Self-esteem and behavioral problems of adolescents: the mediating role of school adjustment

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Abstract

Identifying factors that affect emotional and behavioral difficulties in adolescents is crucial for ameliorating these conditions and their negative impact as well as reducing the prevalence of these disorders. Self-esteem and school adjustment are two crucial but understudied factors that may significantly influence adolescents' sense of self and propensity to behavioral problems. In this study, 519 adolescents were examined for self-esteem and school adjustment in relation to emotional and behavioral difficulties, using the Rosenberg Self-Esteem Scale, School Adjustment Scale, and Strengths and Difficulties Questionnaire. The majority of students in this study had average or high self-esteem. Multiple regression analysis revealed significant relationships between self-esteem, school adjustment, and behavioral disorders. Furthermore, path analysis showed that school adjustment mediated the association between self-esteem and behavioral problems.

Keywords: emotional and Behavioral difficulties, behavioral disorders, self-esteem, school adjustments, adolescents.

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1. Introduction

1.1. Conceptual or Theoretical Framework

The adolescent years are pivotal for establishing the patterns of thoughts, feelings, and behaviors that ultimately determine one's psychological health (Gee et al., 2022). While 14% of people aged 10-19 worldwide are affected by mental disorders, the vast majority of these cases go undetected and untreated (Organization, 2021). Genetic, biological, individual, and environmental factors can contribute to adolescent psychological disorders (Uher & Zwicker, 2017). However, it is widely accepted that mental health promotion and preventive programs that employ numerous platforms, such as schools or communities, to enhance people's capacity to manage their emotions on several levels may vastly improve adolescents' mental health (Colizzi et al., 2020; Gee et al., 2022).

Emotional and behavioral difficulties (EBD) are used in educational settings to indicate a broad category of psychological disorders. Adolescents with EBD can exhibit externalizing behavioral difficulties such as aggression, impulsivity/hyperactivity, conduct, and oppositional disorders, or internalizing behaviors such as depression and passive/avoidant behaviors in social situations (Henning-Smith & Alang, 2016). These disturbances in emotions and behaviors have been shown to negatively influence academic performance and increase school dropouts (Mitchell et al., 2018). Self-esteem is seen as a crucial personal asset resulting from an ongoing evaluation of one's worth (Gao et al., 2019; Li et al., 2020). Poor self-esteem can make it difficult for students to cope with the pressures of school life. Low self-esteem has been associated with several psychological problems, including anxiety, sadness, and suicidal thoughts and behaviors among students (Nguyen et al., 2019).

Adjustment to the school environment has significant implications for adolescents' sense of identity and propensity for behavioral problems. Consequently, adolescents' mental health is greatly affected by the context in which they spend their time during the school day (Escobar et al., 2020). Adjustment to school may affect adolescents' problem behavior, and adolescents who have difficulty in adjusting to the school environment often feel discouraged and hopeless (Fiorilli et al., 2017; Sánchez-Sandoval & Verdugo, 2021; Wang et al., 2014). Poor school adjustment, problematic social interactions, and a greater proportion of health-risk behaviors, including drug use, school dropout, and expulsion, are common among students struggling with mental health problems at school (Cavioni et al., 2021; Farina et al., 2021). Therefore, to design effective preventive and interventional strategies, it is essential to identify the relationship between adolescent self-esteem, school adjustment, and behavioral problems.

1.2. Related Research

According to these studies, adolescents' mental health is affected by individual characteristics and the environment in which they grow (Cavioni et al., 2021). An important finding consistent with several studies is that below-average self-esteem is related to numerous behavioral and emotional problems among adolescents (Teng et al., 2015; Wells et al., 2020), leading to poor academic performance and outcomes (Colpan et al., 2018). It has also been suggested that several EBD-related problems can be mitigated by increasing adolescents' self-esteem (Soto-Sanz et al., 2019). As such, good school adjustment may facilitate adolescent academic success, which in turn influences student behavior by fostering a sense of belonging and promoting positive behavior (Tian et al., 2018; Xia et al., 2015). In contrast, if a person is unable to adapt to their immediate social environment, they are more likely to exhibit emotional and behavioral disorders, such as drug misuse, anger, violence, the desire to join disruptive groups, and criminality (French, 2019; Kauffman, 2004). High levels of well-being, a good student life, and mental health were identified among adolescents who were well-adjusted to school (Lakhani, Jain, & Chandel, 2017, Walls & Little, 2005). Kaya and Erdem (2021) used a meta-analytic

approach to review studies (Kaya & Erdem, 2021). They discovered a strong relationship between individual and environmental factors and an increased risk of adverse outcomes for children, such as a higher likelihood of school failure and social, emotional, and behavioral problems.

