

# The Mediating Role of Academic Aspiration in the Relationship between School Connectedness and Cyber-bullying among High School Students

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## Abstract

**Introduction:** School connectedness refers to the students' attachment, belonging and commitment to the school. High level of school connectedness leads to increased academic success and decreased risky behaviors in students. The objective of the present study was to investigate the mediating role of academic aspiration in the relationship between school connectedness and cyber-bullying among high school students in Zanjan.

**Method:** The research method was correlational. The statistical population included all boy and girl high school students in Zanjan in the academic year of 2019-2020. The sample consisted of 324 students who were selected through virtual snowball sampling method. To collect data, Cyber-Bullying Experiences Questionnaire (2016), School Bonding Questionnaire (2014) and Academic Aspiration Questionnaire (2004) were used. The fit of the proposed model was examined through Structural Equation Modeling (SEM) using Smart PLS software (version 3.3). In addition, the Bootstrap method was used to investigate the indirect effects.

**Results:** The direct effect of cyber-bullying on academic aspiration was not significant ( $\beta = -.07$ ,  $p = .28$ ). However, the direct effects of cyber-bullying ( $\beta = -.10$ ,  $p = .001$ ) and academic aspiration ( $\beta = .73$ ,  $p = .0001$ ) on school connectedness were significant. Moreover, the indirect effect of academic aspiration on school connectedness was not significant ( $\beta = -.05$ ,  $p = .29$ ).

**Conclusion:** These findings can guide counselors and psychologists to plan training sessions to reduce the negative effect of cyber-bullying and to increase the positive effect of academic aspiration on school connectedness among students.

**Keywords:** Academic Aspiration, School Connectedness, Cyber-bullying, Adolescents

## Introduction

Adolescence is the beginning of physical, psychological and social changes which affect an individual's performance in adulthood, and may be accompanied by problems such as concerns about the future education and occupation, sexual problems, discomfort, depression, alcohol and drug abuse, suicide attempts, school problems, and conflict with parents and peers [1, 2]. These problems can probably affect academic aspiration and school connectedness, and may lead to cyber-bullying.

School connectedness is defined as a student's feeling of belongingness to school and emotional closeness with peers and teachers [1]. It includes (a) positive school relationships, (b) feeling of being part of the school, (c) feeling safe in the school, (d) being happy in the school, and (e) perceiving fairness [2]. School connectedness, generally signifying the extent to which the youth feel accepted, included, and cared for by the staff and peers while at school [3], is a critical factor affecting the youths' health and well-being. Recent efforts to

measure school connectedness include rating the youths' perceptions of inclusiveness, closeness, happiness, and safety at school [4, 5].

Relatively few studies have examined the predictors of school connectedness, with more attention paid to the positive outcomes associated with high levels of school connectedness. Personality and positive psychological orientations influence individuals' perceptions, behaviors, and feelings, which may affect evaluations and attitudes toward social contexts. For example, positive teacher support and gratitude orientations were associated with enhanced school connectedness [6], which was in turn associated with greater life satisfaction, higher educational achievement, and fewer internalizing and externalizing problems [7, 8]. Despite the documented protective influences of school connectedness, as many as 40 to 60% of high school students report feeling not well connected to school, highlighting the importance of identifying factors related to increased school connectedness among adolescents. Various individual, social, and environmental factors affect the youths' perceptions of school connectedness [9].

The variables which have received less attention in research on school include academic aspiration and cyber-bullying. Academic aspiration refers to the behaviors which are related to learning and academic achievement [10]. This concept refers to the quality of the effort which the learner makes in purposeful educational activities to directly play a role in achieving the desired results [11]. Academic aspiration is a multidimensional structure with three cognitive, motivational and behavioral dimensions [12]. Cognitive academic aspiration involves the use of cognitive and metacognitive strategies in learning; motivational (emotional) academic aspiration includes the three components of feeling, value, and affection. It is related to the interest in the learning context and university activities. Finally, behavioral academic aspiration involves an active and enthusiastic presence in the learning context [13].

Studies have shown that students who are cognitively and emotionally motivated to learn are more willing to spend sufficient time and effort on homework and activities than those who have lower levels of cognitive and emotional aspiration. They insist on facing problems and issues. Studies show that there is a significant relationship between academic aspiration and academic performance [14].

Regarding the importance of academic aspiration, according to Petarinen et al. [15], academic aspiration is one of the important factors in improving the quality of the educational system.

Faroughi et al. [16] found that there was a significant and positive correlation between school connectedness and academic aspiration. The dimensions of school connectedness predicted a total of 71% of the students' academic aspiration.

