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PSYCHOLOGICAL CORRELATES OF ACADEMIC PROCRASTINATION: THE ROLE OF LOCUS OF CONTROL AND SMARTPHONE ADDICTION

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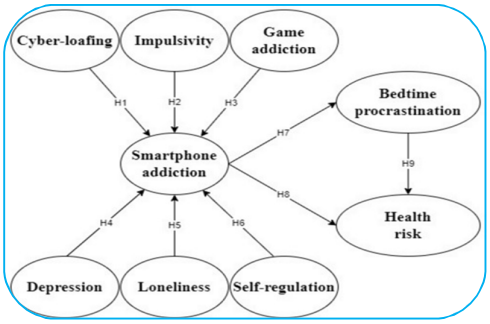
ABSTRACT:



Academic procrastination is widely recognized as a prevalent and persistent issue among students across different educational levels (Ramadhani et al., 2026). It refers to the deliberate delay in initiating or completing academic tasks despite being aware of the potential negative consequences, such as poor academic performance, increased stress, and reduced psychological well-being (Klingsieck, 2013). Although procrastination has often been attributed to poor time management or lack of discipline, contemporary perspectives conceptualize it as a failure of self-regulation, involving the interaction of cognitive, emotional, and motivational processes (Hen & Goroshit, 2018; Zhao et al., 2021). Academic procrastination is characterized by consistent patterns of task avoidance, delay in decision-making, and a preference for short-term gratification over long-term academic goals. Students who procrastinate frequently postpone essential academic activities, including studying for examinations, completing assignments, and engaging in academic reading (Tawil et al., 2025). This behavior is often accompanied by maladaptive cognitive and emotional responses, such as fear of failure, low self-efficacy, indecisiveness, and heightened anxiety. Additionally, procrastination tends to follow a cyclical pattern, where initial delay leads to time pressure, rushed task completion, and subsequent feelings of guilt and stress, which in turn reinforce further procrastinatory behaviour (Zentall, 2021).

KEYWORDS: *Academic procrastination , poor academic performance, increased stress, reduced psychological.*

1. INTRODUCTION:

The effects of academic procrastination are multidimensional and extend beyond academic outcomes. It has been consistently associated with lower academic achievement, poor time management, increased psychological distress, and diminished overall well-being (Steel, 2007; Svartdal et al., 2020; Tezer et al., 2022). Chronic procrastination may also contribute to reduced self-confidence and ineffective coping strategies, thereby negatively impacting students' long-term academic and personal development (Sirois & Pychyl, 2016; Rozental & Carlbring, 2014). Despite awareness of these adverse consequences, many students continue to engage in procrastination, highlighting its complex and self-perpetuating nature (Steel & Klingsieck, 2016). Given its widespread prevalence, characteristic patterns, and significant negative outcomes, academic procrastination warrants systematic investigation to better understand the underlying psychological factors that contribute to its occurrence and maintenance.

One of the central psychological constructs implicated in procrastination is locus of control, a concept introduced by Julian B. Rotter within the framework of social learning theory. Locus of control refers to individuals' generalized expectations about whether outcomes are contingent upon their own behavior (internal locus of control) or determined by external forces such as luck, fate, or powerful others (Rotter, 1966). Individuals with an internal locus of control tend to believe that their efforts and decisions directly influence outcomes, leading to greater personal responsibility, persistence, and goal-directed behavior (Ng et al., 2006; Cobb-Clark, 2015). In contrast, individuals with an external locus of control may perceive outcomes as beyond their control, resulting in reduced motivation, learned helplessness, and avoidance tendencies (Findley & Cooper, 1983; Stajkovic & Luthans, 2018). Within the academic domain, students differ considerably in how they interpret and respond to learning demands, and these differences are often shaped by their generalized beliefs about control over outcomes. Some students perceive academic success and failure as largely contingent upon their own efforts and abilities, which is reflected in greater responsibility-taking, persistence, and goal-directed behavior (Credé & Niehorster, 2012; Richardson et al., 2012). Such students are more likely to engage actively with academic tasks, regulate their study habits, and adopt effective coping strategies when faced with challenges (Zimmerman, 2008; Honicke & Broadbent, 2016).