While previous studies have examined the correlations among school adjustment, self-esteem, and emotional and behavioral challenges (Colpan et al., 2018; Glass et al., 2011; von Soest et al., 2016), very few have examined these aspects in the context of the Middle East. Notably, a study in the United Arab Emirates reported that self-esteem was a significant and strong predictor of depressive symptoms (Shah et al., 2020). Abdel-Khalek, Al-Atia, and El-Nayal (2008) examined self-esteem and depressive symptoms in adolescents in Qatar (Abdel-Khalek et al., 2008). They also found a strong correlation between depression and self-esteem. Although these studies show the importance of self-esteem and school adjustment in adolescents in the Middle East, there is a notable lack of data on Arab adolescents. Furthermore, studies on EBD, school adjustment, and self-esteem are particularly under-researched though these studies might provide vital inputs for developing interventions for adolescents' mental health that may be implemented at the school level.

1.3. Purpose of the Study

The purpose of the present research is to understand the influence of self-esteem and school adjustment on adolescents' EBD in Qatar. To this end, the relationships among self-esteem, school adjustment, and EBD were examined, and the mediating effect of school adjustment on the association between self-esteem and EBD was investigated.

Method and Materials

2.1. Research Method

This study employed a qualitative cross-sectional survey followed by extensive data analysis. The validity of all the instruments utilized in this work was examined, and the mediating role of school adjustment was examined by using path analysis.

2.2. Participants

A total of 519 adolescents from Qatari schools participated in this study and responded to three scales and demographic questions.

2.3. Data Collection Tools

This study used three scales: The Self-Esteem Scale (SE) (Rosenberg, 1965), School Adjustment Scale (SA) (Berry et al., 2006), and the Strengths and Difficulties Questionnaire (SDQ)(Goodman, 2016). The description of each scale, the items (both positive and negative), the scoring method, and the meaning of the total score are described below.

1) SE scale: This self-report measure includes ten items that are scored on a 4-point Likert-type scale (0 to 3). Items 1, 2, 4, 6, and 7 were classified in the following manner: 0 "strongly disagree" to 3 "strongly agree." Items 3, 5, 8, 9, and 10 were coded in the opposite manner. The total score may range from 0 to 30. Higher SE was indicated by higher scores.

2) SA Scale: This scale has seven items: six are negatively worded, and only the first item is positively worded. Thus, item 1 was reversed in the same direction as the other items. The item scale ranged from 1 (strongly disagree) to 7 (strongly agree), and the total score ranged from 7 to 49. All items

were used to measure difficulty in SA; the higher the agreement and total score, the more difficult it was to adjust.

3) SDQ: The SDQ examines children's and adolescents' EBD. SDQ may be used for screening in both clinical and research settings (Garralda et al., 2000; Goodman, 1997; Goodman et al., 2000). The SDQ consists of 25 items using a 3-point Likert scale that has the following levels 0, 1, 2, "Not true," 1, "Somewhat true," and 2, "Certainly true." Most of the items in this questionnaire were negatively worded, and only five items (items 7, 11, 14, 21, and 25) were positively worded, so they were reverse-scored. The SDQ was originally designed to have five scales, each consisting of as many items as possible: emotional, conduct, hyperactivity, peer, and prosocial problems. The Total Difficulty Scale consists of four subscales of difficulty (i.e., problems related to emotions, peers, hyperactivity, and conduct). The total score for each of the five subscales ranged from 0 to 10. For the total difficulty scale, which has 20 items, the total score spanned from 0 to 40. Higher scores on the four difficulty measures imply more difficulty. However, on the prosocial scale, the higher the score, the greater the respondent's sociability rather than difficulty.

2.4. Data Collection Process

The student sample was selected on the basis of the schools nominated by the Ministry of Education and Higher Education. Three public schools for girls and three for boys were selected from the capital city of Qatar, Doha. Schools in Qatar are segregated according to gender. To generate a representative sample of the general population, schools were chosen from various locations within the Doha municipality, representing roughly 80% of the population. Two schools, exclusively for women and men, were located in each municipality of Doha.

All ethical principles of social science research were followed, including consent forms, confidentiality, and voluntary participation. Ethical approval for this research was granted by the Institutional Research Board of Qatar University. Following authorization from the Ministry of Education and Higher Education (ME&HE) to choose schools, the main investigator contacted the principals and supplied them with pertinent information regarding the study topic. Finally, six schools were selected, and students in grades 10, 11, and 12 were invited to participate in this study. The Learning Management System was used to offer the online link for survey instruments. Because of the COVID-19 outbreak and accompanying school lockdown, the survey had to be completed online. The ME&HE also texted students to remind them to complete the questionnaire (s).

