The Mediating Role of Flow Experiences in the Relationship between Academic Procrastination and Psychological Well-Being

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Abstract

Academic procrastination is a problem characterized by individuals who try to fulfil academic activities but must perform their tasks at the required time and constantly postpone their work. Researchers have conducted numerous studies to identify the antecedents and consequences of academic procrastination. However, more research on the role of academic procrastination on well-being within the framework of flow theory is required. This study aims to determine the mediating role of flow experiences in the predictive effect of academic procrastination on well-being. This study, designed following relational research, was conducted on 818 undergraduate students. Correlation analysis and mediation analysis were applied to analyze the data. The results showed that well-being and flow experiences decreased as academic procrastination increased. Mediation analysis results confirmed that the predictive effect of academic procrastination on well-being occurred through flow experiences. The results underline that flow experiences should be considered in studies to reduce academic procrastination.

Keywords: Academic Procrastination, Flow Experiences, Psychological Well-being, Mediation Analysis

Introduction

Academic procrastination is characterized by leaving the tasks that individuals are supposed to perform until the end of the time when they are expected to perform them and constantly postponing them to a later time (Solomon & Rothblum, 1984). Individuals procrastinate a task to avoid the pain associated with failure, rejection or criticism (Ferrari et al., 2000; Milgram & Tenne, 2000). Studies have found that social pain caused by failure and rejection activates the same brain region as physical pain (Novembre et al., 2015). Therefore, the individual is motivated to avoid this pain when trying to complete a new task and when starting the task (Milgram & Tenne, 2000). This results in task procrastination. Another obstacle is the lack of clear goals (Kandemir, 2016; Özer & Altun, 2011). Lack of clarity about the goals to be achieved may reduce students' focus on academic tasks and cause them to prefer to postpone these tasks until the last minute.

As academic procrastination increases, students' achievement (Lakshminarayan et al., 2013; Madhan et al., 2012), life satisfaction (Özer & Saçkes, 2011) and well-being (Arifiana et al., 2020) decrease, and depression (Cjuno et al., 2023; Yang et al., 2022), anxiety (Lima-Silva et al., 2022) and stress levels increase (Ashraf et al., 2019). In academic procrastination, the fact that the individual constantly leaves the tasks to the last minute and postpones them may cause problems in time management and may not be able to deliver the planned tasks on time. In this case, since the tasks will not be completed on time,

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the individuals may receive low grades from the assignments, and their success may decrease (Ocak & Boyraz, 2016; Shih, 2017). Students' procrastination of academic tasks can increase stress and anxiety by creating a backlog of work and the rush to complete them (Lima-Silva et al., 2022). Students may have difficulty organizing and prioritizing academic tasks and using their time effectively. It can lead to time management problems. In addition, continuous postponement of academic tasks may affect students' self-esteem, their self-confidence may decrease, and they may worry that they will not be able to accomplish tasks or meet expectations (Balkıs & Duru, 2010; Kandemir, 2012). In addition, as students continually postpone their academic tasks, their motivation may decrease. The motivation and interest required to cope with tasks may decrease, and thus the desire for learning and achievement may also decrease (Cerino, 2014; Rakes & Dunn, 2010; Quispe-Bendezú et al., 2020; Serdar et al., 2021). Considering the negative consequences, reducing academic procrastination can increase students' motivation, life satisfaction, well-being, and academic achievement. Therefore, determining the variables that may effectively reduce academic procrastination is important in increasing academic achievement and helping students experience positive emotions.

Strategies such as improving time management skills (Häfner et al., 2014), planning (Ay et al., 2019), and setting achievement goal orientations (Dikmen & Bahadır, 2021) can be used to reduce academic procrastination. In this way, students can study more effectively, increase their academic achievement, and reduce academic procrastination. Reducing academic procrastination can also be possible by increasing the flow of experiences. Students who constantly postpone the tasks at hand lack focus on the task, motivation, attention, efficacy, and the belief that they can do the tasks, and focus on the time at hand. However, the fact that flow experiences are characterized by attention, control, ability-skill balance, focus, and awareness (Massimini & Carli, 1988) may contribute to students reducing academic procrastination. As flow experiences increase, people become so involved in an activity that they lose track of time. They believe they are competent in their tasks (Bandura, 1977) and can be more skilful in time management. In this case, students may have a higher desire to start and finish academic activities as soon as possible instead of postponing them. As a result of all these situations, academic procrastination can be reduced by increasing the flow of experiences.

