuring disruptive behaviour in players.
- 2- Iraqi Premier League football players have a chaotic behaviour.
- 3-Defenders have a more chaotic behaviour than midfielders and attackers.

Recommendations:

- 1- The necessity of using the Chaotic Behaviour Scale by coaches on players of Iraqi Premier League football clubs to diagnose players with chaotic behaviour in order to develop an appropriate psychological and training program for them.
- 2- Instructing coaches to provide a suitable environment for players and to pay attention to psychological aspects.
- 3- It is necessary to keep players away from external disputes and to keep them focused on the match to avoid chaotic behaviour.

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The effect of anaerobic exercises on some physical and skill variables in developing scoring accuracy for youth football players

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2273](https://doi.org/10.37359/JOPE.V37(2)2025.2273)

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Article history: Received 28/ March/2025 Accepted 29/ April/2025 Available online 28/ June/2025

Abstract

If the first segment includes the introduction and the significance of the research, then there were four sections in all. Given that football relies on physical prowess, talent, and functionality to translate attacks, the researcher briefly discussed the significance of sports training science to the game's realism. The significance of the study in the impact of aerobic workouts focusing on a few skill and physical factors in developing the accuracy of scoring, but the problem of the research lies in the omission of the use of according to a precise level, aerobic workouts for certain both physically and technically capabilities in the daily training units impacted their offensive performance deficiency, which is the primary pillar on which the findings are based of the matches are based. The purpose of the study is to determine the effects of anaerobic workouts on certain physical and skill characteristics and to prepare anaerobic exercises on these variables in order to improve the accuracy of scoring young football players. in folding the accuracy of scoring for During the football game, the researcher used the skill and physical tests. Ten players were assigned to the experimental group, while ten players were assigned to the control group. The investigator employed the statistical football players in their youth. The human field of study comprised (10/1/202025) until (25/3/202025) The arena of the. student sports club served as the spatial field. The investigation used the experimental approach and the research sample consisted of (20) players from the Student Sports Club for the youth category. bag (spss) to obtain the outcomes. The study came to the conclusion that aerobic exercises effects on a few skill and physical factors and the influence on the accuracy of scoring provided by the investigator for the youth football players since it has a favorable effect. Therefore, the researcher recommends the

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interest of the trainers to use aerobic workouts that focus on certain physical and skill variables in their daily instruction curricula that affect the accuracy of scoring the youth football players

Keywords: anaerobic exercises, physical and skill variables, developing scoring, youth football players.

Introduction

The whole of the sciences sport's sciences, physical education, and educational, genera of specifically training have a basic and efficient function in growing reaching a high degree of athletic achievement. The foundational science of sports science, physical education, and the other disciplines is the science of training The service of the study of sports science instruction and that the growth in practice in a variety of athletic events resulted from the application of research and theoretical studies in practice, that resulted in the improvement of the sports level, which depends on physical, skill, written and psychological abilities. The developed countries of the world were interested in the context of sports. The importance of the research was a fantastic interest in training the age groups of their numbers in an optimal manner, as they represent the foundation for attaining the greatest results founded on scientific planning and training in accordance with scientific foundations, rather than on individual experiences that need to be combined with this, (HalahAtiyah et al., 2024) their high level of physical fitness, and the growth of their group mentality to create a cohesive team concept based on the idea that football requires all aspects of fitness. in order to perform it. Strength, speed, tyes ,Flexibility, endurance, and agility play a key role in making the play ebasis in order to get the highest levels. Football is among the in terms of their abilities and high skills r able to implement the skills of this deliberate game, as well as performing the play plans that have become the key that the coach manages to win. the games that have drawn more and more attention from people all across the world, as seen by the remarkable growth in player numbers. High levels of players' physical, skilled, linear, and mental performance were characteristics of this evolution. As for the problem of research, (Farhan et al., 2016) it was the knowledge - and practice-based training method, and the reliance on field experience without the use of science, which goes against one of the fundamental principles for cultivating that experience and promoting its expansion . As a result of the researcher's observation and follow-up of the game developments as a former player and currently trained and watching most of the training units, the majority of coaches are not aware of the anaerobic activities that football depends and of their training curricula, especially in the units of particular planning and competition , which perform its exercises with a high maximum intensity or less than the maximum intensity commensurate with the nature of the team's play, where the speed in performance and accuracy in the implementation of helps the team to invest in the implementation of thdaily instruction

in their duties, and for this reason, the researcher paid no attention to the exercise counter on some skilled physical variables in developing the accuracy of responsibilities and how to connect anaerobic exercises with their skill development, and thus scoring in football.

The objectives of the investigation intended to create anaerobic workouts for a few skill and physical factors. In developing the accuracy of scoring for young players in football. Learn about the impact of anaerobic training on a few skill and physical factors in creating the accuracy of scoring for youth football players. The hypotheses of the research were that the experimental and control groups' pre and post-test results differ statistically significantly, favoring the post-test. The post-tests of the experimental and control groups differ statistically significantly, with the experimental group scoring higher. The areas of research were the human field represented by the players of the student sports club for the youth category at the age of (under 19 years). For the time range (10/1/2025) until (25/3/2025). The spatial field is where the Student Sports Club plays. Within the previous studies related to the subject of the research, the study (Improving Muhammad 2021) was conducted in the Faculty of Physical Education and Sports Sciences/ University of Karbala. The study aimed to define the effectiveness of the Sakyo exercises in the maximum anaerobic ability and the skill of scoring football and some of the biokinetic and skill abilities of football players. The research sample exaggerated (23) using the experimental approach to design the control and experimental groups with pre- and post-training. The results reached the experimental approach by the researcher in the design of the control and experimental groups with pre-training and post-training. The research sample reached (20) The results were similar exercises positive in the development of special endurance and attacking accuracy of football players for youth and to identify the impact between the experimental control group and the endurance of score.

Method and tools

In scientific research, technique is crucial since the researcher has a direct impact on the study's value and findings. To fit the needs of the study, two equivalent experimental and control groups were created using an experimental approach. The researcher frequently uses the procedures for choosing the study sample and gathering data and information. to determine the community of his research based on the phenomenon or problem that he chooses for his research, that is, "the researcher chooses a sample that he deems to represent the original community that he is studying honestly" (Mohammed Hassan Allawi:2000: 222). The researcher chose his research sample in a deliberate manner from the youth of the Student Sports Football Club at the age of (under 19) years, their number is (20) players, and they were split into two experimental and control groups, ensuring that the two study groups had equal physical and skill capacities as well as fundamental competencies. The control group's use of

the Arabic and foreign language trainer had an impact on the experimental group's individual attack, whereas the experimental group used anaerobic workouts on some variables (physical and skill). sources and references. International Information Network (Internet) football field. Stadium of different height. interval timer Burke measuring tape A football representative of the exploratory experiment on a sample consisting of (6) young players from the Sports Oil Club. The researcher relied on scientific references and sources in the science of sports training, as well as the opinions of experts and football specialists, to consider the training level of the age groups, their talents, and the study sample. The study also utilized the innervation concept of workouts to boost performance intensity, starting with basic exercises and working up to more complicated ones. Club from the Youth League clubs for the football season 2024/2025 from Baghdad Governorate. The tests were conducted on 10/1/2025 at 4:00 pm and at the Sports Oil Club Stadium, and that knowledge of the time taken to implement the tests, and Pre-tests included the researcher's understanding of the likelihood of the assistant work team using the tools and gadgets, the challenges he would encounter, and the amount of time required for the testing. The researcher administered the physical and skill composite tests to the primary research sample of 20 players with the work team's assistance. 4:00 pm on 11/1/2025 at the Student Sports Club Stadium After completing the tests, the equivalence of the control and experimental groups in the pre-tests was extracted using the (T) test for unrelated samples. Preparation of anaerobic workouts on a few skill and physical factors Anaerobic drills on a few factors (skill and physical) and their effect on the evolution of the collective assault in football were produced by the researcher for youths under the age of 19 is spread across 24 training units over 8 weeks, from December 1, 2025, to December 3, 2025. This is enough time to change how movements and body waste are implemented toward exercises by 3 training units per week and vary the time of exercises used. (35-40) From the main department, that helps the player to adapt, which facilitates the mastery of the scoring process in the direction of various tests. The researcher conducted the tests after completing the implementation effects anaerobic workouts on certain abilities and factors, as well as how they affect the growth of scoring accuracy on 13/3/2025. In order to conduct the post-test as closely as possible to the pre-test, the researcher was eager to match the location and conditions. Means in statistics: For independent samples symmetric tests, the researcher employed the bag statistical (spss) data processing to provide mean standard deviation simple correlation coefficient (Pearson) testing (T). FINDINGS: Presentation of the arithmetic media, standard deviation, value (T) of favoritism and the level of significance of the tests for pre and post physical tests under study for the individuals of the research sample

Results

Table (1) Shows the arithmetic media, the standard deviation, the value of (t) calculated, and the significance of the differences between the pre and posttests of the physical variables of the experimental and control groups.

	Variables activity	grou p	Unit Measureme nt	Tribal News		Post-test		Withdraw n	tabula r	Sig
				Mea n	Pr	Mea n	pr			
1	Running 30m from high start	#	sec	3,543	0,218	3,377	0,222	4,079	2,26	Corporat e
		Lette r /Daa d	sec	3,497	0,326	3,442	0,294	2,696	2,26	Corporat e
2	Power Cha racterit ic of Speed	#	sec	4,543	0,308	4,286	0,84	3,722	2,26	Corporat e
		Lette r /Daa d	sec	4,129	0,576	4,001	0,552	2,192	2,26	Corporat e

The table value is at the level of significance (0.05) and the degree of freedom is 9 and it is (2,26)

Table (1) shows the outcomes of the pre-test and post-test of the physical variables that the individual of the groups that were experimental and contro underwent in the variables (running 30m where the value of (t) (which was determined for the control group, respectively, 2,696–2,192), which is more than the value of (t), and from the high start—the strong characteristic of speed table at the significance leve (0.05) and the degree of freedom (9), which is (2,26),It indicates that there were statistically significant changes between the before and posttests, favoring the post tests. However, the experimental value of (t) that corresponds to the collection of physical factors sprinting 30 meters from the high start – the strength characteristic of speed), was 2,696, which is higher than the degree of freedom (9), which is (2,26), and the value of (t), which is tabular at the level of significance (0.05). This indicates that there are differences between the pre and posttests in favor of the experimental group's posttests in these variables. Through the presentation and interpretation of the particular test findings, the 30m run from the high start is discussed. the high and for a brief moment, the side jump revealed notable distinctions between the before and posttests and for the benefit of the post and for both the experimental and control groups, despite the difference in the exercises

in the two groups, which indicates the development of this variable after the primary experiment. The researcher credits the trainer's curriculum, which he created within the elements that make up the training load and which aids in the growth of the player's level, with the development of the running variable for the control group from the high start. and since Football requires this athletic skill depending on the situation and cases of playing football, especially jumping and rebounding. This is what Siraj Al-Din stressed, "Any movements that last for a long time and increase the number of resistances to be overcome hinder running and make the player roll, rotate, camouflage, jump and back, so the football player had to gain the ability to run. As for the development in the experimental group, the researcher attributes this development to aerobic exercises prepared by the researcher by continuing the scientifically organized training process that enables the player to improve his level if these characteristics are Scientific exercises and the rationing of the components of the training load. Since the football game requires the player to perform different and varied movements throughout the time of the rotating game, twisting and returning, continuous jumping and zigzag running, the football player must acquire the characteristic of enduring strength, and this is confirmed by Abu Al-Ela" To acquire blindness of real physiological adaptations, the athlete must be organized Provides consistent and ongoing instruction for a period of no less than (8-12) weeks. Members of the research sample benefited from these workouts as they developed, and the player's performance improved as a result of enhancing this physical capacity via several repetitions that were marked by the characteristic of running from the beginning, as well as repetitions for several times, which leads to the stabilization of proper performance in a timely manner and raises the ability of physical abilities through the presentation and loading of the results of the test of endurance of speed and jogging. Discussion – the strength characteristic of speed. Significant differences emerged between the pre-posttests and for the benefit of the post-test and for both experimental and control groups, despite the difference of the exercises given between the two groups. The development of the test appeared in the post-test of the control and experimental groups. Because the trainer's approach was defined by interconnection Considering the elements of the training load and because the football game is specific in nature, the researcher attributes this development in the control group to the trainer's approach to ongoing training that improves the physical and technical level terms of running at multiple distances, it is necessary to train on the ability to endure speed, and this is confirmed (Hassan Al-Sayed Abu Abdah : 2001: 42) that the team-based essence of football is defined by quick play throughout the match and the constant switching between sprinting quickly for long distances, whether attacking or defending." The experimental group's development can be attributed to the focus on training load components such as intensity, size, comfort, and quick performance at a lower intensity than the maximum. This resulted in the players developing a condition of functional adaptability that allowed them

to play at a high speed for as long as possible in a laboratory. This is what quick performance is needed for the football game

Table (2) Shows the statistical parameters, calculated and tabular values (T), and the level of

significance of the pre-tests of the experimental and control groups of the skill variables

	Variab les Skill	grou p	Unit Measurem ent	Tribal News		Post-test		Calculat ed	Tabul ar (T) Value	Significan ce of difference s
				mean	pr	mean	pr			
1	Ball Scoring	#	Grade	10,90 0	3,31 4	17,20 0	2,44 0	9,211	2,26	Corporate
		Lett er /Daa d	Grade	9,800	5,30 8	12,10 0	4,12 1	4,867	2,26	Corporate
2	Back handling	#	Grade	3,600	2,48 1	6,300	0,82 0	2,30	2,26	Corporate
		Lett er /Daa d	Grade	3,800	1,32 1	4,900	1,29 0	1,261	2,26	Corporate

Table value at the level of significance (0.05) and degree of freedom (9) and is (262and 2)

Table 2 displays the statistical indicators of the pre-skilled and post-skilled test results that the experimental and control group members took in the skill variable. The control group's calculated value of (t) was the largest value of (t) for a table at the level of significance Between 50 and 0 freedoms (9), amounting to (2,26), indicating that there was statistical significance in the differences. and in favor of the post-test. The pre-test and post-test changes were statistically significant while the experimental group's computed value of (t) was higher than the values of (t) at the degree of freedom (9), which are (262) and 2), and the level of significance (50 and 0).and positive. Talk about scoring with balls and managing the outcomes of the test for running and speed endurance by presenting and loading them .Even though the two groups' activities differed, there were notable variations between the pre-posttests and in favor of the post-test for both the experimental and control groups There was a change in the post-test findings for both the experimental and control groups. In terms of ongoing training that improves the technological, functional, and physical level, the researcher attributes this

progress in the control group to the trainer. The method used by the trainer was described as by linking the components of the training load, and since the football game is special in terms of running at multiple distances, it is necessary to train on the ability to endure speed, and this is confirmed by (Omar Abu Al-Majd and Abu Al-Ela Abdelfattah: 2007: 124)The current speedy performance throughout the game and the constant change by sprinting rapidly over several distances are characteristics of the team-based nature of football. whether defensively or by attacking. " As for the experimental group, the development is due to the focus on the components of the training load in terms of intensity, size, comfort and fast performance with less intensity than the maximum, which led to the creation of a state of compatibility for players to work at high speed for as long as possible. This requires the football game to perform fast and at different distances for as long as possible, as well as the curriculum prepared by the researcher, which was prepared with great accuracy. It is codified in line with the specificity of the football game, as confirmed by Mohamed Othman." The trainer can increase the training load gradually within the training rhythm of the physical feedback level if he can ascertain the ideal moment for recovery to take place: The experimental and control groups' feedback test variables and post-test assistance significantly improved, according to the data that were presented and downloaded in the table. The researcher attributes this development to the experimental group. The emphasis on the elements of the training load is what caused the development, which led to the creation of a state of functional adaptation in the players to work at a high speed for as long as possible. This requires the football game to perform as fast as possible and standardized in line with the specificity of the football game. This was confirmed by Mohamed Othman. If the trainer was able to determine the correct timing for the recovery of recovery, he could raise the gradual increase in the training load within the training rhythm that improves the skill aspect, which helps the player to master scoring in post-tests to the effectiveness of the trainings trainings designed to visit a potential that would raise the player's ability level, which were created by the trainer for the control group. Hanafi Othman attests to this in terms of proficiency, which is very necessary and must receive the same importance from the trainer

Table (2) Shows the statistical parameters, calculated and tabular values (T), and the level of

significance of the pre-tests of the experimental and control groups of the skill variables

	Variables activity	group	Unit Measurement	Post-test		Calculated t value	tabular	Significance of differences
				Mean	pr			
1	Jogging 30m from high start	#	sec	3,377	0,222	0,554	2,10	corporate
		Letter /Daad	sec	3,442	0,294	0,554		
2	Power Characteristic of Speed	#	sec	4,001	0,552	1,450		corporate
		Letter /Daad	sec	4,286	0,284	1,450		

Shows the arithmetic media, the standard deviation, the value of (t) calculated, and he importance of the variations in the physical variable post-test outcomes between the experimental and control study groups. The discussion variables' experimental and control groups are: "-" A 30-meter run away from the high star The subsequent assessments of the experimental and control groups showed notable differences, with the experimental group showing the growth of the force tolerance variable. The qualities of the researcher The post-tests of the experimental and control groups showed notable differences, with the experimental group showing the growth of the force tolerance variable. This progress is attributed by the researcher to the exercises created by , the researcher and this is confirmed (Al-Tai :2006: 82) Since the characteristic of running 30m is especially important in the game of football, as it is characterized by the fact that half of the work done during the game by the player in the training in the race and this works to increase the training size by increasing performance as long work can measure the characteristic of carrying the force as well as the gradient in size and the interval of comfort, which is built on the basis of a process that infers the ability of the player to perform the interval of rest for groups by the process. The body was trained for muscular training inside the planned training's training units roughout the training modules in the established curriculum and thus is what requires the specificity of the game of football and this is what Abu Al-Ula

stressed "The game of football requires the development of these qualities because of the importance of the process of developing tactical mechanisms aimed at developing muscular endurance Resulting from the power of the air with the tactical system, that is, bearing the force and bearing the speed. Discussion - The strength distinguished by speed through viewing and downloading the results of the post-tests of the experimental and control research groups in the variable of force mixed with speed Speed In the 30m test, significant differences experimental and control research groups and in favor of the experimental group, which indicates the blindness of the development of the speed tolerance attributes this development to the exercises prepared in the training curriculum. The football game requires performance to be characterized by speed tolerance to increase the ability of the player to perform short, medium and fast distances, and I have not seen many during that the nature of the player's steps varies from jogging to sprinting. Exercises have been developed according to the requirements of the game. This is confirmed by Abu Al-Ula and Nasiruddin, since the football game requires the ability and ability of the player on the field for the longest possible period of time during the game, because the player offers the implementation of many different situations according to the circumstances of the game from quick starts and variable levels, whether in training or the game, where the average speed is achieved after a certain distance to the fatigue factor, so the player must enjoy a high degree of spss

Table (4) shows the statistical parameters, its calculated and tabular values (C), the level of significance of the tests and the dimension of the control and experimental groups of the skill

Variables activity	group	Unit Measure ment	Post-test		Calcul ated t value	tabular	Significance of differences
			Mean	P r			
Ball Scoring	#	sec	17,20	2,440	3,367	2,10	corporate
	Letter /Daad	sec	12,10	4,121	3,367		
Back handling	#	sec	6,300	0,810	2,860		corporate

Table value at the level of significance (50and 0) degree of freedom (18), amounting to (10and 2)

The table shows the statistical indicators of the results of the post-tests, the skill tests that the members of the experimental and control group underwent in a skill variable, where the value of (t) calculated was (3,367), which is greater than the value of (t) table at the level of significance (50 and 0) and the degree of freedom (18), which is (10and 2), which indicates that

the differences between the post-tests were statistically significant between the experimental and control groups and in favor of the experimental group. Discussing the results, the researcher believes that the development in physical and skill performance is the result of exercises prepared by the researcher according to scientific foundations in training, which contributed to raising the capabilities of physical and skill players, which have an important role and the ability of the player to bear performance during the stadium, and since the football game is constantly evolving and the speed of performance, and this is confirmed (Abu Al-Ola Ahmed: 1997: 168) that the total exercises or physical efforts wave, which lead to adaptations or functional change in the internal body systems to achieve a high level of athletic achievement) Through the presentation and analysis of the results shown in the tables, it was found that there are differences in the experimental and control variable and in favor of the experimental group, which indicates the occurrence of a development in the skill aspects, the researcher attributes this moral development to the quality of the exercises used, which contained a set of complex exercises by implementing the rapid planning game, which aims to achieve progress in implementation with speed in performance, as there is almost no exercise without linear performance and under a real playing atmosphere, as the researcher prepared special physical and skill exercises in the training units, this led to the development of the exercise time for players because The continuation of the application necessitates the implementation process with the least appropriate time during play in order to achieve the required goal, which helped the player to master scoring from different distances and the direction of several, and because the football game requires privacy in modern play plans and that players perform the best planned performance to achieve the desired goals and purpose, and this is confirmed (Mufti Ibrahim : 1994: 74) Repetition of skillful physical exercises that are similar to what is in play because there is a special player can shorten the time and ability to perform the game at the best level. " If the quality of the exercises that simulate the course of play and matches contributed significantly to the sense of the player's position in the influential places and the player can face the goal as soon as possible and this has an impact on the development of the chance of the player confirms (Mufti Ibrahim :1994 : 143) that the sport of specialized Football enables the exit of the best and most high amounts of unique physical attributes and a precise degree of competent, linear performance

CONCLUSIONS:

- A favorable effect of aerobic exercise on a few skill and physical factors that the researcher employed to improve young football players' scoring accuracy
- Mastering the attack helps players create more intricate attacking plans against the opponent and is simple for them to execute with high accuracy
- The aerobic exercises he used to develop the right foot increased the percentage of the skill of the left foot in the distinctive force of the speed of two men and facilitated the scoring process.