2.5. Data Analysis

Cronbach's alpha was used to assess the internal consistency of the various instruments employed in this research. Rosenberg's self-esteem scale mean scores were computed and classified into three groups: 0 to 15 for poor self-esteem, 16 to 25 for normal self-esteem, and 26 and above for high self-esteem. Behavioral problems were measured using the total difficulty scale, which is the sum of the four difficulties subscales of the SDQ. The intercorrelations for the three variables were calculated to address the association between self-esteem, SA, and behavioral problems. Multiple regression was used to evaluate direct and indirect effects, i.e., mediation effects, in order to analyze the combined association between self-esteem and adjustment to behavioral problems. To address model quality, the ordinary least squares regression coefficient was used, and for path analysis, individual path coefficients from

the regression output were checked using the t-test or F-ratio test. Statistical analyses were conducted using SPSSx version 26 of IBM.

Additionally, Dr. Andrew Hayes's PROCESS Macro feature in SPSSx was integrated to run the regression for the path analysis (Hayes, 2022). The first path analysis regression used self-esteem as the direct effect and adjustment as the mediating effect. The second regression used the same setup of direct and mediating variables; however, sex was used as a covariate. The third to sixth regressions used the setup for the first regression but changed the dependent variable where the regressions were run on each SDQ subscale of the difficulty dimension.

3. Results

Table 1 represents the gender, grade, age, strand, and nationality of the students. Compared to female students (36.1%), the number of male students (63.9%) was higher. The non-Qatari Arabs comprised 61.8 % of the sample, and the average age of the participants was 16.3±1.1 years.

Table 1. Demographics of Participating Adolescents

Variable and Levels		Frequency	Percentage
Gender	Males	313	63.9
	Females	177	36.1
Grade	10th grade (first secondary)	168	34.3
	11th grade (secondary)	160	32.7
	12th Grade (Third Secondary)	162	33.1
Age	15 years	129	26.3
	16 years	167	34.1
	17 years	123	25.1
	18 years or older	71	14.5
Strand	Science	263	53.7
	Arts	176	35.9
	Technology	51	10.4
Nationality	Qatari	187	38.2
	Non-Qatari	303	61.8

The reliability evaluation is summarized in Table 2, which contains the alpha value and the number of items for each scale/subscale. The reliability of the three scales (SE, SA, and SDQ) and their subscales was good, except for the peer problem scale (α=0.40).

Table 2. The Internal Reliability of the Scales/Subscales Using Cronbach's Alpha

Scale/Subscale		Number of items	Cronbach's Alpha
Self-Esteem Scale		10	.80
School Adjustment Scale (SA)		7	.70
SDQ	Emotional problems	5	.77
	Conduct problems	5	.51
	Hyperactivity	5	.65
	Peer problems	5	.40
	Total difficulties	20	.83

The first research question assessed self-esteem among adolescents. The mean total score on the SE scale was 22.5±4.5, encompassing adolescents with low self-esteem (n=26, 5.3 %), normal self-esteem

(n = 298, 60.8%), and high self-esteem (n=136, 27.8 %). The average of the total difficulty and SA scales was 10.5±6.0 and 20.0±8.1, respectively. The relationships between self-esteem, SA, and behavioral problems were measured using Pearson's correlation between the three variables (Table 3).

Table 3. Correlations between Self-Esteem, SA, and Behavioral Problems

	Self-Esteem	School Adjustment	Behavioral Problems
Self-Esteem	1	-0.4**	-0.49**
School Adjustment		1	0.56**
Behavioral Problems			1

**correlation is significant at 0.01

All correlations between the three variables were statistically significant (p<.01). Self-esteem and SA were both significantly correlated with behavioral problems. Self-esteem and SA were also significantly correlated (*r*=-0.39).

The results of the first two analyses (Tables 4 and 5) show that the multiple regression coefficients were *R* = 0.4. This suggests that variances can explain 0.16% of the variance in the behavioral problem variable in self-esteem as a mediating factor of adjustment. This regression analysis of the PROCESS produced a regression coefficient of the indirect effect on SA, reaching β=-0.74. The self-esteem regression coefficient for behavioral problems reached β=-0.43, and the coefficient and effect of SA on behavioral problems reached β=0.31.

Table 4. Multiple regression analysis of prediction of behavioral problems by self-esteem and school adjustment: Effects and Mediating Effects for Path Analysis

Source	Mediating Adjustment Coefficient	SE	t-test	$F(df_1, df_2)$	R
Self-esteem	-0.74	0.074	-9.98*	99.71(1,517)	0.4
	Direct Difficulties Coefficient	SE	T	$F(df_1, df_2)$	R
Self-esteem	-0.43	0.05	-8.56*	170.79(2,516)	0.4
Adjustment	0.31	0.027	11.56*		
Total Direct Effect	-0.66	0.051	-12.86*		
	Coefficient	Bootstrap SE	Bootstrap Lower Limit Confidence Interval	Bootstrap upper limit confidence interval	
Indirect Effect	-0.23	0.035	-0.31	-0.17	

*P<0.01

The results reported in Table 5 show multiple regression using the same function as in the previous analysis but including gender as a covariate in the analysis. The analysis examined the mediating role of SA in the association between self-esteem and behavioral problems.

