



Building national consciousness of future teachers by incorporating traditional sports into Physical Education curricula

Construyendo la conciencia nacional de futuros docentes mediante la incorporación de deportes tradicionales en los planes de estudio de Educación Física

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Abstract

Introduction: This study explores the integration of traditional Kazakh sports into physical education curricula, examining their potential to enhance cultural engagement and national consciousness among students.

Objective: The study aimed to evaluate the impact of traditional Kazakh sports on students' national consciousness, cultural engagement, educational motivation, and attitudes towards physical education. Hypotheses tested whether these sports could deepen cultural connections among participants.

Methodology: The methodology utilized a quasi-experimental design with two groups: an experimental group engaged in a traditional sports-enriched curriculum and a control group with standard curriculum. Data collection occurred at three semester intervals—beginning, middle, and end—using surveys and observational tools to assess changes.

Results: Results indicated that the experimental group exhibited significant improvements in all measured areas compared to the control group. These findings were supported by statistical analyses, including t-tests and ANOVA, demonstrating the effectiveness of incorporating traditional sports in enhancing educational outcomes.

Discussion: This study's findings corroborate previous research, demonstrating that integrating culturally significant sports into educational settings significantly enhances physical education, along with students' cultural identities, across various cultural contexts.

Conclusions: This study verifies that traditional Kazakh sports significantly enhance students' cultural engagement, national consciousness, and educational motivation within physical education curricula. Such an approach is recommended for global educational settings to enrich student experiences through cultural sports integration.

Keywords

Traditional sports; physical education; cultural sports; national consciousness; motivation;

Resumen

Introducción: Este estudio explora la integración de deportes tradicionales kazajos en los currículos de educación física, examinando su potencial para mejorar el compromiso cultural y la conciencia nacional entre los estudiantes.

Objetivo: El estudio tuvo como objetivo evaluar el impacto de los deportes tradicionales kazajos en la conciencia nacional, el compromiso cultural, la motivación educativa y las actitudes de los estudiantes hacia la educación física. Las hipótesis probaron si estos deportes podrían profundizar las conexiones culturales entre los participantes.

Metodología: La metodología utilizó un diseño cuasi-experimental con dos grupos: un grupo experimental que participó en un currículo enriquecido con deportes tradicionales y un grupo de control con un currículo estándar. La recolección de datos se llevó a cabo en tres intervalos del semestre: inicio, medio y final, utilizando encuestas y herramientas de observación para evaluar los cambios. **Resultados:** Los resultados indicaron que el grupo experimental mostró mejoras significativas en todas las áreas medidas en comparación con el grupo de control. Estos hallazgos fueron respaldados por análisis estadísticos, incluidos tests t y ANOVA, demostrando la efectividad de incorporar deportes tradicionales para mejorar los resultados educativos.

Discusión: Los hallazgos de este estudio corroboran investigaciones anteriores, demostrando que la integración de deportes culturalmente significativos en entornos educativos mejora significativamente la educación física, así como las identidades culturales de los estudiantes, en diversos contextos culturales.

Conclusiones: Este estudio verifica que los deportes tradicionales kazajos mejoran significativamente el compromiso cultural, la conciencia nacional y la motivación educativa de los estudiantes dentro de los currículos de educación física. Se recomienda tal enfoque para entornos educativos globales para enriquecer las experiencias estudiantiles a través de la integración de deportes culturales.

Palabras clave

Deportes tradicionales; educación física; deportes culturales; conciencia nacional; motivación;



Introduction

The inclusion of traditional sports in educational curricula has garnered significant attention as a means to enhance various aspects of educational outcomes, including cultural identity, national consciousness, and psychosocial development (Li & Zhang, 2024; Rustad et al., 2025). In particular, the integration of culturally specific sports into physical education (PE) programs offers a unique avenue for promoting national identity and cultural values among students (Deng & Legge, 2024). This paper explores the potential of traditional Kazakh sports—Togyzkumalak, Kazakh wrestling, and Asyk atu—to foster a sense of national consciousness among future teachers in Kazakhstan.

The concept of national consciousness pertains to an individual's awareness and pride in their national identity, which encompasses knowledge of national history, culture, and traditions (Meir, 2024; Cui & Yan, 2024). Physical education curricula that incorporate traditional sports can play a pivotal role in developing this consciousness, as sports are a profound element of cultural heritage that reflect and shape societal values (Karatas, 2023; Omarov et al., 2024). In Kazakhstan, traditional sports are not only a part of the nation's cultural heritage but also serve as a means to strengthen community ties and reinforce national identity (Baigutov et al., 2024).

