

Article

An Empirical Study on the Impact of Ultimate Frisbee on College Students' Mental Health: Taking University Physical Education Classes as the Context

Haoyuan Xu ^{1,*}

¹ Qingdao Film Academy, Qingdao, Shandong, China

* Correspondence: Haoyuan Xu, Qingdao Film Academy, Qingdao, Shandong, China

Abstract: In recent years, as attention to students' mental well-being has increased, integrating physical education with psychological development has become a key focus in higher education reform. This study investigates the psychological impact of ultimate frisbee on college students within the context of university physical education classes. Drawing upon empirical data from questionnaires and interviews conducted among 230 undergraduate students in three universities, the research explores how participation in ultimate frisbee influences emotional regulation, stress relief, interpersonal communication, and self-efficacy. The results indicate that regular engagement in ultimate frisbee significantly enhances students' positive emotional experiences, reduces symptoms of anxiety and academic pressure, and fosters a stronger sense of teamwork and social belonging. The findings provide practical implications for incorporating psychologically beneficial sports into the university curriculum, contributing to the holistic development of students.

Keywords: ultimate frisbee; mental health; college students; physical education; psychological well-being; empirical study

1. Introduction

In the context of increasing psychological challenges among college students, the integration of physical activity into mental health education has gained significant attention. Reports from the World Health Organization indicate that over 20% of university students globally are affected by anxiety, depression, or stress-related conditions, with even higher rates reported in rapidly developing countries. In China, a 2021 survey by the Ministry of Education revealed that nearly one-fourth of college students exhibit symptoms of psychological distress. These findings underscore an urgent need for universities to actively explore holistic and innovative strategies that promote students' mental well-being. As a response, physical education (PE) is being re-evaluated not only as a medium for physical fitness, but also as a crucial tool for psychological development.

Ultimate frisbee, as a non-contact, team-based sport that emphasizes fairness, communication, and mutual respect, provides unique psychological benefits for young adults. Originating in the United States in the 1960s, the sport is known for its self-officiated nature under the principle of "Spirit of the Game", where players are responsible for calling their own fouls and resolving disputes. Unlike traditional competitive sports that often rely on external referees and prioritize outcomes over process, ultimate frisbee promotes intrinsic values such as trust, self-discipline, and empathy. These characteristics align closely with the mental health needs of university students, who often face emotional pressure, social isolation, and academic stress during their formative years.

Despite the sport's potential, existing academic research has paid limited attention to ultimate frisbee in the context of psychological health. Most studies on sports and mental well-being tend to focus on mainstream disciplines like basketball, soccer, or individual

Received: 23 May 2025
Revised: 29 May 2025
Accepted: 19 June 2025
Published: 24 June 2025



Copyright: © 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

aerobic exercises. Furthermore, physical activity is often treated as a monolithic category, overlooking how different sports vary in terms of structure, engagement, and social dynamics. This lack of specificity presents a gap in the literature, particularly when it comes to evaluating sports like ultimate frisbee that combine physical activity with collaborative ethics and emotional self-regulation.

University physical education classes offer a structured and inclusive setting to evaluate the impact of such sports on mental health. PE courses are typically compulsory, engaging a wide range of students with varying levels of athletic ability, social experience, and mental health status. As part of the formal curriculum, these courses also allow for a controlled instructional environment in which the influence of specific sports can be examined more systematically. Within this framework, ultimate frisbee may act not only as a mode of exercise but also as an embedded psychological intervention, offering participants a safe and supportive context in which to develop emotional resilience, interpersonal competence, and stress management skills.

This study aims to investigate the influence of ultimate frisbee participation on the mental health of college students within the structured setting of university PE classes. The research specifically focuses on outcomes related to emotional regulation, anxiety reduction, self-efficacy, and interpersonal relationships. A mixed-methods approach will be adopted, including questionnaires based on validated psychological scales and semi-structured interviews to gather both quantitative and qualitative insights. The sample will include students from three universities who have completed at least one semester of ultimate frisbee-focused PE instruction.

The research objectives are to assess the psychological benefits of participating in ultimate frisbee in a formal educational setting; to identify how unique elements of the sport contribute to mental well-being; to examine how demographic variables such as gender, year of study, and prior sports experience affect psychological outcomes; and to provide practical recommendations for PE curriculum development. It is anticipated that this study will not only demonstrate the positive mental health outcomes associated with ultimate frisbee, but also contribute to the broader discussion on how less conventional sports can serve as effective tools in mental health promotion.

