Journal of Health and Nutrition Research
Vol. 5, No. 1, 2026, pg. 370-380, https://doi.org/10.56303/jhnresearch.v5i1.866
Journal homepage: https://journalmpci.com/index.php/jhnr/index

e-ISSN: **2829-9760**

Relationship Between Behavioral and Emotional Problems Using the Strengths and Difficulties Questionnaire (SDQ) and Academic and Sports Achievement Index Among Students at State Sports-Talented High School in Aceh

Mestika Kuine[1*], Herlina Dimiati[1], T.M. Thaib[1], Rusdi Andid[1], Sulaiman Yusuf[1], Eka Yunita Amna[1]

[1] Department of Child Health, Faculty of Medicine, Syiah Kuala University, Banda Aceh, Indonesia

Corresponding Author Email: mestikakuine36@gmail.com

Copyright: ©2026 The author(s). This article is published by Media Publikasi Cendekia Indonesia.

ORIGINAL ARTICLES

Submitted: 20 September 2025

Accepted: 06 November 2025

Published: 01 April 2026

Keywords:
Academic Achievement, Adolescents, Behavioral Problems, Emotional Problems, Strengths, Difficulties Questionnaire

OPEN ACCESS

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License

ABSTRACT

Adolescence represents a vulnerable developmental period characterized by rapid behavioral and emotional changes that significantly influence academic achievement and sports performance. The Strengths and Difficulties Questionnaire (SDQ) is a standardized screening instrument widely utilized to assess emotional symptoms, conduct problems, hyperactivity, peer relationship difficulties, and prosocial behavior in adolescents. This study aimed to investigate the relationship between behavioral and emotional problems measured by SDQ and academic and sports achievement indices among students at State Sports-Talented High School in Aceh. An observational analytical study with cross-sectional design was conducted involving 108 students aged 15-18 years. Data collection utilized SDQ self-report questionnaire, academic records, and sports achievement documentation. Statistical analysis employed Mann-Whitney test for academic achievement and Fisher's exact test for sports achievement with 95% confidence level. Total difficulties score demonstrated significant associations with academic achievement ($p=0.035$) and sports achievement ($p=0.010$). Emotional problems subscale showed significant correlations with both academic ($p=0.007$) and sports achievement ($p=0.038$). Conduct problems and peer relationship difficulties exhibited highly significant associations with sports achievement ($p=0.001$ and $p<0.001$ respectively). The findings indicated that 26.9% of participants reported abnormal total difficulties scores, suggesting a need for intervention. Behavioral and emotional problems significantly correlate with academic achievement and sports performance among talented sports students. These findings emphasize the importance of routine mental health screening using SDQ in sports-specialized schools to enable early identification and timely intervention.

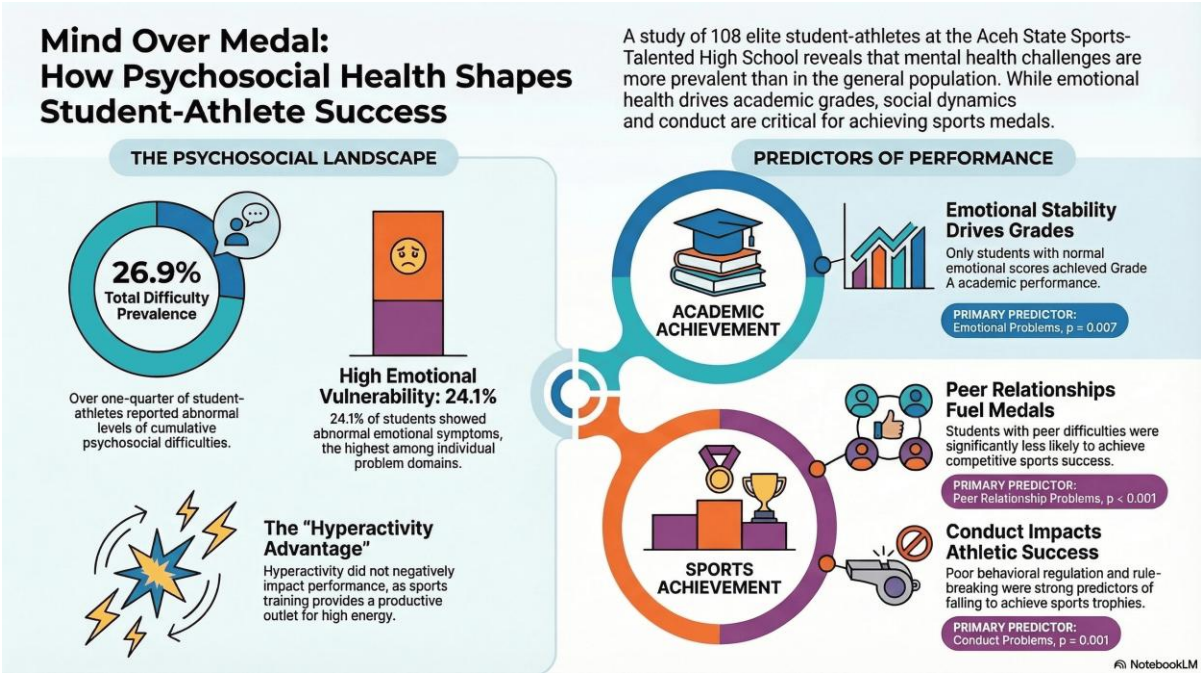
Key Messages:

