Predictors of Academic Procrastination: Coping with Stress, Internet Addiction and Academic Motivation

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Abstract: The present study aims to examine the extent to which coping with stress, Internet addiction and academic motivation among university students explain their academic procrastination behaviors within a framework of a model. The study used a relational survey model; the sample group consisted of 407 students enrolled in the Faculty of Education and the Faculty of Sciences and Letters at Kirikkale University. Research data were obtained using the “Aitken Academic Procrastination Scale,” “Coping with Stress Scale,” “Internet Addiction Scale,” and “Academic Motivation Scale.” The Path analysis modeling was used to test the hypothesis models. The results of the study indicated that the academic procrastination behaviors of students are significantly predictable through coping with stress, Internet addiction and academic motivation within a framework of a model. “Academic motivation” was found to be the most important predictor of academic procrastination. The research results were compared to and discussed with regard to the literature of academic procrastination and relevant variables.

Key words: Academic Procrastination • Stress Coping • Internet Addiction • Academic Motivation

INTRODUCTION

It is known that students habitually procrastinate by avoiding their academic responsibilities, such as studying, doing homework and preparing for examinations; thus, fail to use their skills and potentials properly. Rothblum, Solomon and Murakami define academic procrastination as the continuous or occasional delay of academic duties [1]. According to Drye academic procrastination is a problem observed in areas such as preparing for examinations, doing homework, conducting projects or meetings with academic advisers and so on [2]. The procrastination behavior is defined as a conscious and planned action although it is expected to conflict with the individual’s own interests [3]. Notwithstanding the fact that procrastination behavior is exhibited for short-term benefit, it prevents optimal productivity and leads to negative academic results such as missing deadlines, getting low marks and failing in a lecture [4, 5]. Even when academic procrastination does not adversely affect academic performance, it brings along severe personal and social results such as a nonadaptive lifestyle, health issues and missing opportunities in and out of the academic field [6-8]. Tice and Baumeister conducted a study in this scope. According to their study, procrastination provides short-term benefits in terms of stress and physical health; however, inverse long-term effects accompany these benefits [9]. It is known that academic procrastination is very common among students. With their studies, Solomon and Rothblum pioneer in this issue [10]. In their study of 291 students, they found that within the study group, 46% of students procrastinated in completing term papers, 28% in studying for examination, 30% in weekly reading homework, 23% in attendance, 11% in performing administrative duties and 10% in school activities in general. In the same study, approximately 24% of students considered procrastination in completing term papers as a complete or partial problem. McCown and Roberts investigated the procrastination frequency of 1543 university students [11]. They reported that 19% of freshmen, 22% of sophomores, 27% of juniors and 31% of seniors consider academic procrastination as a significant personal stress source.

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The studies, which aim to comprehend academic procrastination, indicate the presence of a relationship between academic procrastination and many variables, including personal characteristics, self-efficacy beliefs, motivation, self-respect, anxiety, time management and attributional styles [12, 13]. Studies also indicate that stress or coping with stress mechanisms are significant predictor of procrastination[14]. According to Torun, stress refers to a person’s reactions in response to challenging situations for the purpose of adaptation [15]. Accordingly, coping with stress refers to a person’s everchanging cognitive and behavioral efforts made in order to overcome specific challenging internal and external demands [16]. In academic life, there are various stress sources (homework, examinations, presentations, etc.), which can challenge students and should be completed with limited resources in a limited period of time. Students can possibly exhibit procrastination behaviors in order to cope with these sources of stress. Being one of the first theories on procrastination, psychoanalytic theory suggests that procrastination occurs when there are situations that afflict the ego. According to this theory, when the ego is threatened, the avoidance behavior, namely, procrastination, occurs as a requirement of self-protection [17]. Therefore, as highly anxious people exhibit avoidance behavior more frequently, it is a natural outcome that they procrastinate more as well [18]. According to Tice and Baumeister, procrastination provides the avoidance of a stress source for a while. Although, at first, short-term relaxation occurs, it can turn into another stress source in time [19].

According to Sirois and Pychyl, procrastination is not only related to high stress, but also to avoidance strategies [20].