In contrast, other students tend to attribute academic outcomes to external factors such as chance, luck, or the influence of others. This orientation is often associated with feelings of uncertainty, reduced sense of personal agency, and greater susceptibility to stress in academic situations (Benabou & Tirole, 2002; Sirois, 2014). As a result, these students may show lower confidence in their ability to influence outcomes and may approach academic tasks with less initiative and consistency (Zimbardo & Boyd, 2015; Grunschel et al., 2016). These differing orientations toward control are important in understanding variations in students' academic engagement and behavioral responses. By influencing how students perceive responsibility, effort, and outcomes, such beliefs represent a key dispositional factor that shapes learning-related attitudes and behaviors (Karimi & Sotoodeh, 2020; Steel & Weinhardt, 2018).

The rapid expansion of digital technology has introduced new behavioral patterns that are increasingly relevant in academic contexts. Among these, problematic smartphone use—often referred to as smartphone addiction—has attracted considerable scholarly attention. This phenomenon is characterized by excessive, compulsive, and poorly regulated smartphone use that interferes with daily functioning (Elhai et al., 2017; Busch & McCarthy, 2021). For many students, smartphones have become an integral part of everyday life, providing continuous access to social networking platforms, instant communication, entertainment, and information (Samaha & Hawi, 2016; Cha & Seo, 2018). Although these devices offer significant advantages, their excessive use may contribute to behavioral dependency, attentional disruptions, and reduced academic efficiency (Lepp et al., 2015; Sunday et al., 2021). The features of smartphones, particularly their capacity to deliver immediate rewards and constant stimulation, make them highly engaging. Frequent notifications, social media interactions, and easily accessible entertainment content can create persistent distractions within academic environments (Duke & Montag, 2017; Ward et al., 2017). From a behavioral perspective, such usage patterns may be reinforced through repeated exposure to instant gratification, which can encourage habitual checking behaviors and difficulty disengaging from the device (Oulasvirta et al., 2012; Montag et al., 2019). Consequently, students may allocate substantial time and attention to smartphone-related activities, especially when faced with demanding or effortful academic tasks (Rozgonjuk et al., 2018; Amez & Baert, 2020).

Excessive smartphone use has been associated with challenges in self-regulation. Self-regulation involves the ability to control impulses, sustain attention, and align behavior with long-term academic goals (Zimmerman, 2008). When smartphone use becomes excessive, it may interfere with these regulatory processes by increasing susceptibility to distractions and reducing sustained focus (Chen et al., 2017; Servidio, 2019). This may contribute to difficulties in maintaining consistent academic engagement and managing study-related responsibilities effectively (Alblwi et al., 2019; Kim et al., 2022). At the same time, individual differences in psychological orientations, particularly those related

to perceptions of control, may further shape students' interactions with digital technologies. Students vary in the extent to which they perceive themselves as capable of influencing outcomes through their own actions versus attributing outcomes to external circumstances. These orientations may influence how students manage their behavior, respond to academic demands, and regulate their use of technology in learning contexts (Karimi & Sotoodeh, 2020; Li et al., 2021). Given the increasing integration of smartphones into academic life, it becomes important to examine how such behavioral patterns coexist with broader psychological characteristics. The contemporary educational environment requires students not only to engage with digital tools for learning purposes but also to manage potential distractions associated with them. This dual role highlights the need for a more nuanced understanding of how technology-related behaviors and individual psychological factors operate within academic settings (Busch & McCarthy, 2021; Sunday et al., 2021).

The present study seeks to investigate the psychological correlates of academic procrastination, with a specific focus on locus of control and smartphone addiction among college students. By adopting a correlational research design, the study aims to examine (a) the relationship between locus of control and academic procrastination, (b) the relationship between smartphone addiction and academic procrastination, and (c) the combined influence of locus of control and smartphone addiction on procrastination. This integrative approach is expected to provide deeper insights into the cognitive and behavioural mechanisms underlying procrastination. The significance of this study lies in its potential to contribute to both theoretical and practical domains. Theoretically, it extends existing literature by integrating personality-based and technology-based perspectives on procrastination. Practically, the findings may inform the development of targeted interventions aimed at enhancing students' self-regulation, promoting an internal locus of control, and reducing problematic smartphone use. Such interventions could be implemented through academic counselling, psychoeducational programs, and digital well-being initiatives.