- SDQ effectively identifies psychosocial problems affecting both academic and sports performance in adolescent athletes
- Emotional problems and total difficulties scores significantly predict academic achievement outcomes
- Peer relationships and conduct problems strongly influence sports achievement among talented students

Access this article online

Quick Response Code

GRAPHICAL ABSTRACT



INTRODUCTION

Adolescence is a critical transitional phase between childhood and adulthood, marked by biological, cognitive, and socio-emotional changes. According to the World Health Organization (WHO), adolescence spans ages 10 to 19 years and comprises 1.2 billion people, or 18% of the world's population (1,2). This developmental stage is particularly vulnerable to psychosocial challenges that can significantly impact both current functioning and long-term outcomes. In Indonesia, adolescents aged 8-23 years comprise 27.94% of the total 270 million population based on 2020 census data (3). Research indicates mental health disorder prevalence rates of 10-20% among adolescents globally, with significant variations across cultural contexts (4). More recent Indonesian data from the 2018 National Basic Health Research (Riskesdas) reported that emotional mental disorders affect 9.8% of adolescents aged 15-24 years, while studies in Jakarta and other urban centers demonstrate behavioral problem prevalence rates of 12-18% among high school students (5). These statistics underscore the substantial burden of behavioral and emotional problems among Indonesian adolescents.

Given Indonesia's limited mental health resources with only approximately 0.3 psychiatrists per 100,000 population compared to the WHO-recommended minimum of 1 per 10,000 screening tools become essential for early detection and intervention (6,7). Several instruments have been developed for psychosocial screening in adolescents, including the Child Behavior Checklist (CBCL), Pediatric Symptom Checklist (PSC), and the Strengths and Difficulties Questionnaire (SDQ) (8). The SDQ has emerged as one of the most widely translated and utilized screening tools globally, offering particular advantages: it can be administered by non-mental health professionals, requires minimal time, and demonstrates strong psychometric properties across diverse cultural contexts (9).

The context of sports-talented schools presents unique challenges for understanding adolescent psychosocial development. Students in these specialized institutions face dual demands: achieving academic excellence while maintaining high athletic performance standards. This dual pressure, combined with intensive training schedules, competitive atmosphere, frequent evaluations, and high expectations from multiple stakeholders (parents, teachers, coaches, peers), creates a distinctive psychosocial environment that may amplify both risk and protective factors for mental health. Furthermore, the physical demands of athletic training interact with the biological changes of puberty, potentially affecting psychological development. The stress-recovery balance, crucial for athletic performance, may be disrupted by emotional difficulties, while academic pressures may interfere with the recuperation needed

https://doi.org/10.56303/jhnresearch.v5i1.866

for optimal sports performance. SMA Negeri Keberbakatan Olahraga Aceh (State Senior High School for Sports Talent in Aceh), established in 2012, exemplifies this unique educational setting, where students must balance rigorous academic curricula with professional-level sports training in disciplines such as athletics, football, badminton, pencak silat, and swimming.

Despite growing recognition of mental health's importance in educational and athletic settings, research specifically exploring the relationship between behavioral and emotional problems and achievement outcomes in sports-specialized schools remains limited. Most existing studies have examined these relationships in general educational populations or elite adult athletes, leaving a gap in understanding how psychosocial factors influence adolescent student-athletes who must balance academic and athletic demands. This gap is particularly pronounced in Southeast Asian contexts, where cultural factors may influence both the expression of psychological symptoms and the relationship between mental health and achievement. Therefore, this study aims to determine the relationships among behavioral and emotional problems, as measured by the SDQ, and both academic achievement index and sports achievement among students at SMA Negeri Keberbakatan Olahraga Aceh.

METHODS

This study is an observational, analytic, correlational study with a cross-sectional design. A cross-sectional study is a research design that examines the dynamics of the association between dependent and independent variables at a single point in time (a cross-sectional approach).

The research was conducted at Aceh State Senior High School for Sports Talent, Indonesia. The research was carried out after obtaining ethical approval from the Health Research Ethics Committee (KEPK) of the Faculty of Medicine, Syiah Kuala University, and continued until the minimum sample size was reached.

