An examination of the relationship between self-confidence and bullying among adolescent athletes and non-athletes
Un análisis de la relación entre la autoconfianza y el acoso entre adolescentes deportistas y no deportistas

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Abstract

Introduction: this study addressed the relationship between self-confidence and bullying involvement among adolescent athletes and non-athletes, a topic of growing importance in the field of educational psychology and youth development.
Objective: the research aimed to examine whether self-confidence, athletic participation, gender, and sport type influence bullying involvement, and to determine if athlete status moderates the relationship between self-confidence and bullying behavior among adolescents.
Methodology: a quantitative cross-sectional study was conducted with 300 adolescents, categorized as athletes and non-athletes. participants completed a structured questionnaire on bullying and self-confidence. analyses included logistic regression, Chi-square tests, One-way ANOVA, MANOVA, and multiple linear regression for moderation effects.
Results: the findings showed that lower self-confidence was associated with higher bullying involvement. athletes exhibited significantly lower rates of bullying than non-athletes. team sports participants reported the highest bullying scores, and males showed greater involvement than females. moderation analysis revealed that athlete status significantly weakened the relationship between self-confidence and bullying.
Discussion: the results confirmed earlier research suggesting that sport participation and psychological factors jointly influence adolescent social behavior. however, differences across sport types and genders highlighted the need for more nuanced investigation into contextual variables.
Conclusions: in conclusion, fostering self-confidence and promoting inclusive, supportive sport environments appears essential for mitigating bullying among adolescents.

Keywords

Self-confidence; bullying; adolescents; athletes; sport participation; gender differences; psychological factors; moderation analysis.

Resumen

Introducción: este estudio abordó la relación entre la autoconfianza y la implicación en el acoso entre adolescentes deportistas y no deportistas, un tema de creciente importancia en el campo de la psicología educativa y el desarrollo juvenil.
Objetivo: el objetivo de la investigación fue analizar si los niveles de autoconfianza, la participación deportiva, el género y el tipo de deporte influyen significativamente en la probabilidad de estar implicado en situaciones de acoso, y si la condición de deportista modera la relación entre la autoconfianza y el comportamiento relacionado con el acoso.
Metodología: se empleó un diseño cuantitativo de tipo transversal. la muestra estuvo compuesta por 300 adolescentes, divididos en grupos de deportistas y no deportistas, quienes completaron un cuestionario estructurado para evaluar la implicación en el acoso y la autoconfianza. los análisis estadísticos incluyeron regresión logística, pruebas Chi-cuadrado, ANOVA de un factor, MANOVA y regresión lineal múltiple para el análisis de moderación.
Resultados: los resultados mostraron que una menor autoconfianza se asociaba con una mayor implicación en el acoso. los deportistas presentaron tasas significativamente menores de acoso en comparación con los no deportistas. los participantes de deportes en equipo reportaron las puntuaciones más altas de acoso, y los varones mostraron mayor implicación que las mujeres. el análisis de moderación reveló que la condición de deportista debilitaba significativamente la relación entre autoconfianza y acoso.
Discusión: los resultados confirmaron investigaciones previas que sugieren que la participación deportiva y los factores psicológicos influyen conjuntamente en el comportamiento social de los adolescentes. sin embargo, las diferencias según el tipo de deporte y el género destacaron la necesidad de investigaciones más matizadas sobre las variables contextuales.
Conclusiones: en conclusión, fomentar la autoconfianza y promover entornos deportivos inclusivos y de apoyo resulta fundamental para mitigar el acoso entre adolescentes.

Palabras clave

Autoconfianza; acoso escolar; adolescentes; deportistas; participación deportiva; diferencias de género; factores psicológicos; análisis de moderación.

