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Gender Differences in Attitude towards Sports and Physical Education at the Secondary School Level

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Abstract
Background: Gender disparities in sports participation and physical education engagement have persisted across cultures and educational systems. Understanding gender-based attitudinal differences toward sports and physical education is crucial for developing inclusive curricula and promoting lifelong physical activity habits among all students.
Objective: This cross-cultural study examines gender differences in attitudes toward sports and physical education among secondary school students, investigating the underlying factors contributing to these disparities and their implications for educational practice.
Methods: A comprehensive survey study was conducted across seven countries involving 2,480 secondary school students aged 13-18 years (1,240 males, 1,240 females) from 124 schools. The Sports Attitude Inventory (SAI) and Physical Education Attitude Scale (PEAS) were administered alongside measures of self-efficacy, perceived competence, social support, and cultural factors. Statistical analyses included independent samples t-tests, MANOVA, and hierarchical regression modeling.
Results: Significant gender differences emerged across multiple attitude dimensions. Males demonstrated significantly more positive attitudes toward competitive sports (Cohen's $d=0.89$, $p<0.001$), contact sports (Cohen's $d=1.12$, $p<0.001$), and traditional PE activities (Cohen's $d=0.67$, $p<0.001$). Females showed more favorable attitudes toward aesthetic sports (Cohen's $d=-0.74$, $p<0.001$), cooperative activities (Cohen's $d=-0.56$, $p<0.001$), and health-focused PE (Cohen's $d=-0.43$, $p<0.01$). Self-efficacy beliefs and perceived competence mediated these relationships, with cultural context moderating effect sizes.
Conclusion: Gender differences in sports and PE attitudes reflect complex interactions between biological, psychological, social, and cultural factors. Educational interventions should address gender-specific barriers while promoting inclusive environments that accommodate diverse interests and abilities.

Keywords: Gender Differences, Sports Attitudes, Physical Education, Secondary School, Adolescents, Cross-Cultural, Gender Stereotypes

Introduction

The persistent gender gap in sports participation and physical activity levels among adolescents represents a significant public health and educational concern with far-reaching implications for lifelong wellness, academic achievement, and social development. Despite decades of legislative efforts and educational reforms aimed at promoting gender equity in physical education and sports, substantial disparities continue to exist in student attitudes, participation rates, and engagement levels across different types of physical activities. Gender differences in sports and physical education attitudes emerge during adolescence, a critical developmental period characterized by rapid physical, cognitive, and social changes.

During this phase, young people form enduring beliefs about their physical capabilities, develop preferences for specific types of activities, and establish patterns of physical activity participation that often persist into adulthood. Understanding the multifaceted nature of gender-based attitudinal differences is essential for creating educational environments that promote positive experiences and sustained engagement for all students.

Historical perspectives on gender and sport have evolved considerably from early deficit models that attributed differences to biological limitations toward more nuanced understandings that recognize the complex interplay of biological, psychological, social, and cultural factors. Contemporary research emphasizes the role of socialization processes, cultural norms, media representations, peer influences, and institutional practices in shaping gender-differentiated attitudes and behaviors related to physical activity and sport participation.

The socialization of gender roles begins early in childhood and intensifies during adolescence, with sports and physical education serving as powerful sites for the construction and reinforcement of gender identities. Traditional masculine ideologies often emphasize competition, aggression, physical dominance, and risk-taking, while feminine ideologies may prioritize cooperation, aesthetics, grace, and health maintenance. These gendered expectations can influence students' comfort levels, participation choices, and overall attitudes toward different types of physical activities.

Cross-cultural research has revealed both universal patterns and culture-specific variations in gender differences related to sports attitudes. While some disparities appear consistently across diverse cultural contexts, others are more pronounced in certain societies or educational systems. Factors such as religious beliefs, economic conditions, family structures, educational policies, and societal values regarding gender equality contribute to these cultural variations and highlight the importance of contextual considerations in understanding gender-based attitude differences.

The school environment plays a crucial role in either perpetuating or challenging gender stereotypes related to sports and physical education. Curriculum design, teaching practices, facility allocation, equipment selection, assessment methods, and peer interactions all contribute to students' experiences and subsequent attitude formation. Traditional physical education programs that emphasize competitive team sports and standardized fitness testing may inadvertently favor students with certain physical attributes or prior experiences while marginalizing others.

Recent educational initiatives have sought to address gender disparities through various approaches including single-sex classes, modified activities, alternative assessment methods, and comprehensive sexuality education integration. However, the effectiveness of these interventions varies considerably, and limited research exists on their long-term impact on attitude formation and sustained physical activity participation.

This comprehensive cross-cultural study addresses critical gaps in understanding gender differences in sports and physical education attitudes among secondary school students. By examining attitudes across diverse cultural contexts and investigating mediating factors such as self-efficacy, perceived competence, and social support, this research provides insights that can inform evidence-based educational practices and policy development aimed at promoting inclusive physical education environments.

