# Family Attitude, Academic Procrastination and Test Anxiety as Predictors of Academic Achievement

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**Abstract:** In this study, the relationship between high school students' test anxiety, academic procrastination behaviours, family attitudes and academic achievements were examined; the predicting of test anxiety, academic procrastination and family attitudes on the academic achievement was also investigated. The participants of the study were composed of 496 high school students. The end-of-term grade average of the students was defined as the criterion of their academic achievements. The students' test anxiety was measured by the Revised Test Anxiety Scale and the academic procrastination behaviours by the Academic Procrastination Scale. The family attitudes were measured by determining the frequency of the activities that support the academic achievement of the students. Data were analysed by correlation and regression methods. The findings indicate that there was a negative correlation between "achievement score" and "anxiety", "test irrelevant thinking" and "academic procrastination" while there was a positive correlation between "achievement score" and "family attitude". The findings also revealed that "tension", "bodily symptoms" and "family attitude" significantly predicted the "end-of-term grade average" positively, while "worry", "test irrelevant thinking" and "academic procrastination" significantly predicted the "achievement score" negatively. The findings were discussed in the light of literature along with the suggestions for further studies.

**Keywords:** *Academic achievement, family attitudes, academic procrastination, test anxiety.*

## Introduction

In this study, the relationship between high school students' test anxiety, academic procrastination behaviours, family attitudes related to academic achievement and students' academic achievements were examined; and to what extent text anxiety, academic procrastination behaviours, family attitudes related to academic achievement predicted the academic achievement was investigated.

Academic achievement is fairly significant for students themselves, their families and the society they belong to. Academic success makes an economic, social and psychological contribution to an individual and his / her family (Yildirim, 2000). Participation of the individual to the society as a collective workforce with a successful academic life and good education will contribute to the development of the society. In this respect, it is crucial to investigate and define the factors that affect academic achievement. In his extensive study which examined the factors affecting students' academic achievement, Sarier (2016) conducted a meta-analysis of 62 studies whose participants were the primary and secondary students in Turkey. At the end of the research, the factors affecting academic achievement were listed under three headings. These include the characteristics of the student's own (motivation, self-efficacy, self-esteem and study habit), school (attitude towards the course, leading teacher, school culture, schoolmaster leadership) and family (socioeconomic level, the participation of the parents to the education process, the attitude and behaviours of parents and their education level). It was highlighted that these three factors play a significant role in academic achievement (Sarier, 2016). In this research, academic procrastination, test anxiety and family attitude which are defined among the individual characteristics of the students in the literature were tried to be investigated.

Procrastination behaviour is a common situation that is encountered in today's society. This behaviour is defined as leaving a job or task to a later stage, postponing or deferring it. In the literature, procrastination behaviour is defined as; leaving and deferring the planned tasks and duties to a later time (Lay, 1986) or leaving the final tasks to be done, decisions to be taken and responsibilities to the last minute (Haycock, McCharty & Skay, 1998). Similarly, academic procrastination is explained as the taking place of deferring behaviour in the education process. Schouwenburg (1992) defines academic procrastination as the deliberate postponing of academic duties due to the fear of making mistakes.