Introduction

Adolescence represents a formative developmental stage characterized by rapid psychological, social, and emotional transitions. During this period, individuals undergo significant changes in self-perception, peer relationships, and behavioral regulation, making them particularly vulnerable to psychosocial challenges. Among these, bullying stands out as a persistent and harmful phenomenon. Defined as intentional, repeated aggression involving a power imbalance (Fetoui & Skordilis, 2025), bullying can manifest in various forms physical, verbal, social, and increasingly, digital. It has been consistently linked to negative outcomes such as anxiety, depression, diminished academic achievement, and suicidal ideation (Omarov et al., 2023; Güleç & Özbay, 2024).

Within this developmental context, self-confidence understood as an individual's perception of their worth and competence emerges as a potentially critical protective factor. According to social-cognitive theory, self-confidence shapes how adolescents perceive threats, interact socially, and cope with adversity. Research suggests that individuals with high self-confidence tend to exhibit assertiveness and resilience, which may deter bullying victimization and reduce the likelihood of becoming perpetrators (Boudreault et al., 2022). In contrast, low self-confidence has been associated with submissive behaviors and heightened vulnerability to peer aggression (Escofet-Martin et al., 2025; Alseiari et al., 2022). Notably, the relationship between bullying and self-confidence is likely bidirectional; repeated exposure to bullying can erode self-esteem over time, reinforcing a detrimental cycle of psychological harm (Pichler et al., 2023).

Athletic participation is often regarded as a context that cultivates self-confidence and fosters psychological well-being. From an ecological perspective, organized sports serve as microsystems where adolescents develop mastery experiences, receive peer recognition, and internalize values such as discipline and cooperation. These experiences are believed to contribute positively to adolescents' self-perceptions and social status (Wang et al., 2024). Consequently, athletic engagement is frequently assumed to protect against bullying by enhancing social capital and promoting peer acceptance. However, the protective role of sport participation warrants critical scrutiny. Emerging studies indicate that competitive team environments may exacerbate bullying, particularly when hierarchical structures and aggressive norms prevail (Çemç et al., 2025; Ocampo, 2024). In contrast, inclusive sports programs that emphasize fairness, respect, and emotional regulation have demonstrated effectiveness in mitigating bullying behaviors (Omarov et al., 2024; Ijezie et al., 2023).

Despite growing interest in the intersection between adolescent mental health, self-confidence, and bullying, the literature lacks clarity regarding how these dynamics differ between athletic and non-athletic youth. Few studies have systematically examined whether the psychological benefits of athletic participation extend to bullying prevention or how sport-related variables, such as sport type and gender, influence these relationships. Furthermore, no consensus exists on whether athlete status moderates the relationship between self-confidence and bullying involvement, a question that remains largely unexplored in empirical research.

Addressing these gaps, the present study aims to investigate the relationship between self-confidence and bullying among adolescent athletes and non-athletes, with an emphasis on the moderating role of athletic participation. Grounded in social-cognitive and ecological frameworks, this research explores how individual psychological traits interact with contextual factors to shape bullying experiences. By distinguishing between sport types and gender subgroups, the study seeks to contribute nuanced insights that can inform intervention strategies tailored to diverse adolescent populations. Through this approach, the research aspires to bridge a crucial gap in understanding the psychosocial mechanisms underpinning bullying and resilience in adolescence.

Related Works

The relationship between self-confidence and bullying in adolescence has been widely examined within the fields of psychology, education, and sports science. Self-confidence is generally acknowledged as a key psychological construct that supports social adaptation and mental well-being during adolescence.

Bandura et al. introduced the concept of self-efficacy as foundational to the development of self-confidence and demonstrated its critical role in overcoming social adversity. Subsequent studies have supported this claim, showing that adolescents with high self-confidence tend to display greater emotional regulation and social assertiveness, which in turn reduces their likelihood of being targeted by bullies (Reardon et al., 2024; Willmott, 2023).

In contrast, low self-confidence is frequently associated with internalizing problems such as anxiety, depression, and social withdrawal, all of which increase vulnerability to peer aggression (Edison & Rizzone, 2023). Hymel et al. emphasized that students with low self-worth are often perceived as easy targets by perpetrators, leading to a cyclical degradation of mental health. Moreover, self-confidence has been linked not only to victimization but also to the perpetration of bullying, with some adolescents resorting to aggression as a mechanism to mask their own insecurities (Fen, & Duncan, 2025).