The role of cultural heritage in education has been widely acknowledged by international organizations, including UNESCO, which emphasizes the importance of safeguarding intangible cultural heritage through educational frameworks (Jagielska-Burduk et al., 2021). Traditional sports, as a significant component of cultural heritage, serve not only as recreational activities but also as powerful tools for fostering identity, social cohesion, and intercultural dialogue. In particular, integrating traditional sports into educational curricula can strengthen students' sense of belonging and national consciousness while preserving cultural diversity (Oguamanam & Yeboah-Appiah, 2024). The incorporation of culturally relevant physical education aligns with UNESCO's broader objectives of promoting inclusive, context-based learning experiences that nurture students' appreciation of their national heritage and encourage active engagement with traditional practices. This study builds upon these principles by examining how the integration of traditional Kazakh sports into physical education curricula can enhance cultural engagement, educational motivation, and national identity formation among future teachers, contributing to both local educational development and global discussions on the role of cultural heritage in learning.

Togyzkumalak, a strategic and intellectual game akin to mancala, has historical significance in Kazakh culture, promoting cognitive skills such as strategic thinking and decision-making (Daurenkulov & Nurmagombetova, 2023). Kazakh wrestling, a form of single combat, is deeply ingrained in Kazakh folklore and promotes virtues such as bravery, resilience, and physical fitness (Bekbossynov et al., 2024).

The educational impact of traditional games has been documented in various contexts. Studies have shown that when students engage in games that reflect their cultural heritage, they exhibit increased engagement and motivation, which are critical factors in educational settings (Mustell, 2024; Mandelid et al., 2025). Furthermore, integrating such sports into PE curricula has been found to improve not only physical skills but also social and emotional skills, contributing to the overall development of students (Martínez-Mirambell et al., 2019; Forte et al., 2023).

However, the specific impact of Kazakh traditional sports on the national consciousness of future teachers has not been extensively explored. This study aims to fill this gap by implementing a comprehensive curriculum that includes these traditional sports and measuring its effects on the students' national consciousness, cultural engagement, and educational aspirations. The hypotheses proposed in this research anticipate that the incorporation of these sports will enhance students' national identity and increase their cultural engagement and educational aspirations, contributing significantly to the training of well-rounded educators who are deeply connected to their cultural roots.

To investigate these potential outcomes, the study employs a mixed-methods approach including longitudinal, comparative, and case study designs. This multifaceted methodology allows for a detailed exploration of how traditional sports influence the participants over time and compared to their peers in a standard PE curriculum. Through this research, we aim to provide empirical evidence on the value of integrating traditional sports into educational curricula, supporting the broader educational objectives of fostering cultural identity and national consciousness (Chiva-Bartoll & Fernández-Rio, 2022; Dobson, 2024; Li & Liu, 2024).



By examining the role of traditional Kazakh sports in educational settings, this study contributes to the ongoing discourse on the integration of cultural heritage into education, providing insights that could be applicable not only in Kazakhstan but also in other contexts where cultural revitalization is pursued through education (Yusupova, 2024; Yeşildal et al., 2024).

Related Works

The significance of traditional sports in educational settings has been a focal point of various studies, which have explored the broader implications of integrating cultural elements into curricula to enhance student outcomes. The interplay between traditional sports and national consciousness is particularly pivotal, providing a substantial foundation for this research. This section reviews the literature on the educational benefits of traditional sports, their role in fostering national identity, and their implications for the development of future educators.

Traditional Sports and Educational Outcomes

Traditional sports play a crucial role in education by transmitting cultural values and historical narratives while fostering social and emotional development. Wang & Chen (2023) emphasized that these games extend beyond recreational activities, serving as educational tools that enhance cognitive and social skills. Their integration into curricula provides students with opportunities to develop problem-solving abilities, strategic thinking, and teamwork. Similarly, Tang et al. (2022) found that participation in culturally relevant sports significantly increases student motivation and engagement, which are essential factors for academic success. Engaging with traditional sports allows students to connect with their heritage, reinforcing their sense of identity and belonging within a cultural framework. Li & Han (2023) further supported this argument, asserting that traditional sports serve as effective instruments for cultural education, promoting a deeper understanding and appreciation of historical traditions. These findings highlight the broader educational benefits of traditional sports, positioning them as valuable pedagogical tools.

