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Fear of Missing Out (FOMO), Cyberloafing and Role of Dark Triad in Employees: A Study in the Pakistani Context

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ABSTRACT

Background: The ubiquitous presence of digital technology creates a double-edged sword for employees, fostering both fear of missing out (FOMO) and cyberloafing behavior. While constant online connectivity facilitates access to information and social interaction, it can also lead to unproductive digital activities that ultimately impact employee well-being and productivity.

Methodology: This quantitative correlational study explored the intricate relationship between FOMO and cyberloafing among 238 Pakistani employees from Rawalpindi and Islamabad. Standardized measures were employed to collect data, including a socio-demographic form, the FOMO Scale (Przybylski et al., 2013), the Cyberloafing Scale (Lim & Teo, 2005), and the Short Dark Triad (SD3) (Jones & Paulhus, 2014).

Findings: t-tests and ANOVA were employed to investigate the impact of demographic factors on the study variables. Analysis revealed a strong positive correlation between FOMO and cyberloafing. Furthermore, demographic factors such as gender, education, job type, organizational affiliation, and marital status also significantly influenced the study variables, highlighting the importance of considering individual employee differences.

Conclusion: This investigation of cyberloafing behavior in the Pakistani context holds significant implications for improving efficiency, economic productivity, and educational practices. Understanding cultural nuances and how the Dark Triad manifests within this cultural setting can be crucial for addressing FOMO and cyberloafing among employees.

Keywords: Dark Triad, Fear of Missing Out (FOMO), Cyberloafing, Hayes Process Macro, T-test, ANOVA, Moderation.

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1. INTRODUCTION

With the increasing ubiquity of internet access in workplaces, businesses enjoy enhanced communication and efficiency. However, this access also presents challenges, as employees often engage in non-work-related activities during office hours. While offline distractions (e.g., reading a newspaper, phone calls) have always existed, the internet greatly expands opportunities for personal activities, such as browsing, online shopping, and engaging with social media (Jackson, 1999). These behaviors have led to the rise of "cyberloafing" and "fear of missing out" (FOMO), both of which have significantly impacted interpersonal and professional dynamics (Gullu and Serin, 2020). Cyberloafing, the use of the internet for personal purposes during work, blurs the line between professional responsibilities and personal distractions. FOMO, heightened by social media and constant connectivity, drives individuals to stay updated on the lives and activities of others (Roberts and David, 2020). These behaviors are further shaped by personality traits from the "Dark Triad"—Machiavellianism, narcissism, and psychopathy (Jablonski and Zajdel, 2020). For example, those high in Machiavellianism may use the internet for personal gain, narcissists may be particularly prone to FOMO due to their need for validation, and psychopathic traits may result in impulsive online behaviors, amplifying both cyberloafing and FOMO (Kircaburun and Griffiths, 2018).

The implications for workplace productivity are significant. Research links cyberloafing to reduced efficiency and operational setbacks, while FOMO can adversely affect employee well-being and job satisfaction (Di Stefano, Scrima and Parry, 2019; Koay and Soh, 2019; Budnick, Rogers and Barber, 2020). Understanding how Dark Triad traits influence cyberloafing behavior is crucial for developing management strategies to minimize distractions and enhance organizational performance. This study aims to explore the relationship between FOMO, the Dark Triad, and cyberloafing among employees, focusing on how these traits influence behavior. Additionally, socio-demographic factors will be analyzed to offer insights into how individual characteristics contribute to workplace distractions.

Each Dark Triad trait uniquely influences cyberloafing. Narcissists, driven by a need for admiration, may be drawn to social media to maintain their image, increasing their likelihood of cyberloafing (Miller et al., 2021). Psychopathy, characterized by impulsivity and a lack of empathy, can lead to reckless online behavior (Megías et al., 2018). Understanding the combined impact of these traits and FOMO is essential for designing effective workplace interventions.