Psychological Well-being

Psychological well-being is a mood state characterized by high potential in many areas of functionality, such as finding meaning in life, having positive social relationships, having high self-awareness and acceptance of self, and showing individual development (Ryff, 1989). High psychological well-being makes it easier to cope with stressful stimuli, increases success and facilitates coping (Biswas-Diener et al., 2010; Lyubomirsky et al., 2005). However, an individual's psychological well-being may decrease for various reasons (Aygün & Topkaya, 2022; Çelenk & Peker, 2020; Tanrıkulu & Karaca, 2021). Increased academic procrastination may be one of the reasons for decreased well-being. Well-being is closely related to the hedonic and eudaimonic dimensions in positive psychology, characterized by increased positive emotions (Diener et al., 2010; Ryff, 1989). At the same time, well-being has physical, psychological, social and emotional dimensions (Keyes, 1998; Ryff, 1989; Seligman, 2011). In this context, well-being is a concept that consists of many dimensions and is influenced by academic, work and social life dimensions (Ryff, 1989; Seligman, 2011). In this respect, students who continue their education life may constantly postpone these tasks while trying to complete academic activities, and the resulting negative emotions may cause a decrease in the psychological well-being of the individual. Therefore,

due to academic procrastination, the accumulation of tasks that the individual needs to do creates stress, and the individual's well-being can be negatively affected (Day et al., 2000). Research results have also emphasized that if the individuals constantly think about the tasks that they need to do and the level of procrastination increases, the level of anxiety and stress increases and well-being decreases (Arifiana et al., 2020; Aygün & Topkaya, 2022; Balkıs & Duru, 2016; Krause & Freund, 2016; Grunschel et al., 2013). Garcia-Ros et al. (2022) has revealed a significant negative relationship between academic procrastination and well-being, and the indirect effect of academic procrastination on the relationship between self-efficacy and well-being is significant. Vlachopanou and Karagiannopoulou (2022) indicated that while academic procrastination insrease psychological well-being decrased. The study also showed that in immature and unstable at risk profile, students had the highest scores in academic procrastination levels.

The Mediating Role of Flow Experiences

Positive psychology is a field that examines the components that must exist in an individual in order to have a good life. Flow theory, which is also evaluated within the scope of positive psychology, involves the individuals being in a state of concentration so much that they cannot understand how time passes and being involved in an activity so much that they cannot understand how time passes while dealing with an activity that is difficult to the extent of their abilities (Csikszentmihalyi, 1990). From this point of view, if students with a high level of academic procrastination experiences flow experiences, instead of postponing the tasks they need to do, they can perform those tasks on time at the expected time without saving them for the last minute. One of the criteria of flow experiences is the balance of ability and skill (Moneta & Csikszentmihalyi, 1996). If individuals see an activity as equal to their competence or if they think that the activity has some difficulty, flow occurs at the maximum level. By establishing the ability-skill balance, they can see academic activities as an activity that they can accomplish to the extent of their ability. In this case, they may be more willing to fulfil the activities that match their competencies on time.

The emergence of flow is also possible precisely by focusing on the task (Csikszentmihalyi, 1997). Students who experience high levels of flow illusions can pay attention to their academic task and complete it successfully through focused attention instead of procrastinating. Another criterion of flow is control (Novak et al., 1998). Individuals who can control their activities know that they should stop or continue at the required time; in other words, when they have high-flow experiences, they can try to complete their academic tasks at the required time and control their tasks through control over the activity. Therefore, decreasing academic procrastination may be possible by balancing flow experiences with control, attention, concentration and ability skills.