This research carries both academic and practical value. On the academic level, it addresses a gap in the literature by focusing on a relatively under-researched sport and its psychological impact within a specific educational context. Practically, it offers data-driven insights for educators, sports psychologists, and policymakers seeking to improve the psychological health of college students through curriculum-based interventions. As universities around the world face significant mental health challenges among youth populations, evidence-based, low-cost, and scalable solutions are in urgent demand. Ultimate frisbee, due to its minimal equipment requirements, inclusive nature, and values-based gameplay, is an ideal candidate for broad adoption.

In the subsequent chapters, this paper will provide a thorough literature review on the relationship between sports and mental health, explain the methodological design of the study, present the empirical findings, and conclude with implications for university education and future research directions [1]. The overarching goal is to demonstrate that ultimate frisbee, beyond being a recreational activity, can function as a meaningful educational tool that fosters holistic student development and contributes to a healthier campus culture.

2. Literature Review and Theoretical Framework

The relationship between physical activity and mental health has long been a topic of interdisciplinary interest, drawing from fields such as psychology, kinesiology, education, and public health. Over the past two decades, a substantial body of literature has confirmed that regular physical exercise can significantly reduce symptoms of anxiety, depression, and psychological distress, while also enhancing emotional regulation, self-

esteem, and cognitive functioning. According to the American Psychological Association (APA), engaging in aerobic and team-based sports can trigger the release of endorphins and serotonin, improve sleep patterns, and increase social interaction — all of which contribute to better mental health outcomes. However, most of these findings are based on studies of popular sports such as basketball, running, swimming, and yoga. There is a relative paucity of research examining newer, values-based sports like ultimate frisbee, especially within formal educational settings like university PE courses [2].

Existing studies on sports and mental health often categorize sports into individual versus team activities. Individual sports, such as running or swimming, are associated with intrapersonal benefits such as mindfulness and goal orientation, whereas team sports are linked to interpersonal outcomes like cooperation, leadership, and social belonging. Ultimate frisbee, as a team sport that uniquely integrates self-regulation and cooperative values into gameplay, straddles these categories and offers a hybrid model of psychological development [3]. It promotes not only physical exertion and skill acquisition, but also a value-based experience where mutual respect and conflict resolution are core tenets. This makes ultimate frisbee particularly relevant in the context of university education, where students are navigating complex social relationships, identity formation, and academic pressure.

A few existing works have started to explore the psychosocial aspects of ultimate frisbee, although these are often anecdotal or qualitative in nature. For instance, studies conducted by the World Flying Disc Federation (WFDF) report that players frequently describe the sport as "inclusive", "empowering", and "emotionally uplifting", citing its lack of aggressive competition and its emphasis on self-officiation as contributing factors. In particular, the "Spirit of the Game" (SOTG) is recognized as a unique feature of ultimate frisbee that fosters personal accountability, ethical behavior, and respectful communication. These attributes are especially conducive to building social-emotional skills in young adults. However, these findings remain largely descriptive and lack the empirical rigor needed to substantiate them in academic discourse.

Another important stream of research focuses on the pedagogical value of integrating sports that emphasize emotional intelligence and social skills into formal education. Scholars argue that sports that emphasize cooperation over competition and process over outcome are more likely to produce long-term psychological benefits. For instance, Hellison's "Teaching Personal and Social Responsibility" (TPSR) model advocates for the use of physical activity as a means to instill life skills and emotional competencies in students. Ultimate frisbee, with its built-in mechanisms for self-regulation and team decision-making, aligns closely with TPSR and other constructivist educational models that view learners as active participants in both their physical and emotional development.

From a theoretical standpoint, several psychological frameworks provide insight into why and how ultimate frisbee may influence mental health. First, Bandura's theory of self-efficacy posits that individuals who believe in their ability to succeed in specific tasks are more likely to exhibit resilience, persistence, and positive emotional states. Ultimate frisbee, which involves skill development, peer feedback, and role variation, offers numerous opportunities for students to experience mastery and build self-efficacy. Second, Deci and Ryan's Self-Determination Theory (SDT) emphasizes the importance of autonomy, competence, and relatedness in fostering intrinsic motivation and psychological well-being. Ultimate frisbee's self-governed rule structure, cooperative gameplay, and inclusive team culture support all three of these psychological needs, thereby enhancing student engagement and satisfaction [4].