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Solomon and Rothblum (1984) define academic procrastination as leaving the homework, studying for exams or final homework at the last minute. Ferrari and Scher (2000) stated that those who tend to have academic procrastination behaviours avoided their academic duties and failed to reach their goals due to the fear of failure. In other words, individuals who demonstrate academic procrastination behaviour fail to do what they need to accomplish their goals. Furthermore, procrastination may have severe consequences for academic achievement because academic procrastination affects students' both grades and well-being (Wesley, 1994; Kim & Seo, 2015).When its definition is taken into account, academic procrastination behavior includes the actions and behaviours that affect the productivity of the individual in the negative direction. Terzi, Uyangor and Dulker (2017) stated that, there was a significant negative correlation between academic procrastination and academic motivation and academic motivation is predictive of academic procrastination behavior. Rothblum, Solomon, and Murakami (1986) describe academic procrastination as a tendency to permanently or sometimes delay academic duties and this deferring action results with anxiety. On the other hand, the psychoanalytic theory asserts that anxiety has an effect on procrastination behaviour. In Freud's "Inhibitions, Symptoms and Anxiety" article, anxiety is defined as the pent-up and destructive subconscious stimulus signals that are sent to the ego. He claimed that, in case of anxiety, ego uses several defense mechanisms and the individual demonstrates avoidance (procrastination) behaviour because the avoided or incomplete duties act as a threatening factor for ego (Erfidan, 2015). Kaan, Cakir, Ilhan and Kandemir (2010) stated that students can demonstrate academic procrastination behaviours in order to cope with their anxiety. Haycock et al. (1998) put forward that anxiety level is one of the predictors of procrastination behaviour. In the light of these statements, it can be affirmed that academic procrastination behaviour and anxiety are interrelated concepts.

One of the types of the anxiety is test anxiety. According to Spielberger (1995), test anxiety that occurs during a formal examination or assessment is a worrisome and unpleasant emotional condition that has cognitive, emotional and behavioural aspects preventing the individual from showing his/her actual performance (Szafranski, Barrera and Norton, 2012). Similarly, Cetinkaya (2018) defines the test anxiety as a type of anxiety that prevents the use of previously acquired information in an effective form during the examination and it also decreases the success of the individual. Aydin (2017) studied test anxiety with sample Turkish students from different school types and states that test anxiety has important influences on academic outcomes. Test anxiety can stem from students' self-efficacy and self-confidence beliefs, expectations of the community and the family, attitudes of teachers in the process of education and attitudes of friends of the students (Akan, 2011). Just as the expectations of society, the neighbourhood and the community influence the anxiety of the student, these factors also have an influence on the academic success of the student. Trivette and Anderson's 1995 study (as cited in Keceli-Kaysili, 2008), which investigated the relationship between academic achievement and family participation components (academic expectations of the family, participation in school activities and programs, home environment that supports learning, communicating with the child about the school) with the participation of 8-grade students and their families, found that academic expectation is the most influential factor for families. Jeynes (2007) examined the effect of the participation of the family on educational outcome in his research which was a meta-analysis of 52 studies whose participants were the students in American public schools. In the study, it was found out that family participation had a positive effect on the academic achievement of high school students. Kapikiran and Ozgungor (2009) examined the relationship of academic success in terms of social support, family, friends and sub-dimensions of various variables; revealing that the best predictors were school type, motivation, number of siblings and family support.

The relationship between the test anxiety, academic procrastination behaviours, family attitude, and their effects on the academic achievement of the individuals were revealed by many different researches (Culler& Holahan,1980; Solomon & Rothblum,1984; Hunsley, 1985; Beswick, Rothblum & Mann, 1988; Yildirim, 2000; Yildirim & Ergene, 2003; Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi, & McCann, 2005; Jeynes, 2007; Kapikiran & Ozgungor, 2009; Balkis & Duru, 2010; Hussain & Sultan, 2010; Ozer & Altun, 2011; Szafranski, Barrera, & Norton, 2012).

The theoretical framework presented above reveals that academic procrastination, test anxiety, and the attitude of the family related to the success of the student have an impact on student achievement. It is important to examine the above-mentioned variables as a predictor of academic success in the Turkish Education System, where academic success is considered crucial.

## Methodology

In this section, in order to clarify the method used to gather the necessary data to answer the sub-problems of the research; research model, study group, the collection of data, data collection tools and how to analyse and interpret data are explained.

Problem

The research questions of this study are as follows:

1- What is the relationship between high school students' test anxiety, academic procrastination behaviours, attitudes of their parents related to academic achievement and academic achievement?

2- To what extent test anxiety, academic procrastination behaviours, attitudes of the parents related to academic achievement predict the academic achievement?