Table 5. Multiple regression analysis of predicting behavioral problems by self-esteem and school adjustment using the covariate of gender: Effects and Mediating Effects for Path Analysis

Source	Mediating Adjustment				
	Coefficient	SE	t-test	$F(df_1,df_2)$	R
Self-esteem	-0.74	0.074	-10.04*	99.71(2,516)	0.41
Gender (covariate)	-.88	0.69	-1.28		
	Direct Difficulties				
	Coefficient	SE	t	$F(df_1,df_2)$	R
Self-esteem	-0.42	0.05	-8.42*		
Adjustment	0.32	0.027	11.76*	117.67(3,515)	0.64
Gender (covariate)	1.14	0.42	2.7		
Total Direct Effect	-0.65	0.051	-12.8		
	Coefficient	Bootstrap SE	Bootstrap Lower Limit Confidence Interval	Bootstrap upper limit confidence interval	
Indirect Effect	-0.24	0.035	-0.31	-0.17	

*P<0.01

Results did not show any significant differences in sex as a covariate, and the magnitude of the results was similar to that of the regressions that discount sex (reported in Table 4). Using the PROCESS procedure in SPSS, the direct effect of SE on SA was found to be -0.74, and the total effect of SE on behavioral problems (difficulties) was -0.66. For the emotional problems subscales (hyperactivity, conduct, and peer problems), the adjustment significantly mediated all subfactors, including the difficulty measure (see Table 6, Figure 1). These coefficients were used to calculate the bootstrapping test, assessing whether mediation is significant. Using the range from the lower to the upper confidence interval, the indirect effect of SE on adjustment was statistically significant. Since the lower and upper intervals are negative and the test value is negative, "0" is not falling within the confidence interval, and the bootstrapping test is significant. Therefore, it was concluded that there is a statistically significant mediation effect in all analyses carried out on the difficulties subfactors of the SDQ.

Table 6. Regression coefficients showing direct effect, indirect effect, and total effect on each of the subfactors of SDQ difficulties

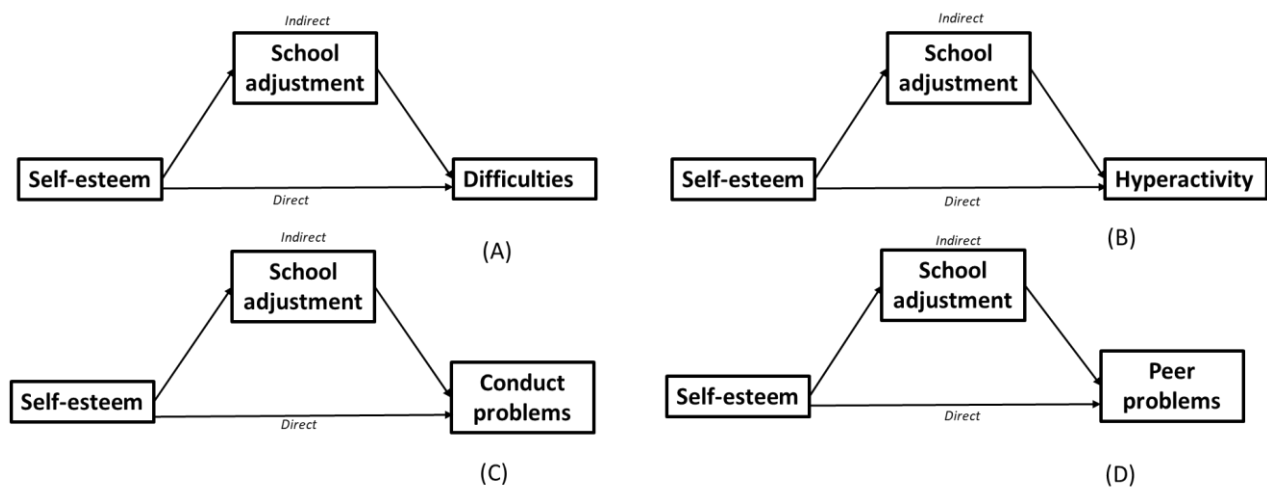| Dependent		Indirect Effect	Direct Effect	Total effect
Self-esteem ⟶	Difficulties (SA**)	-0.23*	-0.43*	-0.66*
Self-esteem ⟶	Hyperactivity (SA**)	-0.076	-0.095*	-0.17*
Self-esteem ⟶	Conduct problems (SA**)	-0.04	-0.05*	-0.084
Self-esteem ⟶	Peer problems (SA**)	-0.024	-0.098*	-0.12*

*p<0.05, **mediator

Figure 1. Path diagram for direct effect, indirect effect for each of the subfactors of SDQ (A) Difficulties (B) Hyperactivity (C) Conduct problems (D) Peer problems

4. Discussion

This study provided a foundational examination of the links between SE, SA, and EBD among Arab Gulf adolescent populations, since there had been no prior studies on the topic. In particular, the study examined a pre-conceptualized model that examined the role of SA in mediating the association between SE and EBD. The mean score indicated that most of the respondents had above-average SE. Regression analysis using gender as a covariate did not show a significant difference in total direct or mediating effects. Notably, our results do not concur with most previous studies showing that females have overall nonsignificant lower SE (McMullin & Cairney, 2004; Pan et al., 2020; Quatman & Watson, 2001). Although this could be substantive, the lack of differences across genders could be attributed to the small female sample, which comprised approximately one-third of the whole sample, making them underrepresented.