Recommendations

- Verify the implementation of aerobic activities and place a high value on them in their curriculum for age-group football contests and special preparation. Growth in scoring precision
- Emphasizing the growth of physical capabilities as the foundation for developing the skill side that aids in planner development.
- Focusing on developing fundamental abilities based on sound scientific principles, which reduces time and effort and enhances players' ability to score more points

Appendices

Determine the tests used in the research:

Physical tests:

In order for the researcher to determine the physical abilities that a football player needs to perform his skill-based tasks, he surveyed many scientific publications and studies in the field of physical fitness to identify the most important and necessary ones for football players.

30m high start sprint test⁽¹⁾

- Purpose of the test: to measure the translational velocity.
- Tools: Clock, timer, indicators, plaster (Bork), measuring tape in meters.
- Performance description: The tester is described directly behind the line, and upon hearing the start signal, he runs and tries to reach the finish line in the shortest possible time.
- Recording: Time is calculated in seconds to the nearest tenth of a second.(100/1)

Power characterized by speed^[2].

- Purpose of the test: To measure the speed-specific strength of the leg muscles.
- Tools: Stopwatch – Indicators – Plasterboard – Measuring tape in meters
- Performance description: The tester stands at the starting line, with the jumping foot on the starting line, and the free leg

Free to the rear and upon hearing the start signal, the tester begins to hop for a distance of 30 meters. Each tester is given two attempts, the best of which is recorded.

Time is measured in seconds to the nearest tenth of a second.(100/1)

To test the ball scoring^[3].

- Purpose of the test: To measure scoring accuracy.
- Tools used: seven footballs, a marker, a rope to divide the goal, and a goal divided into specific areas.
- The method of performance is to distribute the balls in the penalty area, and start running from behind the marker on the penalty arc towards the first ball, then aiming, then turning around the marker, then heading for the second ball, and so on with all the balls, and the goal is scored higher than the ground level, and the player is free to choose which foot to use, provided that the performance is done from a running position.

- Registration method:

The score is calculated by the sum of the scores the player gets from scoring the seven balls, as follows: The player is awarded (3) scores if the ball enters the two designated areas.(2,1)

The player is awarded one point if the ball enters the designated area.(3)

The player is awarded zero if the ball goes out of the goal.

To handle the apostate^[4])

- Purpose of the test: To measure handling accuracy and speed.
- Tools: wall – stopwatch – balls – tape measure – gypsum (Bork)
- Test description: The tester stands behind the line drawn for him, which is (8 m) away from the wall, and the tester's face is facing the wall. Upon hearing the start signal, the tester kicks the ball towards the wall in turns. Each tester is given two attempts, the best of which is recorded, noting that the test time is (20 seconds).

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Sports culture and its relationship to some basic skills of the rope routine in rhythmic gymnastics for third-stage female students

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2226](https://doi.org/10.37359/JOPE.V37(2)2025.2226)

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Article history: Received 28/ October /2024 Accepted 2/ December/2024 Available online 28/ June/2025

Abstract

The sports culture has an influential and effective role in spreading and consolidating the principles of sports spirit among female students on the one hand, as well as spreading awareness and blocking unwanted behavior and emphasizing their psychological and social compatibility on the other hand. The research problem lies in the researcher's observation of the lack of interest of students in sports culture in addition to sports and their relationship to the performance of certain skills. The basics of rope routine in rhythmic gymnastics

Objectives of the research: to prepare a sports culture scale for third-stage female students at the Faculty of Physical Education and Sports Sciences, University of Baghdad, and to know some basic skills of the rope routine in rhythmic gymnastics. Knowledge of the relationship between sports culture and some basic skills of the rope tool in rhythmic gymnastics for third-stage students at the College of Physical Education and Sports Sciences, University of Baghdad. In order to determine the objectives of the research, the researcher used the descriptive method using the survey method. The research sample was selected from all the students of the third stage of the society for the research necessities and divided into the following: (10) a student for the survey sample and (80) for the construction and application sample. (26) The researcher prepared the Sports Culture Scale, using several statistical procedures as well as

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measuring some rope skills, then used several statistical means to obtain the results, through which she concluded the sample was distinguished by sports culture through the results of the scale. Students of the third stage at the College of Physical Education and Sports Sciences, University of Baghdad, have an average performance of some rope skills. Sports culture plays a positive role in the performance of some rope skills in rhythmic gymnastics. They also recommended that the scale should be adopted for third-stage students as well as other stages. Continue to encourage students to exchange knowledge among themselves, especially those that are new.

Keywords: sports culture, rope routine, rhythmic gymnastics.

Introduction

The era in which we live is the era of rapid psychological change, and sports culture is an "important" part of this development, and sports culture is a manifestation of society, and sports culture is also part of the general culture in general, and attention to it is one of the indicators of the high cultural level and progress in society, and satellite television is one of the effective mass communication means, which has become a big and obvious role in the spread of sports culture, and it is one of the most effective means for society, and sports culture has a clear impact on the health, social, educational and cultural aspect of students, especially as they face great challenges at the academic and psychological level As well as directing and unifying their emotions towards the gymnastics lesson, which is one of the difficult lessons for them, sports culture is one of the variables that contribute to improving the level of students, as well as effectively contributing to increasing the percentage of its contribution to the performance of basic skills in gymnastics. An individual athlete, a practitioner and a spectator must understand and absorb an "appropriate" amount of sports culture. There are matters and topics of sports culture that have a general cultural layer, as well as history related to Olympic and international sports achievements, especially those related to his physical hand, healthy nutrition, and some rules of the game, and there are also special sports cultures and qualities, which are cultures related to sports and the rules of competitions organized and managed by special plans and strategies (Al-Kholy, 1996, p. 85).

Sports culture has an influential and effective role in spreading and consolidating the principles of sportsmanship spirit among students on the one hand, as well as spreading awareness and blocking unwanted behavior and emphasizing their psychological and social compatibility on the other hand. the research problem lies through the researcher's observation of the lack of interest of students in sports culture in addition to sports and its relationship to the performance of certain skills. The basics of the rope tool in rhythmic gymnastics

Aim of the study: to prepare a sports culture scale for third-stage students at the College of Physical Education and Sports Sciences, University of Baghdad, and to know some basic skills of the rope routine in rhythmic gymnastics. Knowledge of the relationship between sports culture and some basic skills of the rope tool in rhythmic gymnastics for third-stage students at the College of Physical Education and Sports Sciences, University of Baghdad.

Method and tools

The researcher chose the descriptive method by the survey method, as the research community was determined by the intentional method, represented by the female students of the third stage at the College of Physical Education and Sports Sciences, University of Baghdad, numbering (116) students in (3) divisions (A, B, C), while the research sample was selected from all the students of the community for the research necessities, divided into the following: (10) students for the survey sample and (80) for the preparation sample (Khaleel Sattar Mohammed, 2020, pp. 3451-3459) and (26) for the sample of the main experiment of the application.

And Table (1) shows the details of the sample division.

Table (1) shows the details of the survey samples, preparation and application

No	Type of sample	Number	Percentage ratio
1	Sample Survey	10	%8.62
2	Sample preparation	80	%68.96
3	Sample application	26	%22.41



4	Total sample	116	%100
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Procedures for implementing field research steps:

Procedures for preparing the sports culture standard:

The researcher prepared a sports culture scale for third-year female students in the College of Physical Education and Sports Sciences at the University of Baghdad, which was prepared by (Shahada, 2009) and consists of (25) items and three alternatives (very agree, somewhat agree, disagree), and it is prepared for college students in University of Diyala. After modifying some of its paragraphs to suit the research sample, it was presented to a group of experts and specialists in Appendix (1) to seek their opinions and comments to add, modify, or delete paragraphs of the two scales. After collecting the forms, the experts' comments were taken into account about modifying some paragraphs to become appropriate to the capabilities of the research sample.

Exploratory experiment:

The researcher conducted the exploratory experiment for the scale in the gymnastics hall at the College of Physical Education and Sports Sciences, University of Baghdad, on a group of female students (10). The sample's acceptance of the scale was shown through the clarity of the instructions and the ease of understanding and clarity of the paragraphs. The researchers and the assistant work team did not face any obstacles or negatives. (Jasem, Z. K., & Mohammed, K. S. (2024).) Note that the time it took to answer the scale ranged between (7– 10) minutes.

The main experience in preparing the sports culture scale:

After arriving at the initial formula for the Sports Culture Scale, the researcher, with the help of the assistant work team, applied the scale to members of the sample of (80) female students in the third stage at the College of Physical Education and Sports Sciences, University of Baghdad. After completing the implementation of the main experiment, the researcher arranged the scale forms, corrected them, and recorded them. The results are in preparation for statistical analysis. The descriptive characteristics of the sample's

response scores, numbering (80) students, were found and it was found that: During which the sample members are distributed normally in the scale, and Table (2) shows this.

Table (2) shows the descriptive characteristics of the sample of numbers

Statistical properties	the Sports Culture
Mean	50.7375
Median	51.0000
Standard deviation	4.34506
Skewness	.197
Standard error	.269

Statistical analysis of the items of the Sports Culture Scale:

The researcher analyzed the results of the preparation sample for the sports culture scale for the preparation sample. This step is considered one of the most important steps and procedures for preparing the scale. Therefore, the researcher took the following procedures:

Discriminating ability:

It is also called the peripheral comparison or the two peripheral groups in the total score, which gives an important indicator for constructing scales or tests and is evidence of discrimination (Anon 2024). To achieve this, the responses of the sample of (80) forms to the scale were arranged in descending order, after which the two peripheral groups in each group were identified (27%) From the construction sample (22) female students from the upper group and (22) female students from the lower group, and the middle group included (36) female students, and it was extracted by using the T-test to indicate the differences in the arithmetic means of two independent samples between the upper and lower groups, and the researchers adopted Paragraphs whose significance value is less than the approved significance level (0.05), the degree of freedom (42), and the table (3) shows that.

Table (3) shows the discriminating ability of each of the paragraphs of the Sports Culture Scale

No	Lower Group		Upper Group		T-test	Sig
	M	SD	M	SD		
1	1	0.0000	3	0.0000	0.000	0.000
2	1	0.0000	3	0.0000	0.000	0.000
3	1	0.0000	3	0.0000	0.001	0.001
4	1	0.0000	3	0.0000	0.000	0.000
5	1	0.0000	3	0.0000	0.001	0.001
6	1	0.0000	3	0.0000	0.000	0.000
7	1	0.0000	3	0.0000	0.000	0.000
8	1	0.0000	3	0.0000	0.000	0.000
9	1	0.0000	2.878	0.3312	0.000	0.000
1	1	0.0000	3	0.0000	0.000	0.000
1	1	0.0000	3	0.0000	0.000	0.000
1	1	0.0000	3	0.0000	0.000	0.000
1	1	0.0000	3	0.0000	0.000	0.000
1	1	0.0000	3	0.0000	0.000	0.000
1	1	0.50965	3	0.51177	-19.893	0.000
1	1	0.50324	3	0.50324	-22.873	0.000
1	1	0.61193	3	0.50324	-22.476	0.000
1	1	0.68534	3	0.49237	-22.873	0.000
1	1	0.51177	3	0.47673	-22.873	0.000
2	1	0.50965	3	0.50965	-18.825	0.000
2	1	0.75018	3	0.50965	-30.747	0.000

The internal consistency coefficient of the scale: The internal consistency coefficient is used to determine the extent of homogeneity of the items in their measurement of the phenomenon or behavioral dimension and the ability to highlight the interconnection between the items of the scale (Mohammed, K. S., Shamkhi, D. A., & Mohammed, M. J. (2023).) The researcher used two types of internal consistency:

The relationship of the paragraph score to the overall score of the scale:

It is to find the correlation between each item and the overall score of the scale for all sample members. The goal of this procedure is to find out whether the answers as a whole for specific items are consistent in a reasonable way.

Table (4) shows the correlation coefficient between the grade of the item and the total grade of the sports culture scale

No	Pearson's r	Sig
1	0.364**	.0000
2	0.336**	0.004
3	0.294*	0.012
4	0.368**	0.001
5	0.375**	0.001
6	0.408**	0.000
7	0.434**	0.000
8	0.360**	0.002
9	0.440**	0.000
10	0.562**	0.000
11	0.461**	0.000
12	0.414**	0.000
13	0.315**	0.000
14	0.393**	0.393**
15	0.424**	0.424**
16	0.240*	0.240*
17	0.346**	0.346**
18	0.322**	0.322**
19	0.312**	0.312**
20	0.270**	0.270**
21	0.443**	0.443**
22	0.242*	0.242*
23	0.425**	0.425**

24	.396**0	.396**0
25	.215*0	.215*0

It turns out that all items in the sports culture scale are statistically significant, but they are not significant at the significance level (0.05)

Consistency:

To verify the stability of the sports culture scale, the researcher used the following methods:

A. Half-segmentation method: The researchers divided the items of the scale into two halves, a first half and a second half, and the correlation coefficient was extracted between the sum of the scores of the two halves according to Pearson's method for the scale. The correlation coefficient here indicates the stability of half the scale and then complete stability according to the Spearman-Brown equation to correct the stability

B. Alpha-Cronbach method: The Fehrenbach is an internal homogeneity of the scale and is one of the most common coefficients of reliability

Table (5) shows the reliability coefficient through the half and Fahrenbach segmentation of the sports culture scale.

Table (5) shows the stability coefficients

No	The scale	Half-segmentation		Alfa Cronbach
		Stability of the half-scale	Total stability	
1	Sports culture	0.553	0.653	0.575

Objectivity: As for objectivity, it is achieved through the stability of the correction process according to the special alternatives of the sports culture scale, and the arbitrators will not have any involvement in correcting the answers.

The final image of the sports culture scale: represents the sports culture scale for female students and includes the scale in the final image of (25) as in Appendix (2).

As for the motor foals for which the researcher took the results of her evaluation, the rope skills included:

- 1.Rope weighted in the form of 8.
- 2.Inserting and removing the rope with rotation.
- 3.Throw and receive rope with cat jump.
- 4.Spining with rope.
- 5.Bounce jumping rope.
- 6.Bounce-free bungee jumping.

According to the instructions for evaluating and awarding grades, the highest evaluation grade in all skills is 15 grades.

The main experiment: After completing the preparation of the scale and selecting the skills in rhythmic gymnastics, the researcher distributed the scale to the application sample of (26) students, and after answering, she arranged the forms for the purpose of processing them statistically and then obtained the results of the scale and some skills for the purpose of extracting the results.

Statistical methods:

The researcher used the SPSS statistical bag

The following statistical methods:

- Mean.
- Median
- Standard Deviation.
- Person simple correlation coefficient.
- Percentage.

- T-test for independent and correlated samples.
- Cronbach's alpha coefficient.
- Spearman Brown Laboratories
- Hypothetical Mean

Presentation, analysis and discussion of results

Presentation of the results of the Sports Culture Scale

Table (6) shows the arithmetic mean, standard deviation, convolution coefficient, calculated value (T), and significance value for the Sports culture scale

The variable	hypothetical mean	M	SD	skewness coefficient	T	sig
Sports culture	50	53.2308	3.94267	.140	4.178	0.000

The significance value is significant if it is < 0.05

It is clear from Table (6) that there are significant differences in favor of the arithmetic mean, and this means that the sample possesses a sports culture specific to sports in general and rhythmic gymnastics in particular ‘, as the researcher attributes this to the activation of communicative means of knowledge that allows the accumulation of knowledge and are usable in the context of contemporary daily life. And employing it to support and advance society in all fields" (Al-Jumaili, 2023, page 5). The researcher attributes the reason for the presence of sports culture among third-year female students to the fact that the academic lessons on sports and gymnastics in particular that the female students received contributed to strengthening their sports culture, and in return, especially since sports in general contribute to strengthening the bonds of brotherhood and love between athletes to a greater extent than others.

(Ghassan Muhammad Sadiq, 1990) confirms that "culture and sports play a prominent role in the lives of nations and peoples, because of the individual's physiological activity that keeps him away from many diseases. They are also considered a complement to comprehensive education and what their effects on those societies reflect." Also, the

individual and society and their social effects do not come out of nowhere, but rather come through linking their past represented by their ancient civilization and their future and understanding the meaning of sport and its response to their daily practice of physical and recreational sporting events and activities, through which it is possible to know the true awareness on which the individual and society are based and then reach a culture. Comprehensive sports.

