

Predicting School Anxiety Based on Procrastination, Attachment to Parents, and Students' Personality Traits

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ABSTRACT

Objective: The aim of this research was to predict school anxiety based on procrastination, attachment to parents, and personality traits among students in Diwaniyah city, Iraq.

Methods and Materials: This study was descriptive and correlational. The statistical population consisted of both female and male students from Diwaniyah. The sample was selected through convenience sampling, including 300 students of both genders. The research instruments were the researcher-made School Anxiety Scale, Solomon and Rothblum's (1984) Academic Procrastination Questionnaire, Armsden and Greenberg's (1987) Inventory of Parent and Peer Attachment, and Costa and McCrae's (1992) Five Factor Personality Questionnaire.

Findings: Results indicated that neuroticism and insecure attachment styles to peers and parents have a significant positive relationship with academic procrastination, while secure attachment to parents and peers, openness to experience, and conscientiousness have a significant negative relationship with academic procrastination; extraversion and agreeableness were not related to academic procrastination. Stepwise regression results showed that openness to experience, conscientiousness, and secure attachment style to peers and parents can predict procrastination.

Conclusion: It can be concluded that school anxiety can be predicted by procrastination, attachment to parents, and students' personality traits.

Keywords: *Academic Procrastination, School Anxiety, Attachment Style, Personality Traits*

1. Introduction

Students face various issues for growth and academic success in school, one of which is school anxiety. School anxiety refers to a student's anxiety related to the environment, conditions, school staff, classmates,

assignments, teachers, and exams, which can reduce their academic performance and reinforce a belief in their incapacity in a way that the student may lack engagement for school and its environment and responsibilities (York et al., 2019). School anxiety refers to a set of physiological, cognitive, and behavioral responses related to school. Some

of these include increased heart rate, trembling, increased sweating, and dry mouth. Cognitive symptoms include reduced attention and concentration, distraction, increased errors, and reduced organizational ability, which appear in the school setting (Ragusa et al., 2023). Students who experience high levels of exam anxiety show less of their study and learning skills both while studying and during exams, and many students, despite having good cognitive abilities, are unable to demonstrate their abilities due to experiencing high levels of anxiety. Familiarizing students with this type of anxiety, analyzing its causes and factors, and ways to cope with it can significantly help increase their success. Also, managing and controlling these emotional and behavioral reactions in school will lead to increased efficiency, help better manage time and resources, increase student productivity, and ultimately prevent failure in school (Fredricks et al., 2004; Sayedi et al., 2017).

One of the issues that can lead to school anxiety is academic procrastination. Academic procrastination, in its simplest form, is delaying tasks without any logical justification. Procrastination means that the student postpones necessary academic tasks, preferring to start with less urgent tasks. In other words, they prioritize tasks that are more pleasurable or less painful in their activity list, regardless of their actual importance and urgency (Karatas, 2015). The fact that humans prefer to engage in pleasure-inducing behaviors and avoid painful ones, rather than thinking about the long-term effects of their decisions and behaviors, refers to the pleasure principle in psychoanalytic theory. Procrastination and delaying can be considered a serious behavioral problem when it has the following characteristics: it reduces efficiency, exists in essential tasks and activities, and generally leads to delays in activities (Kufiyak, 2022).

It seems that the early attachment style in students, formed within the family, can also affect them in school. In fact, separation anxiety, which may result from insecure attachment, may first manifest significantly in school (Berber Çelik & Odaci, 2022). According to Bowlby, attachment occurs when a warm, intimate, and enduring relationship between the individual and the mother, which is satisfying and joyful for both, exists (Sung et al., 2020). Availability and emotional responsiveness are the building blocks of secure relationships. Individuals with this style find it easy to establish close relationships with others and feel comfortable relying on others and allowing others to rely on them. Secure attachment in the early years is most strongly associated with strong self-confidence,

independence, autonomy, trust, intimacy and emotions, flexibility, self-regulation, stable relationships, ethics and social adaptation skills, positive beliefs, compassion and empathy, and academic success. In fact, students with a secure attachment style may experience less anxiety in school because they generally feel more secure. A student with a secure attachment style is capable of separating from parents when entering school, can feel calm in school, and establish appropriate relationships with teachers and other students (Sayedi et al., 2017). On the other hand, it cannot be overlooked that personality significantly affects family relationships (Boonk et al., 2018).