The target population of this study was all students of the State Senior High School for Sports Talent, while the accessible population was students of Aceh State Senior High School for Sports Talent who met the research criteria. Inclusion criteria included students who were actively registered, aged 15-18 years, willing to be research subjects, students who could read, understand, and fill out questionnaires in Indonesian well, students who had a training attendance record of at least 90% in the last 1 semester, and students who were not currently experiencing injuries or health problems that could affect questionnaire completion. Exclusion criteria included students with cognitive, psychological, or health disorders that could hinder independent questionnaire completion; students who had been involved in serious school sports disciplinary violations in the past 1 year; and students who did not complete the questionnaire completely and validly.

Sample size calculation in this study refers to the population-based study formula (10):

$$N = \frac{n}{1 + n(e)^2} = \frac{139}{1 + 139(0{,}05)^2} = 103{,}15$$

Based on data on the number of active students at the research site, totaling 139 people in 2024, the number of subjects in the study was 103.15 people, rounded to 104 research subjects. The sampling technique used was consecutive sampling.

Data were collected through completion of the SDQ questionnaire and documentation of academic grades and sports achievement records. SDQ consists of 25 items allocated to five subscales: emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behavior. Each item is rated on a 3-point scale: 0=not true, 1=somewhat true, 2=certainly true.

Academic achievement was assessed based on the average report card score for the last semester. The Indonesian grading system uses a 0-100 scale, which was categorized as follows: Grade A (excellent) corresponds to scores of 85-100, representing superior academic performance; Grade B (good) corresponds to scores of 70-84, representing satisfactory academic performance; and Grade C (satisfactory) corresponds to scores of 55-69, representing minimum acceptable academic performance. This categorization aligns with the Indonesian national educational standard (Kurikulum Merdeka) for senior high school students.

https://doi.org/10.56303/jhnresearch.v5i1.866

Sports achievement was assessed based on documented achievements in official competitions during the students' enrollment at the school. Students were categorized as "achieving" if they had obtained medals (gold, silver, or bronze) or trophies in competitions at any level (regional/provincial, national, or international) in their respective sports disciplines. Students were categorized as "not achieving" if they had no documented competitive achievements during their time at the school, regardless of their participation in training or skill level. Achievement documentation was verified through school records, certificates, and official competition results maintained by the school's sports department.

Data analysis was performed using IBM SPSS. Bivariate analyses to assess the relationships between emotional problems, conduct problems, hyperactivity, and peer problems, difficulties, and strengths and sports achievement used the Chi-Square test and the alternative Fisher Exact test. To assess the relationship with academic achievement, a Mann-Whitney trend analysis was used at the 95% confidence level.

CODE OF HEALTH ETHICS

This research has been included in the ethics hearing from the Health Research Ethics Committee (KEPK) of the Faculty of Medicine, Syiah Kuala University.

RESULTS

Table 1 shows the demographic and achievement profiles of the 108 research subjects, revealing a population in middle to late adolescence with a median age of 16 years. The sample is characterized by a marked gender imbalance, with males comprising 79.6% of participants. In terms of performance, the academic achievement of these student-athletes is relatively homogeneous, with 88.0% attaining Grade B, while only a small fraction achieved Grade A (8.3%) or Grade C (3.7%). Conversely, the subjects demonstrate high athletic proficiency, with 87.0% of the students having documented competitive achievements

Table 1. Characteristics of research subjects

Characteristics	Mean ± SD	n (%)
Age (years), median (min-max)	16 (15-17)	-
Gender		
Male	-	86 (79.6)
Female	-	22 (20.4)
Academic Achievement		
Grade A	-	9 (8.3)
Grade B	-	95 (88.0)
Grade C	-	4 (3.7)
Sports Achievement		
Achieving	-	94 (87.0)
Not achieving	-	14 (13.0)

SDQ Measurement Results

Table 2. Characteristics of SDQ measurement results

SDQ Category	Normal n (%)	Abnormal n (%)
Emotional Problems	82 (75.9)	26 (24.1)
Hyperactivity	101 (93.5)	7 (6.5)
Conduct Problems	92 (85.2)	16 (14.8)
Peer Problems	90 (83.3)	18 (16.7)
Total Difficulties	79 (73.1)	29 (26.9)
Prosocial Strength	105 (97.2)	3 (2.8)

Table 2 shows the psychosocial profile of the student-athletes as measured by the Strengths and Difficulties Questionnaire (SDQ), highlighting that 26.9% of the participants exhibit abnormal total difficulties scores, representing a significant cumulative psychosocial burden within this population. Among the specific subscales, emotional problems were the most frequently identified issue, affecting 24.1% of the cohort, followed by peer relationship and conduct problems, which affected 16.7% and 14.8%

https://doi.org/10.56303/jhnresearch.v5i1.866

of students, respectively. In contrast, the subjects demonstrated marked psychological strengths and behavioral stability in other areas, with 97.2% achieving normal scores in prosocial behavior and only 6.5% showing abnormal levels of hyperactivity. These findings suggest that although these student-athletes possess strong social foundations, they face clinically relevant emotional and behavioral challenges at rates exceeding general adolescent estimates, likely due to the dual pressures of elite athletic and academic demands.