Bullying is defined as an intentionally aggressive behavior that is repetitive and involves an observed or perceived power imbalance between a victim and a perpetrator [17]. Researchers have differentiated the two distinct forms of

traditional bullying and cyber-bullying victimization [18, 19]. Traditional bullying typically occurs face to face. It may involve physical acts, verbal taunting, ridicule, social exclusion, relational aggression, or other behaviors [20]. In addition to traditional bullying, cyber-bullying becomes visible as a relatively new form of bullying victimization which involves individuals or groups' aggressive behaviors through electronic or digital media [21]. It sometimes differs from traditional forms of bullying in the sense that the perpetrators remain anonymous [22], which may result in more increased psychological stress and provides the perpetrators with the benefit of the absence of face-to-face contact [23, 24]. The individuals may be involved by being a victim, perpetrator, or victim-perpetrator. Traditional school bullying, which has potentially serious consequences for victims and families, is an old and persistent phenomenon. It has been defined as any aggressive behavior which comprises intentional harm, repetition, and power imbalance between the victim and the perpetrator in school settings [17, 25]. More recently, a great amount of attention has been paid to cyber-bullying. Both forms of bullying are a significant problem worldwide and have negative consequences for the involved individuals. Although the growing worldwide initiatives tended to decline bullying through prevention programs, particularly in school properties [26], the prevalence of bullying involvement varies considerably, and studies report that approximately 10-30% of adolescents are involved as bullies, victims, or both [27, 28].

Urbanski [29] found that there was no significant relationship between cyber-bullying and school connectedness. In fact, school connectedness showed a very small proportion of variance in the incidence of bullying victimization. School connectedness refers to the students' attachment, belonging and commitment to school. High levels of school connectedness lead to increased academic achievement and reduced risky behaviors in students. Thus, it is important to investigate the factors which affect school connectedness. Reviewing the literature showed that few studies examined the relationship of academic aspiration and cyber-bullying with school connectedness. In addition, in the conducted studies, school connectedness was considered as a predictor variable. Furthermore, previous studies were limited to the correlation and regression model. However, due to the mentioned limitations, the present study investigated the structural relationships between cyber-bullying and school connectedness among high school students in Zanjan.

## Method

The design of this study was correlational, which was estimated through structural equation modeling. The statistical population included all high school students (i.e., 15,500 students) in Zanjan in the academic year of 2019-2020. Based on Krejcie and Morgan's [30] sampling formula, 384 students were selected through virtual snowball sampling method. The inclusion criteria included studying in the high school level and being willing to

participate in the study. The exclusion criteria included a defect in the returned questionnaires.

Due to the prevalence of Covid-19 and the closure of face-to-face classes, online questionnaires were used to collect data. Shad Virtual Social Network (affiliated to Iran Education), Telegram, and WhatsApp were the main platforms for distributing the questionnaires. Some of the questionnaires were also distributed through the participants' sharing of the relevant link with their friends in the form of snowball sampling. After collecting the questionnaires, the data of 62 students was excluded due to the deficiencies in the returned questionnaires. As a result, data analysis was performed with 324 samples.

The tools used in this study were as follows:

**School Bonding Questionnaire (SBQ):** This questionnaire was developed and validated by Rezaei Sharif et al. [31]. It is scored based on a five-point Likert scale (never = 1 to always = 5). It examines six components (i.e., attachment to the teachers, attachment to school from an organizational perspective, attachment to school staff, school participation, belief and commitment to school). Rezaei Sharif et al. [31] examined the reliability of the questionnaire through the internal consistency method (Cronbach's alpha of 0.93). The content validity, criterion validity and construct validity of this questionnaire which was performed on 1071 students were confirmed (CFI = 0.96, GFI = 0.85 and RMSEA = 0.05). In the present study, the reliability (Cronbach's alpha) of the whole questionnaire was 0.86.

**Academic Aspiration Questionnaire:** This questionnaire was developed by Fredericks et al. [1]. It includes 15 items on a five-point Likert scale (never = 1 to always = 5). It has three subscales including behavioral aspiration to study, emotional aspiration to study, and cognitive aspiration to study. The minimum score of this questionnaire is 15; the maximum score is 75, and the cut score is 45. In Iran, this questionnaire was standardized by Bagheri et al. [32] who studied 1200 students; the results of factor analysis showed that it has a good construct validity. Fredericks et al. [1] reported that the reliability coefficient of this questionnaire, performed on 200 students, was 0.86. In addition, Bagheri et al. [32] examined the reliability of this questionnaire through Cronbach's alpha coefficient. It turned out to be 0.66. In the present study, the reliability (Cronbach's alpha coefficient) of the whole questionnaire was 0.86.