2. REVIEW OF LITERATURE

Academic procrastination has increasingly been conceptualized in recent literature as a complex self-regulatory failure rather than a simple issue of poor time management. Contemporary research emphasizes that procrastination involves the interaction of cognitive, emotional, and behavioral processes, where individuals delay tasks despite anticipating negative outcomes (Steel, 2007; Sirois & Pychyl, 2013; Svartdal et al., 2020). Studies conducted after 2010 have particularly highlighted the role of emotion regulation in procrastination. For instance, Sirois and Pychyl (2013) suggested that individuals often postpone academic tasks as a way of avoiding negative emotions such as anxiety, frustration, or self-doubt. This perspective positions procrastination as a short-term mood repair strategy that ultimately leads to long-term academic and psychological costs. Further research has reinforced the multidimensional nature of procrastination by identifying key characteristics such as impulsivity, distractibility, and difficulties in time management. Klingsieck (2013) emphasized that procrastination is not merely behavioral delay but involves maladaptive patterns of thinking and emotional responses. More recent findings (e.g., Svartdal et al., 2020; Grunschel et al., 2016) indicate that students who exhibit higher levels of impulsivity and poor planning skills are more likely to engage in persistent academic delay. These patterns often form a cyclical process, where initial postponement leads to time pressure, rushed task completion, and subsequent feelings of stress and guilt, thereby reinforcing further procrastination (Steel & Klingsieck, 2016).

Within this broader framework, recent studies have focused on identifying psychological characteristics that shape how students approach academic tasks. Variables such as self-efficacy, perfectionism, and perceived control have been found to influence students' engagement and coping strategies. For example, Zhang et al. (2018) reported that students with lower confidence in their academic abilities tend to delay tasks more frequently. Similarly, Flett et al. (2016) demonstrated that maladaptive perfectionism contributes to avoidance behaviors due to fear of failure and self-critical tendencies. These findings suggest that procrastination is embedded within a network of psychological processes that influence motivation, emotional responses, and behavioral regulation (Sirois, 2014;

Steel, 2007). In addition to these internal factors, recent literature has increasingly highlighted the role of environmental and behavioral influences, particularly in the context of rapid technological advancement. The widespread use of smartphones has introduced new challenges for students' attention and self-regulation. Kwon et al. (2013) conceptualized problematic smartphone use as a form of behavioral dependency characterized by excessive and compulsive engagement that interferes with daily functioning. Subsequent studies (e.g., Lepp et al., 2015; Samaha & Hawi, 2016; Sunday et al., 2021) have consistently shown that excessive smartphone use is associated with reduced academic performance and increased distraction.

The mechanisms underlying these effects are often explained through reinforcement and attentional frameworks. Smartphones provide continuous access to instant rewards through social media, messaging, and entertainment, which can compete with academically relevant tasks requiring sustained effort (Duke & Montag, 2017; Montag et al., 2019). Research has shown that frequent interruptions and media multitasking can impair concentration and increase cognitive load (Rosen et al., 2013; Junco, 2015). More recent studies (e.g., Sunday et al., 2021; Amez & Baert, 2020) further indicate that problematic smartphone use is associated with reduced attention span, ineffective time management, and difficulties in maintaining academic focus. These behavioral patterns are closely linked to deficits in self-regulation, which is a central component in understanding academic procrastination (Servidio, 2019). At the same time, individual differences in how students perceive and respond to academic situations continue to play an important role in shaping behavior. Recent research has emphasized the importance of perceived control in influencing motivation, coping, and engagement. Studies (e.g., Nowicki et al., 2018; Karimi & Sotoodeh, 2020) suggest that students who perceive greater personal control over outcomes are more likely to adopt active coping strategies and maintain consistent effort in academic tasks. In contrast, those who attribute outcomes to external factors may experience greater uncertainty and may rely on avoidance-based strategies when faced with academic demands (Findley & Cooper, 1983; Ng et al., 2006). These differences highlight how underlying psychological orientations can influence the way students regulate their behavior in learning contexts.

