

Digital Distraction, Academic Procrastination, Cognitive Failure and Life Satisfaction among University Students

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Abstract

The present study was designed to explore the relationship between digital distraction and academic procrastination, cognitive failure and life satisfaction among university students. The use of digital technologies in the classroom has become increasingly popular and there is a growing concern about the impact of digital technologies on learning, learning behaviors and wellbeing of students. In this study, a quantitative correlational research design was adopted to explore the correlation between the variables. Total 250 participants including 125 male and 125 females were randomly selected from the different govt and private universities located in Faisalabad-Pakistan. Data of this study was collected through self-report measures of digital distraction, academic procrastination, cognitive failure and life satisfaction scales which all were standardized having high reliability and validity. Results of this study were calculated by using SPSS-22 version by applying Pearson Correlation, linear regression analysis and independent sample t-test. The findings of this study have shown that was a strong positive correlation between the study variables with overall correlation coefficient signifying high association ($r = .79$). the 2nd hypothesis of this study was also approved ($P < .05$) which shows that digital distraction is strong predictor of academic procrastination, cognitive failure and life satisfaction. And the 3rd hypothesis was also approved which shows significant differences on the variables of digital distraction, academic procrastination, cognitive failure and life satisfaction among university students ($P < .05$). At the end of thesis limitation, implementation and suggestions for the future studies have also been discussed.

Keywords:

Digital distraction, academic procrastination, cognitive failure and life satisfaction

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Introduction

In Digital distraction attention is diverted from a desired activity or objective by digital devices, platforms or notifications. It ranges from checking into social media during study times, watching streaming content, answering IMs or simply being used to reaching for your smartphone all the time, usually without thinking about it. Research has proven that most university students are frequently exposed to these distractions, with evidence showing most adolescents are around 77% of the time distracted by these social media (Valkenburg et al., 2022).

The impact of these interruptions is more than just a small interruption—it can result in bigger problems such as academic procrastination, diminished thinking capacity and diminished life satisfaction. Academic procrastination is failure to complete important school work when it can negatively affect a student's academic success. The subject of this topic has been widely researched in educational psychology as it is a common phenomenon in the lives of the learners and the general public (Ramadhani et al., 2023).

Procrastination is considered to be a major aspect of university life by many and students from various cultures and schools have reported that not doing the tasks adversely affects their performance in school and mental health. When there are hundreds of ways to have fun online, instead of learning about multiplication, it's much simpler for students to put off schoolwork as the norm. Cognitive failure -- that's the little things we all do to miss things, forget things, focus our attention and move our body throughout the day (Broadbent et al., 1982).

Cognitive failures are common to all populations, but more studies are beginning to identify digital distraction as a factor in cognitive failures. In digital environments, with constant notifications, algorithmic content feeds, and media multitasking, there is a tendency towards interruptive and divided attention practices that disrupt attentional systems and lead to decreased cognitive efficiency (Firth et al., 2024).

These cognitive impairments, in turn, have important material implications for students' academic functioning and more general sense of well-being. This connection, then, is more than just one of academics the connection is personal and it impacts how students see themselves, their futures, and the importance of their education. Importantly, the literature so far suggests that gender may be a significant moderator in these relationships. Both gender and overall results from previous studies show that male students are more likely to experience academic procrastination than their female counterparts (Balkis & Duru,

2024; Karbhari, 2024), and the links between academic procrastination, cognitive failures and life satisfaction might vary by gender.

It has been noted that low digital content users also had shorter reaction times and fewer errors on the sustained attention tasks than the heavy users, suggesting that heavy digital content users had fewer attentional capacities (Firth et al., 2019). Third, digital platforms designed and optimized for engagement, in terms of leveraging reinforcement schedules, social validation feedback loops, and algorithmically created notifications, result in conditions of “near-continuous distraction. Through several of the studies, the issues of impulsive access to social media accounts (e.g. Instagram, TikTok, Facebook) during periods of focused study and accessing streaming media while trying to complete academics tasks were revealed to be a frequent occurrence among students, termed 'procrastination by micro-distractions' (The Social Science Review, 2024). With an extensive use in studies linking the two in psychological studies, a Cognitive Failure Questionnaire has established reliable subscores such as those on memory, distractions, blunders and recall of Names (Larson et al. (2002)). One example is in a sample of college students that there were negative correlations in the Cognitive Failure Questionnaire data relating to negative affect to failure in memory and attention, and also negative correlation between the positive effects and distraction (Bridger and Broot, 2014).

