

Allessphobia in Education and Academic Procrastination among Undergraduate Students in Sports Sciences: A Cross-Sectional Study

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Abstract

Allessphobia in education refers to the anxiety, fear, and feeling of inadequacy that students experience when they are unable to access or use artificial intelligence (AI) tools during academic tasks. Allessphobia in education, which has been proposed as a relatively new psychological concept in educational settings, may be related to students' self-regulation difficulties and procrastination tendencies. In this context, this study examined the relationship between Allessphobia in education and academic procrastination in students of the Faculty of Sport Sciences. The study was designed as a cross-sectional study and included 313 undergraduate students selected through convenience sampling. Data were collected using a demographic information form, the Allessphobia in Education Scale and the Academic Procrastination Scale. Descriptive statistics, Pearson correlation analysis and simple linear regression were used to analyse the data. The findings indicated that Allessphobia in education and its subdimensions were positively associated with academic procrastination. In the regression model, Allessphobia in education was significantly associated with academic procrastination and explained 5.2% of the variance. Although the explained variance was small, the findings suggest that higher Allessphobia in education levels are associated with higher academic procrastination. These findings contribute to the emerging literature on AI-related psychological constructs in education and indicate that academic procrastination may be a significant correlate of Allessphobia in education among university students.

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Introduction

Digital transformation has profoundly reshaped higher education environments and restructured learning processes (Hashim et al., 2021). In particular, artificial intelligence (AI) applications directly affect university students' academic experiences. AI systems, including intelligent content generation tools, personalized learning systems, automated feedback mechanisms, and large language models, especially chatbot-based applications, accelerate access to information, individualize learning processes, and provide more immediate performance feedback (Holmes et al., 2019; Zawacki-Richter et al., 2019). Recent developments in AI suggest that technology is no longer merely a supportive tool but is becoming an increasingly embedded tool in cognitive and learning processes (Goyal, 2025). Although this transformation has the potential to support learning and improve academic performance, it may also create new psychological conditions. In particular, intensive educational use of AI tools may be associated with growing dependence on these technologies in the completion of academic tasks and with changes in cognitive effort allocation, including forms of cognitive offloading (Gezgin, 2025; Liu et al., 2023; Herm, 2023; Miranda et al., 2025).

Anxiety, threat perception, and dependency-like tendencies emerging during technological change have long been discussed in the literature. One well-known example is nomophobia (No Mobile Phone Phobia), which refers to intense anxiety or panic experienced when individuals are deprived of their mobile phones or digital connection (Yildirim & Correia, 2015). Early clinical discussions of nomophobia also linked it to panic disorder with agoraphobia, suggesting that mobile phone dependence may function as a maladaptive coping mechanism in anxiety-provoking situations (King et al., 2010). Similarly, Fear of Missing Out (FoMO) is associated with persistent anxiety about missing others' experiences or opportunities and with the tendency to continuously monitor social connections (Przybylski et al., 2013). In this context, with the widespread use of AI technologies, the concept of AIlessphobia in education, defined as the fear and anxiety of being unable to access or use AI tools in educational settings, has become increasingly visible among students (Gezgin & Kurtça, 2025; Gezgin, 2025; Sağlam & Kalanlar, 2025; Özbay, 2026). AIlessphobia in education refers to the anxiety and uneasiness students experience when they cannot access AI tools during academic tasks (Gezgin & Kurtça, 2025). This condition may be related to students' increasing psychological reliance on AI tools to maintain academic and exam performance (Özbay, 2026). From the perspective of Social Cognitive Theory, self-efficacy beliefs may play an important role in this process (Bandura, 1986). In addition, according to Self-Determination Theory, the fulfilment of autonomy and competence needs through technology may strengthen dependency-like tendencies toward technological tools (Deci & Ryan, 2000).