Students with high levels of academic procrastination may increase their stress and anxiety levels by constantly leaving academic tasks or tasks to the last minute. Experiencing negative emotions more frequently can be seen as reducing well-being (Diener et al., 2010). In this context, the constant accumulation of academic work may lead to decreased motivation to finish these tasks, depletion of energy, and a parallel decrease in well-being. Findings exemplifying this situation have been obtained in previous studies (Arifiana et al., 2020; Bu et al., 2021; Habelrih & Hicks, 2015; Umerenkova et al., 2022). However, to prevent academic procrastination from reducing well-being, it may be a solution for the individual to experience more flow experiences. Individuals who complete their academic tasks in the

required time and adapts to a task to the extent that they cannot understand how time passes may prefer to stay in the moment more instead of quitting or postponing that activity. As a result, increased flow experiences may constitute a positive antecedent of well-being. Studies show that flow experiences increase well-being and decrease academic procrastination (Hatefnia et al., 2019; Lee, 2005; Rivkin et al., 2018; Tse et al., 2021; Vinothkumar et al., 2016). As flow experiences increase, the person can pay more attention to the activity they are doing with a deep state of concentration. They can see the activity they are interested in as achievable, and time can fly by like water. All these can reduce procrastination, and as a result, well-being can increase.

Psychological well-being is accepted as a structure consisting of positive emotions, individual development, environmental dominance, positive relationships, and self-acceptance (Ryff, 1989). Studies have revealed that psychological well-being increases as flow experiences increase. For example, Tse et al. (2021) showed a significant positive relationship between individuals' flow experiences and their well-being; that is, as flow experiences increase, individuals' well-being increases. The study also revealed that indirect effect of flow experience was significant in the relationship between autotelic personality and well-being. Rivkin et al. (2018) indicated that flow experiences mediated the beneficial effects of affective commitment on employees' day-specific well-being, and moderate the adverse day-specific effects of self-control demands on well-being. Theoretical explanations also support this situation. In the PERMA well-being model, one of the theoretical approaches to well-being, it is emphasized that a component of well-being is engagement (Seligman, 2011). What is meant by engagement is the flow of experiences that are characterized by the individuals giving themselves to an activity to the extent that they do not understand how time passes while doing an activity. Therefore, since a high level of flow is one of the components of well-being, it can also create a basis for an increase in well-being in parallel.

Purpose and Hypotheses of the Study

It is essential that academic procrastination is an important problem in university students and that it is addressed in this study. There are many studies on the relationship between academic procrastination and well-being. However, it has been determined that relatively fewer studies focus on the mediating effect of flow experiences in the relationship between academic procrastination and well-being. Psychological well-being consists of a multidimensional structure, and there are multiple variables affecting this structure (Ryff, 1989; Seligman, 2011). This study aims to contribute to the well-being literature by explaining well-being in the context of academic activities and underlining that the negative effects of academic procrastination can be reduced with the principles of flow theory. In this respect, it is aimed to test a theoretical approach based on the principles of flow theory with the variables predicted in line with a theoretical approach. It tries to address a different aspect than the previous studies in the literature. This research focuses on testing the hypothesis model proposed based on the principles of flow theory on a sample of university students. In this context, the model proposed in this study and the hypotheses of the research are as follows:

1. Academic procrastination is a negative and significant predictor of flow experiences.

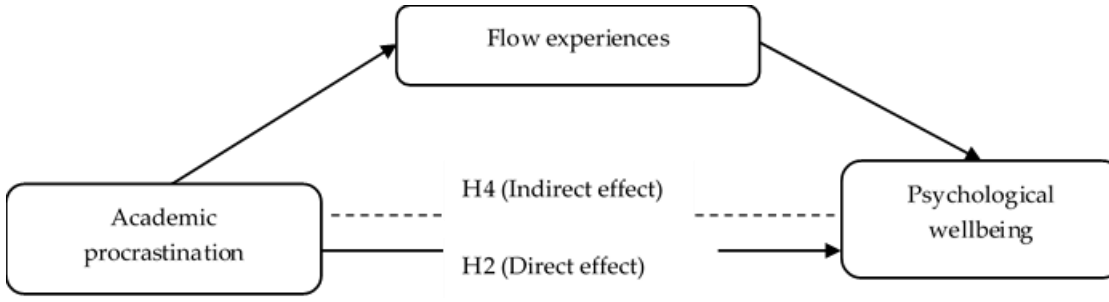
2. Academic procrastination is a negative and significant predictor of psychological well-being.