Methods

Study Design and Setting

This cross-sectional survey study employed a stratified random sampling design across seven countries: Australia, Italy, Denmark, India, Jordan, China, and Turkey. These countries were selected to represent diverse cultural contexts, educational systems, and varying levels of gender equality in sports participation. The study was conducted between January and November 2024, with data collection coordinated across all sites to ensure temporal consistency.

Participants

A total of 2,480 secondary school students aged 13-18 years participated in the study, with equal gender distribution (1,240 males, 1,240 females). Participants were recruited from 124 schools across urban, suburban, and rural areas to ensure representative sampling. Schools were stratified by socioeconomic status, size, and type (public/private) to maximize generalizability. Inclusion criteria required current enrollment in physical education classes and absence of significant physical disabilities that would preclude participation in standard PE activities.

The sample included students from grades 8-12 (or equivalent) with mean age of 15.7±1.4 years. Ethnic diversity reflected the demographic composition of each country, with particular attention to including minority populations and students from various socioeconomic backgrounds. Parental consent and student assent were obtained following ethical approval from institutional review boards in all participating countries.

Instrumentation

The primary assessment instruments included the Sports Attitude Inventory (SAI), a validated 48-item questionnaire measuring attitudes toward various sports and physical activities across six dimensions: competitive sports, individual activities, team sports, aesthetic/expressive activities, outdoor pursuits, and contact sports. Response options utilized a 7-point Likert scale ranging from "strongly disagree" to "strongly agree."

The Physical Education Attitude Scale (PEAS) assessed attitudes specifically toward school-based physical education through 36 items covering curriculum content, teaching methods, assessment practices, facilities, and peer interactions. Additional measures included the Physical Self-Efficacy Scale, Perceived Physical Competence Inventory, Social Support for Exercise Scale, and a custom-designed Cultural Context Questionnaire addressing family attitudes, media influences, and societal norms regarding gender and sport.

Demographic information collected included age, grade level, socioeconomic status, family structure, previous sports participation, current physical activity levels, and academic performance. All instruments were professionally translated and culturally adapted for each participating country, with back-translation procedures ensuring conceptual equivalence across languages.

Data Collection Procedures

Data collection followed standardized protocols administered by trained research assistants in classroom settings during regular school hours. Students completed surveys

individually with assurance of confidentiality and anonymity. Survey administration required approximately 45 minutes, with breaks provided as needed. Teachers were not present during survey completion to minimize social desirability bias.

Quality control measures included pilot testing in each country, inter-rater reliability assessments for qualitative components, and systematic checks for missing data and response patterns. Cultural adaptation processes involved consultation with local experts and focus groups with students to ensure item relevance and clarity.

Statistical Analysis

Data analysis employed hierarchical approaches accounting for the nested structure of students within schools and schools within countries. Preliminary analyses examined data distributions, outliers, and missing data patterns. Multiple imputation procedures addressed missing data (< 3% overall).

Primary analyses included independent samples t-tests comparing male and female attitude scores across all measures. Effect sizes were calculated using Cohen's d with interpretation guidelines of 0.2, 0.5, and 0.8 for small, medium, and large effects respectively. Multivariate analysis of variance (MANOVA) examined gender differences across multiple attitude dimensions simultaneously.

Hierarchical regression modeling investigated mediating relationships between gender, self-efficacy, perceived competence, and attitude outcomes. Cross-cultural comparisons employed multilevel modeling with country as a random effect to examine cultural moderation of gender differences. Statistical significance was set at $p<0.05$ with Bonferroni corrections applied for multiple comparisons.

Results

Sample Characteristics

The final sample achieved excellent representativeness across all demographic variables with minimal attrition (2.3%). Participants demonstrated diverse backgrounds with balanced distribution across grade levels, socioeconomic strata, and geographic regions within each country. Previous sports participation rates varied significantly by gender and country, with males reporting higher organized sport involvement (67.3% vs 48.9%, $p<0.001$).

Primary Gender Differences

Significant gender differences emerged across multiple attitude dimensions with varying effect sizes. Males demonstrated significantly more positive attitudes toward competitive sports ($M=5.34\pm1.12$ vs $M=4.21\pm1.28$, Cohen's $d=0.89$, $p<0.001$), contact sports ($M=4.89\pm1.34$ vs $M=3.26\pm1.41$, Cohen's $d=1.12$, $p<0.001$), and traditional team sports ($M=5.67\pm0.98$ vs $M=4.78\pm1.15$, Cohen's $d=0.67$, $p<0.001$).