Relationship Between SDQ and Academic Achievement

Table 3. Relationship between behavioral and emotional problems using SDQ and academic achievement index

SDQ Variables	Academic Achievement n (%)			p-value*
	Grade A	Grade B	Grade C	
Emotional Problems				
Normal	9 (8.3)	72 (66.7)	1 (0.9)	0.007
Abnormal	0 (0.0)	23 (21.3)	3 (2.8)	
Hyperactivity				
Normal	9 (8.3)	88 (81.5)	4 (3.7)	0.699
Abnormal	0 (0.0)	7 (6.5)	0 (0.0)	
Conduct Problems				
Normal	9 (8.3)	80 (84.2)	3 (2.8)	0.170
Abnormal	0 (0.0)	15 (13.9)	1 (0.9)	
Peer Problems				
Normal	9 (8.3)	77 (71.3)	4 (3.7)	0.511
Abnormal	0 (0.0)	18 (16.7)	0 (0.0)	
Total Difficulties				
Normal	9 (8.3)	68 (63.0)	2 (1.9)	0.035
Abnormal	0 (0.0)	27 (25.0)	2 (1.9)	
Prosocial Strength				
Normal	9 (8.3)	93 (86.1)	3 (2.8)	0.059
Abnormal	0 (0.0)	2 (1.9)	1 (0.9)	

*Mann Whitney trend analysis

Table 3 shows a significant correlation between specific psychosocial domains and academic achievement, particularly regarding emotional problems (p=0.007) and total difficulties scores (p=0.035). A critical observation from the data is that academic excellence (Grade A) was exclusively attained by students with normal psychosocial profiles; notably, no student with abnormal emotional or total difficulty scores reached the highest achievement tier. Emotional stability may serve as a fundamental prerequisite for superior academic performance in this high-pressure environment, as it allows cognitive resources to remain focused on learning tasks rather than being diverted by stress or anxiety. Conversely, domains such as hyperactivity (p=0.699), conduct problems (p=0.170), and peer problems (p=0.511) did not show statistically significant associations with academic outcomes, indicating that internalizing symptoms and cumulative psychosocial burden have a more pronounced impact on classroom success than externalizing behaviors within this specialized student-athlete population.

Relationship Between SDQ and Sports Achievement

Table 4 shows the relationship between psychosocial domains and athletic success, demonstrating that interpersonal and behavioral factors serve as primary determinants of sports achievement in this specialized student-athlete population. The data reveal that peer relationship problems (p<0.001) and conduct problems (p=0.001) exert the most significant influence on competitive outcomes; notably, 44.4% of students facing abnormal peer difficulties failed to achieve competitive success, compared to only 6.7% of those with normal social functioning. Although emotional symptoms (p=0.038) and total difficulties scores (p=0.010) also maintain statistical significance, their associations are notably less robust than the social-behavioral variables. Conversely, factors such as hyperactivity (p=0.224) and prosocial strength (p=0.343) show no significant correlation with athletic results, suggesting that high activity levels and altruistic tendencies are not primary drivers of competitive success in this environment. Collectively, these

https://doi.org/10.56303/jhnresearch.v5i1.866

findings highlight that social cohesion and behavioral regulation are critical for navigating the competitive social ecology of sports-talented schools and translating athletic potential into documented achievement.

Table 4. Relationship between behavioral and emotional problems using SDQ and sports achievement index

SDQ Variables	Sports Achievement n (%)		p-value*
	Achieving	Not Achieving	
Emotional Problems			
Normal	75 (69.4)	7 (6.5)	0.038
Abnormal	19 (17.6)	7 (6.5)	
Hyperactivity			
Normal	89 (82.4)	12 (11.1)	0.224
Abnormal	5 (4.6)	2 (1.9)	
Conduct Problems			
Normal	85 (78.7)	7 (6.5)	0.001
Abnormal	9 (8.3)	7 (6.5)	
Peer Problems			
Normal	84 (77.8)	6 (5.6)	0.001
Abnormal	10 (10.6)	8 (7.4)	
Total Difficulties			
Normal	73 (67.6)	6 (5.6)	0.010
Abnormal	21 (19.4)	8 (7.4)	
Prosocial Strength			
Normal	92 (85.2)	13 (12.0)	0.343
Abnormal	2 (1.9)	1 (0.9)	

*Fisher's exact test

DISCUSSION

This observational-analytical study with a cross-sectional design investigated the relationships between behavioral and emotional problems, as measured by the Strengths and Difficulties Questionnaire (SDQ), and academic and sports achievement indices among 108 students at Aceh State Senior High School for Sports Talent. The principal findings demonstrate that behavioral and emotional problems significantly correlate with both academic and sports performance, though with distinct patterns. Emotional problems and total difficulties scores showed significant associations with academic achievement ($p=0.007$ and $p=0.035$, respectively), while sports achievement was most strongly predicted by peer relationship problems ($p<0.001$) and conduct problems ($p=0.001$). Notably, 24.1% of students presented with abnormal emotional problems and 26.9% with abnormal total difficulties scores, prevalence rates that warrant serious attention in this supposedly high-functioning population.

