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RESEARCH ARTICLE

Adaptation of the Academic Time Management and Procrastination Scale

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Abstract

The aim of this research was to test the validity and reliability of the Academic Time Management and Procrastination Scale (Won &Yun, 2018) for university students. The study group for the research comprised a total of 361 university students, 224 women (62.0%) and 137 men (38.0%), with a mean age of 20.76 (standard deviation = 2.04), attending undergraduate level in a variety of faculties in Atatürk University during the 2021–2022 educational year. The results also showed that the values for goodness-of-fit indexes were acceptable. Within the scope of criterion-dependent validity studies for academic time management and procrastination, negative correlations were present between general procrastination of students with the planning time dimension and monitoring time dimension, while there was a positive significant correlation with the procrastination dimension. Within the scope of reliability studies for the scale, internal consistency coefficients were α = .81 for the planning time subscale, α = .88 for the monitoring time subscale, and α = .88 for the procrastination subscale. In light of the findings obtained, the Academic Time Management and Procrastination Scale can be said to be a valid and reliable scale tool that can be used to measure the academic time management and procrastination levels of university students.

Keywords: Academic time management, procrastination, reliability, university students, validity

Introduction

The university years, which hold significant importance in the academic and social development of individuals, last from 18 to 22 years of age, equivalent to the final years of adolescence or advanced adolescence (Steinberg, 2007, p. 23). Just as they symbolize the last period of adolescence, the university years represent the transition to adulthood and are assessed as an important period of life when individuals make choices that may have effective outcomes on their lives and participate in activities preparing the way for their development (Zarrett & Eccles, 2006). Shek and Cheung (2013) stated that when adolescents enter university, their current problems are not resolved; contrarily, university students experience difficulties related to a variety of topics (sleep pattern, alcohol use, protecting psychological health, determining goals in life, developing self-confidence, and fulfilling citizenship duties).

While young individuals in university struggle with these difficulties, they are also faced with many new responsibilities. Most individuals live in different cities from their families during their university years, and it is a turbulent process as they attempt to cope with different developmental tasks like acquiring a profession and forming romantic relationships (Odacı & Kınık, 2018). University students who struggle with many psychosocial stressors, like successfully graduating from university and financial problems, learn to adjust to these difficulties while experiencing many things (Shek & Wong, 2011). In addition to all these developmental tasks and turbulence, it is possible to say that the university years, when university students are on the threshold of becoming adult individuals, are an age of opportunity offering students unrivaled possibilities to transform their lives (Arnett, 2006). It is believed that for individuals to experience the university period as a "period of opportunity," as mentioned above, they must be able to use time effectively and functionally during their university education.

The functional and efficient use of time forms an important concept for university students, especially concerning changes in academic life. Students undergo educational processes where many teachers are effective during their primary school, middle school, and high school education. With the beginning of university life, most educational responsibility is left to themselves, and students experience the transition to a new pattern of being more effective in their academic lives (Tunç et al., 2020). This tableau indicates that self-regulation may be a key concept for university students to adjust to this new pattern while facing with many responsibilities in academic life.

Zimmerman (1998) stated that the skill of self-regulation in academic life is not a mental skill like intelligence or an academic skill like reading proficiency but rather assessed academic self-regulation as the student's process of managing themselves as they transform mental skills into academic skills. Self-regulated learning represents active and strategic learning processes where students plan, observe, and control their cognition, behavior, and learning environment to reach their academic goals (Pintrich, 2000). Self-regulated learning strategies (cognitive, upper cognitive, time management, and motivational strategies) positively affect the academic success and motivation of students (Ergen & Kanadli, 2017).

One of the important strategies for self-regulated learning of academic time management is defined as the effective and targeted use of

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time by students in order to complete academic tasks within a certain time interval (Bembenutty, 2009). Acquiring time management skills will assist university students in increasing their self-regulation levels and interest in lessons (Khiat, 2022). Effective use of time is associated with higher academic performance and lower anxiety levels among students; however, many students find it challenging to balance their studies and daily lives (Adams & Blair, 2019). As a result, they may display a tendency to procrastinate in relation to academic work due to reasons such as failure of self-regulation skills, distraction, and lack of motivation (Steel, 2007). University students not effectively using academic time management strategies explain academic procrastination behavior, with acquiring academic time management self-regulation skills being a key variable (Wolters et al., 2017).