The Five Factor Model of personality has evolved over four decades and encompasses five factors: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. These traits are believed to have a largely genetic basis and are remarkably stable over time. Previous research findings suggest that personality, as it influences normal thoughts and behaviors, also plays a significant role in the formation of abnormal behavior (Costa & McCrae, 2008; Costa & McCrae, 2014). These five factors provide a framework for explaining individual differences in personality. Neuroticism is based on the experience of desirable and chronic emotions; extraversion includes traits such as being social, assertive, active, and likable; openness to experience describes individuals receptive to experience: Individuals open to experience are interested in experiencing for the sake of experience itself, are eager for variety, tolerate ambiguity, and have a richer, more complex, and unconventional life. In contrast, individuals not open to experience seem weak in imagination, insensitive to art and beauty, have limited emotions (McCrae & Costa, 2021), are behaviorally rigid, and ideologically dogmatic." Agreeableness emphasizes individuals' interpersonal orientations. By definition, an agreeable person is kind, empathizes with others, and is eager to help them; conscientiousness encompasses a sense of duty and a need for achievement and organization (Costa & McCrae, 2014; McCrae et al., 2005; McCrae & Costa, 2021). Nonetheless, it has long been established that personality can influence educational constructs (Bergold & Steinmayr, 2018). One of these constructs is academic engagement.

Creating motivation and academic engagement in students so that they can succeed in their studies is one of the significant challenges in the field of improving the quality of education. One of the most important indicators of improving the quality of education is the academic engagement of students. Academic engagement is a type of

psychological investment and direct effort for learning, understanding, and mastering necessary knowledge and skills. This construct was first introduced to understand and explain academic failure and decline and was considered a basis for reformative efforts in the field of education (Martínez et al., 2019). Academic engagement has been described as the psychological capital of students and their direct effort for learning and acquiring skills, and the desire to improve their level of success, which can lead to effective participation in school activities, involvement in classroom activities, adaptation to school culture, and proper relationships with teachers and other students (Datu & King, 2018).

Iraq is a country that has been involved in war for many years and is now facing various threats and is in a period of reconstruction. It is essential for Iraqi students, as the future builders of the country, to make the most of their abilities. In this context, school anxiety is a significant educational harm that is an obstacle to the growth and flourishing of students and should be addressed in research. The results of this research could pave the way for preventive and corrective plans for this educational harm. Therefore, this research aimed to answer whether academic procrastination, attachment styles, and personality traits can predict academic anxiety.

2. Methods and Materials

2.1. Study Design and Participants

This study, aimed at predicting school anxiety based on procrastination, attachment to parents, and personality traits, employed a descriptive and correlational design. The population consisted of high school boys and girls in the city of Diwaniyah. Due to the large sample size and the high number of questions, a convenience sampling method was used, including 200 students of both genders. For selecting the sample size for each variable and sub-variable, based on Tabachnick and colleagues' (2013) recommendation in correlational research to select between ten to twenty individuals per variable, twenty individuals were chosen for each variable and sub-variable. The sampling method was convenience sampling from various high schools in Diwaniyah. Inclusion criteria were being a student, being a student from Diwaniyah, willing to participate in the research, and a maximum age of 18 years. Exclusion criteria included addiction to drugs or alcohol, which were identified through questions in the designed questionnaire and if

confirmed by the participants, they were excluded from the study, not being in high school.

2.2. Measures

2.2.1. School Anxiety

To measure school anxiety, a researcher-made School Anxiety Scale was used, consisting of 12 questions developed under the supervision of an advisor. It included questions about the school environment (e.g., feeling anxious and worried when thinking about going to school), teachers (some of my teachers make me anxious), peers (my classmates make me feel bad), and learning new things (I get anxious about having to learn new things). Each question was rated on a five-point scale from strongly agree (5) to strongly disagree (1). The scale's face and content validity were confirmed by seven school counseling experts. In a preliminary study, its internal consistency on thirty students was 0.95, and for the total sample, it was 0.87.