Sports culture "affects the formation of the personality of the individual and the group through many cultural situations and through continuous social interaction. Thus, we find sports culture the social, motor, and sporting behavior of the individual and the group through socialization. In these social situations, the individual practices the elements of culture, and this is called the process of social education or the process of socialization." Culture provides the individual with an identical view of social life, that is, it distinguishes the individual with social reality through social institutions such as the family."

Presenting the results of the relationship between sports culture and some rope skills in rhythmic gymnastics:

Table (7) shows the arithmetic mean, standard deviation, and torsion coefficient for some rope skills

The variable	M	SD	skewness coefficient
Some rope skills	8.913	2.429	-0.046

Table (8) shows the correlation coefficient between sports culture and rope skills in rhythmic gymnastics

The variable	Correlation	Sig
Sports culture - rope skills	0.543	0.000

Table (8) shows the results of the correlation values between sports culture and rope skills in rhythmic gymnastics, as the results showed a significant and direct relationship. This means that the female students have a degree of sports culture, which had a positive role in performing rope skills in gymnastics, because the nature of performing these skills It requires using, exchanging and sharing information and knowledge with female colleagues, and this in turn works to overcome the difficulties facing female students in performing Some rope skills The researcher also attributes the reasons to the acquisition of diverse experiences by female students at each stage during their academic career, as the theoretical and practical subjects they study in the College of Physical Education and Sports Sciences achieve many positive benefits that develop and develop sports culture at each stage of study, and sports culture also helps them to Mobilizing their abilities and energies to achieve the best, and increasing their cultural awareness of different sports, the method of practicing them, and the way they are performed We also attribute the reason to the major role of the teaching staff in the process of guidance, counseling, education, and providing assistance to students in accessing the information they want, and expanding students' perceptions and cultures through the use of modern means in education and keeping pace with the development taking place in modern technologies, such as smart devices and tools that help expand those perceptions that These students have, and this is consistent with Al-Qaddoumi and Al-Amad 2017) Sports culture contains information that develops cognitive, psychological and health aspects through practicing sports activities. Al-Qaddoumi and Al-Amad, 2017, 50)

Conclusions and recommendations:

Conclusions:

1. It was reached to prepare a sports culture scale for third-year female students at the College of Physical Education and Sports Sciences, University of Baghdad, which consists of (25) items.
2. The possibility of applying the scale through the ease and difficulty of its expressions that are compatible with the research sample.
3. The sample was characterized by mathematical culture through the results of the scale.
5. Third-year female students at the College of Physical Education and Sports Sciences, University of Baghdad, are distinguished by average performance in rope skills.
6. Sports culture plays a positive role in performing some rope skills in rhythmic gymnastics.

Therefore, the researcher recommended:

1. It is necessary to adopt a sports culture standard for female students in the third stage as well as other stages.
2. Continue to encourage female students to exchange knowledge among themselves, especially those that are new.
3. Giving female students the opportunity to learn about different sports.
4. It is necessary to pay attention to your gymnastics lesson, especially for female students.
5. Conducting other studies that include other measures and skills, as well as selecting other samples.

Appendixes

Appendix (1) Sports Culture Scale

No	Paragraph	Agree	Sometimes Agree	Disagree
1	Warming up should be done before physical activity to maintain the safety of muscles and joints.			
2	Sports culture contributes to understanding the basic skills in various types of gymnastics.			
3	Sports culture helps in understanding sports terms and concepts.			
4	Sports culture contributes to knowledge about the history of sports.			
5	Sports information helps to learn about prominent sports figures around the world.			
6	Sports information highlights and introduces sports landmarks around the world.			
7	The rhythmic gymnastics class strengthens relationships among female students.			
8	Sports culture increases excitement in presenting the artistic aspects of rhythmic gymnastics.			
9	Physical fitness is gained through engaging in physical activities.			
10	Sports culture enhances the understanding of cooperation and its social value.			
11	Sports culture helps in shaping students' cultural and social relationships.			
12	Sports culture promotes acceptable social values.			
13	Sports culture does not show the importance of sports in fulfilling students' needs and interests.			

14	Sports culture develops the concept of belonging to the group and the homeland.			
15	Sports culture helps to strengthen relationships among female students.			
16	Sports culture encourages students to join sports and youth organizations and clubs.			
17	Sports culture does not call for avoiding violence and disorder in championships and competitions.			
18	Sports culture helps guide students' lives toward useful and beneficial goals.			
19	Sports culture contributes to awakening aesthetic awareness and its civil and ethical role.			
20	Sports culture plays an important role in identifying some deviant behaviors in the sports environment.			
21	Sports culture helps in avoiding incorrect habits during sports practice.			
22	Sports culture supports the connection between sports and other sciences.			
23	Practicing sports taught me to respect others.			
24	Practicing sports activities is an important part of deepening the relationship between sports and the audience.			
25	I enjoy playing when I know the rules of the game I'm playing			

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Organizational laxity of middle and secondary school principals in the Dhi Qar Education Directorate and its impact on the professional affiliation of physical education teachers from their point of view

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2319](https://doi.org/10.37359/JOPE.V37(2)2025.2319)

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Article history: Received 11/ June / April/2025 Accepted 6/ June /2025 Available online 28/ June/2025

Abstract

The current study aimed to know the reality of organizational laxity among school principals and its reflection on physical education teachers and the correlation between them, on a sample of physical education teachers in middle and preparatory schools affiliated with the Dhi Qar Education Directorate, numbering (200) teachers, who were randomly distributed into three samples (exploratory experiment (14), construction (123), application (63)), using the descriptive analytical approach and correlational relationships, through building and applying the organizational laxity scale consisting of three areas (laziness at work, alienation commitment, job frustration) distributed over (19) phrases, and the professional affiliation scale consisting of three areas (professional loyalty, continuity at work, job commitment) distributed over (17) phrases, and the results were processed through the statistical system (spss), and the most important conclusions were that the existence of organizational laxity among school principals shows limited practices that weaken administrative support for sports activities, which contributes to accumulations that affect the sustainability of the effective application of the sports curriculum. School principals' greater emphasis on academics than on sports indicates lax administrative control over coordination and the full implementation of educational curricula throughout the school year. The study recommended that administrative oversight be activated by the Educational Supervision Directorate to continuously monitor physical education lessons. School principals should also pay attention to the psychological and professional conditions of physical education teachers to maintain their commitment to their profession.

Keywords: organizational slack, professional affiliation, physical education teachers

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Introduction

The process of social communication, cognitive, scientific and technological convergence, multiple means of communication, the acceleration towards improvement, development and organizational competition have shown the world in an intertwined and converging circle that includes in its general nature diverse and interconnected systems and programs revolving around challenges and conflicts affected by all the surrounding circumstances, including educational systems, under the framework of which falls the school administration, which is responsible for educational affairs and school curricula and is often affected by the administrative and skill competence of its directors and their ability to exercise their powers and their behavioral influences on the performance of teachers, including physical education teachers and the educational role they play in activating the physical education lesson in middle and preparatory schools in Dhi Qar Governorate. The physical education lesson is one of the important lessons and an integral part of the educational system with its social, educational, physical and health goals and a major factor in achieving mental balance, physical growth and psychological stability, which is greatly reflected in the formation of students' personalities. This reflects the interest of the school administration represented by its directors and the extent of interest in providing material and moral requirements, sports equipment and spaces allocated for them, and how to activate sports curricula within the daily lesson schedule with direct guidance to physical education teachers and monitoring their professional performance, which shows School principals are on a dividing line between making progress or laxity in implementing physical education lessons. Organizational laxity is a phenomenon that affects the educational process and a negative factor in the event of weak administrative practice by school principals. It is easy for them to adopt organizational plans, but their difficulty appears in how to implement them positively. Knowing the level of laxity helps provide information about the type of negligence and areas of weakness in interacting with physical education lessons, and their future effects on students, on the one hand, and the sense of professional belonging possessed by physical education teachers, and their feelings of frustration, isolation, and lack of job harmony, which places them in a cycle of routine, monotony, and indifference. This may create a gap between school principals and physical education teachers and a negative intersection in achieving the goals of school sports. Therefore, change and development is a major goal adopted by school principals. The opposite of this is the process of organizational laxity and administrative weakness in performing administrative duties or obligations towards the physical education lesson and lack of interest in the sports aspect. Consequently, procrastination in professional life and psychological impact on performance and job results occur, which shows the process of professional affiliation and its importance in the professional life of physical education teachers and its role in consolidating the principles of work and effective affiliation to their profession, as it is a motive for administrative performance and an aspect of assistance in solving behavioral and psychological problems, relying on his firm belief in his professional job.

By following the theoretical frameworks, previous studies and research and what expresses organizational laxity, (Ali Hassan, 2022) quoting (127, 2019, Symeou at al) states that “it is the manager’s administrative weakness in interacting with resources and their lack of use in the organization’s activities and the impact on employees in their time, behaviors and the extent to



which they accomplish work tasks” (Ali Hassan, 2022, 218-219). Many studies have been summarized that have been referred to in organizational laxity, the lack of untapped capabilities and the impact on the level of performance and competitive advantages in the quality of institutional work. The study (Rateb and Abba, 2020) aimed to identify the prevalence of organizational procrastination behavior among secondary school principals in Jordan and its relationship to organizational slackness behavior among teachers on a sample of (90) principals and (350) teachers using the descriptive analytical approach with a scale consisting of three axes distributed among them (38) paragraphs. The results showed the prevalence of organizational procrastination behavior among secondary school principals and the existence of a correlation between organizational procrastination behavior and organizational slackness among teachers. It recommended that school principals pay attention to the plans agreed upon in the curriculum and provide all material and moral capabilities to avoid organizational slackness among teachers and spread the administrative culture in order to develop performance and raise the level of education in the future (Rateb Salama Al-Saud and Abba Jasser Al-Khattaba, 2020, pp. 6-7). The study (2019, AL-Krameen & AL-Amarat) aimed to identify the relationship between organizational slackness and leadership styles among secondary school principals in the Tafilah Directorate. From the point of view of the teachers, numbering (158) teachers, using the descriptive approach through a questionnaire consisting of (70) paragraphs, the results showed that the level of organizational laxity was average among school principals, and showed a correlation between the levels of organizational laxity and the prevailing leadership styles, and recommended the necessity of school principals’ commitment to administrative tasks and accommodating all parties and dealing with them with leadership styles that indicate success in administrative organization. The study (Aisha and Rateb, 2013) aimed to identify the level of organizational laxity among secondary school principals in Jordan and its relationship to job satisfaction among teachers on a sample of (285) principals and (2936) male and female teachers, using the descriptive approach with the analytical method and correlational relationships through two separate scales. The results showed the presence of a high level of organizational laxity and an average level of job satisfaction among male and female teachers and the presence of a statistically significant correlation, which shows the impact of organizational laxity on the degree of satisfaction among male and female teachers. It recommended finding appropriate mechanisms for selecting school administration leadership according to precise standards and controls and using means that gain the satisfaction of male and female teachers and increase their belonging to their job (Aisha Abu Hamdeh and Rateb Al-Saud, 2011, 394) (Easa et al., 2022)

Professional affiliation has been shown to impact physical education teachers through several factors, including direct educational management and the future vision it provides for the physical education lesson and the teaching staff responsible for it. Hence, the choice is either motivation, excitement, and development, or isolation and procrastination without paying attention to school sports. Professional affiliation is "the state in which an individual identifies with the values and goals of the institution and desires to maintain his affiliation with it and facilitate the achievement of his professional goals without regard to material benefits" (Salama, 2003, 37). Some studies have demonstrated the aims of professional affiliation with its characteristics and

advantages in fulfilling professional duties. The study (Khawla Musaed, 2016) aimed to know the extent of the availability of transformational leadership traits for secondary school principals in Gaza Governorate and its relationship to the professional affiliation of their teachers on a sample of (387) teachers using two separate scales, transformational leadership with (4) areas including (50) paragraphs, and the professional affiliation scale with (27) paragraphs. The results showed the presence of transformational leadership traits for school principals to a high degree and the level of teachers' satisfaction and professional affiliation to a high degree. There is a positive correlation with statistical significance between the study variables. It recommended improving the conditions for selecting principals and spreading the culture of professional affiliation and working with a team spirit, increasing the activation of human relations between school principals and their teachers (Khawla Musaed, 2016, 10). The study (Idris, 2014) aimed to know the extent to which the assistant principal possesses planning competencies in the schools of the International Relief Agency in the Gaza Strip and its relationship to professional affiliation on a sample of (198) male and female principals, using the questionnaire as a study tool with (24) paragraphs. The results showed that there is a medium degree of professional affiliation for the assistant principal and there is a correlation between planning competencies and professional affiliation. It recommended spreading the culture of professional affiliation among principals and assistants and attaching the performance value to planning competencies to improve the level of international relief schools (Idris Hammad, 2014, 13). The study (Nizal Abdul Halim, 2014) aimed to build a scale of professional affiliation for physical education teachers on a sample of (624) physical education teachers in Basra Governorate. The results showed that part of the problems facing the professional affiliation of physical education teachers represents the burdens of school principals and the Education Directorate in the type of actual interest in school sports. It recommended that school principals seek to know the importance of professional affiliation. Among physical education teachers (Nizal Abdel Halim Jabr, 2014, 27) and (Ibrahim et al., 2006)

The research problem lies in the special view of the physical education lesson and its future effects on students, the exceptional circumstances that have passed over the past years, the challenges of the educational reality, how the school administration deals with the physical education lesson, the available capabilities and the scope of actual application of the physical education lesson curriculum, which included delving into the study of the phenomenon of the reality of organizational laxity of middle and preparatory school principals and its relationship to the professional affiliation of physical education teachers, and determining their level of performance and the extent of their affiliation to their work tasks and benefiting from it in improving the administrative interaction of middle and preparatory school principals and physical education teachers. (Issa et al., 2024)

Hence, the importance of the research emerges to know the administrative practice of school principals and the extent of organizational laxity towards the physical education lesson and its reflection on the effectiveness of physical education teachers, their professional affiliation and their feeling towards raising the value of school sports in light of the capabilities available from the school administration, as the educational environment is affected by aspects of organizational laxity and the nature of the professional affiliation of teachers and revealing the administrative gap

in how to deal with internal and external participation and the type of support provided to them and the level of professional affiliation they have. (Al-Azawi & Kathom, 2012)

Method and tools:

In order to follow up the research problem and its objectives, the descriptive analytical approach was adopted using the correlational method that deals with phenomena in the reality of the situation in which they are proceeding. The descriptive approach is “the process of identifying the circumstances, values, multiple human relationships, and the method that leads the individual from one point to another, or the dominant feature of a group of behavioral phenomena” (Nouri Ibrahim Al-Shawk, 2004, 51). The research community was deliberately determined from the physical education teachers in the schools affiliated with Dhi Qar Governorate, numbering (308) teachers. A percentage of (64.93) was adopted as a sample for the research from the original community, amounting to (200) teachers, who were randomly divided into three samples (exploratory experiment, scientific transactions experiment, application experiment), as in Table (1).

Table No. (1)
shows the details of the community and sample for the research.
TResearch community and sample Research sample divisions

Research community and sample Research sample divisions												
T	Research community and sample						Research sample divisions					
	Directorate name	T ype of schools	Number of schools	Community number	The excluded	Sample number	pilot study sample		Buildin g sample		Sample applicat ion	
							number	% rate	number	% rate	number	% rate
1	Dhi Qar Govern orate Educati on	Interme diate	165	216	36	145	8	5.19	92	63.44	45	31.03
2		Prepara tory	84	92	18	55	6	10.90	31	56.36	18	32.72
the total			249	308	54	200	14	0.07	123	61.5	63	31.5

After defining the sample's features and requirements, the theoretical concepts of organizational slack and professional affiliation were addressed, and their theoretical frameworks were identified. Then, several methods were adopted to obtain the required information through previous and interconnected sources, publications, and studies, in addition to field visits to the governorate, personal interviews with some school principals and physical education teachers, and delving into research questions to uncover some facts that serve the research. The researcher built a scale of organizational laxity with (3) fields distributed over (27) phrases, and the dimensions of the scale of professional affiliation with (3) fields distributed over (24) phrases, taking into account the scientific and research formulation in it in order to be familiar with all the details related to the research variables and the required goal, and presented the two scales to a group of (17) experts with experience and specialization to evaluate the two scales with the research formula and scientific solidity, as he took into account their opinions in amending some phrases and adding some scientific terms that increase the solidity of the meaning of the phrases in a way that serves the research and facilitates the answer by the research sample, as the equation (Ka2) was applied to the opinions of the experts, as in Table No. (2).

Table No. (2)
shows the experts' opinions on the validity of the domains and phrases of the
organizational laxity and professional affiliation scales.

		Fields	Number of phrases	We agree	Disagree	χ^2 Value (Ka calculated)	value significance	significance
Regulatory laxity	1	Laziness at work		17	0	17	0.000	function
	2	expatriate commitment		16	1	13.24	0.000	function
	3	job frustration		17	0	17	0.000	function
	1	Professional loyalty		17	0	17	0.000	function

Professional affiliation	2	Continuity of work		17	0	17	0.000	function
	3	Job commitment		17	0	17	0.000	function

After the experts' procedure, the phrases that did not obtain the required percentage of significance value (0.05) were deleted, so that the number of phrases as a result of the apparent validity process for the organizational laxity scale became (24) phrases, and the professional affiliation scale (21) phrases. Then, the exploratory experiment process was conducted on a group of physical education teachers, numbering (14) teachers, who were randomly selected from middle and preparatory schools in Dhi Qar Governorate, to learn about the nature of the two scales, how to answer them, the time taken, the degree of clarity in understanding, and the ease of the phrases, as they are important processes in supporting the research work.

Characteristics of scientific transactions for research scales:

In order to adjust the two scales, discriminant validity and internal consistency validity were adopted to reveal the statistical features in the validation of the two scales through the characteristics of their phrases, as "phrase analysis indicates that it is the study that depends on the logical statistical analysis of the test units for the purpose of knowing their characteristics through deletion, modification, addition and rearrangement in order to reach a valid, stable and suitable test for work" (Salah Al-Kubaisy, 2002, 43).

Validity of the two scales:

Face validity was adopted as one of the most important types of validity in educational scales, which expresses the relevance of the item to the phenomenon it is intended to measure. This was achieved by presenting the scale to a group of experienced and specialized experts to demonstrate the validity of the domains and phrases.

Discriminating ability of the scale:

Through which it is possible to identify the distinction between the highest and lowest degrees of the sample's answers in the characteristic it measures. The sources indicate that "the main goal of the analysis process is to keep the questionnaire phrases with high discrimination that show their quality in the test" (Bassam Al-Umary & Fuad Al-Salman, 1996, 68). The total score was determined for each questionnaire of the two scales from the sample members, numbering (92) teachers, to apply the (T) test for equal unrelated samples, and the scores were arranged from highest to lowest, adopting a ratio of (0.27) to indicate the degree of discrimination, which this ratio was determined by statistical processing for the sample (33.21) at a significance level of (0.05) and a degree of freedom of (1), and it was shown that it has high discrimination, as in Table (3, 4).