Another construct closely related to motivation and academic functioning is procrastination. Procrastination can be broadly defined as the intentional or habitual delay of a task (Kirst-Ashman & Hull, 2012). It is also regarded as a typical form of self-regulation failure and is directly linked to motivational processes (Steel, 2007; Pychyl & Sirois, 2016). Individuals may tend to postpone tasks they perceive as less rewarding while prioritizing more pleasant activities (Sandhya & Gopinath, 2019). In university settings, the most prominent form is academic procrastination, defined as the intentional delay of academic tasks despite awareness of potential negative consequences (Steel, 2007). Previous studies indicate that academic procrastination is closely associated with self-

regulation difficulties, poor time management, low self-efficacy, and anxiety (Aribaş, 2021; Ragusa et al., 2023; Tice & Baumeister, 1997). Moreover, students with performance anxiety may adopt avoidance-based coping strategies, which can further reinforce procrastination behaviours (Wolters, 2003).

The integration of AI technologies into learning processes may have a dual relationship with academic procrastination. On the one hand, AI tools may reduce procrastination by facilitating task initiation (Ma & Chen, 2024). On the other hand, they may also increase the tendency to obtain outcomes with less cognitive effort, potentially weakening self-regulation skills. This can be interpreted through the concept of cognitive offloading, which refers to individuals' tendency to delegate mental effort to external tools (Risko & Gilbert, 2016). While calculators, note-taking apps, and search engines are classic examples, AI technologies extend this process to analysis and content production. Although cognitive offloading may be adaptive to some extent, excessive reliance on external tools may weaken internal regulation capacities (Risko & Gilbert, 2016; Zimmerman, 2000). Therefore, for students who rely on AI as a primary resource in initiating, organizing, and completing academic tasks, the absence of AI access may be associated with lower self-efficacy, increased performance anxiety, and avoidance-based coping tendencies, all of which may relate to academic procrastination (Tian et al., 2024; Zhang et al., 2024).

Examining this relationship in the context of sports sciences students is particularly relevant. Sports sciences education includes both theoretical and applied components. Students are required to engage in cognitively demanding tasks such as training planning, performance analysis, biomechanical calculations, data interpretation, and literature review. AI-based analysis programs, performance measurement tools, and data interpretation systems are becoming increasingly common in sports-related fields (Baca et al., 2018). As a result, sports sciences students may rely more heavily on AI tools in their academic work. Accordingly, anxiety related to AI unavailability may be associated with academic behavioural patterns in this student group (Gezgin & Kurtça, 2025). From a self-regulation perspective, academic success depends on students' effective use of planning, monitoring, and evaluation processes (Zimmerman, 2000). In addition, individuals with higher levels of AI-phobia may be more likely to experience performance pressure and fear of failure (Gezgin & Kurtça, 2025). Increased performance anxiety may, in turn, strengthen avoidance motivation (Elliot & Church, 1997). The loss of the cognitive security provided by AI tools may intensify anxiety and promote procrastination as a form of short-term relief, potentially in connection with difficulties in emotion regulation (Sirois & Pychyl, 2013).

Although prior research has examined the relationship between technology use and academic procrastination (Meier et al., 2016), studies directly investigating the relationship between fear of AI unavailability in education and academic procrastination remain limited. This gap strengthens the originality of the present study, which was designed within a cross-sectional framework. Related literature has shown that constructs such as digital addiction, FoMO, and nomophobia are associated with academic performance and self-regulation processes (Aksoğan & Atıcı, 2022; Gezgin, 2022; Gezgin et al., 2025; Tang & He, 2025). These findings suggest that AI-phobia in education may also be associated with academic procrastination through similar psychological mechanisms (Gezgin & Kurtça, 2025).

This study aims to examine the relationship between AIlessphobia in education and academic procrastination among sports sciences students. The study is expected to contribute to understanding how students' psychological dependence on technology in increasingly digitalized educational environments is related to academic self-regulation processes. The findings may also offer implications for the development of university AI-use policies, digital literacy programs, and interventions to support students' self-regulation skills. As AI technologies continue to transform academic life, understanding their psychological consequences for students is becoming increasingly important. Investigating the relationship between AIlessphobia in education and academic procrastination may therefore provide an important step toward explaining new dynamics of learning behaviour in the digital era. Based on the theoretical background, a positive association between AIlessphobia in education and academic procrastination was anticipated. In addition, AIlessphobia in education was expected to significantly predict academic procrastination levels. Accordingly, the research questions of the study were as follows:

1. What are the levels of AIlessphobia in education and academic procrastination among students in the Faculty of Sports Sciences?
2. Is there a significant relationship between academic procrastination and AIlessphobia in education (and its subdimensions) among sports sciences students?
3. Does AIlessphobia in education significantly predict variance in academic procrastination among sports sciences students?