Just as academic procrastination negatively affects the academic life satisfaction and success of university students (Balkıs, 2013), it may prevent them from becoming individuals who view their lives with hope and positively assess themselves (Kınık & Odacı, 2020; Odacı & Kaya, 2019). Academic procrastination behavior, revealed to be associated with negative moods like discomfort, stress, and feelings of guilt (Klingsieck, 2013), is defined as an individual delaying academic tasks nearly all the time and feeling worried about this all the time (Rothblum et al., 1986). Causing individuals to experience feelings like anxiety, guilt, and stress, academic procrastination is stated to be a behavior frequently displayed by university students (Uzun Özer et al., 2009).

In addition to all these, just as university students have expectations from their schools, they have expectations from universities, the oldest and most effective institutions in society. Young people in university have a variety of expectations from their university education like gaining employment opportunities after graduating, gaining new life experiences, having freedom of thought and expression, and being able to perform scientific research. However, societies expect universities to cultivate individuals responding to the need for competitiveness in the international arena with 21st century skills (Mainardes et al., 2012). Realizing these expectations of both university students and society means students must be able to display their academic potential at the highest level throughout their university years. Not managing time efficiently and academic procrastination behavior are some of the most important obstacles to the academic performance of students, and in this context, may be assessed as two variables that are worth researching. The need to prevent the negative impacts in the academic and personal lives of individuals with weak academic time management skills displaying academic procrastination brings with it the requirement for studies allowing us to understand the nature of these two concepts and hence for reliable psychometric measurement tools. In line with this information, in this study, the aim was to adapt the Academic Time Management and Procrastination Scale to Turkish and to perform validity and reliability studies.

Current Study

The Academic Time Management and Procrastination Scale, developed by Won and Yu (2018) and adapted to Turkish in this study, consists of a 14-item scale comprising the subscales of planning time, monitoring time, and procrastination. In the literature, different scale tools were previously developed aiming to measure the academic procrastination behavior of individuals (Çakıcı, 2003) and time management behavior (Macan et al., 1990). However, different from these scales, the Academic Time Management and Procrastination Scale ensures the measurement of an individual's time planning and monitoring skills along with procrastination behavior, and is a short economic psychometric measurement tool. From a conceptual perspective, the procrastination behavior of individuals is due to the neurotic and unconstructive use of their time awareness capacity (May 2021). In other words, the procrastination behavior and time management of individuals do not appear to be very distant concepts. Therefore, the Academic Time Management and Procrastination Scale is considered important as a scale providing the opportunity to measure both academic time management and procrastination behavior, very close due to their nature, together. Additionally, providing a Turkish version of the Academic Time Management and Procrastination Scale with the ability to measure both academic procrastination and time management variables together is expected to open the way for different studies to be performed about the self-regulation strategies of Turkish university students.

Methods

Research Group

The study group for the research comprised a total of 361 university students, 224 women (62.0%) and 137 men (38.0%), with a mean age of 20.76 (SD = 2.04), attending the undergraduate level in a variety of faculties at Atatürk University during the 2021–2022 educational year. Of the participants, 33.5% stated they were in the first year (n = 121), 33.2% were in the second year (n = 120), 23.3% were in the third year (n = 84), and 10.0% were in the fourth year (n = 36). When investigated in terms of perceived academic success levels, 9.4% of participants had a low level (n = 34), 38.0% of students had a moderate level (n = 137), 41.6% had a good level (n = 150), and 11.1% had a very good level (n = 40). The demographic characteristics of individuals participating in the research are presented in Table 1.

Data Collection Tools

Personal Information Form

The Personal Information Form, prepared by the researchers, obtained information about the age, gender, class level, and perceived academic success levels of students.