Table (3) shows the discriminatory ability of the organizational laxity scale.
Continuity

Continuity phrases	Top Group		lower group		Calculated value of (T)	Significance level	significance
	Q	A	Q	A			
1	3.4242	.50189	1.7273	.45227	14.429	.000	Dal
2	3.5758	.50189	1.4848	.50752	16.828	.000	Dal
3	3.4545	.50565	1.8182	.39167	14.697	.000	Dal
4	3.4848	.50752	1.6061	.49620	15.206	.000	Dal
5	3.4545	.50565	1.6667	.47871	14.750	.000	Dal
6	3.3333	.47871	1.5758	.50189	14.557	.000	Dal
7	3.2121	.41515	1.3333	.47871	17.033	.000	Dal
8	3.3333	.54006	1.5152	.50752	14.093	.000	Dal
9	3.2121	.41515	1.7879	.41515	13.935	.000	Dal
19	3.4242	.56071	1.6061	.49620	13.950	.000	Dal
11	3.1515	.36411	1.4545	.50565	15.645	.000	Dal
12	3.2424	.43519	1.4848	.50752	15.102	.000	Dal

13	3.2121	.41515	1.4848	.50752	15.133	.000	Dal
14	3.1515	.36411	1.6061	.49620	14.425	.000	Dal
15	3.2424	.43519	1.2424	.43519	18.668	.000	Dal
16	3.2121	.41515	1.2424	.43519	18.813	.000	Dal
17	3.1818	.39167	1.1515	.36411	21.810	.000	Dal
18	3.2121	.41515	1.5152	.50752	14.867	.000	Dal
19	3.3030	.46669	1.3939	.49620	16.100	.000	Dal
20	3.3636	.48850	1.4242	.50189	15.907	.000	Dal
21	3.6061	.55562	1.5455	.50565	15.757	.000	Dal
22	3.8788	.41515	1.9091	.38435	20.000	.000	Dal
23	3.9394	.34816	1.9091	.57899	17.263	.000	Dal
24	4.1818	.39167	2.1212	.69631	14.817	.000	Dal

- Significant of (0.05) degree of freedom (64).

Table (4) shows the discriminatory ability of the professional affiliation scale.

sequence of phrases	Top Group		lower group		Calculated value of (T)	Significance level	significance
	Q	A	Q	A			
1	4.0000	0.00000	2.6458	.48332	19.411	.000	Dal
2	4.0000	0.00000	2.5833	.49822	19.700	.000	Dal
3	4.0000	0.00000	2.3125	.46842	24.959	.000	Dal
4	4.0000	0.00000	2.5625	.50133	19.866	.000	Dal
5	4.0000	0.00000	2.3958	.49420	22.489	.000	Dal
6	4.0000	0.00000	2.5208	.50485	20.299	.000	Dal
7	4.0000	0.00000	2.5000	.50529	20.567	.000	Dal
8	4.0000	0.00000	2.4167	.49822	22.018	.000	Dal
9	4.0000	0.00000	2.4583	.50353	21.212	.000	Dal
10	4.0000	0.00000	2.5417	.50353	20.065	.000	Dal
11	4.0000	0.00000	2.6042	.49420	19.568	.000	Dal
12	4.0000	0.00000	2.6250	.48925	19.471	.000	Dal

13	4.0000	0.00000	2.4583	.50353	21.212	.000	Dal
14	4.0000	0.00000	2.6042	.49420	19.568	.000	Dal
15	4.0000	0.00000	2.5208	.50485	20.299	.000	Dal
16	4.0000	0.00000	2.4792	.50485	20.871	.000	Dal
17	4.0000	0.00000	2.6250	.48925	19.471	.000	Dal
18	4.0000	0.00000	2.5417	.50353	20.065	.000	Dal
19	4.0000	0.00000	2.7083	.45934	19.482	.000	Dal
20	4.0000	0.00000	2.4583	.50353	21.212	.000	Dal
21	4.0000	0.00000	2.5625	.50133	19.866	.000	Dal

• **Significant of (0.05) degree of freedom (64).**

Internal consistency coefficient of the scale:

To identify the correlation of each statement with the total score for each scale by extracting the internal consistency coefficient (Pearson) between the scores of the scientific transactions sample results, the statistical results showed the validity of each scale and deleting what did not obtain a value less than (0.05) and keeping (19) statements for the organizational slackness scale and (17) statements for the professional affiliation scale. Some sources state that "the higher the correlation coefficient of the paragraph with the total, the more likely it is to be included in the scale to obtain a more homogeneous scale" (Allen, M.J. & Yen, W.M., 1979, 77). As in Tables (5, 6).

Table No. (5) shows the internal consistency coefficient of the organizational laxity scale.

T	Correlation coefficient	moral value	significance	T	Correlation coefficient	moral value	significance
1	.409**	.000	Dal	13	.305**	.001	Dal
2	.438**	.000	Dal	14	.453**	.000	Dal
3	.249**	.005	Dal	15	.389**	.000	Dal
4	.011	.900	Not significant	16	.200*	.026	Dal
5	.354**	.000	Dal	17	.256**	.004	Dal
6	.332**	.000	Dal	18	.352**	.000	Dal
7	.215*	.017	Dal	19	.290**	.001	Dal
8	.182*	.043	Dal	20	.139	.123	Not significant
9	.124	.171	Not significant	21	.488**	.000	Dal
10	.289**	.001	Dal	22	.501**	.000	Dal
11	.127	.159	Not significant	23	.017	.853	Not significant
12	.270**	.002	Dal	24	.345**	.000	Dal

- Significant of (0.05) degree of freedom (122).

Table No. (6) shows the internal consistency coefficient of the professional affiliation scale.

Variable name	T	Fields	Number of phrases	We agree	Disagree	Value (χ^2 (Ka) calculated	value significance	significance
Regulatory laxity	1	Laziness at work		17	0	17	0.000	function
	2	expatriate commitment		16	1	13.24	0.000	function
	3	job frustration		17	0	17	0.000	function
Professional affiliation	1	Professional loyalty		17	0	17	0.000	function
	2	Continuity of work		17	0	17	0.000	function
	3	Job commitment		17	0	17	0.000	function

• **Significant of (0.05) degree of freedom (122).**

Reliability coefficient of the scale:

The split-half method was adopted to determine the reliability coefficient through the (Pearson) equation, which showed a correlation coefficient of (0.652) for the organizational slackness scale, and a value of (0.785) for the professional affiliation scale, which represents half of the scale, as the data were processed using the (Spearman Brown) equation to become the reliability value of the organizational slackness scale (0.741) and the value of the professional affiliation scale (0.879). Then, the (Frankrombach) coefficient was extracted, and its value was (0.821) for the

organizational slackness scale, and a value of (0.890) for the professional affiliation scale, which is a highly reliable value, as shown in Table No. (7).

Table No. (7)
shows the stability coefficient for the two research scales.

Scale name	Half-split		Alfacormbach	significance value
	Before correction (Pearson)	After correction (Spearman)		
Regulatory laxity	0.652	0.741	0.821	0.000
Professional affiliation	0.785	0.879	0.890	0.000

• **Significant of (0.05) degree of freedom (122).**

After completing the statistical operations to consolidate the research scales, the organizational slack scale became composed of (19) phrases distributed over (3) main fields, and the professional affiliation scale consisted of (17) phrases distributed over (3) main fields. They were distributed, with the help of the support team, to the application sample, which numbered (63) teachers in middle and preparatory schools affiliated with the Dhi Qar Education Directorate, randomly outside the sample of practical transactions and the exploratory experiment, taking into account raising the main fields and changing the sequence of phrases in order for the sample to focus on all phrases and not on one group without the other. After giving them sufficient time to answer, the scale questionnaires were retrieved in full and then they were emptied into tables prepared for this purpose in order to subject them to statistical processing in the (spss) system and extract the statistical requirements that achieve the research objectives.

Results:

The statistical description of the sample answers data was extracted to determine the significance of the two scales, the sample level, and their normal distribution according to the statistical requirements, as shown in Table No. (8).

Table No. (8) Shows the description of the values of the arithmetic mean, standard deviation, coefficient of skewness, calculated (T) value and mean.

Scale name	num ber Sample	Num ber of phras es	arithm etic mean	standa rd deviat ion	Coeffici ent of skewne ss	The media tor	Th e lo om	stand error	lowe st degr ee	high est degr ee
Regulat ory laxity	63	19	50.828 1	4.3481 6	0.316	51.000 0	49. 00	0.299	43.0 0	62.0 0
Professi onal affiliatio n		17	57.703 1	3.2400 3	0.470	57.500 0	57. 00	0.299	47.0 0	64.0 0

- Significant at (0.05) at (62) degrees of freedom.

Table No. (9)

Shows the values of the arithmetic mean, standard deviation, calculated T value, and hypothetical mean for the two research measures.

Scale	numb er Sampl e	Numb er of phras es	arithme tic mean	standa rd deviati on	(T) valu e	Hypotheti cal mean	significa nce value	significa nce
Regulato ry laxity	63	19	50.8281	4.3481 6	- 11.3 55	57	0.000	Dal
Professio nal affiliation		17	57.7031	3.2400 3	16.5 51	51	0.000	Dal

- Significant at (0.05) at (62) degrees of freedom.

Displaying the results of the organizational slack and professional affiliation scale domains:

The researcher presents the results of the work sample in measuring the level of research variables according to each field of the values obtained for the sample's answers and shows the point of comparison between the arithmetic mean and the hypothetical mean, as in Table No. (10, 11).

Table No. (10) shows the sample results through the arithmetic mean and deviation.

Scale type	Fields	arithmet ic mean	standar d deviation	Hypothetic al mean	value (t) The calculat ed	significan ce value	Type of indicatio n
Regulatory laxity	Laziness at work	17.7188	2.51641	21	10.432-	000.	Not significant
	expatriate commitment	15.1094	2.86255	18	8.078-	000.	Not significant
	job frustration	17.5625	2.42915	18	1.441-	155.	Not significant

- Significant at (0.05) at (62) degrees of freedom.

Table No. (11) shows the sample results through the arithmetic mean and deviation.

Standard, T-value and hypothetical mean for the domains of the professional affiliation scale

Scale type	Fields	arithmet ic mean	standar d deviation	Hypotheti cal mean	value (t) The calculat ed	significan ce value	Type of indicati on
Professional affiliation	Professional loyalty	16.4531	1.97548	15	5.885	0.000	Dal
	Continuity of work	20.6719	2.20429	18	9.697	0.000	Dal

	Job commitment	20.5781	1.73484	18	11.889	0.000	Dal
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- **Significant at (0.05) at (62) degrees of freedom.**

Through the results of the correlation between the scale fields for the application sample, there appears a correlation between the research variables with a statistically significant value, as in

Table No. (12).

Table (12) shows the level of relationship between the measures of organizational laxity and professional affiliation.

Scale name	Professional affiliation	significance value	significance
Regulatory laxity	0.117	0.358	Not significant

- **Significant at (0.05) at (62) degrees of freedom.**

Discussion of results

It is evident from the results of the statistical work according to the tables shown according to the answers of the application sample according to the (T) test and after conducting the comparison process between the arithmetic mean and the hypothetical mean to identify the significance of the differences, it was found that there are statistically significant differences in favor of the hypothetical mean of the scale at a significance level of (0.05). As the values of the arithmetic mean, which amounted to (50.8281), are smaller than the value of the hypothetical mean, which amounted to (57) for the slackness scale at a significance level of (0.05). This is due to the fact that school principals have a weak commitment to the administrative requirements of their work and deal in an individual manner that expresses their personal opinions about school sports in general and the extent of real interest in it in an effective manner. The general curriculum includes sports plans and programs prepared by the General Directorate in the Ministry of Education, but the reality of the situation, the nature of schools, their structural composition and the weakness of their sports culture features show the sports aspects in a negative direction and its effects are clear in the exploitation of school spaces in buildings, in addition to the lack of provision of sports supplies to support the physical education lesson and the orientation towards other academic subjects without the sports aspect and considering it secondary duties in exchange for theoretical lessons in developing students mentally or scientifically, which shows the process of organizational laxity towards the physical education lesson and the type of dealing in how to contain the administrative systems correctly. This is consistent with the results of previous studies such as (Rateb Salama Al-Saud and Abla Jasser Al-Khattaba, 2020, pp. 206-207), (Al-Krameen & Al-Amarat, 2019), and (Aisha Abu Hamdeh and Rateb Al-Saud, 2011, pp. 394). They emphasized the need for school principals to commit to administrative tasks, accommodate all parties, and deal with them in ways that demonstrate success in administrative organization, pay attention to the

curriculum without discrimination in the subjects studied, and spread the culture of sports to support society in general in the future. Some researchers have pointed out the process of coordination between the objectives of school administration and the method of its actual implementation and the conviction of managers of the fairness of administrative dealings without bias towards one objective at the expense of another objective, that the foundations and methods adopted by school managers to achieve success in the administrative system produce a negative reaction that leads to organizational laxity, which affects the poor achievement of the results of this system and then reflects on the performance of this institution, whether it is educational or otherwise (Wefald, Kaiz, Downey, Rust, 2010, 70-78).

As for the field of (procrastination at work) and the statistical results according to the (T) test, after conducting a comparison between the arithmetic mean and the hypothetical mean to identify the significance of the differences, it was found that there are statistically significant differences in favor of the hypothetical mean of the scale at a significance level of (0.05). The values of the arithmetic mean, which amounted to (17.7188), are smaller than the value of the hypothetical mean, which amounted to (21) at a significance level of (0.05). This is attributed to the fact that the efforts exerted by school principals are not at the required level towards the physical education lesson, as the conflict in work tasks and the lack of follow-up by the higher authorities of all schools on an ongoing basis creates a state of job apathy and a feeling of boredom, which is reflected in administrative duties and tasks. The lack of control over the lesson schedule to fulfill the curriculum and the orientation towards theoretical subjects reduces the importance of the physical education lesson and weakens the promotion of skill, (Kadhim, M. J., Shihab, G. M., & Zaqair, 2021) physical and health aspects. Maznah's study indicates that the frequent failure to fulfill school work duties negatively impacts the achievement of the educational environment's objectives and reveals that the work of principals is of a poorly professional nature and inefficient and unable to perform administrative responsibilities, which weakens timely decision-making (Maznah, 2022, 214).

As for the field of (expatriate commitment) and the statistical results according to the (T) test, after comparing the arithmetic mean with the hypothetical mean to identify the significance of the differences, it was found that there are statistically significant differences in favor of the hypothetical mean of the scale at a significance level of (0.05). The arithmetic mean value, which is (15.1094), is smaller than the hypothetical mean value, which is (18) at a significance level of (0.05). This is attributed to the fact that school principals exhibit routine and monotony in their work. The sense of professional duty conflicts with investing the time allocated for lessons, and work pressures and the lack of teaching staff in the sports field in the governorate, especially the districts and sub-districts affiliated with it, put school principals in a difficult situation in covering the quota and managing the physical education lesson, despite the influence of regulations and instructions that do not reflect their material and moral data, which reflects the lack of interest in the physical education lesson due to the lack of material requirements in the school, which sometimes shows the dropout of students and their distancing from school sports, (Abdulhussein et al., 2024) thus the lack of sports culture in their community. (MANDOOBMAKKIATI & ABED, 2024) Administrative pressure creates a state of alienation in any individual towards his

work,(Mohsen et al., 2024) as he does not have the means of production, lacks opportunities for creativity and innovation, and finds it difficult to express himself and his administrative ability, and the job routine makes work without real meaning, and shows a lack of control over time in comparison to job requirements, which makes him feel alienated and weak in his commitment to administrative duties (Bouhafs, 2017, 251).

As for the field of (job frustration) and the statistical results according to the (T) test, after conducting a comparison between the arithmetic mean and the hypothetical mean to identify the significance of the differences, it was found that there are statistically significant differences in favor of the hypothetical mean of the scale at a significance level of (0.05). The values of the arithmetic mean, which amounted to (17.5625) (Kadhim, 2023), are smaller than the value of the hypothetical mean, which amounted to (18) at a significance level of (0.05). This is attributed to the fact that school principals have a state of anxiety about their ability to fulfill the curriculum, which makes them unstable in managing their work and they try to fill the vacancies of theoretical lessons through the physical education lesson, believing it to be the most appropriate solution to cover the remaining theoretical lessons, in addition to the psychological feeling of inability to achieve the goals of the sports aspect due to the lack of sports supplies and the lack of regular playgrounds and the circumstances that the country went through in previous years, which showed their accumulation in moving away from sports participation and trying to manage work according to administrative routine. This indicates that the director feels frustrated as a result of feeling that there is no benefit from the additional efforts without real tools that he can rely on or means of support to carry out their work in an organized manner, (Kazar & Kazim, 2020)and (Abdulhussein & Adnan, 2024) which leads to a slowdown in their job performance and frustration towards the development of school administration and puts them in a negative position due to not carrying out his required role in the job due to the obstacles of the work environment (Easa et al., 2022)(Al-Sarayrah, 2005, 264-266).

It is evident from the results of the statistical work according to the tables shown according to the answers of the application sample according to the (T) test and after conducting the comparison process between the arithmetic mean and the hypothetical mean to identify the significance of the differences, it was found that there are statistically significant differences in favor of the arithmetic mean of the scale at a significance level of (0.05). As the values of the arithmetic mean, which amounted to (57.7031), are greater than the value of the hypothetical mean, which amounted to (51) for the professional affiliation scale at a significance level of (0.05). This is attributed to the fact that the sample's answers showed the extent of their commitment to school instructions, regulations and laws, as they are the basis of their belonging to their profession in teaching physical education and their insistence on achieving their goals in the success of school sports. They exert their best efforts to make their work successful and have a constant desire to maintain the reputation of sports and strive to raise its value in a sustainable manner. Despite the current circumstances, the lack of material resources and sports supplies, and the lack of large spaces in schools, they demonstrate their dedication to spreading sports culture and strive to implement the physical education lesson, even if it is at a minimum level. Professional responsibility, the direction of the school and students, loyalty to their work and their job commitment are a motivation to

achieve honesty at work and a love of belonging to their profession as physical education teachers, which makes them feel a sense of family towards the school, where they often spend the entire school day. This is consistent with the study of (Nizal Abdul Halim Jabr, 2014, 27), which demonstrated the burdens of school principals and the Education Directorate in terms of the actual interest in school sports. It recommended that school principals seek to understand the importance of professional belonging among physical education teachers. Some studies have indicated that a sense of professional belonging is a condition for good performance and stability in educational work, as it is one of the foundations of professional values. Instilling and enhancing it in teachers supports their professional role in improving aspects of education. Professional belonging reflects the teacher's commitment and loyalty to the professional values of education and raises his principles and professional ethics, the desire to continue working and do his utmost to achieve its goals (Ali Abdul Rabbah, 2016, 109-113) and (Rashid & Rija, 2024).