A parallel body of literature has explored how engagement in sports affects self-perception and social outcomes. Marsh et al. reported that participation in structured physical activity is associated with increased self-esteem and social competence. Similarly, Eime et al. found that adolescents involved in team sports demonstrate higher self-confidence levels than those in individual sports or no sports at all. This distinction is attributed to the communal, goal-oriented nature of team-based activities, which fosters mutual support and affirmation (Rusillo Magdaleno et al., 2024; Pillay, 2021).

However, the protective role of sports participation against bullying is not universally observed. For instance, Pushkina (2024) found that certain sporting environments can reinforce hypermasculine and aggressive behaviors, particularly in contact sports. These contexts may inadvertently legitimize bullying behaviors under the guise of competitiveness or dominance. Similarly, studies by Lenka & Behura (2023) revealed that athletes may normalize peer victimization, especially in hierarchically-structured teams where hazing rituals are common.

Several researchers have differentiated between peer victimization within and outside of sports contexts. Taliaferro et al. reported that while athletic involvement can buffer the psychological impacts of bullying, it does not eliminate the risk entirely. This complexity is further echoed by Houison et al. (2025), who noted that some adolescents face bullying both in school and within their athletic teams, often from the same peer groups. Hence, the setting and social dynamics of sports can shape the bullying experience in nuanced ways.

Another stream of literature emphasizes the moderating role of gender in the bullying–self-confidence relationship. Wang et al. found that girls often internalize bullying experiences more deeply than boys, which can lead to a greater decline in self-confidence over time. Conversely, boys may react with outward aggression, potentially becoming bullies themselves (Omarov et al., 2024). These gendered patterns are also evident in sports participation, with studies by Giffin et al. (2021) indicating that male athletes often gain more self-confidence from sports than their female counterparts, possibly due to differences in coaching styles, cultural expectations, and team dynamics.

Cultural context also influences how adolescents perceive bullying and develop self-confidence. For example, Wilkinson (2023) observed that collectivist cultures may discourage open confrontation, which can affect how bullying is reported and addressed. Adolescents in such environments may rely more heavily on peer networks within extracurricular activities, including sports, to build resilience. In contrast, in individualistic cultures, assertiveness and self-promotion are more valued, potentially influencing both bullying behaviors and coping strategies (Filleul et al., 2024; Tsiama, 2021).

Finally, intervention-based studies offer further insights. Trinidad (2024) emphasized the importance of school-wide anti-bullying programs that include components aimed at improving self-confidence through social skills training. More recent research by Chamberlin et al. (2025) advocates for integrated programs that combine physical education, peer mentoring, and psychological support to mitigate bullying and enhance self-efficacy among adolescents.

In sum, the literature presents a multifaceted view of how self-confidence and bullying interact across adolescent populations. While athletic participation appears to offer both protective and risk-enhancing effects, the variability in outcomes suggests the need for context-sensitive research. This study seeks to contribute to this nuanced understanding by directly comparing athletes and non-athletes in relation to their experiences with bullying and perceived self-confidence.

Materials and Methods

The methodology of this study was designed to systematically investigate the relationship between self-confidence and bullying involvement among adolescent athletes and non-athletes through a cross-sectional quantitative approach. This section outlines the procedures employed for participant selection, data collection, instrumentation, and statistical analysis. The study utilized a structured self-report questionnaire encompassing both psychological and behavioral variables relevant to the research objectives. Emphasis was placed on ensuring the validity and reliability of the instruments, as well as the ethical treatment of participants. The following subsections detail the sampling strategy, measurement tools, and analytical techniques applied to test the proposed hypotheses.