Academic Time Management and Procrastination Scale

The scale was initially developed as the Academic Time Management Scale by Won et al. (2017) for university students. This form of the Academic Time Management Scale contained six items, and the internal consistency coefficient for these six items was .85. Another form of the Academic Time Management Scale was tested on adolescents (Won & Yu, 2018). The scale in this form included five items from the Procrastination Scale (Wolters, 2003) along with an additional three items and had validity and reliability analyses completed (Won & Yu, 2018). The exploratory factor analysis completed for this final form comprising 14 items had factor loads from .51 to .93, and the planning time dimension included five items, the monitoring time dimension included four items, and the procrastination dimension comprised five items (Won & Yu, 2018). When the reliability values for the scale were investigated, α = .80 for the planning time subscale, α = .86 for the monitoring time subscale, and α = .89 for the procrastination subscale. Martinez (2021) conducted a validity and reliability study of the Academic Time Management and Procrastination Scale

Table 1.
Demographic Characteristics of Participants

Variable		*N*	%
Gender	Woman	224	62.0
	Man	137	38.0
Class level	First year	121	33.5
	Second year	120	33.2
	Third year	84	23.3
	Fourth year	36	10.0
Perceived academic success	Low	34	9.4
	Moderate	137	38.0
	Good	150	41.6
	Very good	40	11.1

for university students, with validity and reliability analyses also performed on adolescents. This scale, featuring a three-factor structure, encompasses a total of 14 items rated on a seven-point Likert scale. The items are assessed from "1" (definitely disagree) to "7" (definitely agree). Confirmatory factor analysis (CFA) completed by Martinez (2021) with the aim of testing the construct validity of the scale identified that factor load values were between .70 and .88 and confirmed the three-dimensional structure for university students ($\chi^2 = 309.68$; df = 72; χ^2/df = 4.30; CFI = .95; TLI = .93, RMSEA = .071; SRMR = .058). As a result of reliability analyses for the scale, the internal consistency coefficients were calculated as $\alpha = .89$ for the planning time dimension, $\alpha = .89$ for the monitoring time dimension, and $\alpha = .92$ for the procrastination dimension.

General Procrastination Scale

The General Procrastination Scale comprises of 18 items with a five-point Likert rating. The scale was developed by Çakıcı (2003), Gülebağlan (2003), and Yorulmaz (2003). After validity and reliability analyses for the scale, the internal consistency coefficient was documented to be .91. The test–retest reliability value, another type of reliability test performed with the aim of determining the reliability of the scale, was found to be .83 (Çakıcı, 2003). As a result of analyses performed within the scope of this study, the calculated internal consistency coefficient was .94.

Procedure

Validity and reliability studies began after receiving the necessary permissions to use the Academic Time Management and Procrastination Scale. This research was conducted with the permission of the Atatürk University Social and Human Sciences Ethics Committee (Approval No: 20/249, Date: 28.12.2021). Firstly, scale items were translated into Turkish by five academics holding doctorates in the field of counseling and guidance. Later, the translations by these researchers were compared, and opinions of two academics who were associated professors in the field of counseling and guidance were requested about any items where consensus was not present. After these views were obtained, the scale items were finalized and organized into an online survey. The survey form included the scale identified for the criterion validity study along with the personal information form. Detailed information was given about the research in the survey; it was stated that the required ethics committee permission had been obtained for the research and consent was requested using an informed consent form to ensure voluntary participation in the research. The scales took about 10 minutes to complete in the online form. Additionally, to test the test–retest reliability of the Academic Time Management and Procrastination Scale, the scales were administered face-to-face to a group of students (80 people) twice at a 3-week interval.

Data Analysis

Confirmatory factor analysis was used to investigate the construct validity of the Turkish version of the Academic Time Management and Procrastination Scale for university students. Construct validity, related to whether the Academic Time Management and Procrastination Scale can measure the targeted constructs or not, was investigated with (a) convergent validity and (b) divergent validity, another version of the discriminant validity technique. The criterion-dependent validity study for the scale investigated Pearson correlation analysis between the points obtained from the General Procrastination Scale and points obtained from the Academic Time Management and Procrastination Scale. In addition to these studies, composite reliability, internal consistency coefficient, two half-test reliabilities, and test–retest reliability were calculated with the aim of determining the reliability of the scale. Analyses were completed using theThe Statistical Package for Social Sciences version 21.0 software (IBM Corp.; Armonk, NY, USA).