Emotional Difficulties and Academic Achievement

The results demonstrated a statistically significant relationship between emotional problems and students' academic achievement ($p=0.007$). All students with emotional scores in the abnormal category failed to obtain Grade A, with some receiving Grade C. This finding is consistent with previous studies indicating that emotional disorders such as anxiety, depression, and social withdrawal negatively impact students' academic engagement. According to Durlak et al., untreated emotional disorders reduce concentration, learning motivation, and decision-making abilities, thus directly impacting academic achievement (11). Students with emotional disorders tend to show higher levels of delinquency and lower learning achievement (12).

Several mechanisms explain why emotional stability predicts academic achievement. A study by Mammadov explained that emotionally stable students tend to experience lower levels of test anxiety and academic stress. This emotional calmness allows them to focus their cognitive resources on the task at hand, rather than being distracted by worries or fear of failure. Second, emotional stability is associated with better coping strategies, perseverance, and resilience when facing obstacles (13). In the context of students at sports talent schools, additional mental pressure from competition, performance demands, and packed schedules likely exacerbates the psychological burden on students experiencing emotional

https://doi.org/10.56303/jhnresearch.v5i1.866

problems.

The study by Oleksandr et al. found that students with higher levels of emotional intelligence tend to achieve better academic results compared to their peers with lower emotional intelligence. This correlation can be linked to several factors, including higher motivation, better learning outcomes, and greater resilience in facing academic challenges. They are also better able to regulate emotions felt in their daily lives, which aligns with the research findings where students with normal SDQ results obtained good achievement (14). Furthermore, students who can manage their emotions well are often more motivated to learn, show better engagement in class activities, and have greater ability in setting and achieving academic goals (15). These social connections can enhance collaborative learning and create a positive learning environment, ultimately contributing to increased academic achievement (16).

The SDQ total difficulties score also showed a significant relationship with academic achievement ($p=0.035$). Students with total difficulties scores in the abnormal category all failed to obtain Grade A and some obtained Grade C. The total difficulties score reflects the accumulation of five SDQ aspects (emotional, conduct, hyperactivity, peer relationships, and prosocial). The higher a student's difficulty score, the greater the likelihood that they will experience problems with social and academic adjustment. This confirms that psychosocial disorders are multifactorial and have wide impacts, not only emotionally, but also on the ability to complete academic tasks, discipline, and interaction with teachers and peers (17).

Distinct Predictors of Sports Achievement: The Pronounced Role of Peer and Conduct Problems

The relationship between psychosocial factors and sports achievement differs from that for academic achievement, with peer problems showing the strongest association ($p<0.001$). Students having abnormal peer relationships showed markedly higher rates of non-achievement (44.4% versus 6.7% for normal peer relationships). This finding highlights the crucial role of social dynamics in sports success and warrants deeper exploration of underlying mechanisms.

Several mechanisms explain why peer relationships are critical for sports achievement in this population. First, team cohesion plays a fundamental role in competitive sports performance. Most sports disciplines at SMA Negeri Keberbakatan Olahraga Aceh (including football, basketball, and volleyball) require coordinated team efforts where interpersonal trust and communication directly impact performance outcomes. Students with peer relationship difficulties struggle to integrate into team dynamics, leading to reduced playing time, exclusion from strategic positions, and ultimately fewer opportunities to compete and achieve medals. Second, teammates' social support system provides crucial psychological resources for managing competitive stress and performance anxiety. Students who are isolated or rejected by peers lack this buffer, making them more vulnerable to performance deterioration under pressure.

Third, the coach-athlete-peer triangle in sports training creates a unique social ecology where peer acceptance influences coaching attention and resource allocation. Coaches may unconsciously favor athletes who demonstrate positive peer interactions, viewing them as more coachable and team-oriented. Students with peer problems may receive less individualized coaching attention despite equivalent physical abilities. Finally, observational learning and skill acquisition in sports settings heavily depend on peer modeling and feedback. Athletes learn techniques, strategies, and mental approaches by observing and interacting with teammates. Peer relationship difficulties limit access to this informal knowledge transfer, hindering skill development necessary for competitive success.

