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# The Mediating Role of Feelings of Inferiority in the Relationship between School Bullying and Academic Achievement in Middle School Students with Social Anxiety in Wasit City, Iraq

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## ABSTRACT

**Objective:** This study aimed to determine the mediating role of feelings of inferiority in the relationship between school bullying and academic achievement among students with social anxiety in Wasit City, Iraq.

Methods and Materials: The research employed a correlational method, and the statistical population consisted of middle school students in Wasit City, Iraq, in the spring of 2024. From the aforementioned population, 300 students were selected through convenience sampling and responded to three questionnaires: the Academic Achievement Questionnaire (Wells, 2010), the School Bullying Questionnaire (Álvarez-Marin et al., 2022), and the Feelings of Inferiority Questionnaire (Chakreli-Lijia et al., 2017). The data were analyzed using Pearson's correlation coefficient and structural equation modeling (SEM) with the help of SPSS version 26 and AMOS version 26.

**Findings:** The results showed that school bullying was significantly correlated with feelings of inferiority and academic achievement, and feelings of inferiority were significantly correlated with academic achievement (p < 0.05). The results of the structural equation modeling indicated that feelings of inferiority were a full mediating variable in the relationship between school bullying and academic achievement.

**Conclusion:** Based on the findings of this study, the role of school bullying and feelings of inferiority in academic achievement should be seriously considered in educational environments to better support students.

Keywords: School bullying, feelings of inferiority, academic achievement, students

## 1. Introduction

he student years, across all educational levels, are a period filled with various issues and phenomena. Upon entering secondary school, due to the coincidence of

this period with the onset of adolescence, the range of issues that can be addressed and examined takes on a complex and multifaceted nature. Among the issues that can arise during adolescence, especially during the early phase (which coincides with the first stage of secondary school), is social



anxiety (Walder et al., 2023). Social anxiety refers to the fear and worry about various social situations, particularly when the individual anticipates being evaluated or receiving attention. Such concerns, by nature, may occur vaguely in any social situation (Aune et al., 2022). Like other forms of anxiety, social anxiety can negatively affect social performance, academic performance, and other domains, particularly in interactions with others. This interference often provides an opportunity for adolescents to miss out on significant social opportunities that are crucial for their growth and development (Halidu & Kotera, 2024). In line with previous studies, this research, considering the need to better assist middle school students, especially those in the first stage of secondary school who experience social anxiety, in Wasit City, Iraq, focuses on the relationship between school bullying and academic achievement, with the mediating role of feelings of inferiority. Notably, there has been limited attention in this region to the models and correlates of various variables involved in social anxiety (whether as antecedents, consequences, or mere correlates).

Perceived academic achievement refers to the extent to which students feel they are effective and successful in completing academic tasks, interacting with school staff and teachers, peers, pursuing goals, and in general, in any activity directly or indirectly related to education (Sideridis & Alghamdi, 2024). Individuals who suffer from social anxiety tend to avoid activities that require social interactions or public tasks (Ejaz et al., 2020). As a result, this withdrawal may hinder their academic success and potentially undermine their educational achievements (Nordh et al., 2021). Thus, it has been demonstrated that social anxiety may, in some cases, lead to academic failure (Al-Hazmi et al., 2020). Academic success (Feng et al., 2023) is correlated with a wide range of important variables, including social anxiety. What is of great importance, beyond social anxiety and its interrelated factors, are the variables that can act as antecedents for academic achievement. Based on repeatable evidence in student populations across various countries, school bullying (whether the individual becomes a victim of bullying or engages in bullying behavior themselves) is a potential antecedent for this variable.