Additionally, because this study mainly involved Arab adolescents, it may show cultural behavior where self-enhancement is lacking. Simply put, people in the Arab Gulf do not go about bolstering the self but express it implicitly; they do so to avoid infringing on others. In other words, self-reporting is a serious issue. Results for measures of SE showed very little variation across age groups, suggesting no significant disparities. In particular, the means for each age group were 15 (*M*=22.77), 16 (*M*=22.16), 17 (*M*=22.79), and 18+ (*M*=22.29). These high levels may also suggest that Islam (the main religion in Qatar) instills in Arab adolescents the notion of self-worth, self-respect, and virtuousness and is a basis for social cohesion and relations with others.

The most important takeaways from this study are that low SE, emotional and behavioral disorders, and poor SA are interconnected. Behavioral difficulties were associated with lower levels of SE (r = -.48), and 37% of these problems were indirectly caused by SE, which is comparable to what was found in earlier investigations (Barry et al., 2003; Barry et al., 2007; Colpan et al., 2018; Glass et al., 2011; Matsuura et al., 2010). According to Arslan, proper adjustment and SE have a protective function in the well-being of those experiencing hardship (Arslan, 2016). SE could be a buffer or coping strategy under challenging circumstances, which makes adolescents with higher SE demonstrate fewer behavioral problems. Similarly, consistent with previous studies (McMullin & Cairney, 2004; Nguyen et al., 2019; Xia et al., 2015), SA was significantly and negatively correlated with behavioral problems (*r*=-.56). Behavioral problems could be the result of school difficulties and a lack of SA. This is especially true in the case of adolescents, as they are more conscious of the opinions of others and extrinsic drivers. SE and SA were also negatively and significantly correlated (*r*=-.39). This relationship shows that positive

SE can affect psychological health, and adjustment of SA can be provided through educational and supportive services, which could help adolescents with their emotional and behavioral problems and SE. School staff, such as teachers, administrators, or counselors, can facilitate healthy SA for students with behavioral problems.

Furthermore, those with a strong sense of self-worth are more likely to adjust to stressful life events, new circumstances, and problems (Kocayoruk & Simsek, 2016; Liu et al., 2014; Thompson et al., 2016). Recent studies have suggested that potential problems, including extreme behaviors such as repeated suicide attempts, can be averted by increasing adolescents' SE (Soto-Sanz et al., 2019). The regression results further indicated that higher SE discounts adverse behavioral problems, conduct, hyperactivity, and peer relationships. High SE indicates that people allow acceptance, self-awareness, and good conduct and create meaningful relationships with others. Therefore, adjustment to school and family stressors mediates these positive behaviors (Shaniya & Sharma, 2012; Teng et al., 2015; Wells et al., 2020).

The statistically significant mediation effect of SA sheds new light on adolescent behavioral problems. In all path analyses, the total indirect effect of the path analysis had a statistically significant regression coefficient, which was lower at an absolute level than the direct effect of the SE regression coefficient on difficulties. Thus, SE appears to be a strong predictor (negatively related) of behavior, such that the greater the SE, the lower the behavioral problems. SA is also likely to cause behavioral problems. All path analyses showed that the indirect effect of adjustment was negatively and significantly related to behavioral problems. Thus, the higher the adjustment level, the lower the behavioral problems. The indirect influence of self-esteem on adjustment was the study's most noteworthy finding (β=-0.74, SE=0.074, $p<0.01$). The higher the SE, the harder it is for adolescents to adjust to their school. This important finding suggests that SE in certain cultures may have a reverse effect in Western cultures. Exposing one's SE or improving SE can put one before peers and friends, and at times one may find it difficult to adjust in school due to perceived awkwardness. However, the findings consistently suggest that SE, high SE, and higher adjustment to school are strongly related to behavioral problems. Consistently, SE was a stronger predictor than SA of difficulties and all SDQ subfactors.

5. Conclusion and Limitation

This study contributes to the knowledge of SE, EBD, and SA among adolescents in Qatar. Adolescents in Qatar had relatively high SE (*M*=22.50). A relationship between SE, SA, and behavioral problems has been reported, and a negative correlation has been found among SE, behavioral problems, and SE and adjustment. SA had a mediating effect on SE and behavioral problems. The analysis confirmed the results of previous research that SE directly affects EBD, while it has an indirect effect through the mediator (i.e., SA). This study will contribute to future research, especially on integrating school achievement into this model and understanding the interaction between psychosocial factors and adolescent outcomes. This baseline study opens different horizons for future research in this area.