Results

Before initiating the factor analysis processes, the dataset was investigated. In this stage, firstly the dataset was checked for missing or mistaken entries. Later, the dataset was examined for whether there were outlier values. After determining that there were no outlier values in the data, the normality assumption was tested. Skewness and kurtosis values were examined for normality analyses. As a result, the skewness values were between −.42 and .60, while kurtosis values were between −1.10 and −.30. The skewness and kurtosis values for the dataset were between 2 and −2, indicating that the normality assumption was met (George & Mallery, 2019). In this context, it was decided that the data abided by normal distribution and the CFA process began to confirm the three-factor structure.

Construct Validity

One of the factor analysis methods of CFA is a technique developed based on the method of testing concepts related to latent variables (Tabachnick & Fidell, 2014). In this context, the maximum probability factor analysis factoring technique was used within the scope of CFA. With the aim of assessing the degree to which the tested model overlaps with the data, multiple goodness-of-fit indexes were used. In line with this, criteria were accepted as >.90 for CFI and NFI and <.08 for RMSEA and SRMR (Bayram, 2016; Hu & Bentler, 1999; Kline, 2016; Şimşek, 2007). Additionally, values below .05 are accepted as a good level of fit, values from .05 to .08 are an acceptable fit, and values above .10 are reported to indicate a model incompatible with the data for the RMSEA index (Brown, 2015). The CFA results and error variances for the Academic Time Management and Procrastination Scale are given in Figure 1.

The CFA results for the Academic Time Management and Procrastination Scale were examined, and firstly, the significance of standardized regression coefficients was investigated. As can be seen in Figure 1, the factor loads varied from .53 to .88 and all were

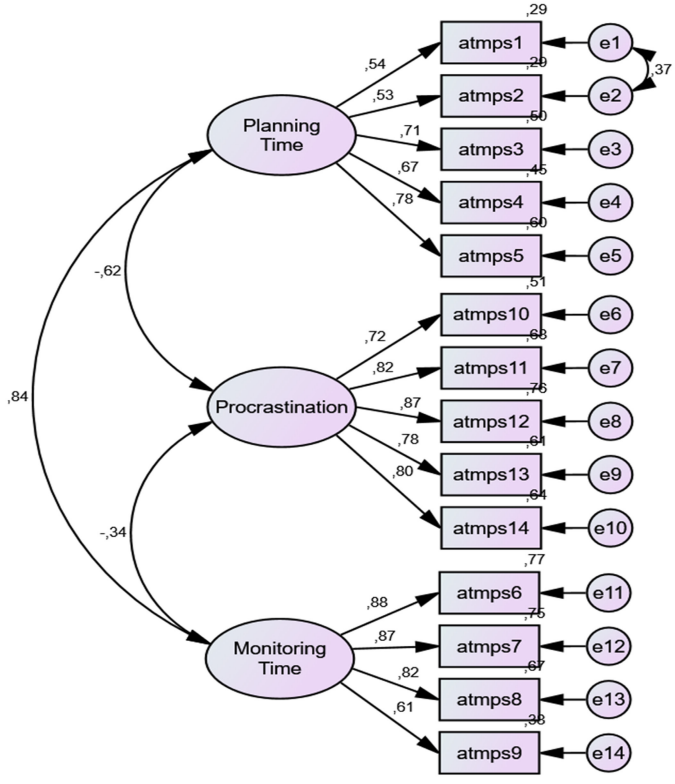

Figure 1.
CFA Results and Error Variances for the Academic Time Management and Procrastination Scale.