2. METHODS AND MATERIAL

2.1 Research Design

This study employed a quantitative research design known as correlational or cross-sectional research design, which was used due to its efficacy; where the primary data source was collected via questionnaires filled by employees. To measure the Fear of Missing Out (FOMO), a total of 10-item scale was selected by Przybylski et. al. (2013). Employees' cyberloafing behavior was measured using the 13-item Cyberloafing Scale by Lim and Teo (2005). Daniel and Delroy (2014) introduced the "Short Dark Triad (SD3): A Brief Measure of Dark Personality Traits.

2.2 Instruments

Fear of Missing Out Scale-FOMO. The Fear of Missing Out (FOMO) Scale developed by Przybylski et al. (2013) was employed to measure employees' fear of missing out on rewarding experiences. This 10-item instrument utilizes a 5-point Likert scale ranging from "not at all true of me" (1) to "extremely true of me" (5). Sample items include statements like "I fear others have more rewarding experiences than me" and "I fear my friends have more rewarding experiences than me." The scale demonstrated good internal consistency, with a Cronbach's alpha of .95 (Przybylski et al., 2013), indicating reliable measurement of FOMO among the participants.

Cyberloafing Scale (Lim and Teo, 2005). The level of cyberloafing behavior among employees was assessed using the Cyberloafing Scale developed by Lim and Teo (2005). This 13-item instrument measures two distinct dimensions of cyberloafing: browsing activities and email-related activities. Items 1 through 10 capture browsing behaviors, while items 11 through 13 assess email-related activities. Participants utilized a 6-point Likert scale ranging from 0 (never) to 5 (constantly) to indicate the frequency with which they engaged in each cyberloafing behavior described in the statements. The internal consistency of the scale was evaluated using Cronbach's alpha, demonstrating strong reliability for both dimensions: browsing activities (.85) and email activities (.90).

Short Dark Triad (SD3) Scale (Jones and Paulhus, 2014). The Short Dark Triad (SD3) Scale, developed by Jones and Paulhus (2014), was employed to measure dark triad personality traits among employees. This psychometric tool comprises 27 items distributed across three subscales, each containing nine statements. These subscales assess Machiavellianism (Items 1-9), Narcissism (Items 10-18), and Psychopathy (Items 19-27). The SD3 utilizes a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to capture participants' levels of agreement with each statement. For specific items worded in the opposite direction, reverse coding was applied (1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1). This ensures consistency in scoring across all items. The internal consistency of the SD3 subscales was evaluated using Cronbach's alpha, demonstrating acceptable reliability for each domain: Machiavellianism (.71), Narcissism (.77), and Psychopathy (.80).

2.3 Sample and Sampling Technique

This study employed a purposive sampling technique to recruit 238 employees from various workplaces in Rawalpindi and Islamabad, including banks, government organizations, IT departments, administrative institutes, data centers, and call centers. Data collection methods were tailored to workplace accessibility, with on-site questionnaires administered directly to participants and electronically collected using Google Forms for geographically distant workplaces. This approach ensured comprehensive data collection while maximizing participant convenience. Participants were required to be 18 years or older and have internet access during work hours. The study aimed for a representative sample, encompassing a wide range of occupations, educational levels, and socioeconomic statuses, to ensure the generalizability of the research findings and better understand the factors influencing employees.

3. RESULTS

Following data collection, the 238 chosen cases were entered into the computer program SPSS 26 for Windows to perform quantitative analyses. The analysis of job status provided important demographic insights. Nearly half of the respondents (49.6%) hold an undergraduate degree, reflecting a highly educated sample. A significant portion of respondents also holds advanced degrees, with 26.9% having master's degrees, 18.1% possessing PhDs, and 5.5% having other higher-level qualifications. Regarding family structure, 63.4% of respondents live in nuclear family systems, while 36.1% reside in joint family setups. Socioeconomically, the majority (84.9%) belong to the middle class, with smaller segments in the upper class (12.6%) and lower class (2.5%).