3. Flow experiences are a positive and significant predictor of psychological well-being.

4. The predictive effect of academic procrastination on well-being occurs through flow experiences.

Figure 1

Hypothesis model



Method

This study was conducted following the relational research approach. In this study, the relational approach was adopted because the relationships between academic procrastination, flow experiences and psychological well-being of university students were examined. In this approach, the relationships between two or more variables are tried to be determined, and the relationships between variables are analyzed in depth (Mertens, 2015). Before the data collection phase of the research was carried out, the decision of the xx University Educational Sciences Unit Ethics Committee was taken into consideration, and it was determined that it was ethically appropriate to conduct the research according to the decision dated 05.07.2023 and numbered 07/28.

Participants

A convenient sampling method was used to determine the research participants. In the convenience sampling method, the sample is selected following the conditions such as time, money and location (Özmen & Karamustafaoğlu, 2019). In this study, the online data collection process was preferred because it provides time and economic benefits to the researchers.

The study participants comprised 818 undergraduate students continuing their education in various departments of xx University xx. The study included 439 female (53.7%) and 379 male (46.3%) undergraduate students. The mean age of the participants was 20.71, and the standard deviation was 1.92. Of the students, 125 (15.3%) were in the first grade, 138 (16.9%) in the second grade, 252 (30.8%) in the third grade and 303 (37%) in the fourth grade.

Measures

Flow Experiences Scale

The scale developed by Magyarodi et al. (2013) and adapted to Turkish culture by Uz-Baş (2019) aims to determine the flow experiences of individuals, which are characterized by the state of being involved in an activity while performing that activity. The scale comprises two sub-dimensions (balance and concentration) and 12 items. The results of the confirmatory factor analysis conducted to determine the validity of the scale showed that the two-factor structure had acceptable fit indices (χ^2/sd = 2.640, GFI =

.926, CFI = .961, RMSEA = .076). The internal consistency reliability coefficients calculated for the subscales and the total scale were .92, .83 and 91, respectively. In the current study, the internal consistency reliability coefficient was found to be .83 for the total scale.

Academic Procrastination Scale

The scale, the short form of which was developed by McCloskey (2011), whose psychometric properties were examined by Yockey (2016) and adapted into Turkish by Balkıs and Duru (2022), aims to determine students' levels of postponing academic responsibilities. The scale has a single-factor structure consisting of 5 items and a 5-point Likert type. The results of the confirmatory factor analysis showed that the values had excellent fit indices (χ^2/sd = 1.453, RMSEA = .04 (.00-.10), SRMR = .02, GFI = .99, CFI = 1, TLI = .99, NFI = .99 and RFI = .98). The internal consistency coefficient of the scale was calculated as Cronbach α = .88. In this study, the internal consistency coefficient of the scale was calculated as .88.

Psychological Well-Being Scale

The scale developed by Diener et al. (2010) and adapted into Turkish by Telef (2013) aims to measure psychological well-being ranging from positive relationships to feelings of competence and a meaningful and purposeful life. The scale consists of eight items and is a 7-point Likert-type scale with a minimum score of 8 and a maximum score of 56. A high score indicates that the person has many psychological resources and strengths. The results of confirmatory factor analysis have acceptable values (χ^2/sd = 4.64, RMSEA = 0.08, SRMR = .04, GFI = .96, NFI = .94, RFI = .92, CFI = .95, IFI = .95). Cronbach's alpha internal consistency coefficient of the scale was found to be .87. In this study, the internal consistency coefficient of the scale was calculated as .90.

Data Analysis/Process

In this study, we first used the SPSS-26 program to test the research variables' descriptive statistics, correlation and regression analysis. In the online data collection process, no missing data were found because one question was not marked before moving on to the next. As a result, 611 people completed all the scales. Before analyzing the data, we examined the outliers and normality assumptions. The researchers observed that no data deviated from normality due to these procedures. In the last stage, we examined whether the data set met the assumptions necessary for mediation analysis. For this purpose, Mahalonobis, VIF and Tolerance values were examined. The results showed that the data set conformed to the multivariate normal distribution. At the same time, in the regression model, the Mahalonobis value should be below .01 due to the analysis where the significance level is examined (Tabachnick et al., 2007). The normality of the regression errors was calculated to be between -1.5 and 1.5.