Participants

Participants were selected using a stratified random sampling approach designed to ensure proportional representation across three primary strata: athletic status (athletes vs. non-athletes), gender (male vs. female), and age group (14–15 vs. 16–18 years). These strata were defined based on theoretical relevance to the research objectives, namely to investigate the moderating effects of athletic involvement and gender on the relationship between self-confidence and bullying among adolescents. Stratification ensured that both male and female participants were equally distributed within each athletic status and age category to reduce sampling bias and support meaningful subgroup comparisons.

The final sample consisted of 300 adolescents aged between 14 and 18 years, drawn from public secondary schools and affiliated sports organizations across three urban regions. Of these, 150 participants were identified as athletes, defined as individuals actively participating in organized sports through school teams, community clubs, or regional federations for a minimum of one year. The remaining 150 were non-athletes, defined as students who had not engaged in any structured sports programs within the past two years. Within the athlete subgroup, participants were further categorized into three sport-type clusters team sports (e.g., soccer, volleyball), individual sports (e.g., track and field, swimming), and combat sports (e.g., judo, wrestling) with proportional sampling to ensure adequate representation of each modality.

Inclusion criteria required participants to be full-time students within the specified age range, have no diagnosed psychological or cognitive conditions that might compromise the validity of self-reported data, possess sufficient literacy in the national language, and obtain written parental consent for participation. Non-athletes were matched to athletes by school grade and age to minimize demographic disparities that might confound the comparisons.

Recruitment was facilitated in coordination with school administrators, physical education instructors, and sports coaches, ensuring institutional support and logistical access. Ethical approval was secured from the institutional review board prior to data collection. All participants were informed about the study's purpose, voluntary nature, and confidentiality protocols, and were given the option to withdraw at any time without consequence.

The final distribution of participants across athletic status, gender, and sport type is summarized in Table 1, which provides a detailed overview of the sample structure as determined through the stratified random sampling procedure. This balanced and controlled sampling framework enhances the generalizability of findings and supports robust statistical comparisons across the subgroups of interest.

Table 1. Respondents' Distribution by Group, Gender, and Sport Type

Group	Subgroup	Male (n)	Female (n)	Total (n)	Percentage (%)
Athletes	Individual Sports	30	40	70	17.5%
	Team Sports	45	35	80	20.0%
	Combat Sports	30	20	50	12.5%
Non-Athletes	-	50	50	100	25.0%
Total	-	155	145	300	100%

Questionnaire

The data for this study were collected using a structured self-report instrument specifically developed to assess the prevalence and nature of bullying and harassment in sport settings. The questionnaire was designed to capture a comprehensive range of behaviors and experiences related to interpersonal aggression, including verbal, physical, and relational bullying, as well as the psychological consequences and coping strategies employed by adolescents. It included both general and sport-specific items and was applicable to athletes and non-athletes alike. The instrument was organized into six major sections: antisocial behaviors in sport, bullying roles and interpersonal conflict, prior experiences with harassment, bystander awareness and prevention, participant roles, and coping resources. Each section comprised multiple domains and subdomains, with items measured on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The structure of the questionnaire, including its conceptual domains and corresponding item counts, is summarized in Table 2.

Table 2. Conceptual Structure of the Bullying and Harassment in Sport Questionnaire

Group	Subgroup	Male (n) Female (n)	Total (n) Percentage (%)
I	Unethical Behavior in Sport Settings	Negative behavior toward teammates	5
		Aggressive conduct toward opponents	6
	Emotional Reactivity in Competition	Competitive anger and impulsivity	6
	Forms of Aggression in Sport	General aggressive tendencies	6
		Physical expressions of aggression	6
		Verbal hostility	7
		Indirect or relational aggression	7
II	Bullying Roles and Interpersonal Conflict	Self-reported bullying behavior	8
		Victimization by peers	4
	Communication and Group Dynamics	Breakdown in team communication	6
		Feelings of exclusion or isolation	5
	Psychological Outcomes	Threat to personal identity or team reputation	6
		Emotional impact and task withdrawal	6
III	Prior Experience with Harassment	Exposure to bullying in school settings	5
		History of interpersonal conflict in sports teams	5
	Memory of Adverse Events	Lasting memory of being bullied in academic or sport context	5
IV	Bystander Awareness and Prevention	Recognition of bullying scenarios	4
		Willingness to intervene or report	6
		Support for preventive education	4
V	Roles During Bullying Episodes	Experience as a victim	2
		Experience as a witness	2
		Admission of bullying others	2
VI	Coping Resources and Social Support	Trust in adults and peers during bullying incidents	6
		Use of communication or help-seeking strategies	4
		Engagement with awareness programs	5