**Cyber-Bullying/Victimization Experiences Questionnaire (CBVEQ):** This questionnaire was developed and validated by Antoniadoun et al. [33]. It investigates the experience of cyber-bullying or cyber victimization among adolescents. It is scored in the form of a five-point Likert scale, which ranges from zero (never) to five (often). This questionnaire considers two factors of cyber victimization and cyber-bullying; each factor is examined through 12 items. This questionnaire also measures bullying and cyber victimization directly and indirectly. Items 1, 6, 8, 10, and 12 measure cyber-victimization directly. They include factors such as destruction and misuse of property, verbal cyber-bullying, and intimidation. Furthermore, items 2, 3, 5, 7, and 9 measure cyber-bullying indirectly. They consider factors

such as social deprivation, defamation and pretense. Antoniadoun et al. [33] showed that this questionnaire had a proper validity (CFI = 0.97, TLI = 0.97, and RMSEA = 0.031). They also showed that it had an appropriate reliability. The Cronbach's alpha coefficients were 0.89 and 0.80 for cyber-bullying and cyber victimization, respectively. In the present study, the reliability (Cronbach's alpha coefficient) of the whole questionnaire was 0.79.

In order to analyze the data, SPSS software (version 25) and Smart PLS software and structural model were used. In fact, partial least squares (PLS-3.3) test the relationships between the latent variables and our hypothesis which indicates that self-compassion would mediate the relationships between perceived social support from family, friends, and significant others and distress tolerance. In addition, the model fit was evaluated with the Square Error of Approximation (RMSEA), Standardized Root-Mean-Square Residual (SRMR), Normed Fit Index (NFI), Goodness of Fit Index (GOF),  $Q^2$  and  $R^2$ .

## Results

The investigation of the demographic variables showed that 260 (80.2%) of the participants were girls and 64 (19.8%) were boys. With regard to the age range, 16.7% were 16 year olds, 28.7% were 17 year olds, 30.6% were 18 year olds, and 15.4% were 19 year olds. In addition, 113 individuals (35.09%) were studying in 10th grade, 88 individuals (27.32%) were in 11th grade, and 121 individuals (37.57%) were in 12th grade.

As shown in Table 1, the school attachment component has the highest average among the school connectedness components. The behavioral motivation component has the highest average among the components of academic aspiration. Based on the cut-off score of the questionnaires, which is 15 for the components and 45 for the overall score, the studied students had a good academic aspiration. This is while the cyber casualties were low.

The results of the adjusted GOF index of the model showed that the model showing the mediating role of academic aspiration in the relationship between cyber-bullying and school connectedness properly fitted (SRMR = 0.07, NFI = 0.77, GOF = 0.26,  $Q^2$  (academic aspiration) = 0.003,  $Q^2$  (school connectedness) = 0.32,  $R^2$  (academic aspiration) = 0.3,  $R^2$  (school connectedness) = 0.32).

The bootstrapped results of the direct, indirect, and total estimates and the Bias-Corrected (BC) percentile intervals with 95% of confidence are illustrated in Table 3.

According to Table 2, the direct effect of cyber-bullying on academic aspiration was not significant ( $\beta = -0.07$ ,  $p = 0.28$ ); however, the direct effects of cyber-bullying ( $\beta = -0.10$ ,  $p = 0.001$ ) and academic aspiration ( $\beta = 0.73$ ,  $p = 0.0001$ ) on school connectedness were significant. Furthermore, the indirect effect of academic aspiration on school connectedness was not significant ( $\beta = -0.05$ ,  $p = 0.29$ ). In other words, academic aspiration did not mediate the relationship between cyber-bullying and school connectedness. The results of Table 2 are presented graphically in Figure 1.

Moreover, the results of multivariate analysis of variance showed that there was no significant difference between boys and girls with regard to school connectedness ( $F = 3.46, df=1, P = 0.064, \eta = 0.01, 1-\beta = 0.45$ ). However, there was a significant difference between girls and boys

regarding cyber-bullying and academic aspiration. In other words, cyber-bullying was higher in boys than girls ( $F = 7.25, df=1, P = 0.007, \eta = 0.02, 1-\beta = 0.76$ ), and academic aspiration was higher in girls than boys ( $F = 5.68, df=1, P = .018, \eta = .01, 1-\beta = .66$ ) (Table 3).