2.2.2. Academic Procrastination

To measure academic procrastination, Solomon and Rothblum's (1988) scale was used, containing 27 questions covering three components: preparation for exams (8 questions), preparing assignments (11 questions), and readiness for assignment presentations. Scoring was on a four-point scale from rarely (1) to always (4). The test's internal consistency was reported at 0.79 using Cronbach's alpha. Its convergent validity was confirmed through its relationship with Beck's Depression Inventory, Rosenberg's Self-esteem Scale, and Ellis's Irrational Beliefs (Besharat & Farahmand, 2018; Solomon & Rothblum, 1988).

2.2.3. Attachment to Parents Style

This questionnaire was developed by Armsden and Greenberg (1987) and consists of 67 items. It is a self-assessment Likert scale from strongly disagree (1) to strongly agree (5), assessing secure and insecure attachment styles to friends and parents. The questionnaire does not include reverse scoring. Its internal consistency for all subscales was above 0.78. The construct validity of this questionnaire was examined through factor analysis. In this study, Cronbach's alpha coefficients for the subscales of secure attachment to parents and peers were 0.82 and 0.72 for mothers and fathers, respectively, and 0.88 and 0.78 for insecure attachment, respectively. The internal consistency for the subscale of secure attachment to the father was

$\alpha=0.87$ and to the mother was $\alpha=0.77$. It is worth mentioning that the secure parental attachment style was the sum of secure attachment to both father and mother, and the same was done for insecure attachment (Armsden & Greenberg, 1987; Sayedi et al., 2017).

2.2.4. *Personality Traits*

The NEO-FFI was used to measure personality dimensions, including neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. The short form consists of 60 items, with each scale comprising 12 items that had the highest factor loadings on each of the five factors. Participants rated their agreement or disagreement on a five-point scale from (1) strongly agree to (5) strongly disagree, with higher scores indicating higher levels of neuroticism, extraversion, openness, agreeableness, and conscientiousness. The internal consistency of this questionnaire in Iran was reported as appropriate (McCrae et al., 2005; Vesal et al., 2022). In this study, internal consistency was recalculated for the statistical population, and for all subscales, it was above 0.60.

2.2.5. *Academic Engagement*

This scale, developed by Fredricks and colleagues (2004), consists of 15 items measuring three subscales of behavioral,

emotional, and cognitive engagement. Each item is scored on a scale from 1 to 5, ranging from never to all the time. The reliability of this scale was initially determined among 200 medical students from different fields, resulting in a Cronbach's alpha coefficient of 0.66. Fredricks and colleagues reported the reliability coefficient of this scale as 0.86. In this study, the overall score of the Academic Engagement Scale was of interest, and its internal consistency was recalculated, resulting in a coefficient higher than 0.76 (Fredricks et al., 2004; Sheivandi & Dartaj, 2017).

2.3. *Data analysis*

Data from this research were analyzed using both descriptive (mean and standard deviation) and inferential statistics (correlation and multiple regression). Calculations were performed using SPSS version 23 software.

3. **Findings and Results**

To examine the research hypothesis that attachment styles, family relationships, personality traits, and academic engagement can predict school anxiety, Pearson correlation and stepwise regression analysis were used. Table 1 presents the means and standard deviations of the variables.

Table 1

Descriptive Findings

Research Variables	Mean	Standard Deviation	Correlation	Significance
School Anxiety	27.49	7.91	1	<0.000
Procrastination	47.29	19.77	0.082	0.123
Secure Attachment	28.61	14.58	-0.192	<0.003
Insecure Attachment	19.82	11.50	0.337	<0.000
Academic Engagement	27.45	15.53	-0.250	<0.000
Neuroticism	27.44	12.61	0.369	<0.000
Extraversion	36.33	11.54	-0.253	<0.000
Openness to Experience	34.79	12.08	-0.184	<0.005
Agreeableness	36.52	11.01	0.139	<0.025
Conscientiousness	35.53	13.70	-0.258	<0.000