Another variable that is believed to be related with academic procrastination is Internet addiction. Operational definitions of Internet addiction have only been made recently. According to Şahin and Korkmaz, an addiction refers to harmful and uncontrolled use of the Internet [21]. According to Young, “problematic Internet use” was used to define Internet addiction [22]. Young defined this problem in the scope of pathological gambling criteria and determined eight criteria. These criteria are as follows: to engage in the Internet cognitively and intensely, a continuous increase in Internet usage time, not being able to reduce the time spent on the Internet, anxiety and discomfort in cases of limited Internet usage time, limitation of daily activities, problems with personal relationships due to excessive use, lying to continue to Internet use and emotional changes during Internet usage. According to Young, if a person has at least five of these criteria, s/he can be defined as an addict. Research on Internet addiction is very limited as this is a new issue [23]. However, there are significant studies indicating the relationship between Internet addiction and academic procrastination [24, 25]. Wretschko’s study indicates that there is a positive oriented and strong relationship (.67) between Internet addiction and academic procrastination [26]. According to Davis, Flett and Besser, there is a relationship between problematic use of the Internet and procrastination. To be intensely engaged with the Internet and the desire to be constantly online can naturally keep a person on the Internet emotionally and mentally. As a result, students can give their time to the Internet rather than their academic duties. Studies in the literature indicate that another significant predictor of academic procrastination is academic motivation. Being a significant determinant of the learning process, academic motivation refers to the generation of necessary energy for academic duties or the release of the desire required in order to accomplish academic duties [27]. According to Akbay and Gizir, high levels of motivation positively affect the success of academic duties. There is significant research on the relationship between academic procrastination and academic motivation reported in the literature [28].

A general assessment of the research revealed that there is a negative oriented and significant relationship between academic procrastination and academic motivation. Students’ low level of desire for accomplishing academic duties increases their academic procrastination behaviors. Academic duties that need to be accomplished can turn into failures due to procrastination. Students acquire a failure identity instead of a success identity. For this reason, factors that lead students to academic procrastination should be known. The recognition of these factors may help children cope with procrastination more effectively. In the literature review, coping with stress strategies, Internet addiction and academic motivation were found to be related to procrastination. Whether these factors are explanatory variables of academic procrastination will be investigated in this study with a model test. The results of this research will provide a significant contribution to a better understanding of academic procrastination.
MATERIALS AND METHODS

Research Model: A relational survey method was used in this research, which explains academic procrastination encountered in academic life through coping with stress, Internet addiction and academic motivation. This method aims to determine the presence and degree of covariance between two or more variables [30]. Academic procrastination is examined within the context of its relationships with coping with stress, Internet addiction and academic motivation.

Research Group: The research group consisted of 497 students (85 males and 322 females) from the Faculty of Education and the Faculty of Sciences and Letters at Kırıkkale University. The grades of students in the research group vary. The model used in the research does not include grade and gender variables. However these variables are included in the discussion and recommendations.

Data Collection Tools:
Aitken Academic Procrastination Scale: The scale developed by Aitken (1982) was adapted to Turkish Language by Balkiş[31]. The scale has one dimension and consists of a total of 16 items in five likert types. 293 students from different departments were assessed by the Balkiş scale on the validity studies of adaptation. Each scale item was examined for its measurement of inclination towards academic procrastination and the item-total correlation was found to range between 0.33 and 0.73. The internal consistency coefficient of the scale is Cronbach Alpha (α) =.89. The Pearson correlation coefficient was found to be significant at r =.87, p<.001 during the analysis conducted for test-retest reliability. A factor analysis was conducted in order to examine the structural validity of the scale and it was found that the scale has a one-factor structure. The variance explained by the one factor is 38% and the eigenvalue of this factor is 6.14[32].

Coping with Stress Scale: The original structure of this scale is the scale of coping with stress methods developed by Özbay for foreign students in American universities. The test was adapted to Turkish by Özbay and Şahin[33]. The test was arranged by five Likert type grading. Six factors determined with factor analysis were named as active planning, searching for external assistance, seeking refuge in religion, avoidance-abstracton (emotional-operational), avoidance-abstracton (bio-chemical) and acceptance-cognitive restructuring. The Cronbach Alfa internal consistency method was used to determine the reliability of the test. The test’s General reliability coefficient was found to be.81. In the research, dimensions of avoidance-abstracton (emotional-operational) and avoidance-abstracton (bio-chemical), which were found to be related with academic procrastination, were used.

The Internet Addiction Scale: This scale, developed by Yauungis a 20-item Likert-type with grading between 1-6. The score range is between 20-180. High scores obtained from the scale indicate that Internet addiction exists at a high level [34]. The scale’s Turkish adaptation was prepared by Bayraktar in Northern Cyprus. The Cronbach Alpha internal consistency coefficient was found to be. 91 [35]. Turnalar-Kurtaran tested the scale’s reliability coefficient again and it was found to be 0.90. In this study, it was found to be. 91. [36].