Contemporary research has begun to move toward more integrative perspectives that consider both psychological dispositions and technology-related behaviors. The increasing integration of digital devices into educational settings has blurred the boundaries between academic and non-academic activities, making it easier for students to shift attention away from tasks (Busch & McCarthy, 2021). As a result, academic behavior is now understood as being shaped by the interaction of internal characteristics and external environmental influences (Steel & Weinhardt, 2018). Despite this shift, there remains a relative lack of studies that examine these factors together within a single framework, particularly among college student populations.

Hypotheses

$H_0$1: There is no significant relationship between academic procrastination and locus of control among college students.

$H_0$2: There is no significant relationship between academic procrastination and smartphone addiction among college students.

$H_0$3: There is no significant relationship between locus of control and smartphone addiction among college students.

$H_0$4: There is no significant difference between male and female college students in academic procrastination.

$H_0$5: There is no significant difference between male and female college students in locus of control.

$H_0$6: There is no significant difference between male and female college students in smartphone addiction.

$H_0$7: There is no significant combined relationship among academic procrastination, locus of control, and smartphone addiction among college students.

3. METHODOLOGY

The present study employed a quantitative correlational research design to examine the psychological correlates of academic procrastination among college students. This design was considered appropriate as it enables the investigation of relationships among variables without manipulation, thereby allowing for the assessment of naturally occurring associations between academic procrastination, locus of control, and smartphone addiction. The sample for the study consisted of 120 college students, selected using a convenience sampling method. The sample was equally distributed based on gender, comprising 60 males and 60 females, and the age of the participants ranged from 20 to 30 years, with a mean age of 26.38 years (SD = 2.88). Only those students who were currently enrolled in a college or university and were regular smartphone users were included in the study, while incomplete responses were excluded during data screening.

Data were collected using an online survey method, wherein the questionnaire was designed using Google Forms and distributed through email and social media platforms such as WhatsApp and other messaging applications. Participants were provided with a brief description of the study and informed consent was obtained prior to participation. The survey consisted of demographic details followed by standardized instruments measuring academic procrastination, locus of control, and smartphone addiction. Academic procrastination was assessed using the Academic Procrastination Scale–Short Form (APS-S) developed by McCloskey (2011), a five-item self-report measure with 5-point Likert scale (1 = *disagree*; 5 = *agree*) designed to assess procrastination specifically in academic contexts. The APS-S was derived from the original 25-item scale to provide a more concise and focused assessment, and previous research has supported its unidimensional structure, as well as its internal consistency and convergent validity among college student populations.

Locus of control was measured using the Rotter's Locus of Control Scale (I–E Scale) developed by Julian B. Rotter (1966). This scale consists of 29 paired statements presented in a forced-choice format, of which 23 items are scored and 6 are filler items. Respondents are required to select the statement in each pair that they agree with more strongly, and the resulting score reflects the extent to which an individual endorses internal versus external control beliefs. The scale has demonstrated acceptable reliability, with internal consistency coefficients ranging from 0.65 to 0.79, along with adequate test–retest reliability. Smartphone addiction was assessed using the Smartphone Addiction Scale (SAS) developed by Kwon et al. (2013). This scale consists of 33 items organized into six subscales, namely Daily-Life Disturbance, Positive Anticipation, Withdrawal, Cyberspace-Oriented Relationship, Overuse, and Tolerance. Items are rated on a six-point Likert scale, with higher scores indicating greater levels of problematic smartphone use. The scale has demonstrated excellent internal consistency, with Cronbach's alpha values ranging from 0.825 to 0.913 for subscales and 0.967 for the overall scale, along with good concurrent validity.

Following data collection, the responses were screened and cleaned to ensure completeness and accuracy. The finalized data set was then coded and analyzed using the Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics, including mean and standard deviation, were computed for all study variables, and Pearson's correlation analysis was conducted to examine the relationships among academic procrastination, locus of control, and smartphone addiction. The level of statistical significance was set at $p < .05$. Ethical considerations were strictly maintained throughout the study. Participation was voluntary, and participants were assured of confidentiality and anonymity. They were informed of their right to withdraw from the study at any stage without penalty, and the collected data were used solely for academic and research purposes.