School bullying is defined as a pattern of aggressive, destructive behavior that is repetitive, where victims are typically perceived as weak by the bully. This behavior has three key characteristics: the intention to harm the victim, repetition, and an imbalance of power between the bully and the victim (Nemattian, 2019). Bullying may occur in

physical, verbal, relational, or online forms (Kiaei, 2019). Researchers argue that bullying starts in primary school and escalates during secondary school, although it decreases after the ninth grade. Others identify the peak of bullying between the sixth and eighth grades (Nemattian, 2019). Students may be involved in bullying in one of the roles: bully, victim, bully-victim, or bystander (Kiaei, 2019). Bullying, in any of its forms, can have negative consequences for adolescent students (Aliverdinia & Sohrabi, 2015). For example, bullying has been identified as one of the major causes of health problems in children and adolescents (Nemattian, 2019). Furthermore, bullying has been shown to be associated with self-esteem and academic success. Specifically, when students experience threats from bullying behaviors of peers, the interference of bullying in the school environment with academic performance and efforts can reduce academic success (Pardew, 2017).

Beyond the direct relationship between bullying and academic achievement, the reality is that being a victim of bullying or engaging in bullying behavior may require an internal psychological event before it directly leads to a decline in academic success. One such necessary internal event is the experience of feelings of inferiority (Liu et al., 2022). Although the cognitions related to feelings of inferiority and social anxiety are strikingly similar, feelings of inferiority are a conscious experience related to feelings of weakness, lack, or personal incapacity and deficiency (Li et al., 2023). According to the theoretical approach of emotion appraisal, emotions are triggered by evaluations and assumptions about events and situations. In this framework, feelings of inferiority are considered a conscious emotion involving feelings of guilt, humiliation, and other similar emotions, within the self-assessment and self-reflection processes (Shen et al., 2022; Tjahyani et al., 2024). Feelings of inferiority in adolescent students can lead to reduced academic self-esteem, lack of academic progress and success, and increased social anxiety (Tjahyani et al., 2024). The mediating role of feelings of inferiority in the relationship between school bullying and academic achievement is also consistent with cognitive, behavioral, and emotional negative self-assessment approaches (Li et al., 2023; Tjahyani et al., 2024), as bullying behaviors are often interpreted by students who are either the target of bullying or even those engaged in bullying behaviors as reflections of individual weakness in the behavioral, cognitive, and emotional realms. This, in turn, increases psychological threat and insecurity, diverting students'



attention away from academic work and efforts toward academic achievement, thus leading to academic problems.

Supporting the mediating role of feelings of inferiority in the relationship between school bullying and academic success, studies by Zoang et al. (2021) highlight the mediating role of self-esteem, which is negatively related to feelings of inferiority, in the relationship between being a victim of bullying and depression symptoms (Zhong et al., 2021). Similarly, studies by Mei et al. (2021) show the mediating role of social anxiety, which is intertwined with feelings of inferiority, in the relationship between bullying victimization and depression symptoms (Mei et al., 2021), and studies by Wu et al. (2021) reveal the mediating role of shame and self-esteem, both of which are intertwined with feelings of inferiority, in the relationship between bullying victimization and social anxiety in adolescents (Wu et al., 2021). Additionally, studies by Xia et al. (2023) show the mediating role of appearance anxiety and self-esteem in the relationship between cyberbullying victimization and social anxiety (Xia et al., 2023).

In conclusion, based on the presented evidence, bullying has the potential to affect academic achievement among students with social anxiety. Beyond this direct relationship, according to the negative self-assessment approach, feelings of inferiority have the capacity to mediate the relationship between bullying and academic achievement. In students with social anxiety, bullying behaviors, especially when these students are targeted by the bullying behaviors of other students, may contribute further to the reduction of cognitive, behavioral, and emotional capacities, thereby decreasing their academic success. Despite the theoretical and research foundations reviewed, no studies were found that specifically examine the role of feelings of inferiority in the relationship between school bullying and academic achievement in middle school students in Wasit City, Iraq. This gap in the available knowledge signals a significant gap in understanding the potential pathways needed to support middle school students in Iraq. Adolescents in middle school, who are the future leaders of Iraq, need more attention and support, especially when dealing with phenomena like social anxiety. This study is designed to fill part of the scientific knowledge gap and provide a foundation for further empowering these students in Wasit City, Iraq. Consequently, the current study aims to provide a scientific answer to the question: Is there a relationship between school bullying and academic achievement with the mediating role of feelings of inferiority among middle school students with social anxiety in Wasit City, Iraq?