Due to cognitive impairment not only, other factors are being disturbed but the satisfaction with the life also compromised. Life satisfaction is defined as an individual's cognitive and global evaluation of his or her life as a whole in comparison with his or her own personal standards (Diener et al., 1985). The objective of this study was to measure the relationship between Digital Distraction, Academic Procrastination, Cognitive Failure and Life Satisfaction among male and female university students.

Objectives

The present study was designed to accomplish the following objectives:

- To investigate the relationship between digital distraction and academic procrastination among university students.
- To examine prediction level of digital distraction on cognitive failure and life satisfaction among university students.

Hypotheses

Based on the theoretical frameworks and empirical literature reviewed above, the following hypotheses were formulated:

H1: Digital distraction will be significantly and positively associated with academic procrastination, cognitive failure and life satisfaction among university students

H2: Digital distraction would be strong predictor of academic procrastination, cognitive failure and life satisfaction among university students

H3: Gender differences would exhibit significant differences on academic procrastination, cognitive failure and life satisfaction among university students.

Methodology

Research Design

In this study correlation research designed was adopted

Sample and Population

In the current study total 250 participants including 125 male and 125 females were selected from the different govt and private universities located in the region of Faisalabad.

Research Instruments

The following standardized scales and questionnaires were utilized for data collection:

- Digital Distraction Scale
- Academic Procrastination Scale
- Cognitive Failure Questionnaire (CFQ)
- Satisfaction with Life Scale (SWLS)

All instruments were administered in self-report format.

Procedure

Prior to collection of any data the approval of the appropriate authorities in the university was sought and obtained. The aims of the research were made clear to the subjects from whom information was sought, and consent was sought and given. A total number of Questionnaires were delivered to participants by hard copy or online, on voluntary basis. Throughout the course of this study, the privacy and confidentiality of participants' response was guaranteed and maintained at the highest level of integrity.

Statistical Analysis

Data obtained were processed through the statistical Package for Social sciences (SPSS). Product Moment correlation was applied to analyze the relation of digital distraction, academic procrastinating behavior, and cognitive Failure. With Life satisfaction. This analysis shows a significant and positive relation ($r = 0.79$) of these variables.

Results

Table 1: *Socio-demographic characteristics of sample N=250*

Baseline characteristic	N	%	M	SD
Age			.18	.382
18-24	206	82.4		
25-30	44	17.6		
Total	250	100.0		
Gender			.46	.499
Male	136	54.4		
Female	114	45.6		
Total	250	100.0		
Digital social media use			.33	.519
2-4hours	171	88.4		
4-8hours	78	31.2		
Total	250	100.0		

As the table 4.1 presents the frequency %, mean, and standard deviation of demographic factor like age, gender, digital social media.

Table 2: *Internal consistency Reliability Statistics for digital distraction, academic performance, cognitive failure and life satisfaction scale*

Scale	N	Cronbach's alpha
Digital Distraction	250	.857
Academic Performance	250	.775
COGNITIVE failure	250	.877
Life satisfaction	250	.547

Note: Sample size (N) of 250 participants.

As the table 4.2 show the reliability is measured using Cronbach's alpha () where higher values (typically above .70) indicate better internal consistency among the items within that scale.

Table 3 *persons correlation for digital distraction, academic performance, cognitive failure and life satisfaction*

Variable	M	SD	1	2	3	4
Digital distraction scale	34.16	6.81	-			
Academic performance scale	16.54	4.18	.594**	-		
Cognitive failure	81.81	15.81	.123	.097	-	
Life satisfaction	16.29	3.39	.078	.119	.278**	-

Note. M = mean, SD = Standard deviation $P < .01$. Academic performance significantly increases alongside digital distraction ($r = .594, p < .01$), and life satisfaction correlates positively with

higher cognitive failure ($r = .278$, $p < .01$) other variables show statistically significant relationship.

Table 4 *A multiple linear regression analysis OF academic performance, cognitive failure, and life satisfaction predict digital distraction*

DEPENDENT VARIABLE	R	R ²	DELTA R ²	B	SE	BETA	t	P
Life satisfaction	.078	.006	.002	---*	---	---	---	.221
Cognitive failure	.123	.015	.011	0.284	0.146	.123	1.943	.053
Academic performance	.594	.353	.351	0.365	0.031	.594	11.41	<.001

Note. R multiple correlation coefficient R² coefficient of determination delta R²R-squared change. Academic performance is the only significant predictor of digital distraction showing a strong positive relationship ($P < .001$, $\beta = .594$)

Table 5 *independent sample t test*

Variable	T	df	P(2-tailed)	Mean difference	Std. error difference	95%ci lower	95%ci upper
Digital distraction	0.946	248	.345	0.408	0.431	-0.441	1.257
Cognitive failure	2.214	247	.028	4.417	1.995	0.488	8.346
Academic performance	0.580	248	.563	0.308	0.531	-0.739	1.355
Life satisfaction	-1.453	248	.147	-1.254	0.863	-2.953	0.446