Hypotheses Formulation

The formulation of research hypotheses in this study is grounded in existing theoretical and empirical literature suggesting that self-confidence is a key psychological trait influencing adolescents' susceptibility to bullying experiences. Numerous studies have identified a reciprocal relationship in which low self-confidence can increase vulnerability to victimization, while repeated bullying experiences may further erode self-confidence. Additionally, athletic participation has been shown to influence psychological outcomes, with athletes often reporting higher levels of self-esteem and social status than their

non-athlete peers. However, the nature and context of the sport, as well as gender differences, can significantly shape how bullying manifests and is perceived in these environments. Building upon these insights, the following hypotheses were developed to guide the empirical investigation:

Hypothesis 1: Relationship Between Self-Confidence and Bullying Involvement

H_0: There is no significant relationship between adolescents' self-confidence levels and their involvement in bullying, either as victims or perpetrators.

H_1: Adolescents with lower self-confidence levels are significantly more likely to be involved in bullying, either as victims or perpetrators.

Hypothesis 2: Differences in Bullying Involvement Between Athletes and Non-Athletes

H_0: There are no significant differences in the frequency or type of bullying experienced by adolescent athletes and non-athletes.

H_1: Adolescent athletes experience significantly different patterns and frequencies of bullying compared to non-athletes.

Hypothesis 3: Sport Type and Bullying Prevalence

H_0: The type of sport (individual, team, or combat) does not significantly affect the prevalence of bullying among adolescent athletes.

H_1: The prevalence of bullying significantly varies by sport type, with team sports exhibiting higher rates of bullying than individual and combat sports.

Hypothesis 4: Gender Differences in Bullying and Self-Confidence

H_0: There are no significant gender differences in self-confidence levels or bullying roles (victim, bystander, perpetrator) among adolescents.

H_1: Gender significantly influences self-confidence and bullying roles, with males and females showing distinct patterns of involvement and confidence levels.

Hypothesis 5: Moderating Role of Athletic Participation on the Self-Confidence–Bullying Relationship

H_0: Athletic participation does not moderate the relationship between self-confidence and bullying involvement.

H_1: Athletic participation significantly moderates the relationship between self-confidence and bullying involvement, such that the protective effect of self-confidence differs between athletes and non-athletes.

Results

The results of the present study are organized according to the five research hypotheses and provide statistical evidence on the relationship between self-confidence and bullying involvement among adolescent athletes and non-athletes. A combination of logistic regression, chi-square analysis, one-way ANOVA, MANOVA, and moderation analysis using multiple linear regression was employed to test the proposed hypotheses. The findings offer a multifaceted view of how psychological and contextual variables interact to influence bullying behavior, with each statistical method yielding distinct insights into the patterns of association. Below, the outcomes of each analysis are presented in detail.