Conduct problems also showed a very strong association with sports achievement ($p=0.001$), with equal distribution between achieving and non-achieving groups among those with abnormal conduct (43.8% each). In sports environments, conduct problems such as aggression, rule violations, and oppositional behavior can have dual effects. While controlled aggression may benefit certain competitive situations, uncontrolled conduct problems lead to disciplinary actions, suspensions from competition, and conflict with coaches and officials. Teachers and peers will also pay attention to them; therefore, it is easier for well-behaved students to achieve good results (18). In sports contexts, this translates to athletes with conduct problems experiencing strained relationships with coaches and reduced team trust, ultimately limiting competitive opportunities.

https://doi.org/10.56303/jhnresearch.v5i1.866

Another closely interrelated factor is behavioral factors. Individuals with strong emotional skills are better at understanding others' emotions, thereby supporting the development of more appropriate behavior and interactions with peers (19). This aligns with research results showing a significant relationship between conduct and achievement based on SDQ (20). Good behavior facilitates the coach-athlete relationship, enhances team cohesion, and creates more opportunities for competitive participation (21).

Addressing Non-Significant Findings: Hyperactivity and Prosocial Strength

Several other subscales in SDQ such as hyperactivity (p=0.699), peer relationships (p=0.511) regarding academic achievement, and prosocial strengths (p=0.059 for academic; p=0.343 for sports), did not show statistically significant relationships with achievement outcomes. However, the prosocial strength subscale showed a p value approaching the significance threshold (p=0.059) for academic achievement, suggesting practical importance despite statistical non-significance. This is consistent with a meta-analysis by Sánchez-Álvarez et al., which shows that social-emotional abilities such as empathy, cooperation, and self-control contribute positively to learning outcomes, especially in group learning contexts and collaborative tasks (22).

The lack of significant association between hyperactivity and both academic and sports achievement deserves evidence-based explanation. Generally, hyperactivity will only affect someone's academic achievement if indeed accompanied by attention disorders that often occur in children (attention deficit hyperactivity disorder or ADHD) (23). ADHD is characterized by a persistent pattern of inability to concentrate, hyperactivity, and/or impulsivity (24). These symptoms can significantly disrupt someone's daily tasks and relationships.

In the context of sports talented schools, high activity levels may actually be adaptive rather than problematic. Someone can experience hyperactivity and still achieve good academic achievement. A person's high activity level, if still accompanied by adequate rest, will still have a positive effect on cognitive development and academic achievement, as found in studies by Li and Zhang (25). The structured environment of sports training provides appropriate outlets for high energy levels, potentially channeling hyperactive tendencies into productive athletic performance. The school's emphasis on physical activity may create a better fit between students' high energy levels and the environmental demands of the school compared to traditional academic settings.

The non-significant relationship between prosocial strength and sports achievement (p=0.343) may reflect the complex nature of competitive sports, where individual excellence sometimes conflicts with purely altruistic behaviors. While teamwork requires cooperation, competitive success also demands individual assertion and strategic self-interest. The optimal balance between prosocial tendencies and competitive drive may vary across sports disciplines, diluting overall statistical associations.

Clinical and Practical Importance of Prevalence Findings

The finding that 24.1% of students presented with abnormal emotional problems and 26.9% with abnormal total difficulties scores carries substantial clinical and practical significance, particularly given the supposedly high-functioning nature of this population. These prevalence rates are notably higher than the general adolescent population estimates of 10 to 20% for mental health disorders, suggesting that the unique pressures of sports talented schools may elevate psychosocial risk despite students' athletic abilities and achievements.

This elevated prevalence in a select, talented population challenges assumptions that athletic prowess or academic admission to specialized schools confers psychological protection. Instead, it suggests that the dual demands of academic excellence and athletic performance, combined with intensive training schedules, competitive pressures, and high stakeholder expectations, create a psychologically demanding environment that increases vulnerability to emotional and behavioral problems. The fact that over one quarter of students show clinically significant difficulties underscores that talent and achievement do not immunize against mental health challenges and may, paradoxically, increase certain risks.

These prevalence rates have important implications for resource allocation and intervention

https://doi.org/10.56303/jhnresearch.v5i1.866

planning. With approximately one in four students experiencing significant psychosocial difficulties, sporadic or reactive mental health services are insufficient. Instead, systematic, proactive approaches are necessary, including universal screening programs, tiered intervention systems, and integration of mental health support into the school's regular operations. The findings justify investment in school-based counseling services, teacher training in mental health awareness, and development of referral pathways to specialized psychiatric services when needed.

Furthermore, these prevalence rates underscore the preventive potential of early identification using validated screening tools such as the SDQ. The 26.9% of students with abnormal total difficulties scores represent a clearly identifiable group requiring targeted intervention before problems escalate or become chronic. Early identification enables promotive and preventive interventions that can alter developmental trajectories, potentially preventing the transition from subclinical symptoms to diagnosable disorders and reducing the long-term burden of mental illness.

Implications for Intervention and Support Systems

The results of this study confirm the importance of attention to mental health in educational environments, especially in institutions that emphasize achievement and competition, such as sports talent schools. School-based psychosocial interventions, such as group counseling, emotional literacy programs, and emotion regulation skills training, can help reduce students' difficulty scores and increase their emotional balance. The use of SDQ as a simple yet valid screening tool is also very useful in clinical and educational practice.