In addition, as a result of examining the Q-Q plot graph, we found that the criteria required for conducting mediation analysis were met. As a result of these examinations, it was determined that the necessary assumptions were met, and the analyses were carried out. We determined the relationships between variables with Pearson Product Moment Correlation analysis. We conducted path analysis with latent variables to determine the mediating role in the relationship between academic procrastination, flow experiences and psychological well-being. We used the 5000-sample Bootstrap technique to examine the significance of the indirect effect. Accordingly, Bootstrap confidence interval values not

including 0 indicate the significance of the indirect effect (Hayes, 2013). We conducted the analyses with SPSS 24 and SPSS Process macro extension.

Suitability of Data for Analysis

Before the data collection phase of this study, ethical permission number 07/28 was obtained from xx University Educational Sciences Unit Ethics Committee. The researchers collected the data online since education in universities is conducted online. The scales prepared through Google Forms were sent to the participants for this. In addition, an informed consent form was obtained from the participants explaining the purpose of the study, stating that they would voluntarily participate in the study and that the results would not be shared with others.

Findings

Relationships between Academic Procrastination, Flow Experiences and Psychological Well-Being

The relationships between academic procrastination, flow experiences and psychological well-being were determined by Pearson product-moment correlation analysis, and the results are given in Table 1.

Table 1

Correlations between Variables

Variables	1	2	3
1. Academic procrastination	-		
2. Flow experiences	.-34	-	
3. Psychological well-being	.-26	.54	-
$\bar{x}$	14.12	40.60	40.56
SS	5.11	6.53	8.67
Skewness	.19	-.68	-.12
Kurtosis	-.76	.60	.31

Note. **p* <.01, N = 818

When Table 1 is examined, it is seen that there are significant positive relationships between academic procrastination and flow experiences (r =-.34) and psychological well-being (r =-.26). At the same time, it was determined that there were significant positive relationships between flow experiences and psychological well-being (r = .54).

The Mediating Role of Flow Experiences in the Relationship between Academic Procrastination and Psychological Well-Being

In order to determine the mediating role of flow experiences in the relationship between academic procrastination and psychological well-being, mediation analysis was conducted with latent variables and the results are given in Table 2.

Table 2

Mediation Analysis Results

Antescedents	Outcomes							
	Flow experiences				Psychological well-being			
	B	SE	t	β	B	SE	t	β
Academic procrastination	-.43	.04	-10.33	-.34	-.15	.05	-2.78	-.09
Flow experiences	-	-	-		.68	.04	16.50	.51
Consant	46.74	.63	73.97	-	14.94	2.07	7.21	-
	R^2 = .12, $F_{(1, 816)}$ = 106.80, p =.000				R^2 = .30, $F_{(2, 815)}$ = 175.88, p =.000			

When Table 2 is examined, it is seen that there are significant negative predictive relationships between academic procrastination and psychological well-being (*B* =-.15, SE = .05) and flow experiences (*B* = -.43, SE = .04). On the other hand, there were significant positive predictive relationships between flow experiences and psychological well-being (*B* = .68, SE = .04).