As for the field of (professional loyalty) and the statistical results according to the (T) test, after conducting the comparison process between the arithmetic mean and the hypothetical mean to identify the significance of the differences, it was found that there are statistically significant differences in favor of the hypothetical mean of the scale at a significance level of (0.05). As the values of the arithmetic mean, which amounted to (16.4531), are greater than the value of the hypothetical mean, which amounted to (15) at a significance level of (0.05). This is attributed to the fact that physical education teachers are a major and important component of the school and are considered effective elements in the social, cultural, and even administrative aspects of sports, which demonstrates their belonging and loyalty to the school, their sense of pride in their position within it, their belief in its values, and their strong desire to achieve its goals. (Rija et al., 2023a) Loyalty is referred to as the essence of professional belonging and an effective supporter of self-identity, group ties, and engagement in work as part of this field, which enhances professional membership, participation in improvement and development, and attention to the needs and desires of work requirements (Hani, 2010, pp. 22-23). Professional loyalty expresses harmony and connection to work, a constant willingness to make exceptional efforts to achieve goals, and a desire to remain in this work (Khalifat & Al-Malahama, 2009) and (Abdulameer & Ismail, 2024). As for the field of (continuity of work) and the statistical results according to the (T) test, after conducting the comparison process between the arithmetic mean and the hypothetical mean to identify the significance of the differences, it was found that there are statistically significant differences in favor of the hypothetical mean of the scale at a significance level of (0.05). As the values of the arithmetic mean, which amounted to (20.6719), are greater than the value of the hypothetical mean, which amounted to (18) at a significance level of (0.05). This is due to the desire of physical education teachers to achieve their ambitions and future aspirations, which is an important incentive to continue working. Social relationships with colleagues, officials, and students make him want to continue and participate in achieving the school's goals. Positive future expectations and career growth play a major role in his professional stability, which is an incentive to insist on continuing in it. (Rija et al., 2023b) Continuing to work is part of professional belonging, which is measured by its investment value that he achieves in his field of work and the extent of his influence on the group to which he belongs and positive interaction with them, which

enhances his ability to continue performing his duties despite obstacles and side effects. However, his relevant belief is a motive towards resistance and challenge to continue achieving his personal goals and the goals of the institution to which he belongs (Sami, 2006, 46-47) and (Abdul Wahid, 2018)

As for the field of (job commitment) and the statistical results according to the (T) test, after conducting a comparison between the arithmetic mean and the hypothetical mean to identify the significance of the differences, it was found that there are statistically significant differences in favor of the hypothetical mean of the scale at a significance level of (0.05). The values of the arithmetic mean, which amounted to (20.5781), are greater than the value of the hypothetical mean, which amounted to (18) at a significance level of (0.05). This is attributed to the commitment to official working hours, the implementation of duties, and the application of the physical education lesson despite the circumstances and obstacles, in addition to placing the priorities of school work and the sports aspect in particular at the forefront of their goals through their self-monitoring and professional conscience, which imposed on them to perform their duties continuously to preserve their professional reputation and the feeling of a duty to succeed in order to raise the value of the school and achieve its goals. Job commitment is a foundation for adhering to job standards and the ability to harmonize and cooperate with the group towards work and accept it with its difficulties and obstacles and unite in order to overcome them and bear the professional legal and ethical responsibility as they represent belonging and a living conscience towards their professional duties. The process of commitment is the meeting point between the goals of employees and the institution to which they belong and the feeling of belonging to the work environment and commitment to its progress and continuity in achieving its requirements (Ashwaq, 2019, 190-191) and (Hussein & Altay, 2020)

As for the correlation between (organizational laxity) and (professional affiliation) through the statistical results according to the (T) test, and after conducting the comparison process to identify the significance of the correlation, it was found that there is a correlation that is not statistically significant at the significance level (0.05). This is attributed to the fact that the organizational laxity of the principals of middle and preparatory schools in Dhi Qar Education Directorate shows a lack of interest in the physical education lesson and weakens students' movement and sports orientations and the release of their energies during other lessons. This reflects a state of negative evaluation of the performance of the physical education lesson and the weakness of their professional performance during the school year, which affects the enthusiasm and motivation of physical education teachers and their desire to implement the sports curriculum, diverges ideas, shakes confidence in the school administration and reduces their affiliation to it. This phenomenon reflects a general impression of the problem of cooperation, a professional reality in the work environment and a sense of administrative responsibility towards school sports as a major aspect of educational education and community culture, which weakens the sports movement in schools. Therefore, he pointed out that weak school administration or one that reduces its interest in teachers clearly affects the professional affiliation of teachers and the successful and effective principal motivates and supports the teaching staff and students, raises the value of professional affiliation and achieves the desired educational goals (Ashraf, 2009, 23-26). (Khaled, 2014) confirms that the

success of school administration depends on the atmosphere that is spread in the school with freedom of opinion, consultation and cooperation with teachers to achieve educational interests within a human framework according to a flexible administration that looks forward to developments and harnesses energies and capabilities to serve the educational process and create an exciting school environment that achieves a sense of belonging for all teachers and students (Khaled, 2014, 53-55).

Conclusions

1. The sample's answers revealed the importance of organizational laxity and professional affiliation, as well as the extent of the benefit of identifying their circumstances and their dimensions in the dealings of school principals and their impact on physical education teachers.
2. The presence of organizational laxity among school principals reveals limited practices that weaken administrative support for sports activities, contributing to accumulations that affect the sustainability of effective implementation of the sports curriculum.
3. The fact that school principals focus more on academics than on sports indicates lax administrative control over coordination and full implementation of educational curricula throughout the school year.
4. The lack of attention to administrative integration between school principals and physical education teachers weakens organizational policies and teamwork to support sports activities and achieve some aspect of social and educational integration.
5. School principals' view of school sports as a secondary aspect reduces the success of students' psychological, recreational, and skill development, which weakens the role of sports teachers and the discovery of students' athletic potential.
6. The lack of attention to sports infrastructure and equipment negatively affects the professional commitment of physical education teachers.
7. The lack of participation of school principals in training courses on school management and administrative culture reveals routine and monotony in managing the objectives of physical education as a major part of the general curriculum.
8. Physical education teachers have a belief in perseverance, self-confidence, commitment to their job duties and professional affiliation.

Recommendations:

1. School principals should pay attention to the psychological and professional conditions of physical education teachers to maintain their commitment to their profession.
2. Activating administrative oversight by the Educational Supervision Directorate to continuously monitor physical education lessons.
3. Activating annual evaluation standards for physical education teachers and supporting school administration in teaching physical education and adhering to its professional requirements.
4. Enhancing work with material and moral incentives and rewards for physical education teachers in return for the success of physical education lessons and external participation.
5. Achieving organizational justice and equality for physical education teachers with other subjects.



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6. Strengthening teamwork and enhancing communication and positive interaction between school administration and physical education teachers.
 7. Opening the door to participation in the professional development of physical education teachers to learn about the latest developments in the application of physical education lessons.
 8. Strengthening the functional relationship between school principals and physical education teachers to increase the level of professional participation in school events and tournaments on a sustainable basis.

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Comparison of some mechanical variables for first and second place with Olympic level and world champions in the high jump at the 2021 Arab Championships

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2151](https://doi.org/10.37359/JOPE.V37(2)2025.2151)

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Article history: Received 20/ May /2024 Accepted 28/ May/2024 Available online 28/ June/2025

Abstract

This research aimed to determine the role of some mechanical variables for the first and second place at the Olympic level and world champions, it can be said that there is a preference for some mechanical variables for the achievement of the high jump, and the research sample was the Arab champions in the advanced category of high jump in the Arab championship on 6/22/2021-16 in Tunisia (Rades Stadium). I used the descriptive method because it suits the nature of the research issue. He used five cameras in different directions and analyzed the attempt (2.16) meters for each vaulter and compared the best vaulters (Hussein Falah and Hamdi Ali) in the mechanical variables of the activity of the three free limbs and compared the reason for the success of the jump, he used five cameras installed on a tripod surrounding the player from all directions and all cameras are at the speed of (120) images / second to fit it with the speed of performance. He reached conclusions where the player (Hussein Falah) relies more on physical abilities than technique, if the technique had been corrected, he would have been able to take advantage of the lost height above the crossbar and break the Iraqi record. The player (Hamdi Ali) relies on technique and physical measurements that give an advantage to the player Hamdi in crossing the bar on the first attempt. We can recommend developing the technique to a height higher than 2.19, which

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was successfully jumped by Hussein Falah to identify and improve weaknesses, whether physical or skill, and conduct tests at intervals and provide effective specialized coaches who are professionals in the high jump.

Keywords: Comparison, Mechanical variables, Kinematic variables, World champions, High jump

Introduction

The science of biomechanics has contributed to the scientific advancement of human movement performance in general and athletes in particular because its main content in the field of physical education is the study of the causes of movement (Ali & Jameel, 2020), i.e. attention to the internal and external forces causing it and provides the most appropriate solutions by using motor analysis (Abdulhussein et al., 2024) The use of various analytical and scientific programs as well as the use of advanced and modern devices (Hamid, 2016) as well as facilitating the process of detecting the sources of errors in the motor path and adjusting movement paths better according to biomechanical laws, achieve high achievement (Abdul-gani et al., 2024) Use of science whether it is Here we stand that there is a glimmer of hope for progress in this game leads us to wonder whether the world champions have better qualifications than the local champions and whether they adopt the correct methods of training (Aragón & Melissa 1997) (Nag, 2017), so we will conduct a study to find the best mechanical variables in the technical and technical performance of the Arab champions by filming the players participating in the (Arab Championships 2021 for advanced) (Hamed 2001).

The importance of this study is to determine the role of some mechanical variables for the first and second place with the target Olympic level and world champions in the achievement of the high jump event and whether there is a preference for some mechanical variables in the achievement of the 2021 advanced Arab champions for the high jump. Venue of the Arab Championships 2021/6/22-16. It was held in Tunisia (Rades Stadium).

Materials and Methods

The descriptive method was used because it suits the nature of the research issue. The research community was selected by the random method, represented by the Arab champions participating in the high jump event for strength sports (Arab championship in the year 2021), as shown in Table (1) The names of the players participating in the Arab championship high jump event on 2021/6/22-16), who are (100%) of the original community

and Table (2) where it shows the specifications of each player in the Arab championship of weight, height, highest achievement and training time.

Table (1): Names of players participating in the Arab High Jump Championship on (16-22/6/2021)⁽³⁾

No.	Player Name	Height.								
		1.9 m	1.95 m	2.00 m	2.05 m	2.10 m	2.13 m	2.16 m	2.19 m	2.21 m
1	Hussein Falah Ibrahim (Iraq)	-	-	-	XO	O	OX	O	OX	XXX
2	Hashem Bouhanoun (Algeria)	-	O	OX	O	XXX				
3	Khaled Al-Masid (Kuwait)	O	OX	O	XXX					
4	Abdul Rahman (Kuwait)	O	XXX							
5	Hamdi Ali Bakr (Qatar)	-	-	-	O	O	O	O	XXX	
6	Mohamed Talaat Abu Talib (Egypt)	O	O	O	OX	XXX				

Table (2): Specifications of each player in the Arab championship^(*)

No.	Player Name	Long	Score	Highest Achievement	Age	Training Age
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³ Personal interview with each player live during the tournament held in Tunisia on Wednesday at 7:00 p.m. on 6/16/2021

^(*) A personal interview with each player during the tournament held in Tunisia on Wednesday at 7:00 pm on 6/21/2021.



1.	Hussein Falah Ibrahim (Iraq)	190 cm	79 kg	223 cm	25 years	8 years
2.	Hashem Bouhanoun (Algeria)	180cm	73 kg	215 cm	24 years	15 years
3.	Uncle ALMASEED (Kuwait)	182 cm	75 kg	210 cm	26 years	14 years
4.	Abdul Rahman (Kuwait)	181 cm	77 kg	200 cm	25 years	13 years
5.	Hamdi Ali Bakr (Qatar)	192 cm	65 kg	227 cm	24 years	15 years
6.	Mohamed Talaat Abu Talib (Egypt)	198 cm	87 kg	220 cm	31 years	18 years

Various sources were used in collecting information: Arab and foreign sources, observation, analysis, personal interviews(*), the team, the World Wide Web (Internet), software and applications used Devices and tools Miscellaneous cameras (5) (Casio type, Chinese-made) with speeds (from 30 photos/s to 1000 photos/s) (Ibrahim, 2019) with a camera tripod. Documentation camera (2) and tape measure (1).Lenovo laptop (1) and tape measure (2).Drawing scale (1 m) (1).Legal high jump (1).

The researcher consulted many scientific sources and similar previous studies and took the opinions of experts (**) in the field of biomechanics in athletics to determine the most important distances and heights for the stages of the high jump. He conducted photography at the Arab championship held in Tunisia for the high jump event on Wednesday at 4 pm Tunisian time by photographing the Arab champions for the high jump event using five cameras in different directions as shown in the drawing above, analyzing the attempt (2.16) meters for each vaulter, and comparing the best vaulters (Hussein Falah and Hamdi Ali) in the variables of distance and heights of the center of gravity of the body and comparing them with the Ingar. 16 meters for each jumper and comparing the best jumpers (Hussein Falah and Hamdi Ali) in the variables of distance, heights, and center of gravity and comparing them to the explosion.

Mechanical variables of the high jump

(*)A personal interview with each player during the tournament held in Tunisia on Wednesday at 7:00 pm on 6/21/2021.

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Prof. Dr. Ali Shabout Al-Sudani - Biomechanics / Weights - Baghdad University / Faculty of Physical Education and Sports Sciences.

Prof. Dr. Yasser Najah - Biomechanics / Gymnastics - Baghdad University / Faculty of Physical Education and Sports Sciences.

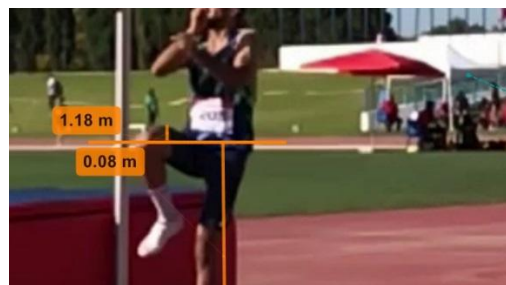
- 1- **Arm activity closest to the bar (AAN):** Extracts the distance of the highest height reached by the arm in millimeters above the horizontal line of the shoulder divided by the shoulder height in meters (Dhawan & Yasser, 2013).



- 2- **Arm activity farthest from the bar (AAF):** Extracts the distance of the highest height reached by the arm in millimeters above the horizontal line of the shoulder divided by the shoulder height in meters.



- 3- **Main leg activity (LLA):** Extracts the distance of the highest height in meters. The leg represented by the start of the knee joint in millimeters above the horizontal line of the hip divided by the hip height in meters.



- 4- **Power to the elevation foot (PL):** Extracted according to the force law = $(k \cdot x/s)/\text{player's weight}$.
- 5- **Pushing force for the elevation foot:** Extracted according to the law, push off force = force * time.
- 6- **Horizontal force for pushing moment:** After extracting the force, you hit the sine cos of the starting angle.
- 7- **Vertical force of the moment of impulse:** After the force is extracted, it is multiplied by the sine of the starting angle.

As for the exploratory experiment, the experiment on (Wednesday) at (10:00) am Tunisia time (16/6/2021), the experiment tested the devices used in the research (cameras) on the players (women's heptathlon) in the morning period to know the obstacles that may be faced during the main experiment held in Tunisia to know the tools that need to be provided, the validity of the tools used, the permits that had to be available, the number of members of the assistant team and the mistakes that could have been made, etc. He was able to identify and stabilize the locations of the cameras during this experiment and know the type of camera and the degree of zoom he needs, and then stabilize the method of performance photography by turning on the camera and passing a clip in front of the camera to know the height, the number of the attempt and the player, as well as coordination with the supervisors of the tournament and the judges responsible for judging the event because the main experiment was in the evening period of the tournament for the same day and the time is taken for each attempt or each jump in each height approximately and whether it fits in the storage space of the cameras and charging the batteries. To analyze the video imaging: I used video imaging to determine the biomechanical variables and analyze the movement completely, as it is a way to divide the total sections into parts and study these parts in depth to reveal their subtleties and know the weaknesses and strengths and obtain the biomechanical variables for each stage of the performance, where he used five cameras installed on a tripod that surrounds the player from all directions as shown in Figure (1) and all cameras are at a speed of (120) images/second (Philpott et al., 2021) consistent with that to suit it to the speed of the performance.

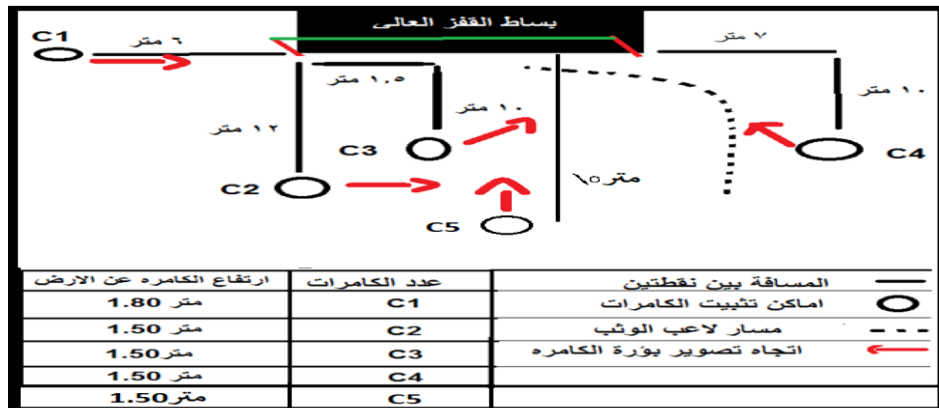


Figure (1): Where the cameras are installed inside the stadium and the direction of each camera

The research test (1) was the achievement test for high jump effectiveness (1) according to rule (185) (Čoh, 2010).

Statistical methods: Appropriate methods were used to determine the differences between the players, i.e. discussing the results directly without statistics and using graphs to illustrate the differences.