The main limitation of this study was the limited number of answers from school-aged adolescents, especially females, to further analyze markers of problem behaviors that vary across genders. Although it is a reliable method for data collection, all instruments require participants to "self-report," and adding instruments that require teacher or parental reports might be insightful. Lastly, there was a significant lack of resources that discussed the relationship between SA and SE, and there was a lack of foundation on which this study can base its expectations or with which findings can be compared.

There was a low response rate for a variety of reasons, including the possibility that students were "too preoccupied to respond" or procrastinated despite reminders (Al-Hendawi et al., 2016). There were additional variables, such as the lack of incentives and cultural reluctance to divulge personal and familial information, despite pledges of secrecy. It is also difficult to rally the public and private sectors to fund the collection and dissemination of data about the public or private educational systems or other social domains, and many people tend to downplay the importance of their own involvement in

research investigations (Al-Hendawi et al., 2016). Finally, COVID-19 was another aspect that led the instrument to be distributed online rather than face-to-face, leading to a lower response rate.

6. Recommendations

SE may greatly enhance the social, emotional, and behavioral well-being of adolescents. The association between SE and SA and the relationship between SA and behavioral difficulties may be utilized to develop strategies for improving academic achievements. Based on the study's findings, it is suggested that particular efforts be made to encourage student SA, which may positively impact these adolescents' behavioral difficulties and adaptive behavioral strategies. Understanding the relationship between SE and SA in teenagers might have social and academic implications. While this study does not address school outcomes in terms of academic achievmet, it may serve as a starting point for future research. It is not uncommon for students to struggle with EBD, which may have a negative impact on their schoolwork and social lives. SA may be provided via instructional and supporting programs to assist adolescents with emotional and behavioral difficulties and SE. Teachers, administrators, and counselors should help students with behavioral difficulties healthily acclimate to school.

Acknowledgments

References

Abdel-Khalek, A. M., Al-Atia, A. A., & El-Nayaf, M. A. (2008). Depressive Symptoms and their Relationship with Self-esteem among School Children from Qatar. *Journal of the Social Sciences*, *36*(2). http://pubcouncil.kuniv.edu.kw/jss/home.aspx?id=8&Root=yes&authid=1926#

Al-Hendawi, M., Keller, C., & Cloninger, L. (2016). A Psychometric Analysis of the Child Behavior Checklist for Elementary School Children in Qatar. Assessment for Effective Intervention. https://doi.org/10.1177/1534508415626118

Arslan, G. (2016). Psychological maltreatment, emotional and behavioral problems in adolescents: The mediating role of resilience and self-esteem. *Child Abuse Negl*, *52*, 200-209. https://doi.org/10.1016/j.chiabu.2015.09.010

Barry, C. T., Frick, P. J., & Killian, A. L. (2003). The relation of narcissism and self-esteem to conduct problems in children: a preliminary investigation. *J Clin Child Adolesc Psychol*, *32*(1), 139-152. https://doi.org/10.1207/S15374424JCCP3201_13

Barry, C. T., Grafeman, S. J., Adler, K. K., & Pickard, J. D. (2007). The relations among narcissism, self-esteem, and delinquency in a sample of at-risk adolescents. *J Adolesc*, *30*(6), 933-942. https://doi.org/10.1016/j.adolescence.2006.12.003

Berry, J. W., Phinney, J. S., Sam, D. L., & Vedder, P. (2006). Immigrant Youth: Acculturation, Identity, and Adaptation. *Applied Psychology*, *55*(3), 303-332. https://doi.org/10.1111/j.1464-0597.2006.00256.x

Cavioni, V., Grazzani, I., Ornaghi, V., Agliati, A., & Pepe, A. (2021). Adolescents' Mental Health at School: The Mediating Role of Life Satisfaction [Original Research]. *Frontiers in Psychology*, *12*. https://www.frontiersin.org/articles/10.3389/fpsyg.2021.720628

Colizzi, M., Lasalvia, A., & Ruggeri, M. (2020). Prevention and early intervention in youth mental health: is it time for a multidisciplinary and trans-diagnostic model for care? *Int J Ment Health Syst*, *14*(1), 23. https://doi.org/10.1186/s13033-020-00356-9

Colpan, M., Eray, S., Eren, E., & Vural, A. P. (2018). Perceived Expressed Emotion, Emotional and Behavioral Problems and Self-Esteem in Obese Adolescents: A Case-Control Study. *J Clin Res Pediatr Endocrinol*, *10*(4), 357-363. https://doi.org/10.4274/jcrpe.0101

Escobar, D., Jesus, T. F., Noll, P., & Noll, M. (2020). Family and School Context: Effects on the Mental Health of Brazilian Students. *Int J Environ Res Public Health*, *17*(17). https://doi.org/10.3390/ijerph17176042