Total, Direct and Indirect Effects

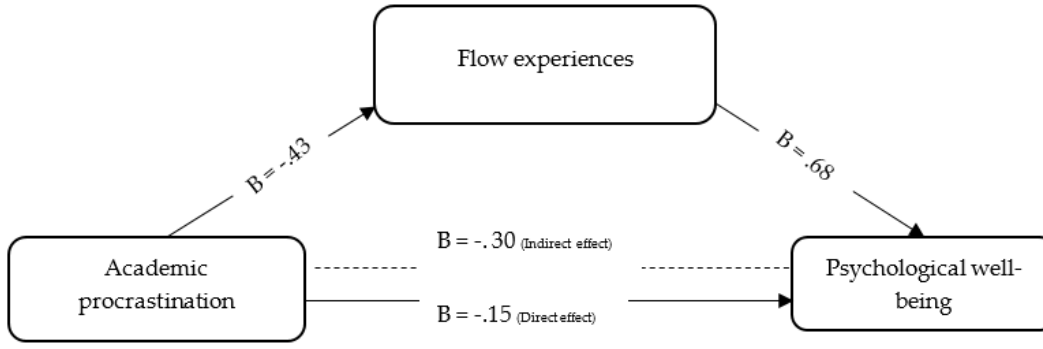
Table 3

Total, Direct and Indirect Effect

Effects	*B*	*SE*	*LLCI*	*ULCI*
Total Effect				
AP→PWB	-.45	*.06*	*-.56*	*-.33*
Direct Effect				
AP → PWB	-.15	.05	-.25	-.04
Indirect Effect				
AP → FE → PWB	-.30	.04	-.37	-.22

Figure 2

Mediation Analysis Result



When Table 3 and Figure 2 are examined, the results of the mediation analysis conducted with latent variables to determine the mediating role of flow experiences in the relationship between academic procrastination and psychological well-being reveal that the indirect effect of flow experiences is significant (B = -.30, SE = .04, 95% CI [-.37, -.22]). As a result of the Bootstrap analysis performed to determine the significance of the indirect effect, it was concluded that the indirect effect was significant since the lowest and highest value range did not contain a value of 0. These results suggest that the predictive effect of academic procrastination on psychological well-being occurs through flow experiences.

Discussion

The study's findings showed a statistically significant negative relationship between academic procrastination, flow experiences and psychological well-being. As flow experiences increase, psychological well-being also increases. The mediation analysis showed that the indirect effect of flow experiences between academic procrastination and psychological well-being was statistically significant. These results are similar to those of other studies in the literature. Below, these results are interpreted in line with the related literature and research results.

The study's first finding is that psychological well-being decreases as academic procrastination increases. This result of the study supports the results in the literature (Arifiana et al., 2020; Bu et al., 2021; Habelrih & Hicks, 2015; Umerenkova et al., 2022). An individual with high academic procrastination does not do the tasks on time and constantly tries to delay them until the deadline (Schraw et al., 2007). Continuously postponed tasks increase the stress and anxiety level of the individual until they are completed (Tibbett & Ferrari, 2015). The individuals have tasks in the back of their mind, but they cannot start doing them. The increased level of negative emotions of the individual in this stressful situation decreases well-being (Arifiana et al., 2020). Contextually, Cengiz et al. (2023) found that there were positive and moderately significant relationships between stress related to academic expectations and school burnout, and negative and low-level significant relationships between academic motivation and school burnout. These results imply that stress related appraisals may result academic stress causing academic procrastination. A high level of academic procrastination causes the

individual to be unable to focus on the academic task at hand, and the level of motivation decreases (Serdar et al., 2021). As academic procrastination increases, negative emotions such as anxiety and stress will increase, and well-being, one of the positive emotions, is likely to decrease (Lima-Silva et al., 2022). This finding from the research supports other studies on similar topics in the literature. In the study conducted by Aygün and Topkaya (2022), it was observed that there was a significant negative relationship between academic procrastination and psychological well-being. Similarly, in the study conducted by Soomro and Shah (2021), as a result of the research on the mediating role of academic procrastination in the relationship between fear of failure and subjective well-being, it was found that subjective well-being decreased as academic procrastination increased. These results indicate that students' psychological well-being may decrease if academic procrastination increases.

Another finding of the study is that as academic procrastination increases, flow experiences decrease. This finding is consistent with the results of other studies in the literature (Alp & Sungur, 2017; Lee, 2005; Mendelson, 2007; Seo, 2011; Vinothkumar et al., 2016). Academic procrastination increases when students do not want to complete a task, cannot be motivated to complete the task, and think about the negative consequences (Schraw et al., 2007). If individuals see a task as an activity that is inappropriate for their abilities, contains difficulties, and cannot balance ability and skill, they will move away from the flow and will prefer to postpone that task more (Fong et al., 2015; Moneta & Csikszentmihalyi, 1996; Nakamura & Csikszentmihalyi, 2002). As academic procrastination increases, students may prefer to complete the academic task at hand at the last minute instead of completing it. As a result, procrastination increases and individuals may move away from the flow. It is because people who experience flow experiences are so absorbed in an activity that they lose track of time while completing a task. Therefore, they can see that task as an achievable activity, suitable for their abilities and containing difficulty (Nakamura & Csikszentmihalyi, 2002). It helps individuals to be more involved in the flow instead of academic procrastination. However, this study finding indicates that as students' academic procrastination levels increase, their flow experiences will decrease. In this context, this study reveals important findings in helping students complete academic tasks on time and increasing their flow experiences in reducing their procrastination levels to help increase academic achievement.