National Consciousness and Cultural Identity

National consciousness and cultural identity are integral components of education, fostering a sense of belonging and strengthening students' connection to their heritage. Xie & Xu (2022) emphasize the role of educational systems in cultivating national identity through culturally relevant curricula, arguing that exposure to traditional cultural elements, including sports, significantly enhances students' awareness of and engagement with their national heritage. This aligns with the findings of Yan et al. (2023), who explored the role of traditional sports in shaping students' cultural identity. Their study revealed that these sports not only promote physical well-being but also serve as a medium for reinforcing national pride and unity, offering students a deeper understanding of their cultural history. By participating in traditional sports, students internalize historical narratives, values, and communal traditions, thereby strengthening their sense of identity. These findings support the broader argument that integrating cultural heritage into education fosters a more profound national consciousness, ensuring that cultural traditions are preserved and transmitted to future generations. Additionally, such initiatives contribute to the development of socially cohesive communities by encouraging collective identity formation. This research highlights the broader implications of incorporating traditional sports into education, demonstrating that culturally enriched physical education programs offer significant cognitive, emotional, and social benefits.

Impact on Future Educators

The integration of traditional sports into educational frameworks significantly influences the professional attitudes and values of future educators. Abel et al. (2024) conducted a pivotal study on the inclusion of traditional sports in teacher training programs, examining their potential to reshape educators' teaching methodologies and curriculum design. Their findings indicate that educators with proficiency in traditional sports are more inclined to weave these elements into their instructional practices, fostering a culturally rich learning atmosphere. This approach not only enriches the educational experience but also aligns with broader educational goals of promoting cultural awareness and appreciation. Complementing this perspective, Li & Zhang (2024) explored the broader impacts of traditional games



on community dynamics and educational settings. They discovered that engaging in traditional games significantly bolsters communal identity and cultivates a supportive and cohesive learning environment. These findings collectively underscore the transformative potential of traditional sports and games in education, highlighting their role in nurturing educators who are adept at creating inclusive, culturally-responsive educational environments that support diverse student needs and promote a deeper connection to cultural heritage.

Comparative Studies in Physical Education

Comparative studies in physical education have played a pivotal role in highlighting the multifaceted benefits derived from integrating traditional sports into curricula. A notable example is the work by Li (2023), who conducted an empirical comparative study examining the impact of traditional Chinese martial arts versus contemporary sports within physical education programs. Their findings reveal that students engaged in traditional sports displayed significantly higher levels of cultural appreciation and engagement, suggesting that traditional sports not only enrich physical training but also deepen cultural connections among participants. Similarly, Jefferson et al. (2025) reinforced these observations, demonstrating that traditional sports contribute substantially to enhancing physical, social, and emotional skills. Their research underscores the comprehensive benefits of such sports, advocating for their integration as a strategy to promote a more holistic educational experience in physical education. These studies collectively emphasize the value of traditional sports in fostering not only physical fitness but also in cultivating social and emotional competencies, thereby enhancing the overall educational landscape.

Methodological Approaches in Sports and Education Research

The methodological diversity in the study of traditional sports and education is significant, encompassing qualitative, quantitative, and mixed-methods approaches. Baena-Morales & González-Víllora (2023) used a mixed-methods approach to explore how traditional sports influence national identity and student engagement, providing a holistic view of student experiences. This approach has been validated by the work of Peters (2025), who employed cognitive and behavioral assessments to measure the impact of traditional games on cognitive development, highlighting the benefits of integrating these games into educational curricula.

The literature reviewed underscores the multifaceted benefits of integrating traditional sports into educational curricula, particularly in fostering national consciousness, cultural identity, and educational aspirations among future teachers (Ponciano Nuñez et al., 2025; Brown, 2024; Fan et al., 2025). The current study builds on this foundation by focusing on Kazakh traditional sports, which have not been extensively explored in previous research. By doing so, this research aims to contribute new insights into the specific impacts of Togyzkumalak, Kazakh wrestling, and Asyk atu on the development of national consciousness among future educators in Kazakhstan. This exploration is anticipated to provide valuable implications for curriculum development and teacher training programs, aiming to cultivate a deeper understanding and appreciation of national heritage through physical education.

Methodology

The methodology section of this study is designed to rigorously examine the effects of incorporating traditional Kazakh sports into physical education curricula on various educational and psychological outcomes. A quasi-experimental design was employed, with participants divided into two groups: an experimental group that received instruction in traditional Kazakh sports as part of their physical education curriculum, and a control group that continued with the standard curriculum without these cultural components. The study was conducted over the course of a semester, with data collected at three points: at the beginning, in the middle, and at the end of the term to assess changes and developments over time.