Farina, E., Pepe, A., Ornaghi, V., & Cavioni, V. (2021). Trait Emotional Intelligence and School Burnout Discriminate Between High and Low Alexithymic Profiles: A Study With Female Adolescents. *Front Psychol*, *12*, 645215. https://doi.org/10.3389/fpsyg.2021.645215

Fiorilli, C., De Stasio, S., Di Chiacchio, C., Pepe, A., & Salmela-Aro, K. (2017). School burnout, depressive symptoms and engagement: Their combined effect on student achievement. *International Journal of Educational Research*, *84*, 1-12. https://doi.org/10.1016/j.ijer.2017.04.001

French, D. D. (2019). Essential components of school-based intervention for students with emotional and behavioral disorders: An integration of research and practice. *Preventing School Failure: Alternative Education for Children and Youth*, *63*(4), 369-381. https://doi.org/10.1080/1045988X.2019.1619510

Gao, F., Yao, Y., Yao, C., Xiong, Y., Ma, H., & Liu, H. (2019). The mediating role of resilience and self-esteem between negative life events and positive social adjustment among left-behind adolescents in China: a cross-sectional study. *BMC Psychiatry*, *19*(1), 239. https://doi.org/10.1186/s12888-019-2219-z

Garralda, M. E., Yates, P., & Higginson, I. (2000). Child and adolescent mental health service use. HoNOSCA as an outcome measure. *Br J Psychiatry*, *177*(1), 52-58. https://doi.org/10.1192/bjp.177.1.52

Gee, D. G., Sisk, L. M., Cohodes, E. M., & Bryce, N. V. (2022). Leveraging the science of stress to promote resilience and optimize mental health interventions during adolescence. *Nat Commun*, *13*(1), 5693. https://doi.org/10.1038/s41467-022-33416-4

Glass, K., Flory, K., Martin, A., & Hankin, B. L. (2011). ADHD and comorbid conduct problems among adolescents: associations with self-esteem and substance use. *Atten Defic Hyperact Disord*, *3*(1), 29-39. https://doi.org/10.1007/s12402-010-0042-y

Goodman. (2016). *Sdqinfo.org*. https://www.sdqinfo.org/

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: a research note. *J Child Psychol Psychiatry*, *38*(5), 581-586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.x

Goodman, R., Ford, T., Simmons, H., Gatward, R., & Meltzer, H. (2000). Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *Br J Psychiatry*, *177*(6), 534-539. https://doi.org/10.1192/bjp.177.6.534

Hayes. (2022). *PROCESS macro for SPSS and SAS*. https://www.processmacro.org/index.html

Henning-Smith, C., & Alang, S. (2016). Access to care for children with emotional/behavioral difficulties. *J Child Health Care*, *20*(2), 185-194. https://doi.org/10.1177/1367493514563855

Kauffman, J. (2004). *Characteristics of emotional and behavioral disorders of children and youth*.

Kaya, M., & Erdem, C. (2021). Students' Well-Being and Academic Achievement: A Meta-Analysis Study. *Child Indicators Research*, *14*(5), 1743-1767. https://doi.org/10.1007/s12187-021-09821-4

Kocayoruk, E., & Simsek, O. F. (2016). Parental Attachment and Adolescents' Perception of School Alienation: The Mediation Role of Self-Esteem and Adjustment. *J Psychol*, *150*(4), 405-421. https://doi.org/10.1080/00223980.2015.1060185

Li, J., Chen, Y. P., Zhang, J., Lv, M. M., Valimaki, M., Li, Y. F., . . . Zhang, J. P. (2020). The Mediating Role of Resilience and Self-Esteem Between Life Events and Coping Styles Among Rural Left-Behind Adolescents in China: A Cross-Sectional Study. *Front Psychiatry*, *11*, 560556. https://doi.org/10.3389/fpsyt.2020.560556

Liu, Y., Wang, Z., Zhou, C., & Li, T. (2014). Affect and self-esteem as mediators between trait resilience and psychological adjustment. *Personality and Individual Differences*, *66*(66), 92-97. https://doi.org/10.1016/j.paid.2014.03.023

Matsuura, N., Hashimoto, T., & Toichi, M. (2010). The characteristics of AD/HD symptoms, self-esteem, and aggression among serious juvenile offenders in Japan. *Res Dev Disabil*, *31*(6), 1197-1203. https://doi.org/10.1016/j.ridd.2010.07.026

McMullin, J. A., & Cairney, J. (2004). Self-esteem and the intersection of age, class, and gender. *Journal of Aging Studies*, *18*(1), 75-90. https://doi.org/10.1016/j.jaging.2003.09.006

Mitchell, B. S., Kern, L., & Conroy, M. A. (2018). Supporting Students With Emotional or Behavioral Disorders: State of the Field. *Behavioral Disorders*, *44*(2), 70-84. https://doi.org/10.1177/0198742918816518