The findings of the mediation analysis showed that flow experiences had a significant indirect effect on the relationship between academic procrastination and psychological well-being. This finding is congruent with the previous research results. Mendelson (2007) found that flow experiences significantly mediated the relationship between achievement anxiety, academic procrastination, and academic performance. Rivkin et al. (2018) revealed that flow experiences mediated the beneficial effects of affective commitment on employees' day-specific well-being, and moderate the adverse day-specific effects of self-control demands on well-being. The current research finding is also consistent with thereotical explanations in the literature. An individual with a high level of academic procrastination may have unclear goals, problems in time management, and low motivation, which may prevent them from focusing on the tasks at hand (Cerino, 2014; Milgram & Tenne, 2000; Rakes & Dunn, 2010; Quispe-Bendezú et al., 2020; Serdar et al., 2021). Finding the tasks expected to be done unattractive and inappropriate for one's competencies and the fact that the activity does not contain some challenges may increase the level of academic procrastination (Csikszentmihalyi, 1990; Csikszentmihalyi & Csikszentmihalyi, 1988; Massimini & Carli, 1988; Novak & Hoffman, 1997). However, when individuals can involve themselves in the flow when they are so involved in a task that they lose track of time, they

can focus more on the tasks at hand. They may want to finish academic tasks immediately instead of postponing them. Another characteristic feature of flow experiences is that the person controls the activity (Csikszentmihalyi, 1997). Individuals who know when to start and stop can use their time efficiently to complete academic tasks. It can reduce procrastination. In addition, individuals who are involved in the flow also have higher mindfulness (Csikszentmihalyi, 1988; Moneta & Csikszentmihalyi, 1996). With increased mindfulness, students may also be aware of the criteria, such as grades, success, and feedback they will receive when they complete the academic activity. Academic procrastination of students who see the process more clearly and have higher awareness may decrease. Given that flow experiences are an element of well-being in the PERMA model (Seligman, 2011), it is understandable that while flow experiences increase, psychological well-being also increases. As a result of all these situations, students' psychological well-being may be positively affected by this situation. It is more likely that the well-being of self-confident, motivated students with high efficacy beliefs that they can do the tasks at hand will increase. In this context, based on the results of the current study, it can be said that the negative effect of academic procrastination on well-being can be possible by increasing flow experiences.

Suggestions

This study focused on the mediating role of flow experiences in the relationship between academic procrastination and well-being with a relational model. In future studies, psychoeducation programs to reduce academic procrastination can be designed, and the components of flow experiences can be included in this program. In this study, data were collected following cross-sectional research. Longitudinal studies can be designed in future studies. Comparative studies can be designed to differentiate academic procrastination and flow experiences in different developmental periods. In addition, since flow experiences are a comprehensive concept consisting of many components, the relationship between flow experiences and academic procrastination can be examined in depth with qualitative studies. In this study, general experiences were questioned with the flow experiences scale. In future studies, academic procrastination and flow experiences can be examined in the context of specific academic tasks (exams, practice courses, homework) activities. Since the sampling method is convenient, sampling purposive, cluster or more diverse samples can be included in future studies.

Limitations

This research, which focuses on examining the indirect effect of flow experiences on the relationship between academic procrastination and psychological well-being, should be evaluated in light of some limitations. The use of self-report scales in the study may be a limitation in measuring complex concepts such as flow. The fact that the number of female participants in the study is higher than the number of male participants can be considered a limitation. The use of cross-sectional data in the study may be a limitation in examining changes over time. The data collection method is appropriate sampling. The fact that the model proposed in the study is valid only for the sample reached, and the variables examined may constitute a limitation.

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