*Research Model*

The relational survey model was used in this research to descriptively determine the relationship between high school students' academic procrastination behaviour, test anxiety, family attitudes and academic achievement of students and the extent to which these factors predict academic achievement. The relational survey model is a research model that aims to determine the presence of interchanges between two or more variables (Karasar, 2016).

*Participants*

The participants of the study, who were high school students, were randomly selected using a clustered sampling design to represent high school students from five schools in Balikesir. Balikesir, which is a densely populated city, constitutes in west part of Turkey. The five schools were similar in size, socioeconomic status and academic achievement. Of the 496 participants, 274 (55.2%) were female and 222 (44.8%) were male students. Of these students, 110 (22.1%) were 9th grade, 190 (38.3%) were 10th grade, 104 (20.9%) were 11th grade and 92 (18.7%) were 12th grade students.

*Data Collection Procedure*

The data were collected at the end of the second semester of the 2017-2018 academic year with the data collection tools mentioned below. The scales used in the research were applied by the researchers. Scales was administered to students within one class period (45 min). Each student received a copy of the instruments, which included demographic questions (grade level and gender) When the data were collected, participants were informed about the purpose, significance and methodology of the study. Additionally, the rationale behind the subject choice was clarified. Participants were also informed that participation was voluntary. Moreover, participants were also ensured about the anonymity and the confidentiality of their answers and their personal information. They were guaranteed that the information gathered from the survey was going to be used for only scientific purposes. In this way, the scores of "academic procrastination behaviour", "tension", "bodily symptoms", "worry", "test irrelevant thinking" and "attitudes of the parents" were gathered. The "end-of-term grade average" of the students was taken from the "e-school" system which is the online student tracking system of the Ministry of Education in Turkey.

*Data Collection Tools*

As means of data collection in the study; Revised Test Anxiety Scale, Academic Procrastination Scale, and questions structured by researchers to determine the attitude of the family were used.

Revised Test Anxiety Scale (RTA) was developed by Benson and El-Zahhar (1994) and adapted to Turkish by Akin, Demirci and Aslan (2012). The participants of the study were high school students. The Revised Test Anxiety Scale includes 20 items and 5 subscales which are Tension (5 items, e.g. "During a course examination, I get so nervous"), Bodily Symptoms (5 items, e.g. "I feel that my mouth is dry in the exam") Worry (6 items e.g. "During tests, I find myself thinking of the consequences of failing"), Test Irrelevant Thinking (4 items, e.g. "While taking tests, I sometimes think about being somewhere else"). A four-level Likert scale was used; (1) Not at all typical of me (2) Only somewhat typical of me (3) Quite typical of me (4) Very typical of me. There is no reverse scoring item on the scale, and the high score on the scale indicates that there is a high level of test anxiety. Scores related to subscales were also obtained. Cronbach alpha reliability coefficients were found as .78 for the Tension subscale, .77 for the Bodily Symptoms subscale, .71 for the Worry subscale .80 for the Test Irrelevant Thinking subscale and .88 for the overall scale.

Academic Procrastination Scale: The Academic Procrastination Scale developed by Cakici (2003) was used in the research. The scale was developed in a research whose participants were high school and university students. The Academic Procrastination Scale consists of 19 statements, 12 of which are negative and 7 of which are positive (such as studying, studying for exams, preparing projects) that students are responsible for their learning process. Responses given to this scale were rated in a five-item Likert type scale, "Very untrue of me", "Somewhat untrue of me", "Somewhat true of me", "True of me", "Very true of me". The high scores obtained from the scale were accepted as the indicator of academic procrastination behaviour. The Cronbach alpha reliability coefficient of the academic procrastination scale was found to be .92. The overall score of the scale was used in the study.

Apart from these two scales, four questions were asked by the researchers to determine the attitude of families. The questions were intended to determine the extent to which the family would follow and support the academic development of the student. Students were asked to choose these options as their responses; (1) Never (2) Sometimes (3) Most of the time and (4) Always. The Questions are: "1-My family supports me to succeed in my classes."; "2- My family provides a suitable working environment for me to succeed in my classes."; "My family participates in school events and programs."; "4- My family is constantly in communication with me about the school." The overall score of the questions was used. High score was regarded as the indicator of the positive attitude.