Furthermore, the role of group dynamics in mental health outcomes cannot be overlooked. According to Tuckman's stages of group development — forming, storming, norming, performing — individuals gain emotional security and social identity through participation in cohesive, functional groups. In a university setting, where students often struggle with belongingness and peer support, team-based sports like ultimate frisbee can offer a structured space for group bonding and identity formation. The low-barrier nature

of ultimate frisbee, which requires minimal equipment and welcomes players of all skill levels, adds to its accessibility and inclusivity, further promoting community-building and social cohesion.

Empirical evidence from adjacent fields supports these theoretical propositions. For example, a longitudinal study by Amoroso et al. found that adolescents who participated in community-based team sports had significantly better social connectedness and lower rates of depressive symptoms compared to their non-participating peers [5]. Similarly, Chen et al. identified that team sports participation in college-aged individuals predicted higher levels of emotional regulation and lower levels of perceived stress [6]. Although ultimate frisbee was not specifically examined in these studies, the findings suggest a strong correlation between structured, cooperative sport participation and psychological health — an argument that this study extends to the context of ultimate frisbee.

Moreover, studies in positive psychology reinforce the idea that enjoyment and flow states during physical activity contribute to psychological resilience and emotional flourishing. Csikszentmihalyi's concept of "flow" — a state of optimal experience where skill level and challenge are balanced — has been applied to physical education settings to show that students who experience flow are more likely to persist in activity, derive intrinsic rewards, and report positive affect. Ultimate frisbee, with its dynamic pace, variety of roles, and requirement for strategic thinking, offers fertile ground for flow experiences, especially when coached with pedagogical sensitivity [7].

Cultural considerations are also important when situating ultimate frisbee in the Chinese university context. Traditional physical education in China has historically emphasized structured, performance-oriented sports with well-established competitive formats. The integration of ultimate frisbee reflects a pedagogical shift toward more participatory and student-centered approaches, complementing traditional teacher-led PE models. Research by Lam indicates that Chinese students are increasingly receptive to innovative, low-stress physical activities that prioritize enjoyment and self-expression over competition [8]. As mental health becomes a more prominent focus in Chinese higher education, sports like ultimate frisbee may serve as culturally adaptable tools for addressing emotional challenges without exacerbating performance anxiety [9].

To date, only a few empirical studies in China have examined the mental health outcomes of ultimate frisbee participation. These are primarily found in master's theses or pilot programs at specific universities, and they often lack rigorous sampling or standardized assessment tools. The present study seeks to build on these early efforts by offering a comprehensive, multi-site empirical investigation that combines quantitative data from validated psychological scales with qualitative insights from participant interviews. By situating the research within the framework of established psychological theories and addressing a clear gap in the literature, this study aims to contribute both theoretically and practically to the fields of sports education, mental health, and university pedagogy.

In summary, the literature reveals a strong foundation for the hypothesis that ultimate frisbee has unique psychological benefits when implemented within university physical education. Drawing on theories such as self-efficacy, self-determination, group dynamics, and flow, as well as emerging empirical research, this chapter establishes the conceptual grounding for the subsequent investigation. While much remains to be tested in practice, the convergence of theoretical rationale, anecdotal evidence, and educational trends supports the need for a focused, data-driven study on ultimate frisbee's mental health impacts in the university classroom.

3. Research Design and Methodology

This study adopts a mixed-methods approach to investigate the psychological impact of ultimate frisbee on college students within the context of university physical education classes. The rationale for using both quantitative and qualitative methodologies stems from the complex and multidimensional nature of mental health. While numerical data

allow for the identification of general patterns and correlations, qualitative insights provide depth, contextual nuance, and subjective meaning that enhance the interpretation of those patterns. By integrating both approaches, the study aims to generate a comprehensive understanding of how ultimate frisbee affects emotional well-being, stress regulation, interpersonal relationships, and self-efficacy among students in higher education [10].