#### 2. Methods and Materials

## 2.1. Study Design and Participants

This research is correlational in nature and employs structural equation modeling. The statistical population of the current study consisted of all first-grade secondary school students in the city of Wasit, Iraq, totaling 7,000 students in the fall of 2024. From this population, after administering the Social Anxiety Questionnaire by Connor et al. (2000) and obtaining a cutoff score of 40 or higher, and based on the table of Krejcie and Morgan (1970), 330 individuals were selected, considering the possibility of some questionnaires being incomplete. After returning the questionnaires, 30 were found to be incomplete, thus the final sample size was reduced to 300 participants. Inclusion criteria included consent to participate in the study and enrollment in first-grade secondary school in Iraq. The following instruments were used in the study.

#### 2.2. Measures

## 2.2.1. Academic Achievement

The Academic Success Questionnaire introduced by Welles (2010), which includes 39 questions, was used to measure academic success. It covers teacher efficacy, career decision-making, extrinsic motivation for the future, selfconfidence. adaptability, self-regulation, personal socialization, intrinsic motivation or interest, and absence of anxiety. The response scale of this questionnaire is a fourpoint scale, including Strongly Disagree = 1, Disagree = 2, Agree = 3, and Strongly Agree = 4. The score range for the entire questionnaire is from 39 to 156, with higher scores indicating higher academic success. Welles (2010) reported significant differences in this questionnaire between at-risk students and those with good academic performance, providing evidence of the discriminant validity of the questionnaire. Additionally, confirmatory factor analysis supported the construct validity of the dimensions in the questionnaire. The Cronbach's alpha for the entire questionnaire was reported as 0.93 (Welles, 2010). This questionnaire has been validated in various studies worldwide. For example, in Iran, Sadeghi Gandomani and Adib Haj Bagheri (2018) validated this questionnaire with a sample of university students. As evidence of content and construct validity, the CVI and CVR values were reported as higher than 0.9 and 0.8, respectively (after removing 11 questions, reducing the number of items from 50 to 39), and



the results of confirmatory factor analysis confirmed its content and construct validity. The Cronbach's alpha for the entire questionnaire in their study was 0.75 (Sadeghi-Gandomani & Adib-Hajbaghery, 2018). For use in the current study, this questionnaire was translated into Arabic, and its validity was confirmed by five university professors. Additionally, its reliability was measured using Cronbach's alpha in Iraq. The Cronbach's alpha for this questionnaire in the current study was 0.94.

#### 2.2.2. School Bullying

To measure school bullying, the 12-item questionnaire developed by Alvarez-Marin et al. (2022) was used. This questionnaire covers four areas: victimization (3 items), aggression (3 items), cyber-victimization (3 items), and cyber-aggression (3 items). The response scale is a fivepoint scale: Never = 0, Once or twice = 1, Once or twice a month = 2, About once a week = 3, and More than once a week = 4. The student indicates how often they have experienced or exhibited the behaviors described in each question over the past two months. The score range for each of the four subscales is between 0 and 12, with higher scores indicating higher levels of each dimension covered in the questionnaire. Additionally, scores can be computed for two overall dimensions: victimization (either direct or cyber) and aggressive bullying (either direct or cyber), each consisting of 6 items. Alvarez-Marin et al. (2022) documented the construct validity of this questionnaire through exploratory and confirmatory factor analysis. As evidence of convergent discriminant validity, they reported significant correlations between scores from this questionnaire and scores from the Rosenberg Self-Esteem Scale (correlation ranging from -0.23 to -0.22 and significant at p < 0.05), the short form of the Youth Depression Scale (correlation ranging from 0.16 to 0.27 and significant at p < 0.01 or p <0.001), and the Strengths and Difficulties Questionnaire (correlation ranging from 0.16 to 0.29 and significant at p < 0.01 or p < 0.001). As evidence of reliability, the Cronbach's alpha for the four subscales (victimization, aggression, cyber-victimization, and cyber-aggression) were reported as 0.65, 0.70, 0.75, and 0.71, respectively, while the composite reliability coefficients were 0.72, 0.76, 0.81, and 0.75, and Omega coefficients were 0.72, 0.72, 0.82, and 0.77, respectively (Álvarez-Marín et al., 2022). For use in the current study, this questionnaire was translated into Arabic, its validity was confirmed by five university professors, and its reliability was evaluated using Cronbach's alpha in Iraq.