Table 2.
CFA Model Goodness-of-Fit Indexes for Academic Time Management and Procrastination Scale

Fit Indexes	First Model	First Modification
Chi-square/DF	3.30	2.72
NNFI	.92	.93
CFI	.94	.96
SRMR	.052	.047
RMSEA	.080	.069

determined to be significant ($p < .001$). Considering goodness-of-fit indexes to determine whether the model was confirmed or not, the data were revealed to have acceptable goodness-of fit-index values ($\chi^2 = 244.14$; DF = 74; $\chi^2/DF = 3.30$; NFI = .92; CFI = .94; RMSEA = .080; SRMR = .052). When the model's modification values are investigated as a result of CFA, it appears there was error correlation between item 1 and item 2 in the planning time subscale. Later, after adding an error correlation between these two items, the model was tested again and it was identified that the goodness-of-fit indexes for this model reached the correct level for a good fit ($\chi^2 = 198.19$; DF = 73; $\chi^2/DF = 2.72$; NFI = .93; CFI = .96; RMSEA = .069; SRMR = .047). When the *t* values for the scale items are investigated, these values were between 9.27 and 21.36, and the calculated *t* values for all items were significant at $p < .001$ level. In conclusion, all these findings show that the model for the three-dimensional structure of the Academic Time Management and Procrastination Scale was confirmed within this population. In other words, the 14-item Academic Time Management and Procrastination Scale had good fit and may be applied. The results obtained are given in Table 2.

The standardized factor loads and explained variance for the CFA model of the Academic Time Management and Procrastination Scale and item factor loads for the original scale are given in Table 3.

As included in Table 3, the standardized factor load values and also the variance explained by the observed variables in the measurement model for the latent variables they represent were found to be very high ($R^2 = .29$ to .68).

Convergent (Similarity) Validity

For the convergent validity of the Academic Time Management and Procrastination Scale for university students, investigations first looked at factor load values. Secondly, whether average variance extracted (AVE) values were larger than the criteria of .50 or not. Thirdly, they examined whether the construct reliability values were above .70 or not (Fornell & Larcker, 1981; Hair et al., 2010; Yurdugül & Alsancak Sırakaya, 2013). As a result of calculations based on findings obtained from factor analysis, the AVE values were .43 for the planning time subscale and .64 for the procrastination subscale and the monitoring time subscale. When the construct reliability values calculated for these findings are investigated, the values were .78 for the planning time subscale, .90 for the procrastination subscale, and .88 for the monitoring time subscale. In conclusion, all factor loads for items found on the scale were larger than .50, and the AVE values explained by the subscales were between .43 and .64, with two of these three values above the critical value of .50 and one close to .50. The construct reliability values were all above .70 and larger than the AVE values. In the literature, when the AVE values are below .50 and the construct reliability values are much higher than the critical value of .70, this was stated to be adequate to ensure convergent validity (Fornell & Larcker, 1981; Lam, 2012).

Divergent Validity

Within the scope of divergent validity, the correlations between subscales on the Academic Time Management and Procrastination Scale and the square root of the AVE values were used. Accordingly, the square root of the AVE for any subscale should not be smaller than the correlation between that subscale with the other subscales and also not smaller than .50 (Fornell & Larcker, 1981; Hair et al., 2010; Yurdugül & Alsancak Sırakaya, 2013). As a result of calculations based on findings obtained from factor analysis, the square roots of the AVE values were .65 for the planning time subscale and .80 for the procrastination and monitoring time subscales. As a result of correlation analysis performed to calculate divergent validity, there were negative significant correlations between the procrastination subscale with the planning time subscale ($r = -.51$, $p < .001$) and monitoring time subscale ($r = -.51$, $p < .001$), while there was a positive significant correlation between planning time and monitoring time subscales ($r = .68$, $p < .001$). The square root of the AVE values calculated for the subscales were larger than the calculated correlation values, and as a result, it may be said that divergent validity was ensured (Fornell & Larcker, 1981; Hair et al., 2010; Yurdugül & Alsancak Sırakaya, 2013).