4. RESULTS

The data obtained from 120 college students were analyzed using the Statistical Package for the Social Sciences (SPSS, Version 25). Both descriptive and inferential statistical techniques were employed to examine the relationships among academic procrastination, locus of control, and smartphone addiction, as well as to test for gender differences across these variables.

Table 1

Descriptive Statistics of Study Variables

Variable	Mean	Std. Deviation	Minimum	Maximum
Academic Procrastination	13.28	3.62	5	25
Locus of Control	12.71	3.18	0	23
Smartphone Addiction	86.42	17.36	33	198

Descriptive statistics were computed to understand the distribution of the study variables. The mean score for academic procrastination was found to be 13.28 (SD = 3.62), indicating a moderate level of procrastination among participants within the possible range of 5 to 25. The mean score for locus of control was 12.71 (SD = 3.18), suggesting that the sample, on average, was positioned near the cut-off point, reflecting a relatively balanced distribution between internal and external orientations. The mean score for smartphone addiction was 86.42 (SD = 17.36) within the possible range of 33 to 198, indicating a moderate level of smartphone use among the participants.

To test hypotheses $H_0$1, $H_0$2, and $H_0$3, which examined the relationships among academic procrastination, locus of control, and smartphone addiction, Pearson's product-moment correlation analysis was conducted. The results indicated a significant positive relationship between academic procrastination and locus of control ($r = .38$, $p < .01$), suggesting that higher scores on locus of control, reflecting a more external orientation, were associated with higher levels of academic procrastination. Similarly, a moderate positive correlation was observed between academic procrastination and smartphone addiction ($r = .46$, $p < .01$), indicating that increased smartphone addiction was associated with higher levels of procrastination. In addition, locus of control was found to be positively correlated with smartphone addiction ($r = .34$, $p < .01$), suggesting that students with a more external locus of control tended to report higher levels of problematic smartphone use. Since all the obtained correlation coefficients were statistically significant at the 0.01 level, the null hypotheses $H_0$1, $H_0$2, and $H_0$3 were rejected.

The correlation matrix summarizing these relationships is presented in **Table 2**.

Table 2

Pearson Correlation Matrix among Academic Procrastination, Locus of Control, and Smartphone Addiction

Variables	1	2	3
1. Locus of Control	—	.38**	.34**
2. Academic Procrastination	.38**	—	.46**
3. Smartphone Addiction	.34**	.46**	—

Note: p < .01

To test $H_0$7, which examined the combined relationship among academic procrastination, locus of control, and smartphone addiction, a multiple regression analysis was conducted with academic procrastination as the dependent variable and locus of control and smartphone addiction as predictor variables. The results revealed that the overall model was statistically significant, $F(2, 117) = 22.74$, $p < .001$, indicating that the predictors jointly contributed to the explanation of academic procrastination. The multiple correlation coefficient was found to be $R = .53$, with a coefficient of determination $R^2 = .28$, suggesting that approximately 28% of the variance in academic procrastination was explained by locus of control and smartphone addiction combined. Further examination of the regression coefficients indicated that both locus of control ($\beta = .32$, $t = 4.55$, $p < .001$) and smartphone addiction ($\beta = .39$, $t = 5.21$, $p < .001$) were significant predictors of academic procrastination. This implies that both variables independently and significantly contributed to the prediction of procrastination levels among students.

The results of the multiple regression analysis are presented in Tables 3, 4, and 5.

Table 3

Model Summary of Multiple Regression Analysis

Model	R	R^2	Adjusted R^2	Std. Error
1	.53	.28	.27	3.11

Table 4

ANOVA for Multiple Regression

Source	SS	df	MS	F	P
Regression	439.21	2	219.61	22.74	.000**
Residual	1129.34	117	9.65		
Total	1568.55	119			

Table 5

Regression Coefficients

Predictor	B	SE	β	t	p
Locus of Control	0.41	0.09	.32	4.55	.000**
Smartphone Addiction	0.07	0.01	.39	5.21	.000**

Note: p < .01

Based on these findings, the null hypothesis $H_0$7 was rejected, indicating a significant combined relationship among academic procrastination, locus of control, and smartphone addiction. Overall, the results demonstrate that both locus of control and smartphone addiction are significantly associated with academic procrastination, both individually and in combination.