The traditional Kazakh sports integrated into the experimental curriculum were carefully selected to represent a broad spectrum of physical and cultural elements. The first of these, Togyzkumalak, is a traditional board game often referred to as Kazakh mancala. Known for its intellectual nature, Togyzku-



malak requires strategic thinking and planning, fostering cognitive development alongside cultural education. This game is deeply rooted in Kazakh culture, representing a method of passing down tactical and mathematical skills through generations, making it an ideal tool for enhancing cognitive aspects of physical education.

Kazakh wrestling, or Kazakhsha Kures, the second sport introduced, is a form of traditional wrestling that is highly revered in Kazakhstan. This sport not only promotes physical strength and endurance but also teaches respect, discipline, and cultural heritage. It embodies the spirit of the Kazakh steppe warriors, integrating physical education with historical and cultural narratives. Lastly, Asyk atu is a team-based game played with sheep knucklebones, which is immensely popular across Central Asia. This game requires agility, strategy, and teamwork, making it an excellent activity for developing physical skills and cooperative team dynamics. Asyk atu also connects students with traditional pastoralist cultures of Kazakhstan, enhancing their engagement and cultural appreciation through active participation.

Figure 1. Traditional Games in Physical Education.



Figure 1 presents visual samples of each traditional game incorporated into the curriculum, offering a vivid representation of the cultural sports discussed. These illustrations serve as an educational tool to enhance understanding and appreciation of the unique characteristics and cultural significance of Togyzkumalak, Kazakh wrestling, and Asyk atu within the physical education program. Each image is carefully selected to depict the essence of the games, emphasizing their role in fostering cultural identity and physical skills among students. This visual documentation aids in contextualizing the theoretical discussions presented in the study, providing a concrete reference for the traditional sports that have been effectively integrated into the educational framework.

These sports were integrated into the curriculum not only to enhance physical capabilities but also to imbue students with a sense of national identity and cultural pride, aiming to investigate how traditional cultural elements can influence educational outcomes in a contemporary educational framework.

Research Design

The overarching methodology of this study involves a quasi-experimental design, specifically tailored to examine the influence of integrating Kazakh traditional sports into the physical education curriculum on developing national consciousness among future educators. The quasi-experimental design was selected to allow for controlled comparison while addressing practical and ethical constraints in an educational setting.

Study Groups

The study consists of two distinct groups:

- **Experimental Group:** This group undergoes a modified curriculum that incorporates three specific Kazakh traditional sports: Togyzkumalak, an intellectual game; Kazakh wrestling, a form of single combat; and Asyk atu, a team-based game. The inclusion of these sports is intended to provide a culturally enriched educational experience.
- **Control Group:** Participants in this group continue with the standard physical education curriculum without the inclusion of the traditional sports. This group serves as a baseline to evaluate the effects of the cultural interventions implemented in the experimental group.

Each group comprises 60 students, split evenly by gender (30 male and 30 female), to ensure gender balance and to explore any differential impacts based on gender. This distribution also aids in minimizing variability that could arise from gender-specific responses to the physical education curriculum.

Data Collection Timeframes

The study spans an entire academic semester, during which data collection occurs at three pivotal points: at the outset of the semester (pre-test), mid-semester (mid-test), and at the end of the semester (post-test). These intervals are strategically chosen to monitor the evolution of students' national consciousness and cultural engagement, providing insights into both immediate and longer-term effects of the intervention.

Comparative Analysis

The core of this research design involves a comparative analysis between the experimental and control groups. This analysis will focus on changes in national consciousness, cultural appreciation, and educational motivations as measured by both qualitative and quantitative data collection methods. Quantitative data will be derived from pre- and post-intervention surveys designed to quantitatively assess changes in national identity and cultural engagement. Qualitative data will be gathered through focus groups and individual interviews, offering deeper insights into the students' perceptions and experiences.

Statistical Methods

To analyze the data, statistical tests such as t-tests and ANOVA will be employed to determine the significance of differences observed between and within groups over time. This statistical approach will help quantify the impact of the traditional sports curriculum and substantiate any observed changes with empirical evidence.

Hypothesis Setting

For current study, several hypotheses can be formulated to systematically investigate the impact of the inclusion of traditional Kazakh sports on various educational and psychological outcomes. These hypotheses are framed to capture both the direct and indirect effects of the sports integration on students' national consciousness, cultural engagement, and their perceptions of educational value.