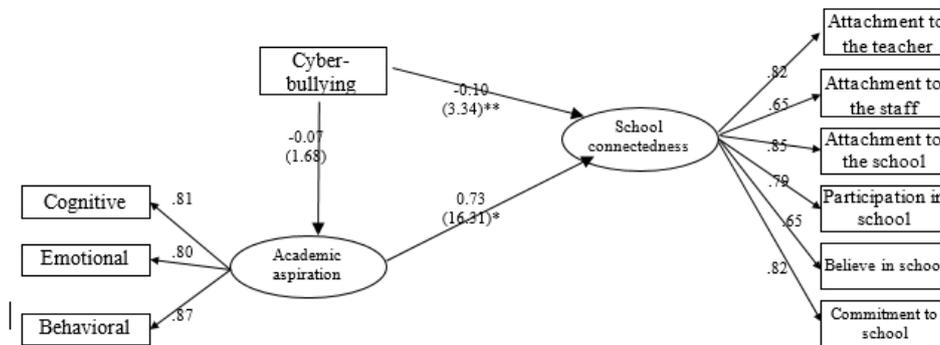
**Table 1.** Minimum, Maximum, Mean, SD, Skewness and Elongation of Research Variables

Variable	Mean	SD	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Attachment to the teacher	29.04	5.85	0.27	0.13	-0.26	0.27
Attachment to the staff	17.25	6.50	0.09	0.135	-1.05	0.27
Attachment to the school	35.08	8.99	-0.66	0.13	-0.19	0.27
Participation in school	18.11	4.74	-0.02	0.13	-0.64	0.27
Believe in school	20.77	6.84	-0.33	0.13	-0.96	0.27
Commitment to school	12.62	2.53	-1.04	0.13	0.61	0.27
School connectedness	132.89	27.69	-0.27	0.13	-0.67	0.27
Cognitive aspiration	15.83	2.83	-0.92	0.13	2.39	0.27
Emotional aspiration	18.42	6.12	-0.17	0.13	-0.57	0.27
Behavioral aspiration	14.79	4.72	-0.32	0.13	-0.45	0.27
Academic aspiration	49.05	11.5	-0.41	0.13	0.12	0.27
Cyber-bullying	17.40	6.21	2.46	0.13	8.14	0.27

**Table 2.** Bootstrap Analysis Considering Direct and Indirect Paths

Path	$\beta$	T	P	BC interval
Direct effects				
Cyber-bullying → academic aspiration	-0.07	1.06	0.28	(-0.19;0.05)
Cyber-bullying → school connectedness	-0.10	3.33	0.001	(-0.15;-.042)
Academic aspiration → school connectedness	0.73	16.31	0.0001	(0.64;0.81)
Indirect effects				
Cyber-bullying → academic aspiration → school connectedness	-0.05	1.06	0.29	(-0.14;0.04)

Note. Reported BC intervals are the bias-corrected 95% confidence interval of the estimates resulting from bootstrap analysis.



**Figure 1.** The adjusted model showing the mediating role of academic aspiration in the relationship between school connectedness and cyber-bullying among high school students in Zanjan (showing the standard coefficients and t).

**Table 3.** Multivariate Analysis of Variance Investigating the Differences between Boys and Girls

Variable	Group	M	SD	SS	df	MS	F	P	$\eta$	Observed Power
School connectedness	Boys	127.14	28.29	2634.45	1	2634.45	3.46	0.064	0.01	0.45
	Girls	134.31	27.41							
Cyber-bullying	Boys	15.16	4.73	92.26	1	92.26	7.25	0.007	0.02	0.76
	Girls	13.82	3.220							
Academic aspiration	Boys	46.00	12.66	741.78	1	741.78	5.68	0.018	0.01	0.66
	Girls	49.80	11.10							

**Discussion**

The objective of the current study was to investigate the mediating role of academic aspiration in the relationship between school connectedness and cyber-bullying among high school students in Zanjan. The results showed that the direct effect of cyber-bullying on academic aspiration was not significant; however, the direct effects of cyber-bullying and academic aspiration

on school connectedness were significant. Moreover, the indirect effect of academic aspiration on school connectedness was not significant. The finding regarding the relationship between cyber-bullying and school connectedness is consistent with that of Urbanski [29], and the finding considering the relationship between academic aspiration and school connectedness was in line with that of Faroughi et al. [16]. In fact, in the mentioned

studies, the negative correlation of cyber-bullying and school connectedness and also the positive correlation of academic aspiration and school connectedness were supported. Furthermore, another finding indicated that academic aspiration had no mediating role in the relationship between school connectedness and cyber-bullying among high school students in Zanjan. However, since no similar published study was found in the literature, it was not possible to compare this finding with other studies.