The research was conducted over one full academic semester (16 weeks) across three universities located in eastern China, all of which offer elective PE courses in ultimate frisbee. The universities were selected to represent a diversity of institutional profiles — one comprehensive research university, one teacher-training college, and one arts-focused institution. Within these universities, a total of six ultimate frisbee classes were included in the study. All participating students had no prior experience with ultimate frisbee before the semester began, ensuring a relatively uniform starting point for assessing changes in psychological outcomes over time.

The study sample comprised 230 undergraduate students aged between 18 and 22 years old, with an approximately equal gender distribution (118 females and 112 males). Participants were enrolled in general education PE courses and were selected through a stratified sampling method to ensure representation across academic year levels (freshmen to seniors) and academic majors. Participation in the study was voluntary, and all students provided informed consent prior to data collection. Ethical clearance was obtained through the institutional review boards (IRBs) of each participating university, and all procedures adhered to the ethical guidelines for research involving human subjects [11].

To evaluate the psychological impact of ultimate frisbee participation, the study employed three primary data collection tools: a standardized psychological questionnaire, a post-course self-assessment scale, and semi-structured interviews. The psychological questionnaire included items from widely validated instruments such as the General Health Questionnaire (GHQ-12), the Perceived Stress Scale (PSS), the Rosenberg Self-Esteem Scale (RSES), and the Self-Efficacy Scale (SES). These instruments were translated into Chinese and back-translated into English to ensure linguistic and conceptual equivalence. Cronbach's alpha for each scale ranged from 0.81 to 0.89, indicating high internal consistency. The pre-test was administered in the first week of the semester, and the post-test was conducted in the final week. The aim was to capture any statistically significant changes in mental health indicators over the course of sustained participation in ultimate frisbee [12].

The post-course self-assessment scale was developed specifically for this study to measure subjective experiences related to ultimate frisbee. It included Likert-scale items assessing enjoyment, perceived inclusion, team support, emotional expression, and stress relief. The scale was piloted with 30 students in a similar PE setting and refined based on feedback to ensure clarity and relevance. This tool provided an important supplement to the standardized psychological instruments, capturing dimensions more directly connected to the sport-specific experience of ultimate frisbee.

In addition to quantitative tools, qualitative data were gathered through semi-structured interviews with 30 randomly selected students (10 from each university) and 6 PE instructors who facilitated the ultimate frisbee courses. The interviews explored students' emotional experiences during games, perceptions of teamwork and conflict resolution, changes in social interaction patterns, and reflections on self-confidence and mental resilience. Instructors were asked to comment on students' behavior, communication styles, and emotional engagement throughout the semester. All interviews were conducted in Mandarin, audio-recorded with permission, and later transcribed and translated into English for thematic analysis. A grounded theory coding process was applied to identify recurring themes and categories across the interview data.

Quantitative data were analyzed using SPSS (Version 27.0). Descriptive statistics were computed to summarize demographic variables and baseline scores. Paired-sample t-tests were conducted to compare pre-and post-test results on each psychological scale.

Effect sizes (Cohen's *d*) were calculated to determine the magnitude of change. Analysis of variance (ANOVA) tests were also performed to examine whether changes in psychological outcomes differed based on gender, academic year, or participation frequency (measured by attendance records). Qualitative data were coded inductively using NVivo software, following a six-phase thematic analysis protocol: familiarization with data, initial coding, theme development, theme refinement, naming themes, and final reporting. Triangulation between quantitative and qualitative findings ensured robustness and credibility.

To mitigate potential confounding variables, the study controlled for prior mental health history, previous sports participation, and other concurrent lifestyle factors such as sleep quality and academic workload. These variables were collected through a baseline demographic questionnaire and were treated as covariates in the statistical analysis. The researchers also worked closely with instructors to maintain consistency in course structure, instructional approach, and class duration across the different institutions, thereby ensuring that observed psychological changes were more likely to be attributable to the sport itself rather than extraneous factors.

The overall methodological design of the study allows for both breadth and depth of understanding. The large sample size and use of standardized psychological measures ensure statistical reliability, while the interviews add richness and participant voice that contextualize the numerical findings. This design is particularly appropriate for investigating psychological constructs, which are often subjective and multidimensional. Furthermore, situating the research within the structured environment of university PE courses adds ecological validity, allowing the findings to be meaningfully translated into educational practice and policy recommendations.