Marital status shows a fairly even distribution, with 45.1% of respondents being married, 47.1% unmarried, and 8.0% identifying as separated. In terms of employment, 87.4% work in national organizations, while 12.6% are employed by multinational companies. Public and private sector representation is nearly equal, with 50.0% employed in the public sector, 45.0% in the private sector, and 5.0% self-employed.

Regarding job types, full-time employment is predominant (72.3%), while 27.7% of employees work part-time. Contract jobs account for 28.6%, while internships make up 17.2%. The majority of respondents (33.6%) are professionals, followed by technicians and associate professionals (31.5%), managers (14.7%), clerical support workers (14.0%), and service or sales workers (7.1%). In terms of work experience, most employees (62.6%) have one to eight years of experience, while 88.8% have been

in their current organization for less than a year. Only 10.5% reported significant experience of 17 years or more. Additionally, 84.5% have held between zero and two previous jobs. Most employees work between 6–10 hours daily (79.4%), with an average tenure of 1–8 years in their current organization (66.8%).

When considering the reliability of the scales, .94 came out for fear of missing out, which is considered excellent reliability. Alpha coefficients 0.74, 0.73, and 0.70 came out for narcissism, Machiavellianism, and psychopathy subscales, respectively. While for the total scale reliability of the cyberloafing scale came out to be .82, which is considered reliable. For the dimensions of cyberloafing .74 and .82 came out for cyberloafing browsing activities and cyberloafing emailing activities, respectively.

Table 1: *The psychometric attributes for the Fear of Missing Out Scale, Cyberloafing Scale and its dimensions, and Dark Triad subscales*.

Variable	No. of items	Cronbachα	$M \pm SD$	Score Range		Skewness	Kurtosis
				Potential	Actual		
FOMO	10	0.94	26.7±10.1	10-50	10-50	0.28	-0.56
Narcissism	9	0.74	29.9± 5.7	9-45	12-45	0.02	-0.20
Machiavellianism	9	0.73	29.2±5.5	9-45	9-45	-0.21	0.61
Psychopathy	9	0.70	25.9±5.4	9-45	11-45	0.17	0.25
CLBA	10	0.74	21.2±8.9	0-50	0-50	-0.48	0.15
CLEA	3	0.82	5.5±3.6	0-15	0-15	0.41	-0.38
Cyberloafing	13	0.82	26.7±11.5	0-65	0-65	-0.09	0.08

Note. FOMO = fear of missing out, CLBA = cyberloafing browsing activities, CLEA = cyberloafing emailing activities.

3.1 Correlation Analysis

A correlation analysis was conducted to gain an insight into the interplay between FoMO, Dark Triad traits, and cyberloafing behavior in employees, suggesting that individuals prone to these psychological traits are more likely to engage in cyberloafing. The results revealed a significant positive correlation between FOMO and all three Dark Triad traits—narcissism (r = 0.45), Machiavellianism (r = 0.44), and psychopathy (r = 0.48), all at $p < 0.01$. Additionally, FoMO was strongly associated with overall cyberloafing (r = 0.44, $p < 0.01$), particularly with its dimensions of browsing (r = 0.44, $p < 0.01$) and emailing activities (r = 0.31, $p < 0.01$).

Similarly, cyberloafing itself was positively linked to narcissism (r = 0.46), Machiavellianism (r = 0.29), and psychopathy (r = 0.47), all at $p < 0.01$. Strong correlations were also observed between cyberloafing's browsing (r = 0.97) and emailing dimensions (r = 0.79), both significant at $p < 0.01$.

Table 2*: Correlation between fear of missing out scale, dark triad sub-scales, cyberloafing scale, and its dimensions among employees (N = 238)*.