The Cronbach's alpha for the subscales of victimization, aggression, cyber-victimization, and cyber-aggression in the current study were 0.71, 0.76, 0.77, and 0.96, respectively, and for the entire questionnaire, it was 0.93.

## 2.2.3. Feelings of Inferiority

The 10-item Feelings of Inferiority Questionnaire introduced by Cekrlija et al. (2017) was used to measure feelings of inferiority. The response scale for this questionnaire is a five-point scale: Never = 1, Rarely = 2, Sometimes = 3, Often = 4, and Always = 5. The score range for this questionnaire is from 10 to 50, with higher scores indicating higher feelings of inferiority. Cekrlija et al. (2017) provided evidence of the validity and reliability of this questionnaire. Through exploratory and confirmatory factor analysis, they confirmed the construct validity, and negative significant correlations (r = -0.23, p < 0.05) were reported as evidence of divergent construct validity. The Cronbach's alpha for this questionnaire was reported as 0.90 (Čekrlija et al., 2017). For use in the current study, this questionnaire was translated into Arabic, its validity was confirmed by five university professors, and its reliability was evaluated using Cronbach's alpha in Iraq. Exploratory factor analysis structure confirmed the unidimensional questionnaire. The Cronbach's alpha for this questionnaire in the current study was 0.87.

## 2.3. Data Analysis

The questionnaires were self-reported by the participants. The obtained data were analyzed using Pearson's correlation coefficient, along with the mean and standard deviation. After verifying the statistical assumptions of normality using the Shapiro-Wilk test and linearity of relationships between variables through scatter plots, along with other assumptions for structural equation modeling, data were analyzed using structural equation modeling via SPSS version 26 and AMOS version 26.

## 3. Findings and Results

The demographic characteristics of the participants are as follows: The family size of the participants varied, with 7 individuals (33.2%) having 4 family members, 68 individuals (22.7%) having 5-6 family members, and 225 individuals (75%) having 7 or more family members. In terms of birth order, 78 participants (26%) were the first or second-born, 153 participants (51%) were the third or



fourth-born, and 69 participants (23%) were the fifth-born or later. Regarding age, 169 participants (56.3%) were aged 13-14 years, and 131 participants (43.7%) were aged 15-16

years. The sample was evenly divided by gender, with 150 female participants (50%) and 150 male participants (50%).

Table 1 shows the mean, standard deviation, and correlations between the study variables.

 Table 1

 Mean, Standard Deviation, and Correlations Between Study Variables

Variables	1	2	3	4	5	6
School Bullying	Victimization	Aggression	Cyber Victimization	Cyber Aggression	Academic Achievement	Feelings of Inferiority
1 School Bullying	-					
2 Victimization	0.59	-				
3 Aggression	0.73	0.74	-			
4 Cyber Victimization	0.83	0.73	0.85	-		
5 Cyber Aggression	0.11	0.31	0.29	0.27	-	
6 Academic Achievement	0.27	0.53	0.39	0.40	-0.33	-
Mean	13.20	13.32	13.53	14.33	115.50	30.20
Standard Deviation	2.68	2.99	2.65	2.40	24.66	10.13

As shown in Table 1, there is a significant negative relationship between the dimensions of school bullying and academic achievement, and a significant positive relationship with feelings of inferiority (p < 0.01 or p < 0.05). Additionally, a significant negative relationship was found between feelings of inferiority and academic achievement (p < 0.05).