Limitations of this Study

This study has several limitations. First, the research is observational and analytical, with a cross-sectional design and a single observation time and location, limiting generalizability to the general student population. The cross-sectional nature precludes causal inferences; while significant associations were identified, the directionality of relationships remains uncertain. Longitudinal studies are needed to determine whether psychosocial problems precede academic and sports difficulties or emerge as consequences of performance pressures.

Second, this study did not use other parameters that might be related to someone's academic and sports achievement based on SDQ, such as family socioeconomic status, parental mental health, sleep quality, nutrition, training intensity, injury history, or academic workload. These unmeasured variables may confound or mediate the observed relationships. Third, the reliance on self-report SDQ data introduces potential bias; multi-informant approaches incorporating teacher, coach, and parent reports would provide more comprehensive assessment. Fourth, the dichotomous categorization of sports achievement (achieving versus not achieving) may oversimplify a more nuanced continuum of athletic success, potentially reducing statistical power to detect relationships.

CONCLUSION

This cross-sectional study of 108 student-athletes establishes that behavioral and emotional domains are significant correlates of both academic and athletic success, albeit through distinct psychosocial pathways. The findings indicate that emotional stability and cumulative psychosocial well-being are primary determinants of academic performance, as evidenced by the observation that academic excellence (Grade A) was exclusively attained by students with normal emotional and total difficulty profiles. In contrast, sports achievement is predominantly influenced by social-behavioral factors, with peer relationship difficulties and conduct problems serving as the strongest predictors of competitive outcomes.

Furthermore, the high prevalence of abnormal total difficulties (26.9%) and emotional symptoms (24.1%)—rates that exceed general adolescent population estimates—suggests that the dual pressures of elite athletic training and academic rigor exacerbate mental health vulnerabilities. Consequently, these results highlight an urgent requirement for systematic, biannual psychosocial screening and the implementation of integrated school-based mental health support systems to safeguard the holistic

https://doi.org/10.56303/jhnresearch.v5i1.866

development and performance outcomes of talented youth.

FUNDING

This research received no external funding

ACKNOWLEDGMENTS

The authors would like to thank the pediatric specialist teachers at RSUDZA, all students of Aceh State Senior High School for Sports Talent who participated, and families who always provided support.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

1. Hinton R. PMNCH [Internet]. [cited 2026 Mar 21]. Adolescent mental health: Time for action - PMNCH Knowledge Summary #36. Available from: https://pmnch.who.int/resources/publications/m/item/pmnch-knowledge-summary-36-adolescent-mental-health-time-for-action
2. WHO. The adolescent health indicators recommended by the Global Action for Measurement of Adolescent health [Internet]. 2024 [cited 2026 Mar 21]. Available from: https://www.who.int/publications/i/item/9789240092198
3. WHO. Helping Adolescents Thrive Toolkit [Internet]. 2021 [cited 2026 Mar 21]. Available from: https://www.who.int/publications/i/item/9789240025554
4. Tian J, Yan N, Hu X, Tian S, Wang Y, Mackay LE, et al. Global burden of mental disorders among adolescents and young adults, 1990–2021: a systematic analysis of the Global Burden of Diseases Study 2021. Gen Psychiatr. 2025 Dec 23;38(6):e102278. doi:10.1136/gpsych-2025-102278 PubMed PMID: 41451038; PubMed Central PMCID: PMC12730781.
5. Kemenkes RI. Riset Kesehatan Dasar (Riskesdas). Jakarta: Badan Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan RI; 2018.
6. DTO Kemenkes RI. Reflecting Mental Health Situation in Indonesia with SATUSEHAT. Medium [Internet]. 2024 Oct 10 [cited 2026 Mar 21]. Available from: https://medium.com/@dtokemkes/reflecting-mental-health-situation-in-indonesia-with-satusehat-e76bd1e0c8ce
7. WHO. Global health workforce, finances remain low for mental health [Internet]. 2015 [cited 2026 Mar 21]. Available from: https://www.who.int/news/item/14-07-2015-global-health-workforce-finances-remain-low-for-mental-health
8. Nakigudde J, Bauta B, Wolf S, Huang KY. Screening Child Social-emotional and Behavioral Functioning in Low-Income African Country Contexts. Jacobs J Psychiatry Behav Sci. 2016 Dec;2(2):016. PubMed PMID: 30148211; PubMed Central PMCID: PMC6107071.
9. Richter J, Sagatun Å, Heyerdahl S, Oppedal B, Røysamb E. The Strengths and Difficulties Questionnaire (SDQ) – Self-Report. An analysis of its structure in a multiethnic urban adolescent sample. Journal of Child Psychology and Psychiatry. 2011;52(9):1002–11. doi:10.1111/j.1469-7610.2011.02372.x
10. Sastroasmoro S. Dasar-dasar metodologi penelitian klinis, edisi 5 [Internet]. Jakarta: Sagung Seto; 2014 [cited 2026 Mar 21]. Available from: //elibrary.poltektedc.ac.id/index.php?p=show_detail&id=3867
11. Durlak JA, Weissberg RP, Dymnicki AB, Taylor RD, Schellinger KB. The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. Child Dev. 2011;82(1):405–32. doi:10.1111/j.1467-8624.2010.01564.x PubMed PMID: 21291449.