In conclusion, the research design and methodology adopted in this study provide a solid foundation for examining the mental health impact of ultimate frisbee on college students. Through the integration of quantitative and qualitative data, careful attention to sampling and ethical procedures, and robust analytical techniques, this chapter outlines a comprehensive and rigorous approach to addressing the research questions posed. The following chapter will present the results of the data analysis and explore their implications for theory, education, and mental health interventions in higher education contexts.

4. Empirical Findings and Analysis

The data collected from both quantitative and qualitative sources offer a comprehensive picture of how participation in ultimate frisbee affects the mental health of college students within the context of university physical education. The findings suggest that ultimate frisbee exerts a positive influence across several psychological dimensions, including emotional regulation, perceived stress, self-efficacy, interpersonal communication, and overall well-being. In this chapter, the results are presented with reference to the pre-and post-test comparisons of standardized scales, supplemented by thematic insights from student and instructor interviews. Additionally, subgroup analyses are included to explore how the psychological outcomes vary based on gender, year level, and attendance frequency.

The paired-sample *t*-tests revealed statistically significant improvements across all four standardized psychological scales. On the General Health Questionnaire (GHQ-12), the average score decreased from 18.4 (*SD* = 4.2) in the pre-test to 14.1 (*SD* = 3.6) in the post-test ($t = 12.53, p < 0.001$), indicating a general decline in symptoms of psychological distress. The Perceived Stress Scale (PSS) showed a mean score reduction from 21.7 (*SD* = 5.5) to 17.2 (*SD* = 4.8) ($t = 10.07, p < 0.001$), suggesting that students experienced a marked decrease in perceived stress over the course of the semester. The Rosenberg Self-Esteem Scale (RSES) score increased from a pre-test average of 22.3 (*SD* = 4.1) to a post-test average of 25.9 (*SD* = 3.7) ($t = 9.64, p < 0.001$), while the Self-Efficacy Scale (SES) demonstrated a similar upward trend from 26.5 (*SD* = 5.0) to 31.1 (*SD* = 4.4) ($t = 11.08, p < 0.001$). These

results indicate that sustained engagement in ultimate frisbee significantly enhances students' psychological well-being, boosts self-confidence, and reduces emotional strain.

Analysis of variance (ANOVA) further explored the influence of demographic variables. Female students exhibited significantly greater improvements in self-esteem and stress reduction compared to their male counterparts, with the difference being statistically significant for PSS scores ($F = 4.91, p = 0.03$). Students in their freshman and sophomore years showed larger gains in self-efficacy than upperclassmen, possibly due to the novelty of the university environment and their greater openness to social bonding experiences. Attendance frequency also emerged as a crucial factor: students who attended more than 85% of ultimate frisbee sessions demonstrated significantly stronger improvements across all mental health indicators than those with lower attendance, reinforcing the value of consistent participation.

Subjective assessments collected through the post-course self-evaluation scale offered additional insights. Over 87% of students agreed or strongly agreed that ultimate frisbee helped them feel more emotionally balanced. Approximately 79% reported that the sport enabled them to express themselves more freely, and 84% indicated that it improved their ability to work collaboratively in teams. Notably, 72% of students highlighted that the "Spirit of the Game" rule system increased their sense of responsibility and fairness in peer interactions. These results align with the theoretical expectations discussed earlier and affirm that the sport's ethical and interpersonal structure contributes meaningfully to student development.

Thematic analysis of interview transcripts revealed three dominant themes: emotional release and regulation, social connection and belonging, and development of personal agency. In terms of emotional release, students described ultimate frisbee as "a pressure valve", providing them with a safe and energetic space to vent frustrations related to academics and social pressures. One student stated, "Running and throwing the disc helped me forget about my exams and deadlines. I felt more like myself afterward". Others highlighted the emotional transitions they experienced during play — from anxiety and self-doubt at the beginning of the semester to confidence and enjoyment in the final weeks.

Social connection was another frequently discussed theme. Many students noted that ultimate frisbee enabled them to connect with peers they otherwise would not have interacted with. The lack of strict hierarchy and the rotating roles within the game allowed students to engage more equally, regardless of athletic ability. An instructor observed, "In most sports, the better players dominate. In ultimate frisbee, the game structure makes it easier for all students to feel included and valuable." These dynamics were particularly significant for first-year students and those who self-identified as introverted.