Method

This study employed a cross-sectional design to examine the relationship between AIlessphobia in education and academic procrastination. The survey method was used because it facilitates the systematic collection of data to describe current conditions and examine associations among variables without manipulation. According to Büyüköztürk et al. (2017), this type of research model aims to identify the presence and magnitude of co-variation between two or more variables in their natural and current conditions.

Participants

The participants of the study consisted of 371 undergraduate students studying at the faculties of sport sciences of five different universities in Turkey in the spring semester of the 2025-2026 academic year. The participants were chosen through a convenience sampling method, predicated on accessibility and voluntary involvement (see Table 1).

Table 1. Demographic Characteristics

Variable	N	%
Gender		
Female	157	50.2
Male	156	49.8
Department		
Coaching	51	16.3

Variable	N	%
Physical education teaching	102	32.6
Recreation	51	16.3
Sports management	109	34.8
University		
Çanakkale 18 Mart University	28	8.9
Gümüşhane University	27	8.6
Iğdır University	18	5.8
İnönü University	24	7.7
Trakya University	216	69.0
Weekly AI usage time		
Less than 1 hour	192	61.3
1-3 hours	87	27.8
3-7 hours	26	8.3
More than 7 hours	8	2.6
The AI tool used		
ChatGPT	299	95.5
Gemini	11	3.5
Others (DeepL, DeepSeek, Claude)	3	1.0
Use of AI for every assignment		
Yes	135	43.1
No	178	56.9
Total	313	100.0

58 participants who stated they did not use any AI applications for educational purposes were excluded from the analysis, as prior experience with AI in academic contexts was considered necessary for the meaningful assessment of AIlessphobia in education. Thus, the sample group was determined to be 313 participants. The participants' ages varied from 18 to 27 years ($M=20.57$; $SD=1.758$), comprising 157 female (50.2%) and 156 male (49.8%). The demographic characteristics of the students are presented in Table 1.

Data Collection Tools

Demographic information form, AIlessphobia in Education Scale and Academic Procrastination Scale were used in this study.

Demographic Information

The demographic information form contains information about age, gender, department, university, weekly AI usage, the AI tool used and whether they use a chatbot for every assignment.

The AIlessphobia in Education Scale (AILPES)

The AIlessphobia in Education Scale, developed by Gezgin and Kurtça (2025). The measure comprises 18 Likert-type items, with responses ranging from 1 (strongly disagree) to 5 (strongly agree). An illustrative item from the scale is “*I perceive an enhancement in my academic strength with an AI-based language model.*” The scale comprises two subdimensions: Academic Self-efficacy Anxiety (10 items: 1 through 10) and Lack of Academic Confidence without AI (8 items: 11 through 18). The cumulative explained variance is 56.23%. The scale demonstrates substantial reliability: for the Academic Self-Efficacy Anxiety subscale, Cronbach’s Alpha varies from 0.925 to 0.935 and McDonald’s Omega from 0.923 to 0.929; for the Lack of Academic Confidence without AI subscale, Alpha ranges from 0.847 to 0.877 and Omega from 0.850 to 0.879; and for the overall scale, Alpha spans from 0.925 to 0.941 and Omega from 0.923 to 0.942. The analysis was duplicated for this study, yielding a reliability coefficient of 0.933 for the overall scale, 0.918 for the Academic Self-Efficacy Anxiety subscale, and 0.882 for the Lack of Academic Confidence without AI subscale.

The Academic Procrastination Scale

The Academic Procrastination Scale developed by Çakıcı (2003) was used in the study. There are no items on the scale that are reverse scored. The highest possible score on the scale is 95, while the lowest possible score is 19. This five-point Likert scale consists of a total of nineteen items. An example item from the scale is “*I submit my assignments/projects on time.*”. The Cronbach Alpha reliability coefficient of the academic procrastination scale was measured as 0.920. In the present study, the Cronbach’s Alpha reliability coefficient for the academic procrastination scale was found to be 0.801.