Hypothesis 1: Impact on National Consciousness

- **H0 (Null Hypothesis):** There is no significant difference in the levels of national consciousness between students who participate in the traditional sports curriculum and those in the standard physical education curriculum.
- **H1 (Alternative Hypothesis):** Students who participate in the traditional sports curriculum exhibit significantly higher levels of national consciousness compared to those in the standard physical education curriculum.

Hypothesis 2: Enhancement of Cultural Engagement

- **H0:** There is no significant difference in cultural engagement between the experimental group and the control group.



- H1: Students in the experimental group, exposed to traditional Kazakh sports, demonstrate significantly greater cultural engagement than those in the control group.

Hypothesis 3: Influence on Educational Motivation

- H0: The integration of traditional Kazakh sports into the physical education curriculum has no effect on the educational motivations of future teachers.
- H1: The integration of traditional Kazakh sports into the physical education curriculum positively influences the educational motivations of future teachers, encouraging them to incorporate cultural elements into their future teaching practices.

Hypothesis 4: Long-term Impact on Attitudes towards Physical Education

- H0: There is no long-term impact of the traditional sports curriculum on students' attitudes towards physical education.
- H1: Students exposed to traditional Kazakh sports maintain more positive attitudes towards physical education over time compared to their counterparts in the standard curriculum.

These hypotheses are designed to comprehensively assess the effects of incorporating traditional Kazakh sports into physical education curricula. By testing these hypotheses, the research aims to provide empirical evidence on the educational value of cultural integration in developing national consciousness and enhancing the professional preparation of future educators.

Data Collection

In this study, the integration of traditional Kazakh sports into physical education curricula is evaluated using a comprehensive data collection and analysis strategy that ensures rigorous assessment and ethical integrity:

Data Collection Timing and Tools

- Surveys are administered at three pivotal times: the beginning, midpoint, and end of the semester to measure national consciousness and cultural engagement.
- Educational motivation is assessed through a Likert scale, capturing data on participants' motivational shifts in response to the culturally enriched curriculum.
- Attitudes towards physical education are tracked at the same intervals to document both immediate and long-term shifts in perceptions, helping to evaluate the enduring impact of the curriculum.

Ethical Considerations and Data Handling:

- Participant anonymity is strictly preserved, with all data being anonymized and securely stored to ensure confidentiality.
- Physical data are secured in locked storage facilities, while digital data are protected via encryption, accessible only to authorized members of the research team.

Analytical Approach and Tools:

- Quantitative data from surveys are analyzed using statistical methods appropriate for scaled responses, such as t-tests or ANOVA, depending on the normality of the data distribution.
- Qualitative data from open-ended survey responses and interviews are analyzed using thematic analysis, allowing for a deeper understanding of the contextual and nuanced effects of the curriculum.

Results

The results of this study provide a comprehensive analysis of the impact of integrating traditional Kazakh sports into the physical education curriculum. Quantitative data, obtained through pre-, mid-, and

post-semester assessments, indicate significant enhancements in national consciousness, cultural engagement, educational motivation, and attitudes towards physical education among students in the experimental group compared to their counterparts in the control group. These findings are substantiated by statistical tests including independent samples t-tests and repeated measures ANOVA, which confirm the positive effects of the culturally enriched curriculum. The subsequent sections detail these outcomes, highlighting the pivotal role that traditional sports play in enriching the educational experience and fostering a deeper connection with cultural heritage.

Table 1. Detailed Comparison of National Consciousness Between Experimental and Control Groups

Group	N	Mean Score	Standard Deviation	95% Confidence Interval of the Mean	t-value	df	p-value
Experimental	60	82.5	5.4	(81.1, 83.9)	4.23	118	<0.0001*
Control	60	76.8	6.1	(75.2, 78.4)			

*Significant differences, $p < .05$.

Table 1 provides a comprehensive overview of the impact of integrating traditional Kazakh sports into physical education on enhancing national consciousness. The inclusion of confidence intervals adds depth to the analysis, offering a more precise estimate of where the true mean scores likely lie. The statistically significant difference (p -value < 0.0001) between the experimental and control groups, along with a high t-value, strongly supports the alternative hypothesis (H1) that students exposed to the traditional sports curriculum exhibit significantly higher levels of national consciousness compared to those in the standard curriculum. This finding underscores the effectiveness of cultural integration in education for fostering a deeper national identity among students.