Nguyen, D. T., Wright, E. P., Dedding, C., Pham, T. T., & Bunders, J. (2019). Low Self-Esteem and Its Association With Anxiety, Depression, and Suicidal Ideation in Vietnamese Secondary School Students: A Cross-Sectional Study [Original Research]. *Front Psychiatry*, *10*, 698. https://doi.org/10.3389/fpsyt.2019.00698

Organization, W. H. (2021). *Adolescent mental health*. World Health Organization: WHO. https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health

Pan, Y., Yang, C., Liu, G., Chan, M., Liu, C., & Zhang, D. (2020). Peer Victimization and Problem Behaviors: The Roles of Self-Esteem and Parental Attachment Among Chinese Adolescents. *Child Dev*, *91*(4), e968-e983. https://doi.org/10.1111/cdev.13319

Quatman, T., & Watson, C. M. (2001). Gender differences in adolescent self-esteem: an exploration of domains. *J Genet Psychol*, *162*(1), 93-117. https://doi.org/10.1080/00221320109597883

Rosenberg, M. (1965). Rosenberg self-esteem scale (RSE). *Acceptance and commitment therapy. Measures package*, *61*(52), 18.

Sánchez-Sandoval, Y., & Verdugo, L. (2021). School Adjustment and Socio-Family Risk as Predictors of Adolescents' Peer Preference [Original Research]. *Frontiers in Psychology*, *12*. https://www.frontiersin.org/articles/10.3389/fpsyg.2021.645712

Shah, S. M., Al Dhaheri, F., Albanna, A., Al Jaberi, N., Al Eissaee, S., Alshehhi, N. A., . . . Betancourt, T. S. (2020). Self-esteem and other risk factors for depressive symptoms among adolescents in United Arab Emirates. *PLoS One*, *15*(1), e0227483. https://doi.org/10.1371/journal.pone.0227483

Shaniya, P. M., & Sharma, M. K. (2012). Self-esteem and Life satisfaction: Implications for Adolescents Tobacco use. *IMSEAR* https://pesquisa.bvsalud.org/portal/resource/pt/sea-159677?lang=en

Soto-Sanz, V., Piqueras, J. A., Rodriguez-Marin, J., Perez-Vazquez, T., Rodriguez-Jimenez, T., Castellvi, P., . . . Alonso, J. (2019). Self-esteem and suicidal behaviour in youth: A meta-analysis of longitudinal studies. *Psicothema*, *31*(3), 246-254. https://doi.org/10.7334/psicothema2018.339

Teng, Z., Liu, Y., & Guo, C. (2015). A meta-analysis of the relationship between self-esteem and aggression among Chinese students. *Aggression and Violent Behavior*, *21*, 45-54. https://doi.org/10.1016/j.avb.2015.01.005

Thompson, H. M., Wojciak, A. S., & Cooley, M. E. (2016). Self-esteem: A mediator between peer relationships and behaviors of adolescents in foster care. *Children and Youth Services Review*, *66*, 109-116. https://doi.org/10.1016/j.childyouth.2016.05.003

Tian, L., Zhang, X., & Huebner, E. (2018). The Effects of Satisfaction of Basic Psychological Needs at School on Children's Prosocial Behavior and Antisocial Behavior: The Mediating Role of School Satisfaction. *Frontiers in Psychology*, *9*, 548. https://doi.org/10.3389/fpsyg.2018.00548

Uher, R., & Zwicker, A. (2017). Etiology in psychiatry: embracing the reality of poly-gene-environmental causation of mental illness [https://doi.org/10.1002/wps.20436]. *World Psychiatry*, *16*(2), 121-129. https://doi.org/https://doi.org/10.1002/wps.20436

von Soest, T., Wichstrom, L., & Kvalem, I. L. (2016). The development of global and domain-specific self-esteem from age 13 to 31. *J Pers Soc Psychol*, *110*(4), 592-608. https://doi.org/10.1037/pspp0000060

Wang, C., Xia, Y., Li, W., Wilson, S. M., Bush, K., & Peterson, G. (2014). Parenting Behaviors, Adolescent Depressive Symptoms, and Problem Behavior. *Journal of Family Issues*, *37*(4), 520-542. https://doi.org/10.1177/0192513x14542433

Wells, A. E., Hunnikin, L. M., Ash, D. P., & van Goozen, S. H. M. (2020). Low Self-Esteem and Impairments in Emotion Recognition Predict Behavioural Problems in Children. *Journal of Psychopathology and Behavioral Assessment*, *42*(4), 693-701. https://doi.org/10.1007/s10862-020-09814-7

Xia, Y. R., Wang, C., Li, W., Wilson, S., Bush, K. R., & Peterson, G. (2015). Chinese Parenting Behaviors, Adolescent School Adjustment, and Problem Behavior. *Marriage & Family Review*, *51*(6), 489-515. https://doi.org/10.1080/01494929.2015.1038408