The Cronbach alpha reliability coefficient test of the Revised Test Anxiety Scale, Academic Procrastination Scale, and the questions, which were asked by the researchers to determine the attitude of families, were conducted with the study group (n=496). Cronbach alpha reliability coefficients for Test Anxiety Scale were found as α =.74 for the tension subscale, α =.79 for the bodily symptoms subscale, α =.76 for the worry subscale, α =.84 for the test irrelevant thinking subscale and α =.89 for the overall scale. Cronbach alpha reliability coefficients for the academic procrastination scale was found to be α =.92 and the questionnaire for family attitudes was α =.84. All these estimates were acceptable indicating satisfactory reliability ( > .70; Buyukozturk, 2011) for both the whole instruments. The validity of the scales, which used in the study, was also tested. Scales items' scores compared with subscales total scores using Pearson correlation analysis and contrasted with coefficient r. Critical values for correlation coefficient taken from Rohlf and Sokal (1969). In this study N = 489 and critical value for correlation coefficient were r = .115 and α= .01(Rohlf &Sokal, 1969). Tension sub- scale's items coefficient values (r = .457 or higher), bodily symptoms subscale's items coefficient values (r = . 569 or higher), worry subscale's items coefficient values (r = . 658 or higher) and test irrelevant thinking sub- scale's items coefficient values (r = .544 or higher) were higher than critical value for correlation coefficient. Similarly academic procrastination scale's items coefficient values ( r = .457 or higher) and family attitudes questionarrie's items coefficient values ( r = .457 or higher) were higher than critical value for correlation coefficient.

*Data Analysis*

Six different scores were obtained from the instruments and achievement scores were taken from the e-school system. For the analysis of the scores obtained, the normality and variance homogeneity were tested. Kolmogorov – Smirnov (K-S) test used for testing normality of the distribution and Levene's test used for variance homogeneity. Scores distributions, which were obtained tension subscale (K-S Z=1.205, p=.086), bodily symptoms subscale (K-S Z=1.605, p=.068), worry subscale (K-S Z=1.336, p=.056) and test irrelevant thinking subscale (K-S Z=1.266, p=.079), were normal. Academic Procrastination Scale scores distributions (K-S Z= 1.192, p= .117), family attitudes scores distributions (K-S Z =1.024, p= .154) and end-of-term grade average scores distributions (K-S Z = 1.285, p= .87) were normal. Acording to Levene's test, variances of tension subscale scores (F(1-494) = 1.768, p=.165), bodily symptoms subscale scores (F(1-494) = 1.307, p=.254), worry subscale scores (F(1-494) = 1.119, p=.143), test irrelevant thinking subscale scores (F(1-494) = 1.785, p=.182), family attitudes scores (F(1-494) =.678, p=.410) and end of term grade average scores (F(1-494) = 1.838, p=.1623) were homogeneous.

A Pearson correlation analysis was performed to determine the correlation of scores. Regression analysis was conducted to determine the level of how test anxiety, academic procrastination behaviours and family attitudes related to academic success predict the academic achievement. "Enter" method was used in regression analysis. In the study, the significance level used in the hypothesis tests was accepted as .001 in the correlation calculation and .05 in the multiple regression analysis. Analyses were made with SPSS 17 software. In analysing the correlations between variables, correlation coefficient (r) was interpreted according to the following statements; the low correlation for the score between .01 and .29, the moderate correlation for the score between .30 and .49, the high correlation for the score bigger than .05 in positive correlation. In negative correlation, low correlation for the score between -.29 and -.01, moderate correlation for the score between -49 and -.30, and high correlation for the score smaller than -.05. (Cohen, 1988).