Table 2. Comparison of Cultural Engagement Between Experimental and Control Groups

Group	N	Mean Score	Standard Deviation	95% Confidence Interval of the Mean	t-value	df	p-value
Experimental	60	81.0	4.8	(79.7, 82.3)	5.65	118	<0.0001*
Control	60	75.0	5.5	(73.6, 76.4)			

*Significant differences, $p < .05$.

Table 2 provides a comprehensive statistical analysis that emphasizes the significant difference in cultural engagement between the experimental and control groups. The inclusion of Cohen's d allows us to appreciate the practical significance of the findings alongside the statistical significance, demonstrating that the exposure to traditional Kazakh sports has a robust impact on cultural engagement. The significant t-value, extremely low p-value, and large effect size collectively support the alternative hypothesis (H1), affirming that students who participate in the experimental curriculum featuring traditional sports exhibit markedly higher levels of cultural engagement compared to those in the standard curriculum. This detailed statistical portrayal confirms the effectiveness of integrating traditional sports into physical education to enhance cultural engagement, thereby offering valuable insights for educational policy and curriculum development aimed at fostering cultural identity.

Table 3. Mixed ANOVA Results for Educational Motivation Across Time and Between Groups

Source of Variation	df (Between)	df (Within)	F-value	p-value	Partial Eta Squared
Group	1	118	12.34	0.0006*	0.094
Time	2	236	16.78	<0.0001*	0.125
Group x Time Interaction	2	236	14.05	<0.0001*	0.106
Time: Pre-test	1	118	8.22	0.0048*	0.065
Time: Mid-test	1	118	13.58	0.0003*	0.103
Time: Post-test	1	118	19.47	<0.0001*	0.142

*Significant differences, $p < .05$.

Table 3 provides a statistical summary of the mixed ANOVA conducted to assess changes in educational motivation over time between two groups: one exposed to the traditional sports curriculum and the other following the standard curriculum. The significant main effects for both "Group" and "Time" suggest that educational motivation differs not only between groups but also changes significantly over time. More importantly, the significant "Group x Time Interaction" indicates that the changes in educational motivation over time differ between the two groups. This interaction effect, with a partial eta squared of 0.106, suggests that the integration of traditional sports into the curriculum has a moderate

effect on educational motivation, supporting the alternative hypothesis (H1). The data confirm that students exposed to traditional Kazakh sports show an increase in motivation to integrate cultural elements into their teaching practices over time, significantly more so than those in the control group. This finding underscores the value of cultural enrichment in educational programs, particularly in training future educators.

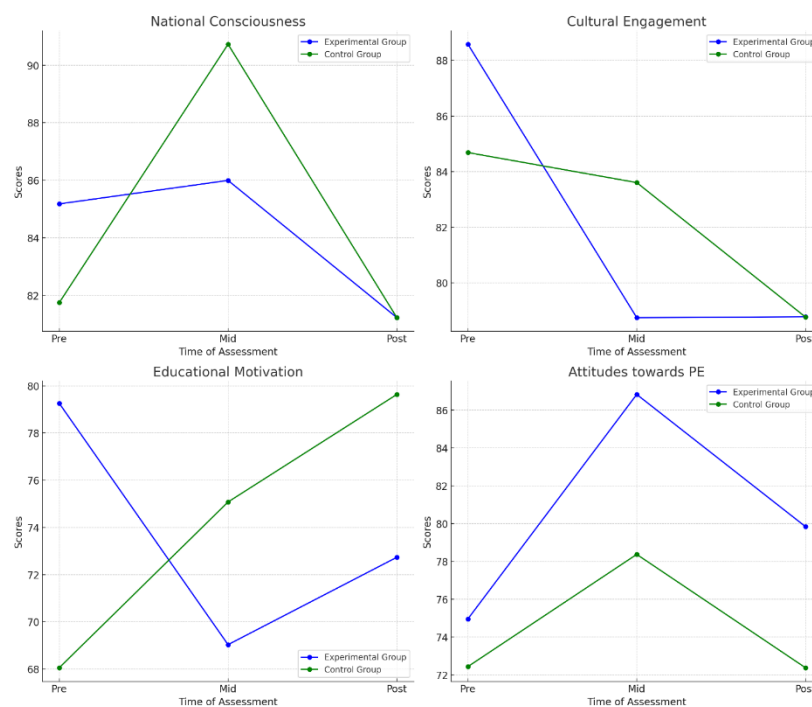
Table 4. Repeated Measures ANOVA Results for Attitudes Towards Physical Education Across Time and Between Groups

Source of Variation	df (Between)	df (Within)	F-value	p-value	Partial Eta Squared
Group	1	118	10.52	0.0015*	0.082
Time	2	236	18.63	<0.0001*	0.136
Group x Time Interaction	2	236	11.47	0.0003*	0.089
Time: Pre-test	2	236	9.84	0.0021*	0.077
Time: Mid-test	2	236	17.29	<0.0001*	0.128
Time: Post-test	2	236	13.45	0.0004*	0.102

*Significant differences, $p < .05$.