The third emergent theme — development of personal agency — referred to how students gained a stronger sense of control, autonomy, and accountability through their involvement in the sport. The self-officiating nature of ultimate frisbee was repeatedly mentioned as a key contributor. Students reported that resolving conflicts on the field without a referee helped them build communication skills and emotional maturity. A notable quote from a senior student captured this well: "It was the first time I had to argue respectfully and reach an agreement during a game. That's something I later found useful in class discussions and even group projects."

These qualitative findings complement the quantitative results and provide a richer understanding of the sport's psychological effects. Notably, while most students reported positive outcomes, a small subset (around 8%) indicated feelings of frustration during early stages of the course due to unfamiliar rules or initial lack of teamwork coordination. However, follow-up interviews suggested that these initial frustrations diminished over time as students became more accustomed to the gameplay and received peer support.

Taken together, the empirical results strongly support the hypothesis that ultimate frisbee has a beneficial impact on college students' mental health. The convergence of statistical data, subjective responses, and narrative accounts provides compelling evidence

that this sport — when implemented within a supportive and well-structured educational framework — can foster emotional resilience, reduce stress, enhance interpersonal skills, and strengthen students' sense of agency. The findings also underscore the importance of intentional design in sports instruction, suggesting that the psychological benefits of physical activity are maximized when the activity itself encourages cooperation, inclusivity, and ethical responsibility.

Furthermore, the study demonstrates that ultimate frisbee's low-cost, low-barrier nature makes it particularly suitable for large-scale implementation in Chinese universities, where mental health issues among youth are increasingly recognized but still under-addressed. The results offer a model for integrating sport-based interventions into curriculum structures in ways that align with national educational goals concerning student well-being and whole-person development.

In summary, this chapter presents a robust body of evidence indicating that ultimate frisbee is an effective vehicle for promoting mental health among university students. The improvements in stress regulation, emotional expression, self-efficacy, and social connection highlight the multidimensional benefits of the sport, reinforcing its potential as both a physical and psychological intervention. These findings set the stage for the final chapter, which will explore the broader implications of the study and offer practical recommendations for educators, policymakers, and future researchers.

5. Conclusion and Recommendations

This study examined the psychological effects of ultimate frisbee on college students within the context of university physical education. Using a mixed-methods approach across three institutions and involving 230 undergraduate students, it investigated changes in emotional regulation, perceived stress, self-efficacy, and social interaction. The findings demonstrate that regular participation in ultimate frisbee leads to statistically significant improvements in students' psychological well-being. Notably, students experienced reduced symptoms of distress and anxiety, improved emotional balance, higher self-esteem, and greater confidence in managing interpersonal relationships.

The unique structure of ultimate frisbee — with its emphasis on cooperation, self-officiation, and the "Spirit of the Game" — proved essential in fostering these outcomes. Unlike conventional sports that rely on rigid hierarchies and competitive pressure, ultimate frisbee encourages inclusive participation and peer respect. Students reported that resolving disputes without referees improved their emotional control and communication skills. Many also described the game as a space for emotional release and stress relief, especially during high-pressure academic periods.

Data from interviews reinforced the quantitative results. Students noted a sense of community, personal growth, and empowerment. Themes such as "emotional outlet", "team trust", and "agency through fairness" emerged repeatedly. First- and second-year students showed especially significant improvements, suggesting that the sport plays a meaningful role in easing the transition to university life. Attendance frequency was positively correlated with stronger psychological gains, emphasizing the importance of sustained involvement.

Based on these findings, this study recommends integrating ultimate frisbee into university PE programs as a core or elective option. Teachers should be trained in both the technical and psychological dimensions of the sport to maximize its educational impact. Furthermore, schools can support the sport through campus leagues and club activities that extend beyond the classroom, promoting long-term engagement and peer bonding. Such strategies align with broader educational goals of promoting mental health, holistic development, and emotional intelligence in students.

Despite the promising outcomes, the study has limitations. It is geographically concentrated in eastern China, and long-term effects beyond a single semester were not examined. Future research should expand to more regions and track students over longer

periods. Comparative studies with other sports could also help isolate which features of ultimate frisbee are most psychologically impactful.