< 0.01 or p < 0.05). The conceptual model of the study was tested using structural equation modeling (SEM). Examination of the coefficients from the model and the fit indices showed that the coefficients and fit indices of the model are in a satisfactory condition. The results of the structural equation modeling are presented in Table 2.

 Table 2

 Coefficients and Explained Variance of the School Bullying and Academic Achievement Model with the Mediating Role of Feelings of

 Inferiority

Pathways of the Model	$\mathbb{R}^2$	p	β	SE	В	Row
School Bullying → Feelings of Inferiority	0.172	0.001	0.41	0.26	1.84	1
Feelings of Inferiority → Academic Achievement	0.099	0.001	-0.85	0.14	-0.61	2

As shown in Table 2, school bullying (p < 0.01,  $\beta$  = 0.41) has a significant relationship with feelings of inferiority, explaining 17.2% of the variance in this variable. Furthermore, feelings of inferiority (p < 0.01,  $\beta$  = -0.85) have

a significant relationship with academic achievement, explaining 9.9% of the variance in this variable.

Table 3 shows the indirect effects in the final model for academic achievement in both unstandardized and standardized values.

Table 3

Indirect Effects of the Final Model for Academic Achievement

Row	Indirect Effects	Academic Achievement
1	Indirect Effect of School Bullying on Academic Achievement through Feelings of Inferiority	-1.12 (unstandardized)

As shown in Table 3, the indirect coefficients of school bullying on academic achievement through feelings of inferiority are significant (p < 0.01). Results from the

bootstrap analysis also revealed that feelings of inferiority play a full mediating role in the relationship between school bullying and academic achievement.





Table 4 shows the fit indices of the final model for academic achievement.

 Table 4

 Fit Indices of the Final Model for Academic Achievement

Result	Value in the Present Study	Acceptable Value	Fit Index
1. Chi-Square (χ²)	7.33 (p = 0.12)	Non-significant	Good
2. Chi-Square to df Ratio (χ²/df)	1.83	Less than 3	Good
3. Goodness of Fit Index (GFI)	0.99	0.90 and higher	Good
4. Comparative Fit Index (CFI)	0.99	0.90 and higher	Good
5. Incremental Fit Index (IFI)	0.99	0.90 and higher	Good
6. Root Mean Square Residual (RMR)	0.17	0.05 or less	Good
7. Root Mean Square Error of Approximation (RMSEA)	0.53	0.08 or less	Good

As shown in Table 4, all fit indices of the final model are in a satisfactory condition compared to the acceptable level. This means that the final model of the study is satisfactory. Therefore, the research hypothesis that feelings of inferiority mediate the relationship between school bullying and academic achievement in middle school students with social anxiety in Wasit City, Iraq, is confirmed.

#### 4. Discussion and Conclusion

This study aimed to determine the mediating role of feelings of inferiority in the relationship between school bullying and academic achievement in middle school students with social anxiety in the city of Wasit, Iraq. The results showed that feelings of inferiority fully mediate the relationship between school bullying and academic achievement. This result is consistent with the findings of Zhong et al. (2021) regarding the mediating role of selfesteem, which has a negative relationship with feelings of inferiority, in the relationship between being a victim of bullying and depressive symptoms (Zhong et al., 2021); with the findings of Mei et al. (2021) about the mediating role of social anxiety, which is intertwined with feelings of inferiority, in the relationship between being a victim of bullying and depressive symptoms (Mei et al., 2021); with the findings of Wu et al. (2021) about the mediating role of shame and self-esteem, which is also intertwined with feelings of inferiority, in the relationship between being a victim of bullying and adolescent social anxiety (Wu et al., 2021); and with the study of Xia et al. (2023) regarding the mediating role of appearance anxiety and self-esteem in the relationship between being a victim of cyberbullying and social anxiety (Xia et al., 2023). It is important to note that, except for the few studies mentioned, no other studies were found that explicitly examined the mediating role of feelings

of inferiority in the relationship between school bullying and academic achievement in students with social anxiety. Therefore, only studies that somewhat converged with the results of the present study have been mentioned.