Conversely, females showed more favorable attitudes toward aesthetic and expressive activities ($M=4.92\pm1.21$ vs $M=3.81\pm1.33$, Cohen's $d=-0.74$, $p<0.001$), cooperative physical activities ($M=5.23\pm1.07$ vs $M=4.61\pm1.18$, Cohen's $d=-0.56$, $p<0.001$), and health-focused physical education approaches ($M=5.45\pm0.89$ vs $M=5.08\pm1.02$, Cohen's $d=-0.43$, $p<0.01$).

Physical Education Specific Attitudes

Regarding physical education specifically, males reported more positive attitudes toward competitive assessment methods ($M=4.78\pm1.24$ vs $M=3.94\pm1.31$, $p<0.001$), traditional curriculum content ($M=5.12\pm1.08$ vs $M=4.33\pm1.19$, $p<0.001$), and teacher-directed instruction styles ($M=4.67\pm1.15$ vs $M=4.21\pm1.22$, $p<0.001$). Females preferred alternative assessment approaches ($M=5.31\pm1.03$ vs $M=4.52\pm1.17$, $p<0.001$), diverse activity options ($M=5.67\pm0.94$ vs $M=4.89\pm1.08$, $p<0.001$), and student-centered learning environments ($M=5.44\pm1.01$ vs $M=4.78\pm1.13$, $p<0.001$).

Cross-Cultural Variations

Country-level analyses revealed significant cultural moderation of gender differences. The largest gender gaps appeared in countries with more traditional gender role expectations (India: Cohen's d range 0.62-1.34, Jordan: Cohen's d range 0.58-1.28) while smaller differences emerged in countries with greater gender equality initiatives (Denmark: Cohen's d range 0.23-0.67, Australia: Cohen's d range 0.31-0.73).

Religious and cultural conservatism correlated positively with gender difference magnitudes ($r=0.78$, $p<0.01$), while societal gender equality indices showed negative correlations ($r=-0.72$, $p<0.01$). Urban versus rural differences were more pronounced in certain countries, particularly those with greater economic disparities and varying access to sports programs.

Mediating Factors

Self-efficacy beliefs partially mediated gender differences in sports attitudes, with the indirect effect accounting for 34.7% of the total gender effect ($p<0.001$). Males reported higher self-efficacy for competitive and contact sports (Cohen's $d=0.83$, $p<0.001$) while females showed higher self-efficacy for aesthetic and cooperative activities (Cohen's $d=-0.61$, $p<0.001$).

Perceived physical competence demonstrated similar mediation patterns, explaining 28.9% of gender differences in attitude scores ($p<0.001$). Body image concerns were more prevalent among females and negatively correlated with sports attitudes ($r=-0.43$, $p<0.001$), particularly for activities emphasizing physical appearance or requiring revealing uniforms.

Social support from family, peers, and teachers varied significantly by gender and activity type. Females received less encouragement for competitive sports participation ($M=3.67\pm1.23$ vs $M=4.89\pm1.08$, $p<0.001$) but more support for fitness and health-related activities ($M=5.12\pm0.97$ vs $M=4.34\pm1.14$, $p<0.001$).

Barriers and Facilitators

Gender-specific barriers emerged from qualitative analyses of open-ended survey responses. Males more frequently cited concerns about appearing weak or unmasculine in certain activities, while females reported appearance anxiety, fear of injury in contact sports, and concerns about sweating or getting dirty during physical activities.

Facilitating factors differed by gender, with males valuing competition, skill demonstration, and peer recognition, while females prioritized enjoyment, social connection, personal improvement, and health benefits. These preferences influenced activity selection and engagement levels within physical education settings.

Age-Related Patterns

Longitudinal analysis within the cross-sectional data revealed increasing gender differences with age. The smallest gaps appeared among 13-14 year olds (Cohen's d range 0.31-0.67) with progressive increases through ages 15-16 (Cohen's d range 0.52-0.89) and 17-18 (Cohen's d range 0.67-1.12). This pattern suggests that gender role intensification during mid-to-late adolescence may contribute to attitude polarization.

Discussion

This comprehensive cross-cultural investigation reveals persistent and substantial gender differences in attitudes toward sports and physical education among secondary school students. The findings demonstrate that these disparities are not merely reflections of biological differences but represent complex interactions between individual, social, cultural, and institutional factors that shape young people's experiences and perceptions of physical activity.

The substantial effect sizes observed for competitive sports (d=0.89) and contact sports (d=1.12) attitudes highlight the continued influence of traditional masculine ideologies that associate these activities with male identity and competence. Conversely, the preference females showed for aesthetic activities (d=-0.74) and cooperative approaches (d=-0.56) reflects gendered socialization processes that emphasize different values and movement experiences for girls and boys.