Table 6

Independent Samples t-test for Gender Differences in Locus of Control, Academic Procrastination, and Smartphone Addiction

Variable	Gender	Mean (M)	SD	t	df	p
Locus of Control	Male	11.42	2.96	-4.11	118	.000**
	Female	13.99	3.04			
Academic Procrastination	Male	14.21	3.51	2.18	118	.031*
	Female	12.35	3.60			
Smartphone Addiction	Male	89.73	16.82	2.07	118	.041*
	Female	83.12	17.58			

Note: *p < .05, **p < .01*

To examine gender differences in academic procrastination, locus of control, and smartphone addiction ($H_0$4, $H_0$5, and $H_0$6), independent samples *t*-tests were conducted. The results revealed statistically significant differences between male and female students across all three variables. A significant difference was observed in locus of control, $t(118) = -4.11$, $p < .01$, with male students (M = 11.42, SD = 2.96) obtaining lower mean scores than female students (M = 13.99, SD = 3.04), indicating that males exhibited a relatively more internal locus of control, whereas females demonstrated a more external orientation. Similarly, academic procrastination differed significantly across gender, $t(118) = 2.18$, $p < .05$, with male students (M = 14.21, SD = 3.51) reporting higher levels of procrastination compared to female students (M = 12.35, SD = 3.60). In addition, a significant gender difference was found in smartphone addiction, $t(118) = 2.07$, $p < .05$, where male students (M = 89.73, SD = 16.82) scored higher than female students (M = 83.12, SD = 17.58). These findings indicate that male and female students differ significantly in their psychological orientation and behavioral patterns related to

academic functioning. Therefore, the null hypotheses $H_0$4, $H_0$5, and $H_0$6 were rejected. The detailed results are presented in Table 6.

5. DISCUSSION

The present study aimed to examine the psychological correlates of academic procrastination, with particular emphasis on locus of control and smartphone addiction among college students. The findings provide meaningful insights into how dispositional beliefs and contemporary behavioral patterns interact in shaping academic behavior in the digital era. The results indicate that academic procrastination is significantly associated with both locus of control and smartphone addiction, both independently and in combination, while also revealing notable gender differences. The correlation analysis demonstrated a significant positive relationship between locus of control and academic procrastination, indicating that students with a more external orientation tend to exhibit higher levels of procrastination. This finding is consistent with prior research suggesting that individuals who perceive outcomes as externally controlled are more likely to engage in avoidance behaviors due to reduced perceived agency and lower self-regulatory capacity (Nowicki et al., 2018; Cazan & Schiopca, 2014). More recent studies further emphasize that external control beliefs are associated with maladaptive coping strategies, including task avoidance and disengagement from academic responsibilities (Karimi & Sotoodeh, 2020; Li et al., 2021). From a theoretical perspective, this finding aligns with self-regulation frameworks, which posit that diminished perceived control undermines goal-directed behavior and increases susceptibility to procrastination (Steel, 2007; Svartdal et al., 2020).

Similarly, the study found a significant positive relationship between smartphone addiction and academic procrastination. This result is supported by recent empirical evidence indicating that excessive smartphone use is associated with increased procrastination, reduced academic engagement, and impaired time management (Rozgonjuk et al., 2018; Servidio, 2019; Akin et al., 2021). Smartphones provide continuous access to rewarding stimuli such as social media, messaging, and entertainment, which can interfere with sustained attention and academic focus (Duke & Montag, 2017; Montag et al., 2019). From a behavioral perspective, reinforcement mechanisms explain how immediate rewards strengthen the avoidance of effortful academic tasks. The moderate strength of the observed relationship suggests that smartphone addiction is a significant behavioral correlate of procrastination in contemporary student populations.

The positive association between locus of control and smartphone addiction also offers important insights into students' behavioral tendencies. Students with an external locus of control may be more inclined to seek external sources of gratification and distraction, thereby increasing vulnerability to problematic smartphone use. This interpretation is supported by studies showing that individuals with lower perceived control are more likely to engage in excessive digital media use as a coping mechanism for stress and uncertainty (Elhai et al., 2017; Kim et al., 2018). These findings underscore the interconnected nature of psychological dispositions and technology-related behaviors.