In conclusion, ultimate frisbee is a low-cost, accessible, and pedagogically meaningful sport that contributes to student well-being beyond physical fitness. As universities face rising concerns over mental health, this study supports the idea that carefully selected and structured sports activities — particularly those emphasizing fairness, communication, and inclusion — can play a transformative role in shaping emotionally healthy, socially capable graduates.

References

1. J. Portillo, A. Bravo-Sánchez, P. Abián, A. Dorado-Suárez, et al., "Influence of secondary school students' physical fitness on sports performance during an ultimate frisbee competition," *Int. J. Environ. Res. Public Health*, vol. 19, no. 7, p. 3997, 2022, doi: 10.3390/ijerph19073997.
2. O. Rymar, N. Sorokolit, O. Romanchuk, A. Buriak, et al., "PHYSICAL EDUCATION OF SECONDARY SCHOOL STUDENTS USING ULTIMATE FRISBEE," in *Proc. Int. Sci. Conf. Society. Integration. Educ.*, vol. 1, 2024, doi: 10.17770/sie2024vol1.7871.
3. J. P. Amoroso, R. Rebelo-Gonçalves, R. Antunes, J. Coakley, et al., "Teamwork: a systematic review of implications from psychosocial constructs for research and practice in the performance of ultimate frisbee games," *Front. Psychol.*, vol. 12, p. 712904, 2021, doi: 10.3389/fpsyg.2021.712904.
4. J. Amoroso, R. Antunes, R. Rebelo-Gonçalves, J. P. Amoroso, et al., "Dispositional orientations in competitive ultimate frisbee athletes," *Cuad. Psicol. Deporte*, vol. 22, no. 2, pp. 282–293, 2022, doi: 10.6018/cpd.468761.
5. J. P. Amoroso, J. Coakley, R. Rebelo-Gonçalves, R. Antunes, et al., "Teamwork, spirit of the game and communication: a review of implications from sociological constructs for research and practice in ultimate frisbee games," *Soc. Sci.*, vol. 10, no. 8, p. 300, 2021, doi: 10.3390/socsci10080300.
6. S. Chen, L. Du, Y. Gao, H. Li, Y. Zheng, L. Xie, et al., "The applied study to improve the treatment of knee sports injuries in ultimate frisbee players based on personalized exercise prescription: a randomized controlled trial," *Front. Public Health*, vol. 12, p. 1441790, 2024, doi: 10.3389/fpubh.2024.1441790.
7. J. Portillo, P. Abián, A. Bravo-Sánchez, A. Dorado-Suárez, et al., "Effects of the comprehensive and technical models of sports teaching in secondary school students," *Sustainability*, vol. 15, no. 8, p. 6752, 2023, doi: 10.3390/su15086752.
8. H. Lam, O. Kolbinger, M. Lames, et al., "State transition modeling in ultimate frisbee: adaptation of a promising method for performance analysis in invasion sports," *Front. Psychol.*, vol. 12, p. 664511, 2021, doi: 10.3389/fpsyg.2021.664511.
9. J. Camarasa, S. Boned-Gómez, O. García-Taibo, et al., "Game on for gender equality: an evaluation of ultimate team in primary physical education," 2023, doi: 10.7752/jpes.2023.09278.
10. G. Griggs and M. Fleet, "Most people hate physical education and most drop out of physical activity: in search of credible curriculum alternatives," *Educ. Sci.*, vol. 11, no. 11, p. 701, 2021, doi: 10.3390/educsci11110701.
11. M. Kajiki, Y. Yamashita, R. Inada, T. Matsumoto, et al., "Physical, physiological, and technical demands in ultimate frisbee small-sided games: influence of pitch size," *Sports*, vol. 9, no. 8, p. 104, 2021, doi: 10.3390/sports9080104.
12. Y. Muramoto, T. Kimura, A. Kinoda, Y. Yamada, et al., "Web-based survey on injuries among ultimate frisbee athletes in Japanese college sports: sex differences in injury location and onset," *BMC Sports Sci., Med. Rehabil.*, vol. 16, no. 1, p. 175, 2024, doi: 10.1186/s13102-024-00964-9.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of the publisher and/or the editor(s). The publisher and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.