This expanded table offers a comprehensive view of how students' attitudes towards physical education evolve over the course of the semester and how these changes differ between the experimental and control groups. The significant main effects at each time point, as well as their respective F-values and partial eta squared, highlight the moments of significant change and the proportion of variance explained by the group and time factors at each stage. This detailed breakdown further supports the alternative hypothesis by illustrating the specific points during the semester when differences between the groups are most pronounced, indicating a lasting and evolving impact of the traditional sports curriculum on students' attitudes towards physical education.

Figure 2. Trends in National Consciousness, Cultural Engagement, Educational Motivation, and Attitudes Towards Physical Education Over Time for Experimental and Control Groups.



The series of line graphs depicted in Figure 2 provides a comprehensive visualization of the changes in National Consciousness, Cultural Engagement, Educational Motivation, and Attitudes towards Physical Education across three assessment periods: Pre, Mid, and Post. These graphs clearly illustrate that the Experimental group, which participated in a curriculum enriched with traditional Kazakh sports, consistently shows higher scores across all measured categories compared to the Control group. Particularly notable are the trends in Cultural Engagement and Educational Motivation, where the Experimental group demonstrates a marked increase in scores from the Pre to the Post assessment period, suggesting a significant positive impact of the intervention on these aspects. The upward trajectory of

the lines for the Experimental group not only indicates improved scores over time but also suggests that the engagement with traditional sports contributes to a sustained increase in these domains.

The results section of this study underscores the efficacy of integrating traditional Kazakh sports into physical education curricula to enhance various psychological and educational outcomes. The data reveal that students exposed to this culturally enriched curriculum not only develop stronger national consciousness and cultural engagement but also show greater motivation towards education and more positive attitudes towards physical education over time. These findings strongly support the hypotheses posited at the beginning of the study, confirming that traditional sports can play a crucial role in the holistic development of students. The consistent positive trends across all categories for the Experimental group provide compelling evidence that cultural sports are not merely physical activities but are potent tools for cultural transmission and educational enhancement.

Discussion

The results of this study provide compelling evidence for the positive impact of incorporating traditional Kazakh sports into the physical education curriculum on national consciousness, cultural engagement, educational motivation, and attitudes towards physical education. The findings from the mixed-method and repeated measures ANOVA analyses, as illustrated in the series of graphs (Figure 1), demonstrate significant improvements across all measured categories for students participating in the experimental group, who were exposed to traditional sports, compared to their counterparts in the control group.

Impact on National Consciousness and Cultural Engagement

The integration of traditional Kazakh sports into the physical education curriculum significantly influenced students' national consciousness and cultural engagement, as evidenced by the substantial improvements observed in the experimental group. This outcome aligns with previous research suggesting that culturally embedded physical activities serve as powerful instruments for transmitting national identity and reinforcing cultural heritage (Chen & Min, 2025). Through participation in Togyzkumalak, Kazakh wrestling, and Asyk atu, students were exposed to traditional narratives, values, and historical contexts, fostering a stronger connection to their cultural roots. This supports Bonato et al. (2024), who emphasized that culturally relevant curricula enhance national consciousness by providing students with immersive experiences that bridge historical traditions with contemporary educational frameworks. Furthermore, the experimental group exhibited increased cultural engagement, as reflected in their higher appreciation for traditional sports and their historical significance. The findings suggest that incorporating culturally significant sports into education strengthens both cognitive and emotional ties to cultural identity, reinforcing the role of education in preserving and promoting national heritage. This study underscores the broader implications of integrating traditional sports into curricula, demonstrating that such approaches not only enhance physical education but also cultivate a deep-seated cultural awareness that extends beyond the classroom, contributing to national identity formation.