Academic Motivation Scale: This scale was developed by Bozanoğluin order to determine personal differences between students’ academic motivation levels. The scale consists of 20 items. As a result of factor analyses, three factors, which explain 42% of the total variability, were obtained. Item-total correlation values were found to be between 0.43 and 0.60 and the internal consistency coefficient of the entire scale was found to be. 86 [37].

RESULTS

This section includes information regarding the results of a model test that explains students’ academic procrastination. Path analysis was conducted in order to find out whether the model’s direct and indirect relationships are significant or not.

In the model tested, coping with stress skills, Internet addiction and academic motivation are thought to directly predict procrastination behavior. In addition, coping with stress skills are thought to indirectly predict academic procrastination through Internet addiction and academic procrastination. In addition, Internet addiction is also thought to indirectly affect academic procrastination behaviors via academic motivation. The two models’ test was conducted in this respect. Before conducting the model test, correlation levels between variables was examined.

PRO: Academic Procrastination; CSAEO: Coping with Stress Avoidance Emotional-Operational; CSABC: Coping with stress Avoidance Bio-chemical; IALO: Internet
Table 1: Correlation Values between Variables

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*p<.05, **p<.01

Fig 1: Hypothesis model to be tested in the first and second model

Fig 2: Findings of the Hypothesis Model Explaining Academic Procrastination

Addiction Loss of Control; IADO: Internet Addiction Desire to be Online; IANSR: Internet Addiction Negativity in Social Relationships; MCOS: Motivation Challenging Oneself; MIUSE: Motivation Information Use; MEXP: Motivation Exploration.

The results of the correlation analysis determined significant relationships between academic procrastination and the related variables. The relation coefficients of academic procrastination with related variables are as follows: r=.15, p<.01 with emotional operational avoidance coping with stress, r=.17, p<.01 with bio-chemical avoidance coping with stress, r=.23, p<.01 with Internet addiction loss of control, r=.22, p<.01 with Internet addiction desire to be online constantly, r=.28, p<.01 with Internet addiction negativity in social relationships, r=.29, p<.01 with academic motivation challenging oneself, r=.34, p<.01 with academic motivation information use, r=.32, p<.01. The relationships are found to be significant. The correlation values obtained from the research results are found to be sufficient for the model test. After finding relational coefficients between research variables, a model test aimed at explaining academic procrastination behavior was conducted. The analysis results regarding the first model tests are as follows:

In examining the coefficient of concordance regarding the tested model, CFI was found to be.98; IFI was found to be.98; NFI was found to be.97; TLI was found to be.98 and RFI was found to be.95. Chi-Square was found to be 2.01 and RMSEA was determined as.03. That the coefficients of concordance, like CFI, IFI, NFI and TLI, were over.90, indicates that the model used is a good one [38]. Therefore, an examination of improvement indexes was not needed. As it can be seen in the final model explaining academic procrastination behavior in Figure 2, coping with stress skills (β=.28; t=2.13), Internet addiction (β=-.12; t=-1.85) and academic motivation (β=-.36; t=-6.35) predict academic procrastination.

According to the model test, emotional-operational and bio-chemical avoidance skills among the coping with stress skills that predict academic procrastination more positively and significantly. Accordingly, students using emotional-operational and bio-chemical avoidance strategies can be said to exhibit behaviors of academic procrastination at higher rates.
The research indicated that Internet addiction positively and significantly affects academic procrastination. It can be concluded that students with high rates of Internet addiction exhibit the behaviors of academic procrastination at higher rates. In addition, it was found that academic motivation negatively and significantly predicts academic procrastination. In this sense, students who want to challenge themselves and explore and use information, procrastinate less. In addition, it was found that coping with stress skills directly and significantly predict Internet addiction (β= -22; t=-3.13) by negative orientation. Cognitive-centered coping strategies negatively affect procrastinationless [49]. According to Lazarus and Folkman, there are many coping strategies that can be explained by cognitive, emotional and behavioral efforts [50]. In a study conducted by Sharma and Kaur, cognitive-centered coping strategies negatively affect academic procrastination and emotion-centered ones positively affect academic procrastination. In the present study, avoidant coping mechanisms assessed in line with procrastination were used [51].