Discuss results

1- Discuss the results of the sum of arm activity on the bar (AAT=AAF+ANN) (Díaz-Jiménez, 1993)

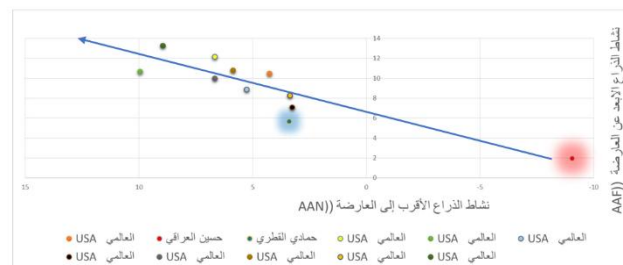


Figure (2): Total arm activity for the bar (AAT=AAF+ANN)

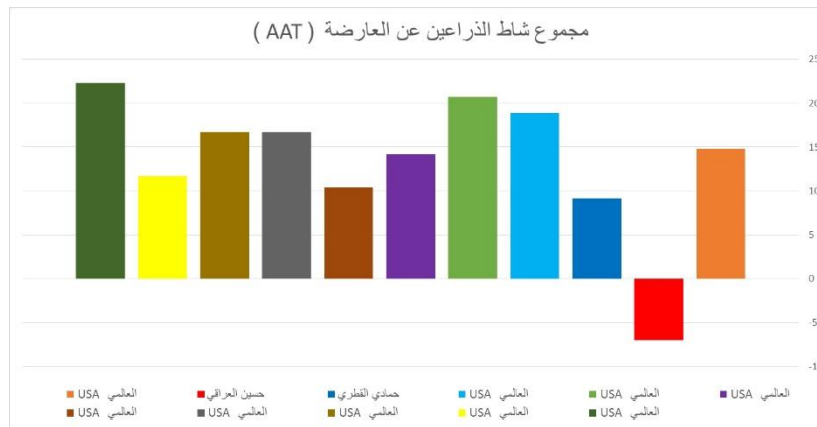


Figure (3): Total arm activity on the bar (AAT)

By viewing Figure (2) and Figure (3), we notice that the level of the world champions (AAN) ranges (3.3-10) mm/m, (AAF) ranges (7.1-13.3) mm/m and (AAT) ranges (10.4-22.3) mm/m. As for the Qatari player, the amount of (AAN), (AAF) and (AAT) were respectively (3.44), (5.7), (9.7) and (14) mm/m, which is a good amount because it is close to the world figure, but not ideal. 14) mm/m, which is a good amount as it is close to the world figure, but not ideal, as for the Iraqi player, the amounts of AAN, AAF, and AAT were respectively (- 9), (2), (7) mm/m and this amount is not good for the stage he reached compared to the amount of world champions, and from the researcher's point of view, if the Iraqi player wants to break the Iraqi record registered in his name, he must work greatly on the speed of arm activity because of its important role in directing the body and the momentum gained from the proximity run towards the top and utilizing the momentum optimally and converting as much of the linear speed into vertical speed and not direct the jumper towards the bar, as confirmed by (Hay, 1993), where we aspire in the near future for the Iraqi athlete to achieve (AAT) (10-15) mm / m.

2- Discuss the results of the main free leg activity (LLA) and the sum of the three free limb activity (FLA) (Díaz-Jiménez, 1993)

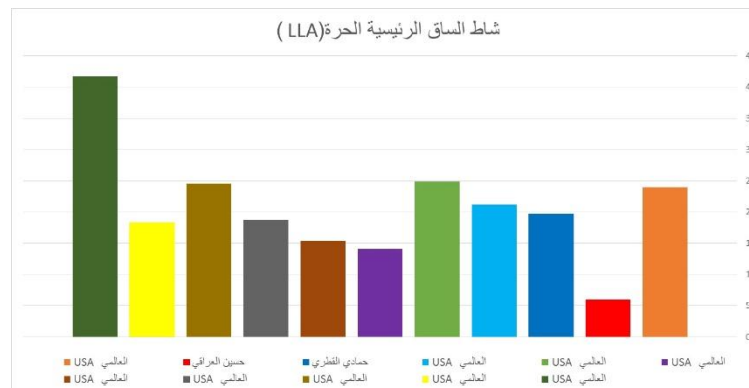


Figure (4): Free main leg activity (LLA)

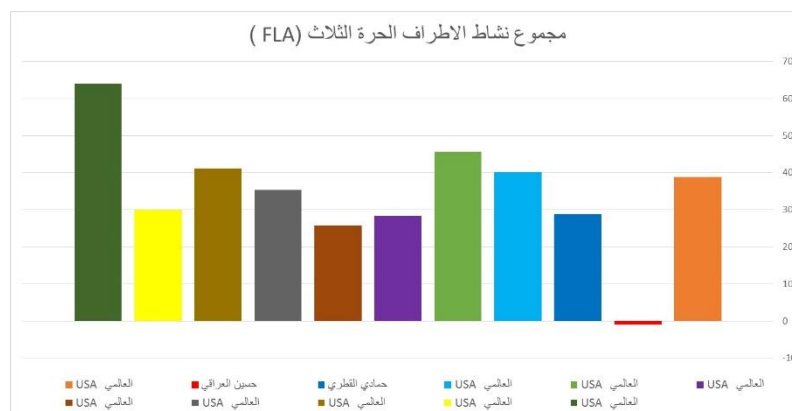


Figure (5): The total activity of the three free-limb activity (FLA)



By viewing Figure (4) and Figure (5), we notice that the level of the world champions for both (LLA) and (FLA) respectively (14.1-41.7) mm/m, (25.8-64) mm/m, as for the Qatari player, its amount for both (LLA) and (FLA) respectively (19.7), (28.8) mm/m, which is a figure considered good because it is within the range of the world champions for the current level, and this indicates that the player has high flexibility in the hip joint, which plays an important role in the variable (LLA). This number is considered good because it is within the range of the world champions for the current level and this indicates that the player has high flexibility in the hip joint, which plays an important role in the LLA variable, which mainly depends on the ability of the jumper in the extent to which the knee can be raised to the highest point that it can reach during the ascent phase in the last touch, as for the Iraqi-Qatari player, his values for LLA and FLA were respectively (6) and (-1) mm/m, and this indicates that the Iraqi player did not reach the ideal level of performance compared to the world champions, and the difference from him in (LLA) was (8. (1) mm / m. As for (FLA) was (-1) mm / m. This indicates that the total activity of the free limbs is almost non-existent for the Iraqi player, so the player must develop hip joint flexibility (the amount of opening the legs and bringing them as close as possible to 180 degrees from the standing position). In order to be able to perform leg lifts with a greater range during the elevation phase, the researcher advises the Iraqi athlete to focus on the proximal arm because it was negative (below the shoulder line during elevation) and this led to a negative FLA (McErlain, & el.,2014).

Discussion of the results of kinematic variables of the foot strength during the recovery phase

Table (3): Results of the kinematic variables of the rising foot force during the ascension phase

NO.	Kinetic variables	Olympic Target (Al-Fadhli, Al-Khafaji, and Al-Fadhli, 2023)	World USA (Díaz-Jiménez, 1993)	Hussein al-Iraqi	Hamdi Al-Qatari
.1	Power to the elevation foot(PL) 2x the player's weight	————	5.6	$(9.8*79)/2495.9$ 3.22=	$(9.8*65)/1917.5$ 3.01=
.2	Pushing force of the lifting foot	328.8	————	274.54	191.75
.3	Horizontal force at the moment of propulsion	4420	————	1604.33	1044.34
.4	Vertical force at the moment of propulsion	6625	————	1911.9	1606.15

Through the presentation of table (3), which shows the results of the kinematic variables of the strength of the advancement foot during the promotion phase, we note that the strength of the world champions is equivalent to (5.6) (Čoh, 2010) (King, & el., 2006) of body weight, while for the Iraqi player and the Qatari player respectively (3.22), (3.01) of the player's weight. This indicates the amount of difference in the muscular force exerted on the ground to push the body upwards and according to Newton's third law (every action has an equal and opposite reaction in the direction and on one line of action) the greater the force exerted on the ground the greater the reaction that helps the player to fly at a higher height and overcome gravity by crossing the bar with the help of the repulsive force that he gains from the arc-shaped approach run (Philpott, & el. 2021).

As for the momentum of the elevation foot, we notice from table (3) that the amount of momentum for the target Olympic level (328.8) net.s, while for the Iraqi player the amount of momentum was (274.54) net.s and the momentum of the Qatari player was (191.75) net.s, we notice that the Iraqi player has more momentum than the Qatari player,

but did not reach the target Olympic level, which is the number that we aspire for the Iraqi player to achieve (Murdan, 2003).

From table (3), we note that the amount of the horizontal component and the vertical component of the force at the moment of impulse for the Olympic level, respectively, was (4420), (6625), and for the Iraqi player, the amount of force was (1604.33), (1911.9) net.s. As for the Qatari player, the amount of force was (1044.34), (1606) net.s, respectively. 15) n.s. We note that the vertical force is greater than the horizontal force, and this indicates that the greater the vertical force, the more the player can overcome the momentum and transfer it from the horizontal vehicle to the vertical vehicle, and we note that the Iraqi player was favored in the vertical force, where the difference between them was approximately (305.75) nt.s and this is in favor of the Iraqi player which helped him to pass the height (2.19) m, but it is far from the international level where we notice the difference between them is (4.713.1) nt.s and this difference is due to several reasons including excess body weight which causes a great obstacle and also physical strength as we noticed in the Dabney and Klein test and we advise the Iraqi player to develop the physical strength for the long jump and bring it to an amount close to the Olympic level to be able to pass a higher height (Murdan, 2010).

Conclusions

- The player Hussein Falah relies on physical abilities more than the technique, if the technique was corrected, he would have been able to take advantage of the lost height above the bar and break the Iraqi record and emphasized (Al-Karbouli, 2013) the need for some variables that were not available to the player Hussein Falah
- The player Hamdi Ali relies on the technique and physical measurements that give the player Hamdi an advantage in crossing the crossbar on the first attempt.

Recommendations

- Technique should be developed to a higher height than the 2.19 that Hussein Falah failed to do to identify and improve weaknesses, whether physical or skill.
- A complementary study should be done to this study and follow up the player by the specialists in the biomechanics department in the athletics directly and periodic tests and bring specialized trainers for this event and agrees with (Abdullah, 2022).



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Mineral and sugar concentrations taken during matches and their effect on some physical and functional abilities of football players

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2101](https://doi.org/10.37359/JOPE.V37(2)2025.2101)

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Article history: Received 13/ January /2024 Accepted 12/ February /2024 Available online 28/ June/2025

Abstract

Many athletes believe that it enhances the level of performance during training and competition, in addition to compensating for fluids during exercise when the levels of temperature and humidity in the atmosphere rise during the athlete's intensive training, as it increases the requirements for fluid compensation to avoid the risk of potential thermal disorders. If training continues for more than an hour causing fatigue, athletes are advised to drink carbohydrate drinks that quickly convert to glucose in the blood, while sodium should be included in the fluids consumed during exercise or matches that last more than (1-2 hours). The effect of drinking a drink containing 12% carbohydrates and electrolytes before each half of a simulated football match facilitates the maintenance of passing performance and improves the ability of high-intensity running in football academy players. This study aims to know the effect of mineral and sugar solutions with different mineral concentrations 2%-5% with a carbohydrate percentage of 10% in an amount of 500 ml of water on some physical abilities and functional indicators. The study was conducted on football academy players aged 15-16 years, where the research sample amounted to 20 players and they were divided into two groups for each group (n = 10 experimental 1 took 2% mineral salts and 10% sugar) (n = 10 experimental 2 took 5% mineral salts and 10% sugar)) They were trained three training units per week and the field experiment was conducted on them by holding matches within the academy's football activity while they represented one of the teams. The study concluded that.

Keywords: Mineral supplementation, Sugar intake, Physical performance, Football players.

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Introduction

Athletes appreciate the need to consume fluids before, during, and after exercise. Rehydration with energy drinks containing carbohydrates, salts, caffeine, and other ingredients is important, as many athletes believe they enhance performance during training and competition. Additionally, fluid replacement during exercise is important when high temperatures and humidity levels occur during intense training, increasing fluid requirements to avoid the risk of heat exhaustion. It is recommended that athletes consume 5-7 ml of fluid per kilogram of body weight at least four hours before exercise. During exercise lasting more than 40 minutes, athletes should aim to drink enough fluids to replace fluids lost through sweating, ensuring that the fluid deficit during training or competition does not exceed approximately 2% of body mass, averaging 200 ml per 20 minutes of exercise. If training lasts for more than an hour and causes fatigue, athletes are advised to drink carbohydrate drinks that quickly turn into glucose in the blood, while sodium should be included in the fluids consumed during exercise or matches that last more than (1-2 hours). Most energy drinks may contain carbohydrates or caffeine. Ian Rollo & Clyde Williams (2023) study showed the effect of carbohydrate nutrition on the skill performance of football players. Football players are required to perform a variety of specific athletic skills, usually during or immediately after running. These are often fast-paced, and the quality of the skill performance is likely to be influenced by the amount of work done offensively and defensively throughout the game (1,2). Even the most skilled players succumb to the effects of physical and mental fatigue, which can lead to poor skill performance at crucial moments in the game and poor fitness during the game. Tired players find it more difficult to successfully perform basic skills. It is not surprising that teams place a significant emphasis on fitness training (3,4). The importance of team tactics, supported by spatial awareness, should not be overlooked. This is why players resort to high-carbohydrate nutritional supplements before and during matches, believing they help delay the onset of fatigue. This study found some evidence that players who consume carbohydrates can maintain their skills throughout matches while delaying fatigue during play. It may also help with weight maintenance and performance of specific soccer skills. A study by (Paola Rodriguez-Giustinian, Ian Rollo, OliverC.Witard 2018) examined the effect of consuming a drink containing 12% carbohydrates and electrolytes before each half of a simulated football match on maintaining passing performance and improving high-intensity running capacity in academy football players. This study investigated the effect of ingesting a 12% carbohydrate plus electrolyte (CHO-E) solution, providing 60g of carbohydrate, prior to each half of a 90-minute simulated football match protocol on skill performance, sprint speed, and high-intensity running capacity. Eighteen elite academy football players (aged 18 ± 2 years) ingested two doses (250ml) (pre- and mid-training) of a 12% carbohydrate plus electrolyte solution or an electrolyte placebo in a

randomized, double-blind design. During a simulated indoor football match, dribbling, passing, and sprinting performance were assessed, and blood was drawn for glucose and lactate analysis. High-intensity running capacity was assessed, and results showed that passing accuracy, dribbling, and sprinting speed were maintained throughout the simulated football match. Therefore, ingesting a 12% CHO-E solution prior to each half of a match may help maintain football-specific skill performance and improve high-intensity running capacity. Study (Caroline A. Tarnowski, Ian Rollo, James M. Carter 2022) Fluid balance and carbohydrate intake in elite women's soccer players during training and competition This study examined sweating rate, sweat sodium concentration (Na), carbohydrate and fluid intake in elite female soccer players during training (n = 19) and matches (n = 8). Eight body mass (kg) was measured before and after exercise, and sweating rate and sodium concentration (Na) were calculated, which was determined by absorbent patches on the thigh or back. The percentage of body mass change in elite female players (19 players) during training had a greater loss of body mass after the match ($121.12 \pm 0.86\%$) than during training ($+0.29 \pm 0.34\%$, $p = 0.003$), and the sweat rate was similar between training ($29 \pm 9 \text{ mmol} \cdot \text{L}$) and match ($35 \pm 9 \text{ mmol} \cdot \text{L}$). There were no differences in match versus training carbohydrate intake ($2.0 \pm 2.3 \text{ g} \cdot \text{h}$, $0.9 \pm 1.5 \text{ g} \cdot \text{h}$, respectively, $p = 0.219$). The average distance covered may have reached approximately 10 km during the match, which indicates their use of the aerobic energy system, as high-intensity effort leads to a significant depletion of glycogen in each muscle fiber, which leads to early fatigue in soccer players, as elite soccer players consume less fluid during matches than during training, and physiological responses were observed. Elevated (heart rate and blood lactate) and early fatigue, sweating rates and fluid balance were monitored during play. Female soccer players played two competitive matches in hot conditions (25°C) and the mean sweating rate was 0.81 L/h, water deficit was 0.9% While studying (Fabrícia. G. Ferreira, Leticia. P. Wallisson. David 2016) The effect of hydration practices on runners during training and competition Emphasizing that the hydration process ensures that the athlete is in an ideal state during exercise, and that insufficient hydration may result in a decrease in the athlete's level, and that the level of knowledge about the hydration method includes several questions categorized in knowing the demographic characteristics, and hydration methods during competition and training. A significant difference was observed in the use of hydration between training and competitions. The data revealed that a large number of runners (41% in competitions and 54.4% in training) as well as a percentage of . Only 35.4% of athletes consumed sports drinks, while 3.88% did not consume fluids at all during training, and 1.5% did not consume fluids at all in competition. While Ozcan Esen, Ian Walshe & Stuart Goodall's 2024 study examined energy, hydration, and sleep status in world-class male archers during competition, eating and sleeping play an important role in performance recovery in elite sport. The present study aimed to evaluate energy intake (EI), hydration status, and sleep parameters in world-class male archers over a four-day

competition. Daily energy, carbohydrate, and protein intakes ranged between 2,563 and 3,986 kcal, 4 and 7.1 g/kg body mass, and 2.2 and 3.6 g/kg body mass per day, respectively. Energy and carbohydrate intakes were greater on high-volume competition days (i.e., days 1 and 3) than on low-volume days (days 2 and 4) during the tournament. Additionally, urine specific gravity was higher after waking up, compared to pre- and post-competition, and before sleep, while they were hypo-hydrated after waking up with sleep disturbances. The archers appear to be collectively able to partition their food intake according to the daily physical load during the tournament while maintaining adequate hydration and maintaining sleep quality. It can be concluded that these data partially help explain why these archers are so successful. Konstantinos D. Tambalisi's 2022 study indicated that The effect of electrolyte and energy drink consumption on athletic performance The primary objective was to identify the potential effects of electrolyte and energy drink consumption on athletic performance and to provide recommendations for safe consumption. This study also explored the fluid intake athletes need before, during, and after exercise, as well as the importance of hydration using energy drinks containing carbohydrates, salts, caffeine, and other ingredients. Many athletes consider energy drinks to enhance performance and avoid the risk of potential heat exhaustion. Therefore, it is recommended that athletes consume 5–7 ml of fluid per kilogram of body weight at least 4 hours before exercise. For exercise lasting more than 40 minutes, it is suggested to develop hydration strategies that ensure the athlete adequately replaces fluid lost through sweating, with the total fluid deficit during a training or competition session not exceeding approximately 2% of body mass (at a rate of 200 ml per 20 minutes of exercise). Furthermore, during exercise lasting more than an hour and causing fatigue, athletes are advised to consume a carbohydrate source that is rapidly converted to blood glucose, while sodium should be included in the fluid intake during exercise lasting more than one to two hours. The main energy-generating nutrients in most energy drinks appear to be carbohydrates and/or caffeine. Hence the importance of research into the effect of mineral and sugar concentrations and their consumption as drinks to compensate athletes to maintain some physical abilities and functional indicators for football players. The problem is that although there is research, it is little that has addressed these topics and the effects resulting from the variation in the proportions of mineral and sugar solutions, which reach 10%, while in this study, a percentage of mineral salts will be determined at 2% - 5% and mixed with a percentage of 10% carbohydrates in order to simulate the nature of the football player and his predominant metabolic system for aerobic energy.

The study aims

- 1- Knowing the mineral and sugar concentrations as solutions in rehydration.
- 2-To know the effect of mineral and sugar solutions with a mineral concentration of 2% and a carbohydrate content of 10% in 500 ml of water on some physical abilities and functional indicators.
- 3- Knowing the effect of mineral and sugar solutions with a mineral ratio of 5% and a carbohydrate ratio of 10% in an amount of 500 ml of water on some physical abilities and functional indicators.

Method and tools:

The researcher used the experimental method by designing two groups, a control and an experimental group. A community of football academies was selected, aged 15-16 years, with an average height of 170.7 ± 4 cm and an average weight of 73.6 ± 5.8 kg. The research sample was 20 players from Uncle Baba Football Academy. They were randomly selected and divided into two groups, each group ($n = 10$ experimental 1) ($n = 10$ experimental 2). They trained three training units per week. The field experiment was conducted on them by conducting matches within the academy's football activity, while they represented one of the teams. The sample expressed their willingness and participation after being informed of the study objectives.