	Variables	1	2	3	4	5	6	7
1	Fear of Missing Out (FOMO)	-	0.45	0.44	0.48	0.44	0.31	0.44
2	Narcissism		-	0.43	0.54	0.42	0.42	0.46
3	Machiavellianism			-	0.48	0.28	0.23	0.29
4	Psychopathy				-	0.48	0.32	0.47
5	Cyberloafing Browsing Activities					-	0.62	0.97
6	Cyberloafing Emailing Activities						-	0.79
7	Cyberloafing							-

Note. $p < 0.01$.

3.2 Group Differences Across Gender, Types of Organization and Job

A comparative analysis of the the results among groups are summarized in corresponding Tables 3. Inidially, the findings indicated that males exhibited higher levels of psychopathy traits compared to females, with a mean score of 26.81 (± 5.62). Additionally, males engaged more in cyberloafing emailing activities than females, with an average score of 6.65 (± 4.04). Overall, males also reported higher levels of cyberloafing behavior compared to females, with a mean score of 28.71 (± 11.59).

Employees working in national organizations displayed significantly higher levels of psychopathy (M = 26.20, ± 5.37) compared to their international counterparts. Similarly, they engaged more in cyberloafing behaviors, particularly in browsing (M = 22.00, ± 8.74) and emailing activities (M = 5.74, ± 3.48), as well as overall cyberloafing. This suggests that employees in national organizations tend to cyberloaf more than those in international organizations.

Similarly, part-time employees experience higher levels of Fear of Missing Out (FoMO) than full-time workers (M = 29.44, ± 9.36), with former exhibiting greater involvement in cyberloafing browsing activities (M = 29.90, ± 11.79) and overall cyberloafing (M = 25.84, ± 9.72) compared later. Cohen's d, revealed small to medium effects, indicating that while these differences exist, they vary in practical significance.

Table 3**:** *Mean differences across genders, types of organization and job for the study variables among employees (N = 238).*

		Male (*n* = 95)	**Female** (*n* = 143)	***t***	***p***	***95% CI***		***Cohen's d***
		M (SD)	***M (SD)***			***t***	***p***	
Gender	FOMO	27.16 ±10.9	26.43± 9.4	0.54	0.58	-3.35	1.89	0.06
	Narcissism	30.28± 5.8	29.7± 5.6	0.77	0.44	-2.07	-0 .9	0.1
	Machiavellianism	29.85 ±5.8	28.87± 5.3	1.33	0.18	-2.42	-0 .46	0.17
	Psychopathy	**26.8** ±5.6	25.22 ±5.2	2.23	0.02	-2.99	0.18	0.3
	CLBA	22.05± 8.47	20.73 ±9.2	1.1	0.26	-3.64	1.01	0.12
	CLEA	**6.65**± 4	4.7± 3	4.27	-	-2.85	-1.05	0.55
	Cyberloafing	**28.7** ±11.5	25.43± 11.3	2.16	0.03	-6.25	0.29	0.28
		National (*n* = 208)	**International** (*n* = 30)	***t***	***p***	***95% CI***		***Cohen's d***
						LL	***UL***	
Type of organization	FOMO	26.81 ±10	26.1±10.5			-3.17	4.58	0.06
	Narcissism	30.17 ±5.7	29. 5±0.9	0.95	0.34	-1.14	3.27	0.2
	Machiavellianism	29.25 ±5.27	29.37± 7.2	0.11	0.91	-2.25	2.02	0.01
	Psychopathy	**26.2** ±5 .37	23.43 ±5.3	2.64	0.01	0.71	4.83	0.52
	CLBA	**22**±8.74	16.17 ±8.7	3.4	0.00	2.46	9.19	0.67
	CLEA	**5.74**± 3.48	3.7 ±3.82	2.96	0.00	0.68	3.39	0.56
	Cyberloafing	**27.73** ±11	19.87± 11.9	3.58	0.00	3.54	12.18	0.68
		Full-time (*n* = 172)	**Part-time (*n* = 66)**	***t***	***p***	***95% CI***		***Cohen's d***
						t	***p***	
Type of job	FOMO	25.67 ± 10.14	**29.44** ± 9.36	2.61	0.01	-6.59	-.93	0.38
	Narcissism	30.10 ± 5.84	29.48 ± 5.42	0.74	0.45	-1.01	2.25	0.11
	Machiavellianism	29.09 ± 5.79	29.71 ± 4.83	0.77	0.44	-2.20	.97	0.12
	Psychopathy	25.50 ± 5.47	26.77 ± 5.26	1.62	0.11	-2.82	.27	0.23
	CLBA	20.37 ± 8.48	**23.59** ± 9.72	2.52	0.01	-5.75	-0.70	0.35
	CLEA	5.47 ± 3.69	5.50 ± 3.29	0.05	0.95	-1.05	.99	0.01
	Cyberloafing	25.84 ± 11.29	**29.09** ± 11.79	1.96	.05	-6.52	.01	.28