Another important finding of the research is the fact that Internet addiction positively affects academic procrastination. In other words, as addiction levels increases, procrastination also increases. Accordingly, it can be said that an increase in “loss of control,” “desire of being online more,” and “having problems in social relationships,” increases the academic procrastination levels of students. In the literature review, it is evident that some studies support this finding [52]. In a study conducted by Young, it was found that 58 of the study group had academic failure in relation to Internet usage levels [Cited by 53]. According to Davis, Flett and Besser, there is a relationship between problematic Internet use and procrastination [54]. In a study conducted by Wretschkoit was found that there is a positive oriented and strong relationship (r = 0.67) between procrastination and Internet addiction [55]. In another study conducted by Odac and Çelik, a low level and insignificant relationship was found between procrastination and Internet addiction [56]. According to Young, The Internet is attractive in many ways. Due to its attractiveness, many people spend excessive time online and fail in their occupational academic life [Cited by 57]. Students spend most of their times on the Internet due to the loss of control and desire to be online. In this case, they allocate the time that should be used for academic duties for Internet usage instead. At this point, the lack of Internet, children’s Internet usage literacy and its benefits and harm, can increase the loss of control in usage and desire to be online. Consequently, because of spending time on the Internet without control, students may lack time for...
academic duties. Additionally, students who have problems in social relationships can use the virtual environment (games, facebook, twitter etc.) in order to satisfy their social needs or to express themselves in such areas. Then, they tend to procrastinate their academic duties.

Another important finding in the research is that academic motivation negatively and significantly affects academic procrastination. In other words, students’ desire for challenging and improving themselves and for exploring and using information reduces procrastination behaviors. Relevant literature studies support this finding [58]. In a study conducted by Akbay and Gizir, on 763 university students, it was found that academic motivation significantly and negatively predicts academic procrastination [59]. In a study conducted by Senecal, Julien and Guay, it was found that there is a negative oriented relationship between academic procrastination and academic motivation [60]. Kandemir found that learning success objectives as a motivation theory significantly and negatively predict academic procrastination. Students’ desire for learning and considering learning as a need can result in their making an effort to get information. In this scope, students with this desire reduce academic procrastination and study in order to learn [61]. In other words, students’ desire to be successful supports their efforts and desire to accomplish academic duties and prevents academic procrastination. The research results indicated that coping with stress strategies, Internet addiction and academic motivation, comprise a model that explains academic procrastination. Each of the predictor variables in the research has a significant contribution to the model while predicting academic procrastination. The present research also indicates that coping with stress skills positively predict Internet addiction and Internet addiction negatively and significantly predicts academic motivation. A strong relationship between these variables has positive contributions to explain academic procrastination.

CONCLUSION

The model test aiming to explain academic procrastination demonstrates that emotional-operational and bio-chemical coping with stress strategies, Internet addiction and academic motivation are significant variables. The model test found that academic motivation is the most important predictor of academic procrastination. Within this context, academic procrastination can be said to be primarily a motivation problem. Another variable that predict academic procrastination is coping with stress strategies. When students have to deal with academic duties and cannot find the required resource and energy for this, they procrastinate by using avoidance, which results in short-term relaxation. In addition, researchers such as Solomon and Rothblum and Stell consider academic procrastination as an avoidance coping behavior. It is important to conduct further studies to find to what extent coping skills are effective in explaining and understanding academic procrastination. Different coping with stress strategies and stress levels can be included in new studies [62, 63]. In addition, the relationship between coping stress and procrastination can be investigated. In this research, it was found that Internet addiction has significant relationships with other variables. However, Internet addiction or problematic use of the Internet are new concepts in the literature. For this reason, this concept has not been investigated well enough to understand Internet addiction or problematic Internet usage habits. In research related to academic procrastination, motivation and stress, Internet addiction can be used as a predicted/predictor or directly predictor variable. Other variables such as “time management,” “responsibility,” and “self-efficacy,” which can be related to these variables, can also be included in research. The research in different universities, grades, age groups and socio-economic and cultural regions can further contribute to the generalization of the study and result in better comprehension of the nature of academic procrastination. This is a descriptive study. The study can be supported by experimental and qualitative studies in order to contribute to the generalization of research results.

The research concluded that students’ academic procrastination behaviors could be reduced by removing its causes. To this end, awareness of the scope of the aforementioned cause-and-effect relationships should be raised with students, teachers, parents and other education shareholders; shareholders should better understand the causes behind academic procrastination, as this may contribute to a decrease of academic procrastination behaviors among students.

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