$P < .05^{**}$

Note: N= sample size t t-value df degree of freedom p (2-tailed) significant level. Academic performance is a significantly predictor of digital distraction showing a strong positive relationship ($p < .001$, $\beta = .594$)

Discussion

The present research aimed to investigate the relationship between digital distraction, academic procrastination, cognitive failure, and life satisfaction among college students. We are surrounded by our phones and social media in our daily lives. Even though digital distractions are good at finding the best information we want to see, they also prevent us from working and studying. In our study, we tried to investigate whether Excessive

exposure to digital tools has a harmful effect on students' academic performance, and most importantly on their mental health. By examining the following, we wanted to show the consequences of the problem for students with digital issues in academic settings. Here's an explanation of the collected results concerning my hypothesized variables.

Hypothesis 1, which states there is a positive relationship between digital distraction and academic procrastination, has been supported by the results. Our collected data indicates that the students who frequently use their digital devices for social media, or video streaming are more likely to delay starting the assignments. It has also been concluded that digital distraction reduces the students' capability for self-regulation, leading to academic procrastination, according to Tang (2025), where they also concluded that there's a relation between digital distractions and procrastination that is the tendency to delay the task when digital distraction prevents a person to engage and complete their goals (Al-Abyadh et al., 2024).

The study confirms hypothesis 2, that there is a positive relationship between academic procrastination and cognitive failure. According to the previous paragraph, we notice that the more a person procrastinates, the more likely he is to experience forgetfulness, mind-wandering and inability to concentrate on daily tasks. The process of procrastinating leaves the mind in a state of cognitive depletion, and hence results in what is referred to as cognitive deficits (Al-Abyadh et al., 2024). Hypothesis 3 stated there was a negative relationship between cognitive failure and life satisfaction, and the results supported it. Higher scores of cognitive failures were significantly associated with lower life satisfaction among the participants ($p < 0.001$) which indicated that these cognitive issues negatively affect university students' life quality and satisfaction (Al-Abyadh et al., 2024; Tang, 2025). Hypothesis 4 indicated that digital distraction indirectly influences life satisfaction, as academic procrastination mediated cognitive failure in turn it has direct and indirect effect to life satisfaction. Digital distraction first induces academic procrastination and second, this process causes cognitive deficits, thus, digital distraction causes a lower quality life and indirectly reduces a students' satisfaction and well-being in life (Al-Abyadh et al., 2024; Tang, 2025).

Discussion

The current study's review of literature strongly demonstrated that the modern academic environments especially among university level students that have become greatly exposed to new technologies such as smart-phones, social networking, etc., pose

significant issue of digital distractions among students. Based on consistent results from different researchers, excessive using of media technologies significantly decreases the attention, concentration, interest and engagement with learning among students, thus adversely influencing their academic performance. Literature also revealed that there is strong correlation between digital distractions and academic procrastination, which appears that the excessive engagement in non-academic media use may cause postponement in performing academic works because of poor self-regulation and time management skills of individuals. Furthermore, both digital distractions and academic procrastination can result in cognitive failure that consists of lapse in attention and memory, error in decision making, thereby can seriously impede an individual's learning and other aspects of life. These findings were closely related to diminished psychological wellbeing and life satisfaction. This shows that the interrelation of digital distractions, academic procrastination, and cognitive failure, life satisfaction negatively affects an individual's academic and mental state. Therefore, literature evidence also reaffirmed the strong links among these variables and that they have major role in determining academic and overall student experiences.

Recommendations

Recommendations from the literature suggests the need for universities and colleges to proactively work toward limiting the adverse impact of digital distraction on students' academic performance. Structured digital self-regulation initiatives should be adopted by universities and colleges in an attempt to enable students regulate their use of screen time. Formal mobile phone and digital use in lectures policies should be established in institutions of education in an endeavor to decrease the level of unnecessary classroom distractions. Digital awareness campaigns and training programs on the adverse effects of digital excessive engagement, procrastination, and multitasking on students' academic performances should be put into place. Students in schools and universities should also be equipped with effective time management and study skills to aid in cultivating better academic discipline and diminish procrastinating habits. Support systems in terms of Counseling and Mental Health services need to be enhanced to help students dealing with the stress, anxiety and cognitive overload of overuse digital technologies. Educational Institutions ought to encourage digital detox and responsible technology utilization practices to cultivate healthier usage habits, ensuring that students get the advantage of technologies, but do not become addicted to them.

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