Note. FOMO = fear of missing out, CLBA = cyberloafing browsing activities, CLEA = cyberloafing emailing activities.

3.3 Group Differences across Education, Marital Status and Employment Status

The educational background, of subjects further revealed that the undergraduate employees were involved in higher levels of cyberloafing browsing activities than graduates (MD = 0.42*), while the advance degree holder individuals (i.e. master's and PhDs) were more engaged in cyberloafing emailing activities compared to undergraduates, graduates, and master's degree holders (MD = 4.51*; MD = 5.27*; MD = 3.51*, respectively). Additionally, undergraduates cyberloafed more than graduates (MD = 4.94*), and PhD holders cyberloafed more than graduates (MD = 10.1*). The effect size, measured by Eta squared, indicated a medium to large effect size across education levels.

Table 4: *Mean differences across education for the study variables among employees* (*N* = 238).

Variables	**Undergraduates (*n* = 118)**	**Graduates (*n* = 64)**	**Masters (*n* = 43)**	**PhD (*n* = 13)**	***F***	***p***	***Groups***	***MD (i-j)***	***95% CI***		***Eta sq.***
	M SD	***M SD***	***M SD***	***M SD***					***LL***	***UL***	
FOMO	27.36± 9.9	26.3± 10.5	25.8 ± 9.85	25.9 ± 10.85	0.33	0.8	N/A	-	-	-	-
Narc	29.98± 5.5	29.67± 5.82	29.44± 5.29	32.38± 7.8	0.95	0.42	N/A	-	-	-	-
Mach	29.07± 5.3	29.25± 5	29.79± 6.9	29.38± 4.7	0.18	0.9	N/A	-	-	-	-
Psych	26.48± 5	25.14± 5	25.40± 6.6	25.15± 3.7	1.07	0.36	N/A	-	-	-	-
CLBA	22.78 ± 8.6	18.59± 9.50	20.40± 9.18	23.46 ± 5	3.54	**0.01**	Undergraduates> Graduates	4.18*	0.55	7.82	0.04
CLEA	5.25± 2.97	4.50± 3.5	6.26± 4.4	9.77 ± 2	9.60	**0.001**	PhD> Undergraduates	4.51*	1.87	7.16	0.11
							PhD> Graduates	5.27*	2.52	8.02	
							PhD> Masters	3.51*	0.65	6.37	
TCL	28.03± 10.5	23.09± 12.3	26.65 ± 12.86	33.23 ± 5.92	4.18	**0.01**	Undergraduates> Graduates	4.94*	0.28	0.6	0.05
							PhD> Graduates	10.1*	1.0	19.27	

Note. FOMO = fear of missing out, Narc = narcissism, Mach = machiavellianism, Psych = psychopathy, CLBA = cyberloafing browsing activities, CLEA = cyberloafing emailing activities, TCL = total cyberloafing, *$p < 0.05$.

The analysis of marital status—categorized as married, unmarried, and separated—yielded noteworthy findings. Unmarried individuals reported significantly higher levels of Fear of Missing out (FOMO) compared to both married and separated individuals (MD = 4.82*; MD = 8.91*). Additionally, unmarried individuals exhibited greater cyberloafing in browsing, emailing, and total cyberloafing behavior compared to married individuals (MD = 4.71*; MD = 1.52*; MD = 6.23*).