12. Fradana YA, Sandayanti V, Harkina P. Pengaruh Emotional Intelligence dan Prestasi Akademik Terhadap Kecenderungan Conduct Disorder Pada Remaja. Jurnal Psikologi Malahayati. 2024 Sep 14;6(2). doi:10.33024/jpm.v6i2.10135
13. Mammadov S. Big Five personality traits and academic performance: A meta-analysis. J Pers. 2022 Apr;90(2):222–55. doi:10.1111/jopy.12663 PubMed PMID: 34265097.
14. Pashchenko O, Medvedovska T, Terkhanova O, Baidak A, Danyliuk Y. The impact of emotional intelligence on academic achievement. PrOsvita. 2024 Oct 20;(2):57–70. doi:10.36074/PrOsvita.issue2.004
15. Afriani G, Zaman N. Developing Emotional Intelligence as a Key to Academic Success among High School Students. Global Education Journal. 2025 Oct 30;3(3):621–31. doi:10.59525/gej.1197
16. Li H. Impact of collaborative learning on student engagement in college English programs: mediating effect of peer support and moderating role of group size. Front Psychol. 2025 Apr 9;16:1525192. doi:10.3389/fpsyg.2025.1525192 PubMed PMID: 40271361; PubMed Central PMCID: PMC12015942.
17. Abdullah MZ, Jamal A, Rashid MAA, Lipa M, Yao G. Exploring the Causes of Psychological Distress among University Students. IJRISS. 2025;IX(I):2424–37. doi:10.47772/IJRISS.2025.9010194
18. Martinot D, Sicard A, Gul B, Yakimova S, Taillandier-Schmitt A, Maintenant C. Peers and teachers as the best source of social support for school engagement for both advantaged and priority education area students. Front Psychol. 2022 Sep 23;13:958286. doi:10.3389/fpsyg.2022.958286 PubMed PMID: 36211851; PubMed Central PMCID: PMC9537635.
19. Trigueros R, Sanchez-Sanchez E, Mercader I, Aguilar-Parra JM, López-Liria R, Morales-Gázquez MJ, et al. Relationship between Emotional Intelligence, Social Skills and Peer Harassment. A Study with High School Students. Int J Environ Res Public Health. 2020 Jun;17(12):4208. doi:10.3390/ijerph17124208 PubMed PMID: 32545626; PubMed Central PMCID: PMC7345273.
20. Keilow M, Sievertsen HH, Niclasen J, Obel C. The Strengths and Difficulties Questionnaire and standardized academic tests: Reliability across respondent type and age. PLoS One. 2019 Jul 25;14(7):e0220193. doi:10.1371/journal.pone.0220193 PubMed PMID: 31344079; PubMed Central PMCID: PMC6657876.
21. Pan F, Sui W. Research on coach-athlete relationship and team performance based on 3Cs theory: the chain mediating role of emotional intelligence and athletic engagement. Front Psychol. 2025 Jun 18;16:1587900. doi:10.3389/fpsyg.2025.1587900 PubMed PMID: 40606863; PubMed Central PMCID: PMC12213683.
22. Sánchez-Álvarez N, Berrios Martos MP, Extremera N. A Meta-Analysis of the Relationship Between Emotional Intelligence and Academic Performance in Secondary Education: A Multi-Stream Comparison. Front Psychol. 2020 Jul 21;11. doi:10.3389/fpsyg.2020.01517
23. Español-Martín G, Pagerols M, Prat R, Rivas C, Ramos-Quiroga JA, Casas M, et al. The impact of attention-deficit/hyperactivity disorder and specific learning disorders on academic performance in Spanish children from a low-middle- and a high-income population. Front Psychiatry. 2023 Apr 12;14:1136994. doi:10.3389/fpsyt.2023.1136994 PubMed PMID: 37124266; PubMed Central PMCID: PMC10130398.
24. Musullulu H. Evaluating attention deficit and hyperactivity disorder (ADHD): a review of current methods and issues. Front Psychol. 2025 Feb 24;16. doi:10.3389/fpsyg.2025.1466088
25. Li L, Zhang L. The Relationship between Physical Activity and Academic Achievement in Multimodal Environment Using Computational Analysis. Comput Intell Neurosci. 2022;2022:9418004. doi:10.1155/2022/9418004 PubMed PMID: 36082350; PubMed Central PMCID: PMC9448553.

https://doi.org/10.56303/jhnresearch.v5i1.866