The cross-cultural variations observed in this study provide important insights into the role of societal context in shaping gender differences. Countries with more traditional gender role expectations demonstrated larger attitude gaps, while nations with stronger gender equality initiatives showed more modest differences. This pattern suggests that cultural interventions and policy changes can influence the magnitude of gender-based disparities in sports attitudes.

Implications for Educational Practice

These findings have profound implications for physical education curriculum development and instructional practices. The traditional emphasis on competitive team sports and standardized fitness testing may inadvertently create environments that favor male students while marginalizing female participants. Educational approaches that incorporate diverse activity options, alternative assessment methods, and varied instructional styles may better accommodate the different preferences and needs of all students.

The mediating role of self-efficacy and perceived competence suggests that interventions targeting these psychological factors could help reduce gender-based attitude differences. Providing opportunities for success in diverse physical activities, offering skill development support, and creating supportive learning environments may enhance confidence and engagement among all students.

The importance of social support highlighted in this study underscores the need for comprehensive approaches that address family, peer, and institutional influences on student attitudes. Professional development for physical education teachers should emphasize strategies for creating inclusive environments, challenging gender stereotypes, and promoting positive experiences for diverse learners.

Addressing Barriers and Promoting Inclusion

The gender-specific barriers identified in this research suggest the need for targeted interventions addressing appearance concerns, injury fears, and social pressures that may limit participation. Practical solutions might include flexible uniform policies, modified activities that reduce injury risk while maintaining engagement, and educational programs that challenge restrictive gender norms.

Creating separate spaces or times for certain activities, while controversial, may provide transitional approaches that allow students to develop confidence and skills before participating in mixed-gender environments. However, such accommodations should be implemented carefully to avoid reinforcing stereotypes or creating permanent segregation.

Cultural Sensitivity and Adaptation

The cross-cultural findings emphasize the importance of culturally responsive physical education programming that acknowledges varying societal contexts while promoting inclusive participation. Educational approaches developed in one cultural context may require substantial adaptation when implemented elsewhere, particularly regarding gender-related expectations and family involvement.

Professional preparation programs should include cultural competency training that prepares educators to work effectively with students from diverse backgrounds while promoting equitable opportunities for all. Understanding local cultural norms, religious considerations, and family expectations can help educators develop appropriate strategies for engaging all students.

Limitations and Future Research

Several limitations warrant consideration in interpreting these findings. The cross-sectional design precludes causal inferences about the development of attitude differences over time. Longitudinal research tracking attitude changes throughout adolescence would provide valuable insights into the processes underlying gender-based disparities.

The reliance on self-report measures may introduce social desirability bias, particularly regarding sensitive topics like gender roles and body image. Future studies incorporating observational methods, physiological measures, and implicit attitude assessments could provide more comprehensive understanding of gender differences in sports and physical education contexts.

The focus on secondary school students limits generalizability to other age groups. Research examining gender differences in elementary and post-secondary contexts would enhance understanding of developmental patterns and inform age-appropriate interventions.

Conclusion

This extensive cross-cultural investigation confirms the persistence of significant gender differences in attitudes toward sports and physical education among secondary school students while revealing the complex factors that contribute to these disparities. The findings demonstrate that gender-based attitude differences are not inevitable but reflect modifiable social, cultural, and educational influences that can be addressed through evidence-based interventions.

The substantial effect sizes observed across multiple attitude dimensions underscore the urgent need for educational reforms that create more inclusive and equitable physical education environments. Traditional approaches that emphasize competitive team sports and standardized assessments may inadvertently perpetuate gender-based

disparities and limit opportunities for diverse learners to develop positive relationships with physical activity.

The mediating roles of self-efficacy, perceived competence, and social support highlight specific targets for intervention that could help reduce gender-based attitude differences while promoting positive experiences for all students. Educational approaches that provide diverse activity options, alternative assessment methods, skill development support, and culturally responsive programming may better serve the needs of contemporary learners.

The cross-cultural variations observed in this study emphasize the importance of contextual considerations in developing and implementing educational interventions. While some gender differences appear relatively universal, others are significantly influenced by cultural norms, societal values, and institutional practices. Understanding these contextual factors is essential for creating effective, culturally appropriate educational programs.

As societies continue to evolve toward greater gender equality, educational institutions have the opportunity and responsibility to lead these changes by creating physical education environments that challenge restrictive gender norms while promoting inclusive participation. The evidence presented in this study provides a foundation for developing comprehensive approaches that address the complex factors contributing to gender-based attitude differences and promote lifelong physical activity engagement among all students.

The ultimate goal of these efforts should be creating educational environments where all students, regardless of gender, can develop positive attitudes toward physical activity, build confidence in their physical capabilities, and establish patterns of engagement that contribute to lifelong health and wellness. Achieving this goal requires sustained commitment from educators, policymakers, families, and communities working together to challenge barriers and create opportunities for all young people to experience the benefits of physical activity and sport participation.

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