Data Collection and Analysis

In this study, participants were informed about the purpose of the research before data collection began, and electronic informed consent was obtained by asking them to indicate their approval on the consent form before proceeding to the questionnaire. Participation was entirely voluntary, and participants were informed that they could withdraw from the study at any time if they no longer wished to continue. The data were collected through a Google-based online survey administered to university students. The survey link was distributed to student groups via WhatsApp, and two reminder messages were sent in order to increase participation.

The acquired data were analysed using SPSS 27.0 (Statistical Package for the Social Sciences). Descriptive statistics, including minimum, maximum, mean, standard deviation, skewness, and kurtosis, were used to represent the characteristics of the study variables. The skewness and kurtosis values for all scales were within the thresholds recommended in the literature. George and Mallery (2010) stated that skewness and kurtosis values within ± 1 may be regarded as evidence of approximately normal distributions. According to these criteria, the distributions of AIlessphobia in education, academic self-efficacy anxiety, lack of academic confidence without AI, and academic procrastination were considered sufficiently normal for subsequent parametric analyses. Following the descriptive analyses, Pearson correlation analysis was conducted to examine the relationships

among academic procrastination, AIlessphobia in education, and its subdimensions. A correlation heatmap was generated in Python to visualise the pattern of associations among the study variables. Finally, a simple linear regression analysis was performed to test the predictive effect of AIlessphobia in education on academic procrastination. The statistical significance threshold was set at .05 for all analyses.

Results

Descriptive Statistics

As presented in Table 2, the descriptive statistics of the study variables demonstrate reasonable distributional properties. The mean scores for AIlessphobia in education ($M = 2.09$), academic self-efficacy anxiety ($M = 1.89$), and lack of academic confidence without AI ($M = 2.33$) are reported. The mean score for academic procrastination is 2.93. Standard deviation values indicate an adequate level of variability across the scales.

Table 2. Descriptive Statistics

Scales and sub-dimensions	N	Min.	Max.	Mean	Std. Dev.	Skewness	Kurtosis
AIlessphobia in education	313	1.00	4.11	2.09	.763	.267	-.994
Academic Self-efficacy Anxiety	313	1.00	3.90	1.89	.800	.615	-.888
Lack of Academic Confidence without AI	313	1.00	4.63	2.33	.883	.082	-.737
Academic Procrastination	313	1.58	4.26	2.93	.559	-.248	-.043

Correlational Results

Figure 1 presents the Pearson correlation coefficients among AIlessphobia in education, academic self-efficacy anxiety, lack of academic confidence without AI, and academic procrastination.

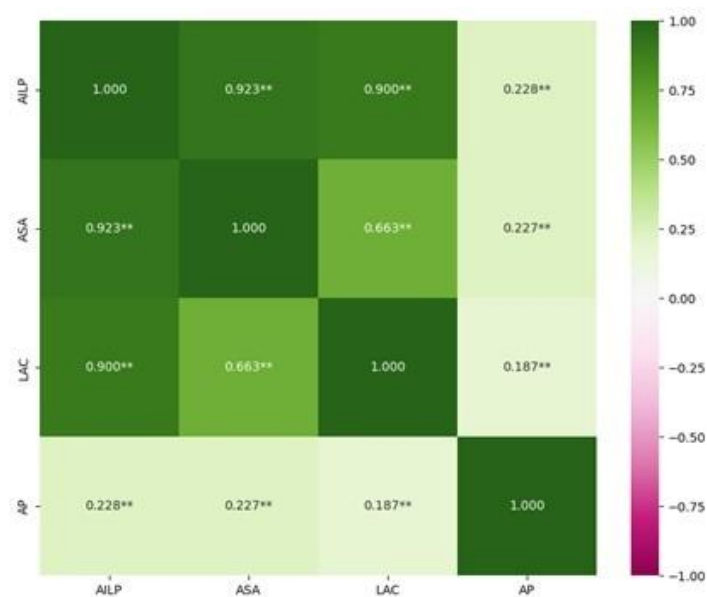


Figure 1. Correlation Matrix (AILP: AIlessphobia in education; ASA: Academic self-efficacy anxiety; LAC: Lack of academic confidence without AI; AP: Academic procrastination. ** indicates $p < .001$)

Academic procrastination showed statistically significant but weak positive correlations with AIlessphobia in education ($r = .228, p < .001$), academic self-efficacy anxiety ($r = .227, p < .001$), and lack of academic confidence without AI ($r = .187, p < .001$). These findings suggest that higher levels of AIlessphobia in education, academic self-efficacy anxiety, and lack of academic confidence without AI are related to higher academic procrastination, although the strength of these associations is small.