Tests

1- Physical ability tests

Sargent test (jumping up) anaerobic phosphagen capacity ,Grip test (measuring hand grip strength)

2- Functional indicators, Body weight, Resting heart rate, Plasma viscosity -Sodium content, Potassium, Magnesium

Laboratory method

3ml of blood is drawn from each player before irrigation with mineral and sugar substances and after the end of the matches. The blood samples are kept in the medical box and then sent to the Elite Laboratory to extract blood indicators.

Experimental design

The research sample was subjected to follow-up tests before and after the matches, where (experimental group 1) was exposed to a mineral and sugar solution with a mineral content of 2% and a carbohydrate content of 10% in an amount of 500 ml of water, while (experimental group 2) was exposed to a mineral and sugar solution with a mineral content of 5% and a carbohydrate content of 10% in an amount of 500 ml of water 20 minutes before the start of the matches and after 45 minutes of the first half of the matches. They

were allowed to drink only 500 ml of water during the matches, and then continue in the second half. At the end, the post-tests were conducted. The temperatures were monitored at 32-33 degrees Celsius.

Concentration preparation

The solution was prepared in a pharmaceutical laboratory and the contents were

mineral salts and 10% carbohydrate solution (0.5g sodium, 0.3g magnesium, %2 - 0.2g potassium, 5g carbohydrates)

mineral salts and 10% carbohydrate solution (1g sodium, 0.5g magnesium, %5 - 0.5g potassium, 5g carbohydrates)

Statistical methods

SPSS statistical package was used

Results

Table (1) shows the arithmetic means of the functional indicators before and after the match

Mineral concentration 5% and sugar	Body weight kg		Mineral concentration 2% and sugar	Resting heart rate n/a		Plasma viscosity millipascal/s	Sodium content millimoles/liter	Potassium percentage millimoles/liter	Manganese ratio mg/dL
	Be	Af		Be	Af				
64,1			62,8			1,42		3,9	1,8
63,6			62,1			1,68		3,4	2,2
78,1			76,6				139		
80,2			79,3				146		
1,39									
1,64									
142									
151									
3,4									
3,2									
1,7									
2,1									

After processing the data in Table (1) for the arithmetic mean of the functional indicators, mineral and sugar concentrations before and after the match, the researcher relied on the normal ranges for each indicator of mineral concentrations, weight, and resting heart rate to indicate the variables. However, the results showed a weight loss of (0.8 kg) in the first group with a mineral concentration of 2% and sugar concentration of 10%, while the weight loss of (0.5 kg) in the second group with a mineral concentration of 5% and sugar concentration of 10%. The research attributes the weight loss to fluid loss resulting from sweating, and the total fluid deficit during training or competition should not exceed approximately 2% of body mass. Athletes appreciate the need to consume fluids before, during, and after exercise, as well as the importance of hydration sometimes using drinks containing carbohydrates and mineral salts to replace fluids (Leow C, Tan B, Miyashita M, Lee J, 2022). Just as general competition and training strategies must be tailored to each individual athlete and according to their unique needs and preferences, so must training hydration strategies (Tambalis KD, 2022).

The heart rate index in the first group with a mineral concentration of 2% and sugar 10% was within the normal range (75-80), as well as in the second group with a mineral concentration of 5% and sugar 10%. The research attributes that consuming fluids and energy drinks loaded with mineral concentrations helps complete the recovery process and maintain heart function, with the discovery of a lot of training that reaches heart rates of 90% as the maximum heart rate, which shows early fatigue (James, C Other 2021). Fatigue during continuous exercise is closely related to the depletion of carbohydrate stores (glycogen) in skeletal muscles and cardiac muscles. In a recent study of fatigue in a football match, a significant decrease in glycogen levels was observed in skeletal and cardiac muscles after playing for 90 minutes (Mohr M, Vigh-Larsen JF, Krstrup P. 2022). The early decline in glycogen stores in muscles, liver, and cardiac muscle, during prolonged exercise, can be prevented by consuming carbohydrates before and during exercise (Mohr M, OTHER 2022)

The results of the plasma viscosity index showed that the first group, with a mineral concentration of 2% and sugar content of 10%, was affected by 0.26 mPa/s, while the second group, with a mineral concentration of 5% and sugar content of 10%, was affected by 0.25, which is close to the first group. The researcher attributes this to the loss of fluids during continuous effort, and that replacing fluids will allow the body to retain fluids through hydration with carbohydrate drinks supplemented with mineral salts, which helps with the metabolic process and energy, enabling the player to complete the match. As a result, the body has heat loss mechanisms, such as increased blood flow in the skin and the onset of sweating, to enable heat loss by evaporation, maintain heat balance, and mitigate further increases in body temperature. All of this leads to an increase in plasma viscosity (Sawka, M.N.; Cheuvront, S.N.; Kenefick, R.W. 2015). Plasma viscosity has an impact on

the player's functional efficiency as the match progresses and the pace of the match increases, players begin to fail to master both physical skills and abilities (running, sprinting, jumping) (mental concentration, decision-making) faster (Ian Rollok, Clyde Williams 2023). All of this was observed in the concentration ratios, although the results were within normal limits. (Kadhim & Majid, 2023) What appeared in the first group was a 2% mineral concentration and 10% sugar, a difference of +7 mmol/L in sodium, and +0.5 mmol/L in potassium, while magnesium +0.4%. While the concentrations of the second group were 5% in mineral concentration and 10% sugar, a difference of +9 mmol/L in sodium, and +0.2 mmol/L in potassium, while magnesium +0.4%. The research attributes the result of compensation with mineral and energy drinks used in the study to maintaining the loss of these salts and natural proportions in the body. In addition to fluids, (Na⁺, K, Mg,) are also important factors in the athlete's hydration strategy. They are electrolytes lost in sweating, and have been shown to maintain plasma levels of vasopressin and aldosterone, which promotes total body and extracellular fluid retention (Shirreffs, S.M.; Maughan, R.J. 1998).

Table (2) shows the difference in means, the error level, the significant differences, and the T value for the ability test between before and after the match

Processors	Anaerobic capacity before the match		Anaerobic capacity after the end of the match		F	F	T value	Say	the difference
	Q	A	Q	A					
Mineral concentration 2% - Sugar 10%	35,6	2,75	31,2	3,7	4,65	-1,7	3,76	0,01	spiritual
Mineral concentration 5% - Sugar 10%	37,4	3,55	35,9	3,45	3,96	-2,2	4,78	0,12	Non-moral

*Significant $0.05 >$ at a freedom level of 9

The results of anaerobic capacity showed a decrease in the first group, where the difference in vertical jump was significant. The researcher attributed this to the decrease in the amount of mineral salts used in the amount of fluids given, as he proved that fluids containing Na^+ work to improve rehydration after effort ((Evans, G.H.; James, L.J.; Shirreffs, S.M.; Maughan, R.J. 2017)), while the second group maintained the level of vertical jump because the rehydration process achieved an improvement in effort and maintained its physical level, as in the hand grip test, the results of which are shown in Table 3.

Table (3) shows the difference in means, the error level, the significant differences, and the T value for the hand grip test between before and after the match.

Mineral concentration 5% - Sugar 10%	Mineral concentration 2% - Sugar 10%	Processors	
		Q	Hand grip test before matches
24,2	23,4	A	Hand grip test after matches
1,67	0,87	Q	
22,34	20,96	A	F
1.7	1,2	F	
1,98	2,66	T value	Say
- 0,87	-1,2	the difference	
2,66	4,33		
0,16	0,03		
Non-moral	spiritual		

at a freedom level of 9 0.05 > Significant *

Using this nutritional strategy has the role of delaying fatigue and maintaining performance for a longer period than in the absence of this intervention. In addition, carbohydrate intake also facilitates maintaining skill performance when players are tired (Hills SP, Russell M. 2017) .

Nutritional strategies to increase glycogen stores by providing carbohydrates before and during exercise improve endurance and strength performance by delaying the depletion of this essential fuel. The effectiveness of carbohydrate intake does not apply only to running, a common activity pattern in team sports, particularly football (Harper LD, Stevenson EJ, Rollo I, Russell M. 2017).

While adopting nutritional strategies to delay the rapid loss of glycogen stores helps players maintain their work rate during matches, after implementing a carbohydrate-based nutrition strategy, they will be better able to perform the necessary skills in the match. Unfortunately, there are too few studies to provide a definitive answer to this question .

However, one study reported that when male professional soccer players consumed either a 7% carbohydrate drink or a placebo before (5 ml per kg body mass) and every 15 minutes (2 ml per kg body mass) during a 90-minute on-field soccer match and then completed assessments of four skills: dribbling speed, coordination, accuracy, and power, there was a significant improvement in the retention of dribbling speed and accuracy after carbohydrate ingestion (Ostojic SM, Mazic S. 2002).

Conclusions

Mineral and sugar solutions support the irrigation process and have the effect of maintaining mineral salt levels in the body

Enhancing the fluids given with mineral salts helps in fluid retention in the body -

Carbohydrates boost energy levels in the muscles and maintain continuous performance levels

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The effect of the progressive inquiry model on creative thinking and learning to perform the smash and court defines skills in volleyball for students

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DOI:

[https://doi.org/10.37359/JOPE.V37\(2\)2025.2311](https://doi.org/10.37359/JOPE.V37(2)2025.2311)

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Article history: Received 2/ May /2025 Accepted 29/ May /2025 Available online 28/ June/2025

Abstract

The aim of the research was to prepare educational exercises and employ them using the progressive inquiry model to learn to perform the skills of smashing and defending the court in volleyball for students, and to identify the effect of the progressive inquiry model on creative thinking and learning to perform the skills of smashing and defending the court in volleyball for students. The experimental research method was adopted by designing two equal experimental and control groups with tight control in the pre- and post-tests. The limits of the community of this problem were represented by the fifth-grade preparatory students from the (1 June) Secondary School for Boys for the academic year (2024/2025), numbering (99) students, from whom (66) students were chosen for the research sample, representing (66.667%) of their original community. Then, students from the experimental group and the other control group were chosen from them in equal numbers. (20) students were chosen for the sample of the scientific foundations of the creative thinking test, representing (20.202%) of their original community. The remaining (13) students were also chosen for the exploratory experiment sample, representing (13%) of their original community. (13.131%) of their original community, and after determining the tests of the three dependent variables and completing the preparation of the educational exercises and employing them with the progressive inquiry model, the pre-tests were applied as a start to the research experiment, and then applying the vocabulary of the educational exercises with the progressive inquiry model in practical physical education lessons to the students of the experimental group, while the students of the control group apply the method followed as it is in their practical lessons, and completing this experiment by applying the post-tests, and processing the results by means of the (SPSS) system to be the conclusions and recommendations that preparing educational exercises with the progressive inquiry model in the educational units of practical volleyball lessons is suitable for fifth-grade middle school students, and that applying them in the

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educational units of practical volleyball lessons helps improve the level of creative thinking and helps in learning to perform the skills of smashing and defending the court in volleyball for students who learn with it, and with superiority over students who learn without it, and it is necessary when preparing educational exercises with the progressive inquiry model to give (2) minutes before performing each exercise from them to enable students to investigate and improve creative thinking in the educational units to learn skill performance With volleyball..

Keywords: Progressive inquiry model, Creative thinking, Volleyball skills, Student learning.

Introduction:

The requirement for creativity in thinking about the details of skill performance in volleyball is an inevitable and necessary matter that both teachers and students themselves seek to activate in various educational units in order to meet the requirements of educational situations for exercises to learn advanced or difficult offensive and defensive skills in volleyball, to form a basis for the required learning according to educational and teaching objectives. Thinking about performance helps activate new connections between the learner's neurons, facilitating the creation of new pathways that were previously unavailable. It also helps create new possibilities for further mental work, leading the mind to work with greater potential, greater efficiency, and greater precision) ".Carmen & Other, 2017, p. 42) Creativity is part of the daily routine requirements of every learner. The meanings of ideas can be activated through creative activity, and learners can be trained to enhance their creative abilities and understand the scientific foundations of creativity that enable them to learn creativity) ".Al-Tayti, 2019, p. 52) Creative thinking is also defined as" the mental abilities and skills to generate purposeful ideas that produce distinctive originality, fluency, and flexibility. This type of thinking relies on an individual's prior cognitive experience and his or her ability to break free from the boundaries of what is expected and taken for granted by others) ".Sarhan, 2023, p. 62")Creative thinking is one of the most important forms of thinking that countries seek to develop in their students, through educational institutions, as a result of current changes and the anticipation of a rapidly changing future) ".Al-Naoushi, 2019, p. 127)Creativity is divided into levels according to the degree of complexity, and according to the degree of originality and value of the final production of creative ideas. Creativity falls into two types of levels: (Al-Harthi, 2006, p. 92) Peak level: This is the level of creativity that is distinguished on a global level, such as Nobel Prize winners. A creative person at this level must produce a distinguished production on a global level, not just on the local level. The normal level: This is a level that no human being is without. Education and teaching must take into account and encourage normal creativity, and adopt relative creativity rather than the absolute concept of creativity. The researcher believes that it is possible to employ educational situations towards the reciprocal action of creative thinking after it is a necessary application of these situations, and a goal that must be improved for learners in practicing exercises by applying them in these educational units. This requires focusing on teaching the body and mind together in each of these situations. "Educational programs are particularly important in expanding scientific, intellectual, and cultural horizons, providing learners with knowledge

and experience, creating cooperation, and opening horizons for expressing urgent needs and demands. On the other hand, they develop self-reliance and self-confidence through implementing an activity or part of the program's activity, which encourages greater and more difficult work) ".Al-Karkhi, 2014, p. 28) "The inquiry method is considered one of the modern effective methods in developing the student's thinking, as it gives him the opportunity to be able to learn and its processes as if he were behaving like a small scientist in his research, as its basis is self-learning that works to provide the opportunity for students to practice mental processes and skills of investigation and discovery on their own, which works to build the student's personality and self-respect, enhance his self-confidence and increase his ambition ".)Al-Jabouri, 2012, p. 128) The Progressive Inquiry Model is defined as" a teaching-learning framework to help students discover and solve mathematical problems collaboratively through clear steps that include: establishing context (i.e., planning and defining the purpose of knowledge study) , posing and preparing questions, constructing working theories, critical evaluation, in-depth and broad searches for knowledge, generating sub-questions, developing new theories, and distributed expertise) ".Mahdi, 2019, p. 177) It also" relies on the progressive inquiry model of shared experience and collaborative work to build knowledge and inquiry by setting the context using questions, explanations and theories so that learners search for research questions. The progressive inquiry model is concerned with studying the cognitive content presented to learners by analyzing and interpreting it, focusing on different thinking skills while studying the information contained in the content and expressing an opinion on it and evaluating it) ".Muukonen & Other, 2019, P: 531) The Progressive Inquiry Model is an educational framework that focuses on research-based learning and inquiry, enabling learners to build knowledge by asking questions, developing hypotheses, and testing them in a collaborative environment. The model aims to promote critical thinking. It is a methodological framework that relies on formulating questions as a primary means of guiding scientific research and inquiry processes, with the aim of promoting critical thinking and knowledge construction. (Mustafa, 2024, p. 99) The researcher believes that learners, by nature, when learning volleyball skills, seek to discover knowledge related to performance by practicing investigation processes about this knowledge, whether by asking the teacher or peers, or by applying the performance of each skill and internal investigation about what was done of this performance in a way that is consistent with the requirements of the correct model for each skill. "There is no motor learning of performance or skill unless there is organized knowledge about this performance based on the brain's work in interpreting stimuli through mental processes that draw motor programs in memory in a manner that suits the level of abilities or capabilities that the learner possesses, so that the work or applications are directed towards developing and improving what he possesses, and helping him draw motor programs in a manner that matches the model required to be reached through activating the comparison system in motor control, so that the cognitive structure is targeted in an applied manner, meaning learning by doing or learning by actually applying what the learner acquires of knowledge) ".Al-Bayati 2023, p. 18) "Information processing theorists and scientists are not concerned with external circumstances, but rather with the mind, which is the information processing system responsible for linking new knowledge to previous knowledge, arranging

it, organizing it, and making it meaningful) ".Schunk, 2012, p: 113) Because" the teacher, through his style and method, is able to create an educated generation characterized by scientific thinking based on observation and analysis, and thus be able to confront the era of globalization, the era of technology, the Internet, and the constant conflicts that touch the core of the educational project with regard to its goals and strategies) ".Al-Ajrash, 2014, p. 13) It is also" an application of the progressive inquiry model during teaching that contributes to making students more focused and responsible, and provides them with clear language that helps them develop their mental skills. It allows them to lead their learning, make decisions, make sound judgments, organize thought processes, enhance and improve learning abilities, develop the ability to express themselves well and creatively, and help develop a neural network for thinking in the brain) ".Muhammad, 2021, p. 39) Likewise" ,skill performance is not measured by the quantity of what you memorize, but rather by the quantity that is symbolized, stored, and easily retrieved as quickly and efficiently as possible. Quality refers to the ability to retrieve the required information and the crisis in solving the problems that the individual faces, and this can only be achieved through the presence of thinking that activates it) ".Omar and Ahmed, 2021, p. 8) After this detailed digression of thinking, investigation, and skill performance in volleyball, it is necessary to continue updates to support the cognitive structure of learners and increase their ability to perform difficult skills in volleyball, especially those that require motor abilities supported by practice and repetition of motor programs drawn in the brain. This, in turn, requires the learner to continue researching and exploring what achieves these demands. Perhaps progressive investigation is one of the most important things that provide cognitive enrichment in the skill, as the problem of the research lies in the researcher's observation of the clear weakness in the motor learning process for the offensive and defensive skill under investigation, represented by the crushing strike and defending the field, which require the learner to be creative in learning or mastering them in a way that suits their specificity in volleyball. Therefore, the researcher decided to delve into an experiment with the progressive investigation model in an attempt to help students raise the level of their skill performance in these two skills in volleyball as an attempt to support the scientific efforts made in this regard. The importance or usefulness of this research is in two directions, theoretical and applied. The theoretical direction is that it may benefit The results support the knowledge of physical education teachers about the educational models that can be employed in volleyball educational units. The practical importance is determined by the fact that its results may be useful in increasing the ability of players or students to perform correctly according to the correct model for each of the two skills under study. The aim is to prepare educational exercises and employ them using the progressive inquiry model to learn to perform the smash and field defines skills in volleyball for students, and to identify the effect of the progressive inquiry model on creative thinking and learning to perform the smash and field defines skills in volleyball for students. Based on what was stated in the study problem and in order to achieve its objectives, the researcher assumed that there are statistically significant differences between the results of the tests of creative thinking and learning to perform the smash and field defines skills in volleyball before and after the experimental and control research groups, and there are statistically significant differences

between the results of the experimental and control research groups in the tests of creative thinking and learning to perform the smash and field defines skills in volleyball after.