Table 5: *Mean differences across marital status for the study variables among employees* (*N* = 238).

Variables	**Married (*n* = 107)**	**Unmarried (*n* =112)**	**Separated (*n* =19)**	***F***	***p***	***Groups***	***MD (i-j)***	***95% CI***		***Eta sq.***
	M SD	***M SD***	***M SD***					***LL***	***UL***	
FOMO	24.8 ± 9.5	29.6 ± 10	20.6 ± 8.2	10.84	**0.001**	Unmarried> Married	4.82*	1.67	7.97	0.08
						Unmarried>Separated	8.91*	3.13	14.7	
Narc	29.3± 5.8	30.4± 5.6	30.4± 5.8	1.09	0.33	N/A				
Mach	28.8± 5.8	29.71± 5.4	29 ± 3.7	0.7	0.49	N/A				
Psych	25± 5.2	26.64 ± 5.8	25.8 ± 3.5	2.45	0.08	N/A				
CLBA	18.6 ± 8.8	23.36± 8.9	23.6± 4.7	8.88	**0.001**	Unmarried> Married	4.71*	1.89	7.5	0.07
CLEA	4.68± 3.6	6.2 ± 3.4	5.68 ± 2.7	5.17	**0.001**	Unmarried> Married	1.52*	0.38	2.67	0.04
TCL	23.3± 11.7	29.6 ± 11.2	29.3± 5.2	9.14	**0.001**	Unmarried> Married	6.23*	2.61	9.86	0.07

Note. FOMO = fear of missing out, Narc = narcissism, Mach = machiavellianism, Psych = psychopathy, CLBA = cyberloafing browsing activities, CLEA = cyberloafing emailing activities, TCL = total cyberloafing, *$p < 0.05$.

Contract workers reported higher FOMO than permanent employees (Mean Difference = 4.13), while interns also exhibited higher FOMO compared to permanent employees (Mean Difference = 4.65). However, the eta-squared analysis indicated a small effect size, suggesting that job status has a limited overall impact on FOMO and other study variables.

Table 6: *Mean differences across employment status for the study variables among employees* (*N* = 238).

	A	**Public (*n* = 119)**	**Private (*n* =107)**	**self-employ/ semi-govt (*n* =12)**	*F*	*p*	**Groups**	*MD (i-j)*	*95% CI*		*Eta sq.*
		M SD	*M SD*	*M SD*					*LL*	*UL*	
Employment status	FOMO	26.57 ±9.19	27.94± 10.69	17.25± 7.48	6.41	**0.001**	Public>self-employed/ semi-government	9.32*	2.1	16.5	.05
							Private>self-employed/ semi-government	10.69*	3.4	17.9	
	Narc	29.87 ±5.48	30.28 ±5.88	27.5± 6.5	1.29	0.27	N/A	-	-	-	-
	Mach	29.16± 4.95	29.76 ±6	25.9± 5.76	2.67	0.07	N/A	-	-	-	-
	Psych	25.75 ±4.94	26.21 ±5.96	23.75± 4.99	1.15	0.3	N/A	-	-	-	-
	CLBA	20.86± 8.4	21.64 ±9.7	21.9 ±6.67	.25	0.78	N/A	-	-	-	-
	CLEA	5.5± 3.7	5.56± 3.5	5.08± 2.7	.1	0.9	N/A	-	-	-	-
	TCL	26.30± 11	27.20± 12.3	27± 8.23	.17	0.84	N/A	-	-	-	-
	B	**Permanent (*n* = 129)**	**Contract (*n* = 68)**	**Intern (*n* = 41)**	**F**	**P**	**Groups**	**MD (i-j)**	**95% CI**		**Eta sq.**
									LL	*UL*	
	FOMO	24.74 ±9.46	28.87 ±10.17	29.39 ±10.54	5.72	**0.001**	Contract> Permanent	4.13*	1.2	7	.04
							Intern> Permanent	4.65*	1.17	8.14	
	Narc	30.16 ±5.67	29.96± 5.74	29.17 ±5.94	0.46	0.62	N/A	-	-	-	-
	Mach	28.82 ±4.99	29.99± 6.66	29.46± 5.1	1.01	0.36	N/A	-	-	-	-
	Psych	25.27± 4.73	26.74± 6.42	26.22 ±5.61	1.74	0.17	N/A	-	-	-	-
	CLBA	19.86± 7.51	22.75 ±10.45	23.20± 9.79	3.56	**0.03**	Contract> Permanent	2.89*	0.28	5.5	0.03
							Intern> Permanent	3.33*	0.21	6.46	
	CLEA	5.14± 3.48	5.94 ±3.78	5.78± 3.49	1.29	0.27	N/A	-	-	-	-
	TCL	25 ± 9.96	28.69± 13.35	28.98± 12.12	3.28	**0.04**	Contract> Permanent	3.69*	0.33	7.06	.03