Simple Linear Regression Results

A simple linear regression analysis was conducted to examine whether AIlessphobia in education significantly predicts academic procrastination. The results indicated a statistically significant association between AIlessphobia in education and academic procrastination ($r = .228, p < .001$). AIlessphobia in education explained approximately 5.2% of the variance in academic procrastination. Table 3 presents the results of simple linear regression.

Table 3. Simple Linear Regression Results

Variables	B	SE	β	t	p
(Constant)	2.587	.090		28.84	<.001**
AIlessphobia in education	.167	.040	.228	4.13	<.001**

Note. $F(1, 311) = 17.056, R = .228, R^2 = 0.052, \text{Durbin-Watson} = 1.659, p < .001$.

The overall regression model was statistically significant, $F(1, 311) = 17.056, p < .001$. AIlessphobia in education was found to be a significant predictor of academic procrastination ($\beta = .228, t = 4.13, p < .001$). According to commonly accepted benchmarks for effect size interpretation, the proportion of explained variance corresponds to a small effect size (Cohen, 1988).

Discussion

In this study, the levels of AIlessphobia in education and academic procrastination among students enrolled in the faculty of sports sciences, as well as the association between these variables, were examined. Descriptive statistics revealed that the prevalence of AIlessphobia in education among the students was relatively low; in terms of subdimensions, scores for “Academic Self-Efficacy Anxiety” were lower, whereas scores for “Lack of Academic Confidence Without Artificial Intelligence” were comparatively higher. In contrast, academic procrastination was found to be close to a moderate level. These findings suggest that anxiety and perceptions of inadequacy associated with the inability to access artificial intelligence (AI) are generally low among sports sciences students; however, they may be more pronounced particularly in the dimension of confidence in academic competence without AI. This pattern is consistent with the relevant literature. In a study conducted with engineering students, overall AIlessphobia in education and academic self-efficacy anxiety levels were reported to be relatively low, whereas the “Lack of Academic Confidence without AI” dimension was found to be at a moderate level (Gezgin, 2025). Similarly, a study involving nursing students explicitly reported the theme of AIlessphobia in education and indicated that students experienced emotional discomfort when access to AI was unavailable (Sağlam & Kalanlar,

2025). Furthermore, findings indicating that AIlessphobia in education is positively associated with AI dependency and negatively associated with academic self-efficacy (Özbay, 2026) demonstrate that this construct should be addressed in conjunction with students' academic efficacy perceptions and their technology-mediated usage patterns.

Regarding academic procrastination, the literature indicates that this behaviour represents a prevalent and multidimensional pattern within higher education. Consistently, a study focusing on students in sports sciences reported that the mean academic procrastination scores were near moderate levels (Saylam et al., 2021). In a cross-sectional latent profile analysis conducted with university students, distinct academic procrastination profiles were identified among both Turkish and international students (Özberk & Kurtça, 2021). Furthermore, reporting an academic procrastination prevalence of approximately 48.5% in another university sample (Önder et al., 2021) reinforces the notion that procrastination is a domain requiring significant attention in higher education. Within this framework, the descriptive findings obtained in the current study suggest that a concurrent evaluation of technology-based academic anxieties and academic procrastination may be critical.