The mean and standard deviation for school anxiety were 27.49 ± 7.91 ; for attachment styles (secure attachment was 28.61 ± 14.58 and insecure attachment was 19.82 ± 11.50); for academic engagement, it was 27.45 ± 15.53 . The means and standard deviations for personality traits were as follows: neuroticism was 27.44 ± 12.61 , extraversion was 36.33 ± 11.54 , openness to experience was 34.79 ± 12.08 , agreeableness was 36.52 ± 11.01 , and conscientiousness was

35.53 ± 13.70 . As observed in Table 1, all predictive variables except procrastination have a significant relationship with school anxiety. Among the predictive variables, secure attachment, academic engagement, extraversion, openness to experience, and conscientiousness have a significant negative relationship with school anxiety, while insecure attachment, neuroticism, and agreeableness have a significant positive relationship with school anxiety.

Table 2

Stepwise Regression Analysis for Predicting School Anxiety Based on Academic Engagement, Attachment Styles to Parents, Neuroticism, Openness to Experience, and Conscientiousness

Step	Variables Entered into the Equation	Regression Coefficient	Squared Regression Coefficient	Net Share	F	df1	df2	Significance
1	Neuroticism	0.369	0.136	0.136	31.29	1	198	<0.000
2	Neuroticism + Openness to Experience	0.424	0.180	0.044	10.48	1	197	<0.001
3	Neuroticism + Openness + Extraversion	0.451	0.203	0.023	5.65	1	196	<0.018
4	Neuroticism + Openness + Extraversion + Secure Attachment	0.474	0.225	0.022	5.41	1	195	<0.021

As seen in Table 2, among the variables studied, in the first step, neuroticism entered the regression equation with a regression coefficient of 0.136 and was able to predict 13.6% of the variance in school anxiety ($p < 0.000$). In the second step, openness to experience entered the regression equation with a coefficient of 0.424, and alongside neuroticism, it was able to predict 18% of the variance in school anxiety and alone could explain 4.4% of the variance in school anxiety ($p < 0.001$). In the third step, openness to experience with a

coefficient of 0.451 entered the model and could, alongside neuroticism and extraversion, predict 20.3% of the variance in school anxiety and alone could predict 2.3% of the variance in school anxiety. In the fourth step, secure attachment entered the regression model with a coefficient of 0.474 and alongside neuroticism, extraversion, and openness to experience, was able to predict 22.5% of school anxiety and alone could predict 2.2% of the variance in school anxiety.

Table 3

One-Way ANOVA for Assessing the Significance of the Contribution of Neuroticism, Extraversion, Openness to Experience, and Secure Attachment in Predicting School Anxiety

Variable	Regression/Residual	Sum of Squares	Degrees of Freedom	Mean Squares	F	Significance
Neuroticism	Regression	2699.96	1	1699.96	31.299	<0.000
	Residual	10754.017	198	54.31		
Total		12453.980	199			
Extraversion	Regression	2243.46	1	1121.73	21.64	<0.000
	Residual	10210.511	197	51.83		
Total		12453.980	199			
Openness to Experience	Regression	2529.54	3	843.18	16.65	<0.000
	Residual	9924.43	196	50.63		
Total		12453.980	199			
Secure Attachment	Regression	2797.64	4	699.41	14.12	<0.000
	Residual	9656.33	195	49.52		
Total		12453.980	199			

As observed in Table 3, the predictive contributions at each stage were statistically significant and reliable ($p < 0.000$).

Table 4 shows the regression equation coefficients for predicting school anxiety based on neuroticism, extraversion, openness to experience, and secure attachment.

Table 4

Raw and Standardized Regression Coefficients for Predicting School Anxiety Based on Neuroticism, Extraversion, Openness to Experience, and Secure Attachment

Variable	Raw Coefficient (B)	Standard Error	Beta Coefficient	T	Significance
Constant	7.006	-6.006	-	1.16	0.245
Neuroticism	0.489	0.088	0.780	5.53	<0.000

Extraversion	-0.216	0.075	0.330	2.88	0.004
Openness to Experience	-0.157	0.045	-0.156	-2.37	0.018
Secure Attachment	-0.129	0.051	0.221	2.32	0.021

As shown in Table 4, the raw and standardized coefficients for predicting the school anxiety equation based on neuroticism, extraversion, openness to experience, and secure attachment are presented and are all statistically significant.