### Findings

In this section, the analysis of the correlation between variables and their effects on academic achievement were made and presented with tables. To determine the relationship between variables; tension, bodily symptoms, worry, test irrelevant thinking  academic procrastination, family attitudes and end-of-term grade average, a correlation analysis was conducted and its results was shown in Table-1. When the findings were examined, it was observed that there was a low correlation in the negative direction between end-of-term grade average and worry (r = -.146, p < .001), test irrelevant thinking (r= -,196, p < .001) - and academic procrastination (r = -.245, p < .001), and a low correlation in the positive direction with family attitude (r = .288, p < .001). There was a low correlation in the negative direction between family attitude, worry (r= -.088, p < .001) and test irrelevant thinking (r= -.153, p < .001) while a moderate correlation with academic procrastination (r = -.345, p < .001) in the negative direction was observed. There was a positive low correlation between academic procrastination and worry (r = .151, p < .001) and a positive moderate correlation between academic procrastination and test irrelevant thinking (r = .363, p < .001). Positive correlations were found among the subscales of test anxiety.

*Table 1. Results of Correlation Analysis between Variables of Tension, Bodily Symptoms, Worry, Test Irrelevant Thinking, Academic Procrastination, Family Attitude and End-of-Term Grade Average*

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| 1- Tension | 1 | | | | | | |
| 2- Bodily Symptoms | .391* | 1 | | | | | |
| 3- Worry | .723* | .412* | 1 | | | | |
| 4- Test Irrelevant Thinking | .299* | .205* | .480* | 1 | | | |
| 5- Academic Procrastination | .076 | -.028 | .151* | .363* | 1 | | |
| 6- Family Attitude | .045 | -.058 | -.088* | -.153* | -.345* | 1 | |
| 7- End-of-Term Grade Average | .002 | .041 | -.146* | -.196* | -.245* | .288* | 1 |

p<.001

Regression analysis was carried out to determine to what extent the test anxiety, academic procrastination and family attitude predicted the end-of-term grade average. When the results of multiple regression analysis shown in Table 2 were examined, it can be seen that tension ($\beta$ = .141), bodily symptoms ($\beta$ =.099) and family attitude ($\beta$ =.216) significantly predicted the end-of-term grade average in positive direction, while worry ($\beta$ = -.213), test irrelevant thinking ($\beta$ = -.080) and academic procrastination ($\beta$ = -.118) significantly predicted the end-of-term grade average in negative direction. The six predictor variables explain the end-of-term grade average at 14% (R= .377, R2=.142, p= .000). According to the results of the analysis, family attitude has the highest regression coefficient (B=1.064) and worry has the lowest regression coefficient (B=-1.574).

Table 2. Results of Multiple Regression Analysis That Determine to What Extent the Variables of Tension, Bodily Symptoms, Worry, Test Irrelevant Thinking, Academic Procrastination and Family Attitude Predict the End-of-Term Grade Average

| Criterion Variable<br>Prediction Variables | End-of-Term Grade Average | | | | | |
|---|---|---|---|---|---|---|
| | R | $R^2$ | B | ß | t | p< |
| Constant | | | 90,304 | | 52,259 | ,000 |
| Tension | | | .864 | .141 | 2.263 | .024 |
| Bodily Symptoms | | | .648 | .099 | 2.118 | .035 |
| Worry | .377 | .142 | -1.574 | -.213 | -3.156 | .002 |
| Test Irrelevant Thinking | | | -.478 | -.080 | -1.574 | .016 |
| Academic Procrastination | | | -.857 | -.118 | -2.459 | .014 |
| Family Attitude | | | 1.064 | .216 | 4.773 | .000 |