The findings obtained regarding the second research question demonstrate a significant positive relationship between academic procrastination and AIlessphobia in education among students in the faculty of sports sciences. This finding aligns with previous studies reporting positive correlations between technological dependency tendencies and academic procrastination (Çiftçi, 2023; Gezgin, 2022; Karagöz & Özbay, 2025; Tárrega-Piquer et al., 2023). Additionally, research addressing the association between nomophobia and academic performance indicates that excessive technological dependency may be associated with self-regulation processes and the procrastination of academic tasks (Tülübaş et al., 2023). Recent cross-cultural evidence also supports the present findings. In the Chinese validation study of the AIlessphobia in Education Scale (AILPES), academic procrastination showed significant positive correlations with both subdimensions of AIlessphobia in education as well as with the total scale score. This pattern suggests that the association between AI-related academic anxiety, reduced confidence without AI, and procrastination may not be limited to a single sample or context but may reflect a broader psychological tendency across higher education settings (Xu et al., 2026). In the present study, the relatively higher scores observed specifically in the “Lack of Academic Confidence without AI” subdimension suggest that certain students perceive AI support as a more central component of their academic tasks.

The regression findings obtained within the scope of the third research question indicate that AIlessphobia in education significantly predicts academic procrastination, although its explanatory power remains limited. According to the simple linear regression analysis, AIlessphobia in education explains approximately 5.2% of the variance in academic procrastination. While this result supports that AIlessphobia in education is a significant variable associated with academic procrastination, it also suggests that academic procrastination is a multidimensional construct linked to numerous variables such as self-regulation, motivation, time management, academic workload, and individual differences. This is particularly significant for students in the faculty of sports sciences, who operate within an applied and performance-oriented educational structure. Indeed, the systematic fulfilment of academic tasks among these students is shaped not only by technology-related anxieties but also by multifaceted factors, including the practical nature of the courses, performance pressure, and individual study

habits. Therefore, the limited explanatory power of AIlessphobia in education can be considered an expected finding; nevertheless, it remains important as it demonstrates that technology-based academic anxieties offer a significant contribution to the pattern of academic procrastination.

Self-regulation processes may provide a useful framework for interpreting the association between AIlessphobia in education and academic procrastination. The relevant literature indicates that academic procrastination is associated with self-control deficiency, low motivation, and task avoidance tendencies. A study investigating the relationship between smartphone addiction and academic procrastination demonstrated that self-control and self-regulation variables emerge as prominent factors (Zhao et al., 2025). Furthermore, the cognitive offloading approach, which refers to the transfer of cognitive load to external tools, offers a framework to explain the relationship between the intensive use of technology-based tools and the way academic tasks are performed (Risko & Gilbert, 2016). In a study involving university students that modelled the associations among self-regulated learning skills, learning approaches, FoMO, and smartphone addiction, it was emphasized that self-regulation processes are a critical variable to be considered in the interpretation of technology-based academic patterns (Gezgin, 2025). However, due to the cross-sectional nature of the present study, these explanations should be evaluated as potential interpretative frameworks rather than causal ones. From another perspective, the way AI-based tools are utilized in academic processes appears to be associated with students' learning approaches. A study conducted with university students noted that students with a surface learning approach use chatbots in education more frequently, and this usage may, in some cases, function as a strategy focused on course completion (Gezgin, 2024).

Conclusion

In conclusion, the findings of this study demonstrate a significant positive relationship between AIlessphobia in education and academic procrastination among students in the faculty of sports sciences and indicate that AIlessphobia in education significantly predicts academic procrastination, albeit to a limited extent. In this regard, the study provides an original contribution to the field by examining the relationship between academic behaviours and the concept of AIlessphobia in education, which has received limited attention in the literature thus far. These findings may be interpreted within a self-regulation framework, suggesting that anxiety related to AI unavailability may be linked to delays in academic task initiation and completion. From a practical perspective, universities and educators may consider supporting balanced AI use while also strengthening students' independent academic skills.

Limitations and Recommendations

The present study is subject to several limitations. First, as the research was conducted exclusively among sports science students, the generalizability of the findings is inherently limited. Second, a convenience sampling approach was adopted because of practical constraints related to time and cost, which may limit the representativeness of the sample and the broader applicability of the findings. Additionally, the reliance on self-report scales and the cross-sectional design of the study preclude the establishment of causal interpretations.

Future longitudinal and experimental research involving larger and more diverse samples from various faculties could provide a more comprehensive understanding of the association between AI lessphobia in education and academic behaviours.

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