In explaining the results of the present study, it is essential to first consider the direct link between school bullying and feelings of inferiority. Whether bullying occurs through being the target of bullying, witnessing bullying behaviors, or engaging in bullying behavior, it is linked to feelings of psychological and social insecurity, as well as self-worth, through self-evaluation and social evaluation by others (Zhong et al., 2021). For example, students who exhibit bullying behaviors in their interactions with others in educational environments may experience rejection, retaliation from peers, grouping with students with low or weak motivation, and gradually face failure, punishment, or other problems (Kiaei, 2019). Similarly, students who are frequently targeted by other students for bullying become involved in negative self-evaluations, which harms their self-esteem and results in social anxiety (Wu et al., 2021; Xia et al., 2023). The ultimate outcome of such evaluations in each of the mentioned student groups gradually leads to the development of feelings of worthlessness, insecurity, and self-deprecation, or what is termed feelings of inferiority.

With the gradual increase in feelings of inferiority, it is important to note that, during the experience of this emotion and phenomenon, the level of negative self-evaluations and beliefs about one's abilities in different situations slowly intensifies, focusing on failures and negative events where the individual believes they did not perform adequately or acceptably. This intensification of negative evaluations helps maintain and stabilize feelings of inferiority. Once these feelings are maintained in the psychological space of students involved in bullying, especially those with social anxiety who obtain clear evidence of their anxiety from



bullying experiences, their performance in various educational areas gradually declines. Based on theoretical approaches to emotion evaluation, coupled with negative cognitive, emotional, and behavioral evaluations (Shen et al., 2022; Tjahyani et al., 2024), feelings of inferiority emerge as a mediating variable in the relationship between school bullying and decreased academic achievement, similar to the findings of the present study. In fact, bullying behaviors, whether from bullying-targeted students or the students themselves involved in such behaviors, when interpreted explicitly and implicitly as weakness, worthlessness, lack of skills, and personal incapacity in behavioral, cognitive, and emotional domains, can easily create an environment that increases feelings of psychological threat and insecurity, diverting students' attention from academic work and efforts toward academic success.

Considering the mechanisms discussed about the link between school bullying and feelings of inferiority, as well as the debilitating role of feelings of inferiority in academic achievement in middle school students with social anxiety, it is possible to preliminarily identify the underlying mechanism for the diminishing academic success of these students as a vicious cycle involving social anxiety, followed by feelings of inferiority, and eventually the exacerbation of social anxiety resulting from escalating negative self-evaluations. This vicious cycle undoubtedly requires educational and therapeutic interventions for students who are simultaneously dealing with social anxiety and who, through displaying anxiety and concerns in behavioral and visible forms, are identified as suitable targets for bullying by other students prone to bullying.

## 5. Limitations & Suggestions

In conclusion, attention must be given to the limitations of this study. The first limitation is that this study was conducted on middle school students with social anxiety in the city of Wasit, Iraq, and therefore, caution is needed when generalizing the results to other populations. To address this limitation, future studies should include other samples. Additionally, future research could explore the role of protective variables, such as coping skills and stress and conflict resolution styles, in students. Finally, considering that in the present study, feelings of inferiority played a mediating role in the relationship between school bullying and weakened academic achievement, it is recommended that educational programs on coping with social anxiety and

school bullying be developed to enhance students' sense of empowerment. These programs could be delivered by experienced educational psychologists in middle schools in the city of Wasit, integrated into short-term to mid-term planning within the educational system.

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#### **Declaration of Interest**

The authors of this article declared no conflict of interest.

#### **Ethical Considerations**

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

#### Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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#### **Authors' Contributions**

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