4. Discussion and Conclusion

No research with this title has been conducted that allows for comparison of findings with other studies. However, previous research has shown relationships between some of the variables studied and school anxiety, such as the findings of Andrew and Hicks (2017) on the relationship between attachment style and anxiety (Andrews & Hicks, 2017); however, these findings do not align with studies showing a relationship between procrastination and anxiety, such as the findings of Spalovska and Jerkonkova (2018) and Ragusa et al. (2023), which showed a relationship between procrastination and anxiety (Ragusa et al., 2023; Saplavskva & Jerkunkova, 2018).

Explaining the lack of a significant relationship between school anxiety and procrastination, it can be said that since procrastination means neglect and indifference to tasks and duties and, on the other hand, being occupied with unimportant and pleasurable tasks and delaying tasks without a purposeful approach to important academic life matters, whereas academic engagement in students means inclination towards school, teacher, learning environment, and love for learning, making it easier for students with academic engagement to tolerate learning ambiguities and withstand learning difficulties, being purposeful in academic life and acting according to a plan (Freudenberg & Samarkovski, 2014), it is expected that a person with academic engagement would have less procrastination.

In explaining the negative relationship between openness to experience and conscientiousness with procrastination, it can be said that since openness to experience is related to cognitive intelligence and measures the ability to think, embrace learning, and creativity, therefore, with increased openness to experience, cognitive intelligence might also increase, and the student might learn faster and better, reducing fear of learning, thus learning is quick, and completing and presenting assignments is easy for them, so such individuals are expected to have lower procrastination. Regarding conscientiousness, it can be said that a

conscientious person has an appropriate sense of competence; is dutiful, has internal and external discipline, and one of the important indicators is perseverance (Xie & Cobb, 2020), hence, such an individual is also expected to suffer less from procrastination.

Finally, neuroticism had a significant positive relationship with school anxiety. To explain this finding, it can be said that since a person with neuroticism has anxiety, suffers from depression, is sensitive to criticism, is preoccupied with themselves, is not satisfied with themselves, does not believe in themselves, and has anger and resentment towards themselves and others, therefore, their energy is spent more on ruminations, anxious thoughts, and negative emotions rather than on learning and academic tasks (Aravand et al., 2023), potentially leading to weaknesses in tasks and thus, neuroticism increases school anxiety.

Moreover, the results showed that agreeableness and conscientiousness have a significant positive relationship with school anxiety. The reason for this relationship can be explained by the fact that agreeableness means that a person shows humility, compliance, and empathy in relationships (Costa & McCrae, 2014), and with increased school anxiety, boldness may decrease, hence, the person may not be able to act boldly in their relationships, and this state manifests as agreeableness and compliance in relationships.

In explaining the negative relationship between conscientiousness and school anxiety, it can be said that a sense of competence and worthiness, orderliness, a sense of competence, dutifulness, perseverance, and self-control (Paul T. Costa et al., 2019; Vesal et al., 2022) leads to success in completing academic tasks and duties, attracting attention from teachers and school staff, which along with success in learning tasks helps to experience good relationships in school and thus experience less school anxiety.

5. Limitations & Suggestions

Overall, the results of this study showed that personality traits and secure attachment style are upstream variables that have the power to predict school anxiety. At the same time, academic engagement, conscientiousness, agreeableness, and insecure attachment style, although not predictive, have a significant negative correlation with procrastination,

meaning that with increased academic engagement, improvement in conscientiousness and agreeableness can reduce school anxiety in students.

This research, like other studies, had limitations, including the non-random selection of the sample and the population being limited to high school students in Diwaniyah, and generalization of the results to other cities should be avoided. It is recommended that future researchers use structural equation modeling to examine causal relationships between variables. It is also recommended for educational counselors to consider reducing academic procrastination and improving conscientiousness, openness to experience, and neuroticism in students.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics 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

All authors equally contributed to this article.

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