Method and procedures:

The research problem required that the researcher adopt the experimental research method by designing two equivalent experimental and control groups with tight control in the pre- and post-tests. The boundaries of this problem's community were represented by the fifth-grade middle school students from (June 1) Secondary School for Boys, within the formations of the Baghdad Karkh II Education Directorate for the academic year (2024/2025), who continued with the morning attendance for volleyball lessons, numbering (99) students, distributed by nature in equal numbers into three study sections: (A), (B), and (C). The research sample was randomly selected from these sections (B and (C), so that its number reached (66) students, representing (66.667%) of their original community. Then, students from one of the sections were selected by a simple random method to be the experimental group from section (B) and the other from section (C) as a control group, with an equal number from both sections (33) students. Also, (20) students were selected from section (A) for the sample of scientific foundations for testing creative thinking, representing (20.202%) of their original community. From this section, the remaining (13) students were selected for the sample. The exploratory experience is (13.131%) of their original community.

I use the Torrance Test of Creative Thinking (Torrance Tests of Creative Thinking - TTCT) (Abdul Nour, 2005, p. 45), which is considered useful for educational, employment and research purposes. This test provides several ways to measure various aspects of creativity, and thus meets the specificity of the current research. To obtain apparent validity, this scale was presented to (19) experts using a paper questionnaire, and they agreed on it at a rate of (100%) without any modifications, deletions, combinations or additions to its paragraphs. Then it was applied to (20) students from the scientific foundations sample to verify the reliability using the (Cronbach's Alpha) method, which reached (0.849) at a significance level of (0.05), and a degree of freedom of (18), so that the test acquires the scientific foundations and coefficients for its acceptance as a mental measurement tool in this research with a total score ranging from (50-200) that includes the components of creative thinking (Appendix 1.)

To measure the performance evaluation of the two skills of smashing and defending the field, each student was photographed in the two tests, and the tester's performance evaluation was approved, and each was measured out of (10) points according to the evaluation form presented to (3) experts, by distributing the performance test score as follows:

Appendix (2) and.(3)

Preparatory section: its grade is.(3)

Main section: its grade is.(5)

Final section: Its grade is.(2)

After determining the tests for each of the three dependent variables, the researcher proceeded to prepare educational exercises to employ them with vocabulary in the progressive inquiry model in the lesson, adopting the applied foundations of constructivist theories in practical lessons in motor learning.

Considering that“ group sessions can be organized where learners share experiences and advice, teachers can guide the discussion and provide technical supervision, and team performance indicators can be used and regularly evaluated to measure continuous improvement and identify areas for development) .”.Harvey & Other, 2019, P: 485(

The duration of each of these lessons was (45) minutes, of which the main section, which lasted (30) minutes, was invested to apply this model under study, and the rest of the sections of the unit were left to their teacher without any intervention from the researcher, represented by the preparatory section (10) minutes, and the final section (5) minutes.

(4) practical lessons were allocated for each skill, and continued for (8) consecutive weeks, so that the total duration for the students to apply exercises using the progressive inquiry model was (240) minutes of the total lesson time.

The vocabulary of this model is applied in the main section of both the educational and practical aspects of the practical lesson for the students of the experimental group at a rate of (1) lesson per week according to their schedule in the curriculum prescribed.

The content of the educational exercises that were employed in the vocabulary of the progressive inquiry model included a rate of (4) educational exercises in one practical lesson, with a time of (6) minutes for each exercise.

The researcher employed vocabulary in the progressive inquiry model in the education that the students received in the educational aspect, and in the educational exercises in the applied aspect of the practical lesson, after the teacher divided his students into four groups, as follows:

Preparing the context for the practical lesson: The teacher sets the goal of knowledge of skill performance in the educational part of the main section of the practical lesson, and guides the students on how they plan to achieve the performance of the specified skill of the smash and field defines skills in practice and practical application later. The teacher, with the participation of the students of the four cooperative work groups in the experimental group, creates an appropriate context for understanding the details of the performance with the help of addressing the presented model and continuing it in the practical lesson, taking into account

the vocabulary and specificity of the progressive inquiry model and its requirements by exchanging tasks between students in the applied part of the practical lesson.

Preparing and completing questions: The teacher directs a set of questions about the knowledge and information provided to the students regarding the performance of one of the two skills of smashing and defending the field specified in the lesson, and trains the students of each of the four cooperative work groups in the experimental group on how to think and deal with questions of the type) (Why? What? How?) Discuss them in the educational part of the main section of the practical lesson.

Preparing practical applications for educational situations: Here the practical side of the lesson begins, as the teacher asks a question about what was presented to the students in the educational side regarding the performance of one of the two skills of smashing and defending the field specified in the lesson, and gives them (1) minute to stimulate the students 'thinking about how to answer, so that the students of each of the four cooperative work groups in the experimental group formulate hypotheses and put interpretations for them, before the skill performance, and they can refer to the model presented in the lesson to search for the answer to this question before performing each educational exercise so that all answers and performance are distinguished by creativity.

Teaching critical evaluation of skill performance: Students in each of the four cooperative work groups in the experimental group identify the strengths and weaknesses of the various hypotheses and explanations developed to answer the question posed, and evaluate the method they used to arrive at the hypotheses and explanations about the details of the performance sections of one of the two smash and field defines skills identified in the lesson.

Teaching deep and broad research into knowledge and skill performance: Here, a comparison system is activated for each student in each of the four cooperative work groups in the experimental group regarding the performance of one of the two skills of smashing and defending the court specified in the lesson and what should be done in comparison with the details of the skill sections in the model presented in the lesson and the exchange among them regarding knowledge of correct performance.

Teaching how to generate sub-questions about knowledge and skill performance:

Students in each of the four cooperative work groups in the experimental group turn the main question posed by the teacher into more detailed sub-questions about the skill performance of one of the two skills of smashing and defending the court specified in the lesson to help them research and investigate to answer the main questions for the skill performance sections specified in the lesson.

Developing knowledge applications for skill performance:

Students in each of the four cooperative work groups in the experimental group monitor their skill performance results. All participants must have easy access to the results of this

performance for one of the two skills, smash and defend, specified in the lesson, making the development of interpretations accessible to all students in the experimental group.

ü **Distribution of knowledge experiences by skill performance:** This is done by assigning roles to the students in each of the four cooperative work groups, assigning each student a specific task, after which they meet for discussion. Finally, the students evaluate each student's performance and share their knowledge of performing one of the two smash and field defense skills specified in the lesson.

“During the inquiry method, students are distributed into small groups that rely on the use of research, investigation, group discussions, and cooperative planning. Each group consists of (3-6) members. The topic to be taught is divided into groups. Then, each group divides its sub-topic into individual tasks and duties that the group members work on. Then, the group prepares and brings its report for discussion and presents the results to the entire class. The team is evaluated in light of the work it has done and presented) ”.Kariman, 2012, pp. 159-160)

After the researcher finished this preparation, and prepared the creative thinking test and the requirements for the two skill performance tests, she proceeded to apply the exploratory experiment on (13) students to identify the obstacles expected to occur on Tuesday, corresponding to the date (11/2/2025), in the closed hall of the (1 June) Secondary School for Boys. The researcher did not encounter any obstacles worth mentioning. Then, the pre-tests were applied as a start to the research experiment at exactly nine o'clock in the morning on Wednesday, corresponding to the date (12/2/2025), by applying the (Torrance) test for creative thinking and then applying the two skill performance tests for each of the two skills of smashing and defending the field in volleyball, based on their perceptions for each of the students of the two research groups and presenting it to three evaluators. Then, the educational exercise vocabulary was applied with the progressive inquiry model in practical physical education lessons on the students of the experimental group. As for the students of the control group, they apply the method followed as it is in their practical lessons, for the period from Thursday, corresponding to the date of ... (2/14/2025), until Thursday corresponding to the date of (4/4/2025), in the closed hall of (June 1) Secondary School for Boys, and the completion of this experiment by applying the post-tests on Sunday corresponding to the date of.(2025/6/4)

After the research experiment was completed, the results were processed using the SPSS system to extract the percentage, arithmetic mean, standard deviation, homogeneity of variance test (Liven), t-test for unrelated samples, and t-test for related samples.

Results:

Table (1) shows the results of the pre-tests between the two research groups.

Performing the skill of defending the field	Performing the smash hit skill		creative thinking		Scale, tests, and group
	The officer	The officer	The officer	empiricism	
33	33	33	33	33	N
3.3	3.64	2.42	85.91	87.06	Q
1.704	1.388	1.768	6.302	7.652	+A
3.4	2.544		2.984		Liven
0.07	0.116		0.089		Say
0.871	0.074		0.667		t
0.387	0.941		0.507		Say
Not significant	Not significant		Not significant		the difference

Unit of measurement (degree), significant difference: (Sig) (0.05) < at a significance level of (0.05) and degrees of freedom of(64)

Table (2) shows the results of the pre- and post-tests for the two research groups.

Performing the smash hit skill	creative thinking						Scale and tests
Experimental(33)	Officer(33)			Experimental(33)			The group
	the next	previous	the next	previous	the next	previous	
	7.61	2.45	106.85	85.91	116.33	87.06	
	0.704	1.543	7.076	6.302	2.026	7.652	
5.152		20.939		29.273		So	
1.698		8.112		7.674		AF	
17.43		14.828		21.912		t	
0.000		0.000		0.000		Say	
Dal		Dal		Dal		the difference	

Performing the skill of defending the field		empiricism (33)		Officer(33)	
the next	previous	the next	previous	the next	previous
6.33	3.3	9.03	3.64	5.24	2.42
1.708	1.704	0.883	1.388	1.226	1.768
3.03		5.394		2.818	
2.543		1.56		2.007	
6.845		19.862		8.066	
0.000		0.000		0.000	
Dal		Dal		Dal	

Unit of measurement (degree), significant difference: (Sig) (0.05) < at a significance level of (0.05) and a degree of freedom of n-1 for each group.

Table (3) Shows the results of the post-tests between the two research groups.

Performing the skill of defending the field	Performing the smash hit skill		creative thinking		Scale tests and group
	The officer	empiricism	The officer	empiricism	
33	33	33	33	33	N
6.33	5.24	7.61	106.85	116.33	Q
1.708	1.226	0.704	7.076	2.026	$\pm A$
8.058	9.606		7.403		)t(
0.000	0.000		0.000		)Say(
Dal	Dal	Dal	Dal	Dal	the difference

Unit of measurement (degree), significant difference: (Sig) (0.05) < at a significance level of (0.05) and degrees of freedom of (64)

Discussion:

From reviewing the results of Table (2), it is clear that the students of the two research groups improved their post-test results for each of the three dependent variables compared to what these results were in the pre-tests. From reviewing the post-comparison results in Table (3), it is clear that the students of the experimental group outperformed the students of the control group in each of these three dependent variables. The researcher attributes the emergence of these results to their application of educational exercises using the progressive inquiry model in the educational units of practical volleyball lessons and their good use in the educational situations of this lesson, which proved their suitability for the age and gender of the fifth-grade middle school students by good use of the number of repetitions, and the opportunity for each learner to practice and apply by relying on the knowledge of performance that he obtains through progressive inquiry in researching the details of skill performance, and what the motor task requires to reach the desired match for the model presented to them, which represents the correct performance of each of the two skills studied in volleyball. The good distribution of groups in the experimental group and practical applications of the fair elicitation model also helped in preparing the context of the practical lesson: preparing questions. And its fulfilment, preparing practical applications for educational situations, teaching critical evaluation of skill performance, teaching deep and broad research on knowledge of skill performance: teaching the generation of sub-questions on knowledge of skill performance, developing applications of knowledge of skill performance, and distributing experiences of knowledge of skill performance in which the researcher took into account the capabilities of each of the fifth-grade middle school students and their level of ability to perform through practice and application, which is the basis for improvement in this type of thinking, and this improvement in the performance of each of the two skills under study, considering the activation of the cognitive aspect and its good investment in adopting knowledge of performance, which had a clear impact on the results of improvement and excellence for students in the control group. (Moayd et al., 2019)

“Inquiry-based learning enables learners to engage in questioning and problem-solving. Learners acquire knowledge through inquiry, which is achieved by engaging in inquiry activities, connecting knowledge to real-life phenomena, applying knowledge to solve problems, and collaborating with others in seeking solutions to problems)”. Muukonen & Other, 2019, P: 531)

It also “ encourages learners, through the progressive inquiry model, to ask precise investigative questions that challenge their current knowledge and push them to discover concepts in organized and creative ways. Formulating questions is the starting point in this model, as they are linked to existing concepts and information to develop testable hypotheses)”. Mustafa, 2024, p. 99)

It also“ promises, through the progressive inquiry model, an educational and learning framework that helps learners acquire various knowledge, values, and skills so that they can face the challenges and problems of life in their community) ”.Abdullah, 2019, p. 178)

It also" encourages active learning in learning motor performance skills, systematic thinking, and the development of deduction, analysis, and critical thinking skills, through conducting experiments and practical activities, analyzing results, and learning from mistakes. It relies on the integration of different skills and the development of thinking skills) ".Mustafa, 2019, p. 127)

“Good learning that is based on systematic foundations leads to an increase in the level of thinking, and thinking is an important aspect of mental cognitive processes. Therefore, every aspect of thinking is important in absorbing knowledge related to this aspect) ”.Abdul Hadi and Ayyad, 2009, pp. 63-64)

"The environment surrounding the learner clearly influences, or perhaps determines, most of his thinking. The more psychologically healthy the environment is, the sounder thinking will be a supportive outcome of it) ".Mikhail, 2022, p. 42)

"Active learning is also an application in teaching motor skills in sports. It is done through the use of several methods and strategies, including having students observe a specific motor skill in sports, observe how it is performed, and then attempt to perform it themselves. Students are divided into small groups, and each student practices performing it. They then exchange experiences and feedback on how to perform it and improve it. They then design projects that include exchanging experiences and feedback on how to perform it and improve it, by playing games that include effective application. Then, experiences and feedback on how to perform it and improve it are exchanged) ".Brooker & Butterworth 2019, 2)

"Training and practicing a specific skill within a motor task leads to increased experience and development in skill performance. Therefore, practice is the most important variable in the learning process for complex and even simple skills) ".Matanesh 2020, p. 25)

Conclusions and recommendations:

1-The development of educational exercises using the progressive inquiry model in the educational units for practical volleyball lessons is suitable for fifth-grade middle school students.

2- Applying educational exercises based on the progressive inquiry model in the educational units of practical volleyball lessons helps improve the level of creative thinking about volleyball among students who learn with it, and outperforms students who learn without it.

3-The application of educational exercises using the progressive inquiry model in the educational units of practical volleyball lessons helps students who learn to perform the volleyball smash skill better than students who learn without it.

4-The application of educational exercises using the progressive inquiry model in the educational units of practical volleyball lessons helps students who learn to perform the skill of defending the volleyball court better than students who learn without it.

5-It is necessary when preparing Educational exercises using the progressive inquiry model Give (2) minutes before performing each exercise to enable students to investigate and improve creative thinking in the educational units for learning skill performance in volleyball.

Appendix (1) explains the creative thinking test:

Torrance Test of Creative Thinking (TTCT)

Test preparatory stages:

- 1- Work on mental training of the brain:
- 2-Exposure to new ideas:
- 3-Ensure that the test subject is in a good and relaxed psychological state:.
- 4- Test components:

Divergent Thinking:

Fluency: Measures the number of different ideas a tester can generate.

Flexibility: It measures a person's ability to quickly change their mind and switch between different ideas.

Originality: It measures the uniqueness and distinctiveness of ideas.

Elaboration: Measures the extent to which ideas are detailed and developed.

Convergent Thinking: Measures the ability to find a single correct solution to a given problem using logical and analytical thinking.

Types of exercises in the test:

1-Drawing exercises:

The test subject is given a simple form and asked to complete the drawing in creative ways..

Example: Presenting a blank circle shape and asking the tester to complete it to draw something meaningful..

2- Word exercises:

The test subject is asked to write as many unconventional uses as possible for certain objects..

Example: List as many new uses for bricks as possible.

3-Story scenarios:

The tester is given the beginning of a story and asked to complete it in creative ways..

Example" :John woke up to find that everything in his house had changed"..."

4-Brainstorming Challenges:

A specific problem is presented and the tester is asked to come up with multiple creative solutions.

Example: How can we improve transportation efficiency in the city?

How to evaluate:

Answers are evaluated based on their number, variety, originality, and detail.

A specific scale is used to rate each aspect of creativity.

Appendix (2) explains the technical performance test for the smash skill: (Al-Samarra'i, 2002, p. 56)

Test objective: To measure the performance of the smash skill.

Equipment: (3) volleyballs, a volleyball court, and two mattresses placed in a (3×3) planned area as shown in Figure.(1)

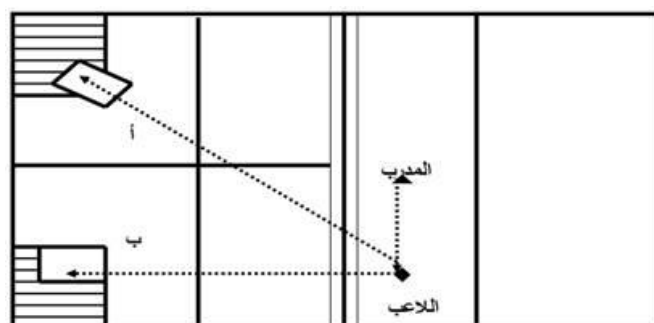
Performance and scoring specifications: The examinee's performance in the three attempts is evaluated by experts, and the grade distribution is as follows:

Preparatory section: its grade is.(3)

Main section: its degree is.(5)

Final section: Its grade is.(2)

Unit of measurement: degree.



Appendix (2) explains the technical performance test for the skill of defending the field: (Hassanin and Abdel Moneim, 2004, 245)

Test objective: To measure the accuracy of the skill of defending the field.

Tools: Legal volleyball court, legal volleyballs, colored tape (5 cm wide), measuring tape, high chair, as shown in Figure.(2)

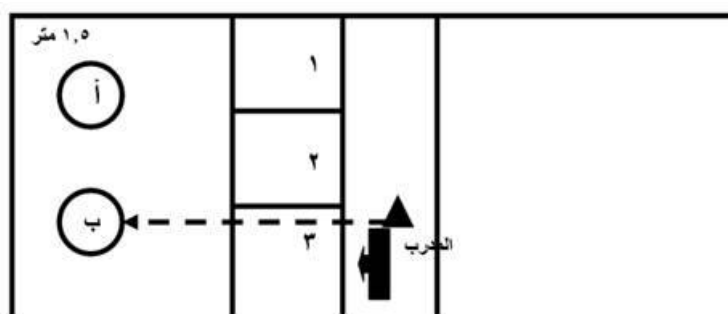
Performance and scoring specifications: The test taker's performance in the three attempts is evaluated by experts, and the grade distribution is as follows:

Preparatory section: its grade is.(3)

Main section: its degree is.(5)

Final section: Its grade is.(2)

Unit of measurement: degree.



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Volume (37) - Issue (2) - 2025



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<http://jcope.uobaghdad.edu.iq>
DOI: [https://doi.org/10.37359/JOPE.V37\(2\) 2025](https://doi.org/10.37359/JOPE.V37(2) 2025)

P-ISSN: 2073-6452
E-ISSN: 2707-5729