The multiple regression analysis further strengthens these findings by demonstrating that locus of control and smartphone addiction jointly predict academic procrastination, accounting for approximately 28% of the variance. Both variables emerged as significant predictors, with smartphone addiction showing a slightly stronger contribution. This suggests that while dispositional factors such as perceived control are important, behavioral factors related to technology use may exert a more immediate influence on academic behavior. Recent research similarly highlights the combined role of personality traits and digital behaviors in predicting academic outcomes (Liu et al., 2019; Yang et al., 2021). However, the moderate explanatory power of the model indicates that procrastination is influenced by additional variables not examined in the present study, such as emotion regulation, academic stress, and motivational processes (Sirois & Pychyl, 2016).

Another important finding is the presence of significant gender differences across all study variables. Male students exhibited a more internal locus of control, higher levels of academic procrastination, and greater smartphone addiction compared to female students. These findings

partially align with recent studies suggesting that gender differences in academic behavior may be influenced by variations in self-regulation, technology use patterns, and socialization processes (Bakar et al., 2020; Chen et al., 2020). The higher levels of smartphone addiction among male students may be attributed to greater engagement in gaming and entertainment-related activities, which are often linked to problematic usage patterns. Concurrently, higher procrastination levels among males may reflect differences in time management and academic engagement strategies.

Interestingly, despite reporting a more internal locus of control, male students demonstrated higher levels of procrastination. This finding suggests that locus of control alone may not fully account for procrastinatory behavior. Other factors, such as impulsivity, digital distractions, and habitual technology use, may override the potential benefits of an internal orientation. This interpretation is supported by contemporary models emphasizing that procrastination arises from a complex interplay of personality traits, contextual factors, and behavioral tendencies (Steel & Klingsieck, 2016; Svartdal et al., 2020). The findings of the present study contribute to the growing body of literature emphasizing the importance of integrating traditional psychological constructs with modern behavioral factors. In today's digitally saturated environment, students must navigate not only academic demands but also constant technological distractions. The significant relationships observed in this study highlight the need for a comprehensive understanding of academic procrastination that incorporates both internal dispositions and external influences. These findings have important implications for educational interventions. Efforts to reduce academic procrastination should focus on enhancing students' sense of control and self-regulation while also promoting healthier smartphone usage habits. Interventions such as digital detox programs, structured time management training, and cognitive-behavioral strategies may be particularly effective in addressing both psychological and behavioral dimensions of procrastination (Rozental & Carlbring, 2014; Busch & McCarthy, 2021).

CONCLUSION

The present study examined the psychological correlates of academic procrastination, focusing on locus of control and smartphone addiction among college students. The findings provide empirical support for the role of both dispositional and behavioral factors in understanding academic procrastination within a contemporary, technology-driven context. Consistent with the study objectives, academic procrastination was found to be significantly associated with locus of control and smartphone addiction. Students with higher scores on locus of control, reflecting a more external orientation, reported greater levels of academic procrastination and smartphone addiction. In contrast, students with a more internal orientation demonstrated comparatively lower levels of these behaviors. Additionally, smartphone addiction was positively associated with academic procrastination, suggesting that increased engagement with smartphones may contribute to delays in academic task completion. The results of the multiple regression analysis further indicated that locus of control and smartphone addiction jointly accounted for a significant proportion of variance in academic procrastination, highlighting their combined predictive value. The study also identified significant gender differences across the variables. Male students reported higher levels of academic procrastination and smartphone addiction, whereas female students demonstrated relatively higher scores on locus of control, indicating a more external orientation. These findings suggest that academic behavior is influenced by both psychological orientation and behavioral tendencies, which may vary across gender. Taken together, the findings underscore the multifaceted nature of academic procrastination, emphasizing the importance of considering both internal belief systems and external behavioral influences. The integration of traditional psychological constructs, such as locus of control, with contemporary factors, such as smartphone addiction, offers a more comprehensive understanding of academic behavior among college students.

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