Table 3.
Standardized Factor Load Values and Explained Variance Values for the Academic Time Management and Procrastination Scale and Item Factor Load Values for the Original Scale

Dimensions and Items	λ	R^2	Item Factor Load Values for Original Scale
Planning time			
1. When I set out to complete a task, I set a final date to complete it.	.54	.30	.76
2. I determine short-term goals for work I want to finish within a few days or weeks.	.53	.29	.74
3. I have a system to manage time spent on my academic studies.	.71	.50	.85
4. I allocate certain times during the week to complete my homework.	.67	.45	.79
5. I frequently determine goals or make lists related to what I must do every day.	.78	.60	.75
Monitoring time			
6. I look at a planner, program or calendar every day to see what I need to do.	.88	.77	.82
7. I frequently use a planner, program or calendar to organize things I must do on time.	.87	.75	.79
8. Every day I create a list of jobs that I will do, and I mark each task that is completed.	.82	.67	.85
9. I frequently write notes or reminders so I don't forget to do my homework.	.61	.38	.70
Procrastination			
10. I frequently make excuses not to start work on my lessons.	.72	.51	.77
11. I make myself a promise that I will do my homework, and later I put off doing it again.	.82	.68	.83
12. I frequently put off beginning reading and homework for my lessons.	.87	.76	.88
13. I put off working on my lessons even if they are important.	.78	.61	.87
14. I delay my responsibilities/tasks about my lessons to the last minute.	.80	.65	.85

Criterion-related Validity

The criterion-related validity study for the Academic Time Management and Procrastination Scale was analyzed to investigate the correlations between points obtained by individuals on the Academic Time Management and Procrastination Scale and the General Procrastination Scale. When the dataset was investigated, skewness values were −.14 to .20, and kurtosis values were −.83 to −.49, and the dataset had a normal distribution. As a result of correlation analysis, the General Procrastination Scale had negative significant correlations with the planning time subscale ($r = -.58$, $p < .001$) and the monitoring time subscale ($r = -.58$, $p < .001$), and a positive significant correlation with the procrastination subscale ($r = .71$, $p < .001$).

Findings of the Reliability Study

The internal consistency, two half-test reliability, and composite reliability were tested for the Academic Time Management and Procrastination Scale. The internal consistency, two half-test reliability, test–retest reliability, and composite reliability coefficients for the Academic Time Management and Procrastination Scale are shown in Table 4.

According to the results obtained from the analysis, the internal consistency coefficients for the subscales of the Academic Time Management and Procrastination Scale were between $\alpha = .81$ and $\alpha = .90$. The two half-test reliability values were calculated to be between $r = .75$ and $r = .86$ for the subscales. When the correlation values for the test–retest tests applied at a three-week interval are examined, these values were from $r = .69$ and $r = .85$. When the literature is investigated, results of .70 and above are adequate for internal consistency and composite reliability coefficients (Hair et al., 2016; Kalaycı, 2009; Nunnally & Bernstein, 1994; Şencan, 2005). Additionally, it was stated that high levels of reliability may provide proof of the high level of correlation for two half-test and test–retest reliability (Field, 2013). Considering these criteria, the findings suggest that the scale has satisfactory levels of reliability.

Discussion, Conclusion, and Recommendations

The aim of the research was to test the validity and reliability for university students in Turkish culture of the Academic Time Management and Procrastination Scale developed by Won and Yu (2018) for adolescents and with validity and reliability analyses performed for university students by Martinez (2021). In this context, the obtained CFA findings confirm the three-factor, 14-item structure of the original form of the scale for the sample comprising Turkish university students. It was concluded that the goodness-of-fit indexes were at good levels as a result of CFA (Tabachnick & Fidell, 2014). The factor loads for items in the planning time subscale were between .53 and .78, with values of .61 to .88 for the item factor loads in the monitoring time subscale and values from .72 to .87 for the item factor loads in the procrastination subscale. When the findings for the adolescent form of the scale were investigated, the factor loads were .52 to .75 for items in the time planning subscale, .51 to .93 for items on the monitoring time subscale, and .51 to .85 for items on the procrastination subscale. When the findings for the university form of the scale were investigated, factor load values were .74 to .85 for items on the planning time subscale, factor load values were .70 to .85 for items on the monitoring time subscale, and factor load values were .77 to .88 for items on the procrastination subscale.