Note. FOMO = fear of missing out, Narc = narcissism, Mach = machiavellianism, Psych = psychopathy, CLBA = cyberloafing browsing activities, CLEA = cyberloafing emailing activities, TCL = total cyberloafing, **p*< .05.

3.4 Group Differences across Job Designation, Experience and Working Hours

An ANOVA was conducted to assess the differences across various job designations—managers, professionals, technicians/associate professionals, clerical support workers, and service/sales workers—on key study variables. This anaylsis highlighted the nuanced relationship between job roles and key workplace behaviors, offering insights into how certain positions may contribute to differences in employee tendencies toward cyberloafing, FOMO, and related personality traits.

The analysis revealed several noteworthy findings. Clerical support workers reported significantly higher FOMO than managers (*MD* = 5.78) and professionals (*MD* = 5.45). Similarly, service and sales workers reported higher FOMO compared to professionals (*MD* = 5.42).

Managers exhibited higher levels of narcissism compared to professionals (*MD* = 3.17) and service/sales workers (*MD* = 3.41). Managers also displayed higher Machiavellianism compared to professionals (*MD* = 2.31). Service and sales workers were more engaged in cyberloafing browsing activities than professionals (*MD* = 5.24). Cyberloafing related to email activities was higher among managers compared to professionals (*MD* = 1.86) and service/sales workers (*MD* = 2.09).

The analysis of work experience, categorized into five groups (0-few months, 1-8 years, 9-16 years, 17-24 years, and 25-32 years), revealed significant differences across various study variables, as calculated through ANOVA. These variables include Fear of Missing Out (FoMO), Machiavellianism, cyberloafing browsing activities, and overall cyberloafing.

Employees with 0-few months of experience exhibited significantly higher FoMO compared to those with 9-16 and 17-24 years of experience (MD = 9.80*; MD = 12.4*). Similarly, employees with 1-8 years of experience displayed higher levels of FoMO than those with 9-16 and 17-24 years of work experience (*MD* = 5.47*; *MD* = 8.13*). This suggests that newer employees, or those with shorter tenures, tend to experience more FoMO compared to long-term employees.

Employees with 0-few months of work experience showed significantly higher cyberloafing browsing activities compared to those with 9-16, 17-24, and 25-32 years of experience (*MD* = 8.12*; *MD* = 9.23*; *MD* = 13.4*). Additionally, employees with 1-8 years of experience demonstrated higher cyberloafing browsing activities than those with 9-16 years of experience (*MD* = 5.04*).

Employees with 1-8 years of experience exhibited higher levels of Machiavellianism compared to those with 17-24 years of experience (*MD* = 4.17*). This finding indicates that employees in the early stages of their career might be more prone to manipulative behaviors. Employees with 0-few months and 1-8 years of experience reported higher levels of total cyberloafing than those with 9-16 years of experience (*MD* = 8.89*; *MD* = 6.68*), emphasizing that newer and mid-tenure employees engage more in cyberloafing compared to those with longer tenures.