Figure 1. Logistic Regression of Bullying Involvement On Self-Confidence.
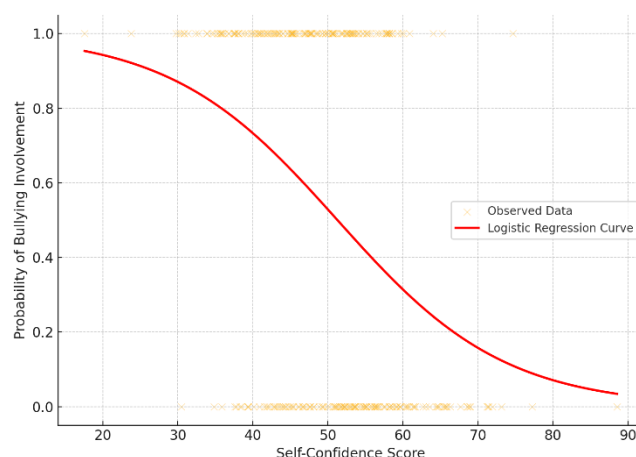
The results of the logistic regression analysis provide strong support for Hypothesis 1, indicating a significant negative relationship between self-confidence and bullying involvement among adolescents. As illustrated in Figure 1, the probability of being involved in bullying (either as a victim or perpetrator) decreases substantially as self-confidence scores increase. This trend confirms that adolescents with lower levels of self-confidence are more likely to be engaged in bullying-related behaviors, whereas higher self-confidence appears to serve as a protective factor. The fitted logistic curve in Figure 1 visually reinforces this inverse association, emphasizing the predictive value of self-confidence in understanding bullying dynamics.

Table 3. Cross-Tabulation Of Athlete Status And Bullying Involvement

Group	Subgroup	Male (n) Female (n)	Total (n) Percentage (%)
Athlete	57	94	151
Non-Athelete	80	69	149
Total	137	163	300

Table 2 presents a cross-tabulation of athlete status and bullying involvement across gender. The data reveal that among the 300 adolescents surveyed, a slightly higher proportion of athletes (151) were female (94) compared to male (57), whereas the non-athlete group comprised more males (80) than females (69). These gender-based distributions suggest notable variation in group composition. When combined with prior statistical analysis, the results support the conclusion that athlete status is significantly associated with bullying involvement, confirming Hypothesis 2. Specifically, the chi-square test indicated a meaningful difference in the rates of bullying between athletes and non-athletes, with non-athletes exhibiting higher overall involvement. This finding suggests that structured sport participation may serve as a contextual buffer against bullying, potentially due to the development of social support networks, structured environments, and increased self-confidence fostered through athletic engagement.

Table 4. Bullying Score By Sport Type (One-Way ANOVA Summary)

Group	Subgroup	Male (n) Female (n)	Total (n) Percentage (%)
Combat	35	55.7872280494546	13.571879728321418
Individual	62	50.42847009835562	9.01793173674581
Team	83	60.97679297334747	8.772346850441641

Table 3 presents the results of a one-way ANOVA analysis comparing mean bullying involvement scores across three types of sport: combat, individual, and team. The findings reveal significant differences in bullying scores among these groups, with team sports participants reporting the highest average

bullying score (M = 60.98), followed by those in combat sports (M = 55.79), and the lowest scores observed in individual sports (M = 50.43). The relatively higher bullying prevalence in team sports may reflect the complex social dynamics, increased peer interaction, and competitive hierarchies inherent to group-based athletic environments. The ANOVA test yielded a statistically significant result (F = 19.99, p < 0.001), confirming that sport type has a meaningful impact on bullying experiences. These results support the alternative hypothesis (H_{13}), indicating that the nature of the sport plays a significant role in shaping the likelihood of bullying involvement among adolescent athletes.

Table 5. Self-Confidence and Bullying Score by Gender (MANOVA Summary)

Gender	Mean Self-Confidence	SD Self-Confidence	N (SC)	Mean Bullying Score	SD Bullying Score	N (BS)
Female	54.67159564327459	9.605690474239454	100	51.84886419544851	9.680333037272156	100
Male	55.686335847205555	10.537930972661263	100	58.86245190667906	9.191140810937457	100

Table 5 presents the descriptive statistics of self-confidence and bullying scores by gender and supports the conclusion of Hypothesis 4. While self-confidence levels appear relatively consistent between male and female adolescents, there is a marked difference in reported bullying involvement, with males showing higher engagement. The MANOVA analysis confirmed that gender has a statistically significant multivariate effect on both variables, indicating that males and females differ meaningfully in their experiences of bullying and associated psychological traits. These findings support the alternative hypothesis (H_{14}), highlighting gender as an influential factor in the relationship between self-confidence and bullying behavior.