The positive effect of academic aspiration on school connectedness can be explained by referring to the fact that academic aspiration refers to the amount of energy that an individual spends on his academic tasks and the effectiveness and the efficiency obtained from that energy. Students with high academic aspiration pay more attention to learning issues, show more commitment to the rules and regulations of their learning environment, have adaptive and desirable behaviors, and avoid inappropriate and undesirable behaviors. Moreover, academic aspiration evokes energy and focus in work and activities. In fact, individuals with high academic focus take steps to solve their problems. They help and seek help from their friends, and they provide each other with positive energy. As a result, the increase in the students' academic aspiration would result in the increase in school connectedness [34]. On the other hand, the lack of academic aspiration has serious consequences such as regression in school tasks, the tendency to deviant behaviors and the risk of quitting school [35].

Another finding suggested that there was a significant relationship between school connectedness and cyber-bullying. This finding is consistent with that of a previous study [29].

Reviewing the literature regarding the above finding shows that this finding is in line with previous research. In fact, Barzegar et al [36]. showed that there was a negative correlation between teacher attachment and bullying among students. Moreover, Dimant and Van Hatty [37] showed that bullies had little connectedness with the teachers; this finding is similar to those of Pabian and Vandebosch. [38] This finding can be explained by referring to the definition of school connectedness which is a situation that is a function of attachment, interpersonal support and experience of belonging. It includes actions such as supporting others, interacting with them and emotionally investing in them [39]. Thus, the Social Growth model can be used to explain this finding. According to this model, social ties with others prevent problematic behaviors [40]. They promote the role and the participation of the students in school processes and activities. Since such processes can reduce engaging in negative behaviors such as bullying, school connectedness can reduce cyber-bullying.

Furthermore, the negative impact of cyber-bullying on school connectedness can be explained by referring to the fact that cyber-bullying leads to the prevalence of violent behaviors. In addition, the bullies would face with the legal consequences of their problems, and would suffer from anxiety, depression, and poor educational

performance [41]. Thus, this issue weakens their school connectedness.

In addition, this study showed that cyber-bullying was higher in boys than girls, and academic aspiration was higher in girls than boys. In fact, it can be stated that girls make more efforts than boys in order to achieve educational accomplishments and appropriate social status, and to present themselves in the society [42]. Therefore, they are expected to have higher academic aspiration. Moreover, the higher level of cyber-bullying among boys compared to girls can be explained by referring to the fact that boys and girls use information technology for different purposes. Boys use the Internet for leisure and entertainment, while girls use the Internet for interpersonal communication and education [43].

## Conclusion

To summarize, this study emphasized the importance of academic aspiration and cyber-bullying in predicting school connectedness among high school students in Zanjan. According to the results, it is suggested that schools hold some courses and training workshops to increase the academic aspiration of the students, school counselors identify the students who have been bullied and increase their connection with school through holding individual and group counseling sessions and reducing cyber-bullying, training courses be offered to teachers, principals and parents to increase their awareness of the importance of the roles of academic aspiration and cyber-bullying in school connectedness, and to seek their cooperation in increasing academic aspiration and reducing cyber-bullying.

This study's findings should be considered in light of some limitations. First, since the present study is cross-sectional, and it was not possible to control all the intervening variables, the participants may have been affected by conditions beyond the researchers' control. Thus, findings should be generalized with caution. Therefore, it is suggested that in future research, data be collected non-virtually so that in addition to increasing the attention level of the respondents, the researcher observes the process of filling out the questionnaires and interacts with the participants to guide and encourage them to respond more accurately. Second, since data was collected virtually due to the prevalence of Covid-19, the use of random sampling method was limited. Third, the current study examined high school students in Zanjan. Thus, this study can be replicated in other cities and other samples. Their results can be compared with those of the present study.

## Conflict of Interest

The authors declare that they have no conflicts of interest.

## Ethical Approval

The present study is a part of a Ph.D. dissertation (with the ethics code of IR.IAU.Z.REC.1399.024 from the Research

Ethics Committee of Islamic Azad University, Zanjan Branch) in the field of educational psychology. This study has fully adhered to the standard ethical rules in research. Accordingly, an informed letter of consent was signed by all participants. Also, they were ensured of the confidentiality of the information they provided.

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