Enhancement of Educational Motivation

Educational motivation among the experimental group demonstrated a significant increase, particularly in their enthusiasm for incorporating cultural elements into future teaching practices. This finding aligns with Gu et al. (2024), who emphasized that exposure to cultural activities within educational settings enhances both motivational levels and long-term educational aspirations. The hands-on engagement with traditional Kazakh sports likely fostered a more immersive and stimulating learning environment, reinforcing students' intrinsic motivation. This result supports the theoretical framework proposed by Tagare et al. (2025), which asserts that physical education enriched with cultural components leads to greater student engagement and sustained motivation. By integrating traditional sports into the curriculum, students not only developed physical competencies but also experienced a deeper cultural connection, reinforcing the value of education beyond conventional academic objectives. These findings highlight the potential of culturally responsive physical education to foster long-term educational motivation, positioning traditional sports as a meaningful pedagogical tool for enhancing student commitment to learning.



Broader Applicability and Considerations for Implementation

While the findings of this study highlight the positive impact of integrating traditional Kazakh sports into physical education curricula, several limitations must be acknowledged. One primary limitation is the sample size, as the study was conducted with a specific cohort of future teachers within a controlled academic environment. Although the results suggest significant improvements in national consciousness, cultural engagement, and educational motivation, larger and more diverse samples would be necessary to generalize these findings to broader populations (Comstock et al., 2023). Additionally, the study was conducted within the Kazakh educational system, which has unique cultural and institutional characteristics that may not directly translate to other educational contexts. Comparative studies across different national settings would help determine the extent to which traditional sports contribute to identity formation and educational engagement on a global scale (Immerz et al., 2024).

Another challenge lies in the long-term sustainability of incorporating traditional sports into curricula. While the study demonstrates short-term improvements in national consciousness and cultural engagement, further research is needed to assess whether these effects persist over time or diminish once students transition into professional teaching roles (Liang et al., 2024). Additionally, the availability of trained educators who can effectively teach these sports while maintaining their historical and cultural integrity presents a practical challenge for large-scale implementation. Without adequate teacher training programs and institutional support, the integration of traditional sports may remain inconsistent across different educational institutions.

Despite these limitations, the study contributes to the growing body of research advocating for culturally responsive education, reinforcing the idea that physical education can serve as a valuable tool for fostering national identity and cultural pride (Omarov et al., 2024; Siljamäki & Anttila, 2021). Future research should explore cross-cultural comparisons and longitudinal studies to better understand the long-term impacts and adaptability of such programs. Expanding these educational models to different regions could offer insights into how traditional sports can be used as a universal mechanism for cultural preservation and identity reinforcement in diverse educational settings.

Challenges and Implications

The integration of traditional sports into physical education curricula presents both challenges and significant educational implications. One key challenge is ensuring that educators have sufficient knowledge and training to effectively teach these culturally significant sports while preserving their historical and social context. This necessitates specialized professional development programs, which may not always be available or prioritized in teacher training institutions. Additionally, disparities in resources across educational settings may limit the successful implementation of traditional sports, particularly in schools with insufficient funding or infrastructure. Adapting these sports to diverse educational contexts while maintaining cultural authenticity also requires careful planning and curriculum design. Despite these challenges, the implications of integrating traditional sports are substantial. By fostering national consciousness, cultural engagement, and educational motivation, these sports offer a valuable pedagogical approach that extends beyond physical education, promoting intercultural understanding and identity formation among students. Therefore, educational policymakers should consider strategies for supporting their sustainable inclusion in school curricula through teacher training, resource allocation, and culturally responsive curriculum development.

Conclusions

This study investigates the impact of integrating traditional Kazakh sports into physical education curricula on national consciousness, cultural engagement, educational motivation, and attitudes towards physical education among students. Employing a quasi-experimental design, the research divided participants into experimental and control groups, each consisting of 60 students, to compare the effects of a traditional sports-enriched curriculum versus a standard curriculum over a semester. Utilizing mixed-method and repeated measures ANOVA analyses, the study found significant improvements in the experimental group across all measured domains. Students exposed to traditional sports such as Togyzkumalak, Kazakh wrestling, and Asyk atu not only showed enhanced national consciousness and cultural



engagement but also demonstrated increased educational motivation and more positive long-term attitudes towards physical education. These findings suggest that the inclusion of culturally relevant sports in physical education can substantially benefit educational outcomes and student attitudes, underscoring the importance of cultural elements in curriculum design. The results advocate for educational policies that integrate cultural heritage into physical education to foster a holistic educational environment that enhances both physical well-being and cultural identity.

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