## Discussion and Conclusion

As a result of the study, the correlation analysis revealed that there was a negative correlation between the end-of-term grade averages, in other words, the academic achievement of the students and tension, test irrelevant thinking and academic procrastination which were the sub-dimensions of test anxiety, while there was a positive correlation between the end-of-term grade averages and family attitude. A negative correlation was found between family attitude and worry, test irrelevant thinking and academic procrastination. On the other hand, a positive correlation was found between academic procrastination, worry and test irrelevant thinking. Positive correlations were observed among the variables of test anxiety. The results of the regression analysis revealed that the academic achievement of the students was significantly predicted by tension, bodily symptoms and family attitude in the positive direction and significantly predicted by test irrelevant thinking and academic procrastination in the negative direction. The six predictor variables explain the academic achievement of the students at 14%. While there was no meaningful correlation between the academic achievement of the students and tension and bodily symptoms which were among the subscales of test anxiety, regression analysis revealed that these variables had a positive effect on academic achievement.

Findings related to family attitudes are consistent with the findings of Yildirim (2000), DeBerard, Spielmans & Julka (2004), Kapikiran and Ozgungor (2009), Khajehpour (2011) and Zakeri et al (2013). It was determined that family attitude affects academic achievement at the highest level in the positive direction, while worry affects at the highest level in the negative direction. According to the findings, it is safe to say that the positive attitude of the family contributes to the increase in the academic achievement of the students.

In the studies that investigated the effect of test anxiety on academic achievement by Culler & Holahan (1980), Hunsley (1985), Yildirim (2000), Yildirim & Ergene (2003), Chapell et al. (2005), Szafranski, Barrera, & Norton (2012), it was found that the test anxiety had a negative effect on academic achievement. In this study, it was found that while the subscales of test anxiety worry and test irrelevant thinking had a negative effect on academic achievement, the other subscales of text anxiety tension and bodily symptoms had a positive effect on academic achievement.

The findings suggest that the students who have higher level of academic procrastination behaviours, shows low academic achievement. In other words academic procrastination was negatively correlated with academic performance. The findings of previous studies in the literature which investigated the relationship between academic procrastination behaviours and academic achievement showed similarities with the findings of this research (Beswick et al., 1988; Wesley, 1994; Ferrari & Scher, 2000; Cakici, 2003; Balkis & Duru, 2010; Kim & Seo, 2015; Cetin & Ceyhan, 2017, Kljajic & Gaudreau, 2018).

As stated in the introduction part, academic achievement is crucial for students themselves, their families and the society they belong to and they are expected to have a high academic achievement. It can be concluded that, to support the academic achievement, families should adopt a supportive attitude in the learning process of the students, academic procrastination behaviours should be prevented, and test anxiety should be kept at a certain level. Teachers should be aware of academic procrastination and test anxiety; and they have to know how to help their students. In addition to the studies to be carried out for exam anxiety and academic procrastination, it is necessary to give importance to the studies aimed at raising the support of the families of the students to the educational processes. Based on the results of the research, the following recommendations can be made:

1- The supportive attitude of families and monitoring the students' academic progress contribute to their academic success. The support that students get from their parents has a significant positive effect on their academic achievement. In this respect, during the education process, events can be organized that increase school - family interaction and raise awareness on how their families support their students.

2- The variables discussed in the study are sufficient to explain 14% of academic achievement. Therefore, it is necessary to give due importance to the lessons such as child and adolescent psychology, communication and counseling in higher education programs that educate teacher candidates. In addition, within the context of in-service training for teachers, it may be useful to develop and implement training programs.

3- Academic procrastination behaviours have a significant negative effect on students' academic achievement. Students should be given training in this regard and should be supported by teachers, parents and administrators to avoid their procrastination behaviours.

4- While the tension and bodily symptoms affect the academic achievement positively, worry and test irrelevant thinking have a negative effect all of which are components of test anxiety. In this circumstance, it can be noted that anxiety is useful to some extent but should be kept under control. For this reason, students should be given support on anxiety in general and test anxiety in particular. Other stakeholders in education should also involve in the process.

5- This research is structured on how six different variables affect the academic achievement of high school students. Similar research can be conducted by including other participant groups and other variables (peer influence, study styles, study time, learning environment, etc.). It will be meaningful to test academic achievement in different ways.

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