Table 4.
Internal Consistency, Two Half-test Reliability, Composite Reliability, and Test–Retest Reliability Values for the Academic Time Management and Procrastination Scale

Subscales	Internal Consistency	Two Half-test Reliability	Composite Reliability	Test–retest Reliability
Planning time subscale	.81	.75	.78	.69
Monitoring time subscale	.88	.86	.88	.84
Procrastination subscale	.90	.86	.90	.85

Within the scope of reliability studies for the Academic Time Management and Procrastination Scale, internal consistency, two half-test reliability, and composite reliability values were reported. The internal consistency coefficients were calculated as $\alpha = .81$ for the planning time subscale, $\alpha = .88$ for the monitoring time subscale, and $\alpha = .90$ for the procrastination subscale. When two half-test correlations for the scale were investigated, $r = .75$ for the planning time subscale, $r = .86$ for the monitoring time subscale, and $r = .86$ for the procrastination subscale. When the composite reliability values for the scale were investigated, these values were CR = .78 for the planning time subscale, CR = .88 for the monitoring time subscale, and CR = .90 for the procrastination subscale. When the findings for the adolescent form during the development of the Academic Time Management and Procrastination Scale were investigated, the internal consistency coefficients were identified as $\alpha = .80$ for the planning time subscale, $\alpha = .86$ for the monitoring time subscale, and $\alpha = .89$ for the procrastination subscale. When the reliability analysis findings were investigated for the study of university students, the internal consistency coefficients were identified as $\alpha = .89$ for the planning time subscale, $\alpha = .89$ for the monitoring time subscale, and $\alpha = .92$ for the procrastination subscale. As a result of the study, the reliability results can be said to be very similar to the results from previous research.

When the results obtained from the criterion-related validity study for the Academic Time Management and Procrastination Scale were investigated, there were negative correlations between the General Procrastination Scale and the planning time and monitoring time subscales of the Academic Time Management and Procrastination Scale. There was a positive and significant correlation between the General Procrastination Scale and the procrastination subscale. Some studies underline that as the time management of individuals weakens, they have a higher tendency to display procrastination behavior (Ma & Chen, 2022; Zhao et al., 2021). In parallel with the findings of this study, there are studies documenting that as the general procrastination behavior of individuals increases, they display procrastination behavior in the academic field (Magalhães et al., 2021; Şirin, 2011).

University students who do not know how to plan or monitor academic time may have a tendency to leave daily work that must be done to another time. Additionally, university students displaying procrastination behavior in their lives may not display academic time planning and monitoring behavior due to feelings like stress and anxiety they experience. Additionally, it may be assessed as an expected situation that university students who have a tendency to delay work in general in their daily lives will also delay their academic responsibilities. The emotional difficulties and confusion emerging as a result of not finishing work on time in their daily lives are thought to push the individual to further put off their academic responsibilities.

This research has some limitations, along with results underlining that the Academic Time Management and Procrastination Scale has satisfactory levels of reliability and validity. The sample group for the research is limited to the 361 university students participating in the research. In future periods, the psychometric measures in the Academic Time Management and Procrastination Scale may be tested in studies with participation by adolescents. Additionally, this study was completed with the participation of Turkish university students. The psychometric measures in the Academic Time Management and

Procrastination Scale may be completed for students in different countries, and comparisons may be made with the findings in this study. Adaptation of the Academic Time Management and Procrastination Scale to different cultures may prepare the way for international studies dealing with academic time management of students from different countries.

Compliance with Ethical Standards

The authors declare that all procedures performed in the writing of this article were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments. Informed consent was obtained from all individual participants by the authors.

Ethics Committee Approval: Ethics committee approval was received for this study from the Ethics Committee of Atatürk University (Approval No: 20/249, Date: 28.12.2021).

Informed Consent: Written informed consent was obtained from participants who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – H.O., Ö.K., F.K.; Design – H.O., Ö.K., F.K.; Supervision – H.O.; Materials – F.K.; Data Collection and/or Processing – F.K.; Analysis and/or Interpretation – F.K.; Literature Search – Ö.K.; Writing Manuscript – Ö.K.; Critical Review – H.O., Ö.K., F.K.

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