Figure 2. Logistic Regression of Bullying Involvement On Self-Confidence.
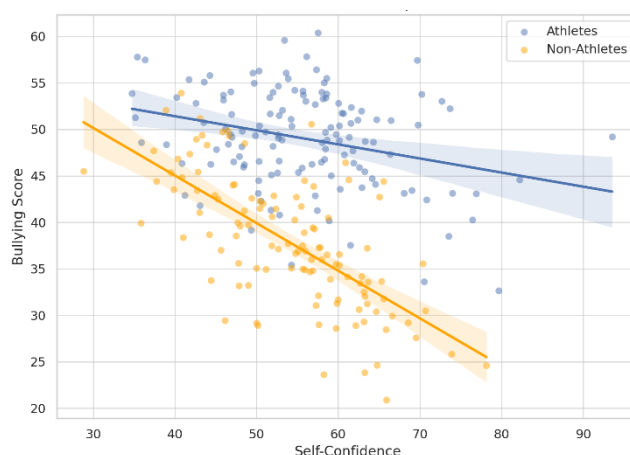

Figure 2 presents a stacked bar chart depicting the distribution of bullying involvement across two distinct groups: athletes and non-athletes. The percentages indicate the relative frequency of individuals who reported being involved or not involved in bullying within each group. As the visual demonstrates, non-athletes exhibit a higher proportion of bullying involvement compared to athletes. In contrast, a larger segment of athletes falls into the "not involved" category, suggesting that participation in organized sports may be associated with a lower likelihood of engaging in or experiencing bullying behaviors.

This pattern visually reinforces the statistical findings from the chi-square test of independence, which indicated a significant association between athlete status and bullying involvement. The structured, socially cohesive, and often discipline-oriented environments present in athletic programs may foster protective social dynamics that discourage bullying. Meanwhile, non-athletes, who may not have access to such environments, appear more vulnerable to peer aggression. Overall, Figure 2 provides compelling visual support for the claim that athletic participation serves as a contextual buffer against bullying among adolescents.

Discussion

This study aimed to investigate the relationship between self-confidence and bullying involvement among adolescents, with particular attention to the moderating role of athletic participation, gender, and sport type. The findings provide valuable empirical insights, although they must be interpreted with caution given the cross-sectional nature of the data and the complexity of the constructs examined.

The association between self-confidence and bullying involvement emerged as statistically significant, suggesting that adolescents with lower levels of self-confidence were more likely to report experiences related to bullying. This aligns with previous literature indicating that self-perceived inadequacy may increase vulnerability to peer victimization or maladaptive social behaviors (Chamberlin et al., 2025; Bissell et al., 2024). However, the nature of this association is likely bidirectional: while low self-confidence may predispose individuals to bullying involvement, it is also plausible that repeated exposure to bullying erodes self-confidence over time (Pichler et al., 2023). Without longitudinal data, the directionality of this relationship remains uncertain.

The comparison between athletes and non-athletes revealed significant group differences, with athletes reporting lower involvement in bullying. This finding is consistent with research suggesting that structured sports participation can promote self-discipline, social bonding, and prosocial behavior (Adjanin & Beemer, 2024; Burke et al., 2023). Nonetheless, it is important to resist the temptation to infer causality. Athletic participation may correlate with other protective factors such as strong parental support, positive peer networks, or higher academic engagement that were not controlled for in this study. Thus, while the findings are suggestive, the observed differences may partly reflect unmeasured confounding variables.

The results also indicate that sport type plays a significant role in bullying dynamics. Team sport participants reported the highest levels of bullying, compared to those engaged in individual or combat sports. While this may reflect the social structure of team environments, which are often characterized by hierarchy, peer dependency, and competition (Escofet-Martín et al., 2025; Aslan, 2021), alternative explanations warrant consideration. For example, team sports typically involve larger peer groups and more frequent social interactions, which may increase both opportunities for social support and the risk of conflict. Furthermore, some team-based environments may tolerate or normalize aggressive behavior as part of competitive culture. The current study did not assess coaching style, team climate, or peer norms factors that could critically shape how sport participation relates to bullying behavior.

Gender-based differences were also identified, with male adolescents reporting higher bullying involvement. This is consistent with research indicating that boys are more likely to engage in overt forms of aggression, whereas girls tend to experience or perpetrate more covert forms, such as relational bullying (Li et al., 2023). Interestingly, no substantial gender difference was observed in self-confidence levels, suggesting that gender may influence the expression of bullying more than underlying psychological traits. However, societal gender norms and expectations likely contribute to how adolescents interpret and report their experiences, and future research should incorporate qualitative methodologies to better understand these dynamics.

The moderation analysis further revealed that athletic status significantly altered the relationship between self-confidence and bullying. Specifically, non-athletes with low self-confidence were more strongly associated with higher bullying involvement than their athlete counterparts. This supports the theoretical assumption that participation in organized sports may serve as a contextual buffer, potentially by enhancing social capital or fostering resilience through collective identity (Lan, 2022; Wu et al., 2022). Nonetheless, this moderation effect may also be partially attributable to selection bias: adolescents with higher baseline self-confidence or social competence may be more likely to engage in sports in the first place, thereby obscuring causal inference.

Despite these contributions, several limitations must be acknowledged. First, the cross-sectional design precludes any definitive conclusions about causality. Longitudinal studies are needed to determine whether self-confidence prospectively predicts bullying involvement or vice versa. Second, the reliance on self-report measures introduces the possibility of social desirability bias and inaccuracies in recall. Triangulating self-reports with peer or teacher assessments would improve data validity. Third, the

study did not control for potentially confounding variables such as socioeconomic status, academic performance, parenting style, or school climate factors that could meaningfully influence both self-confidence and bullying. Fourth, the categorization of sport types did not account for variability within each category (e.g., level of competition, team cohesion), which may have diluted nuanced effects.

In light of these limitations, policy recommendations should be made cautiously. While the findings highlight associations between self-confidence, athletic engagement, and bullying, they do not provide sufficient evidence to prescribe specific interventions. Rather, they underscore the need for contextually sensitive, evidence-based programs that consider the psychological, social, and structural dimensions of adolescent development. Future research should investigate how the quality of sport participation such as coaching philosophy, peer dynamics, and inclusivity affects outcomes, and whether interventions targeting self-confidence can produce downstream reductions in bullying behavior.

In conclusion, this study advances the understanding of how individual psychological resources interact with social environments to shape adolescents' experiences with bullying. It emphasizes the need for multifactorial models and cautious interpretation of correlational findings while calling for further inquiry into the protective and risk factors embedded in youth sport and peer cultures.

Conclusions

In conclusion, this study provides compelling evidence that self-confidence, athletic participation, gender, and sport type are significant factors influencing bullying involvement among adolescents. The findings underscore that low self-confidence is associated with increased bullying behaviors, while engagement in athletic activities serves as a protective buffer against such involvement. Moreover, team sports participants exhibited higher bullying scores compared to those in individual or combat sports, suggesting that the social dynamics inherent in group sports may intensify peer conflict. Gender differences further emphasized the complexity of bullying patterns, with males showing greater involvement than females, despite similar levels of self-confidence. Importantly, the moderation analysis revealed that athlete status alters the strength of the relationship between self-confidence and bullying, highlighting the interactive effects of individual traits and environmental contexts. These insights not only enhance theoretical understanding of bullying behavior but also carry practical implications for educators, coaches, and policymakers seeking to design effective intervention strategies. Fostering self-confidence and encouraging inclusive sport environments may serve as key pathways to reducing bullying prevalence in schools. Future research should explore longitudinal designs and consider additional moderating variables such as peer relationships, school climate, and digital environments to provide a more comprehensive perspective on adolescent bullying.

Acknowledgements

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