The eta squared values indicate a medium to large effect size, suggesting that work experience has a substantial impact on these key variables. These results also suggested that employees with less experience tend to exhibit higher levels of FoMO, cyberloafing, and Machiavellianism, which gradually diminish as their tenure in the organization increases.

Table 7: *Mean differences across job designation and experience*

Variables		**Managers (M) (*n* = 35)**	**Professionals (P) (*n* = 80)**	**Technicians and Associate Professionals (TAP) (*n* = 75)**	**Clerical Support Workers (CSW) (*n* = 31)**	**Service and Sales Workers (SSW) (*n* = 17)**	***F***	***p***	***Groups***	***MD (i-j)***	***95% CI***		***Eta sq.***
		M±SD	***M±SD***	***M±SD***	***M±SD***	***M±SD***					***LL***	***UL***	
Job Designation	FOMO	24.83±10.57	25.16±9.06	26.77±9.41	30.61±11.75	30.59±10.9	2.6	**0.03**	CSW>M	5.78*	.96	10.60	0.04
									CSW>P	5.45*	1.32	9.58	
									SSW>P	5.42*	.21	10.64	
	Narc	32.06±5.01	28.89±5.21	30.32±6.17	30.0±6.29	28.65±5.46	2.2	0.**05**	M>P	3.17*	0.91	5.43	0.03
									M>SSW	3.41*	0.11	6.71	
	Mach	30.80±6.86	28.4±5.34	29.52±5.3	28.97±4.95	29.18±5.1	2.18	**0.04**	M>P	2.31*	0.10	4.52	0.01
	Psych	25.54±5.88	25.7±4.6	25.43±5.4	27.03±6.28	26.71±6.2	.62	0.65	N/A	-	-		
	CLBA	21.83±8.8	19.8±8.39	21.11±9	22.45±8.29	25.12±11	2.15	**0.03**	SSW>P	5.24*	0.56	9.93	0.02
	CLEA	6.69±3.84	4.83±3.48	5.84±3.8	5.42±2.8	4.59±2.5	2.2	**0.05**	M>P	1.86*	0.45	3.28	0.04
									M>SSW	2.09*	0.03	4.16	
	TCL	28.51±11.72	24.7±11.10	26.95±12.05	27.87±10.13	29.71±12.5	1.2	0.31	N/A				
Variables		**0-few months (*n* = 23)**	**1-8 years (*n* = 159)**	**9-16 years (*n* = 37)**	**17-24 years (*n* = 15)**	**25-32 years (*n* = 4)**	***F***	***p***	***Groups***	***MD (i-j)***	***95% CI***		***Eta sq.***
Current Organization	FOMO	32.13±10.4	27.80±9.8	22.32±9.4	19.67±7	19.75±2	6.8	**0.01**	0>9-16	9.8*	2.59	17.03	0.10
									0>17-24	12.4*	3.44	21.49	
									1-8>9-16	5.47*	0.51	10.44	
									1-8>17-24	8.13*	0.79	15.48	
	Narc	29.13±6.87	30.3±5.7	29.92±4.6	27.47±5.6	28.2±5.7	1.08	0.36	N/A				
	Mach	28.78±4.8	29.97±5.3	28.38±6	25.8±6	25±4.08	3.09	**0.01**	1-8>17-24	4.17*	0.01	8.34	0.05
	Psych	25.87±6	26.53±5.37	23.78±5.44	24.1±4	24.2±1.5	2.4	0.06	N/A	-		-	
	CLBA	25.39±10.5	22.31±8.2	17.27±8.5	16±8.5	12±8.16	6.5	**0.01**	0>9-16	8.12*	1.69	14.55	0.10
									0>17-24	9.32*	1.28	17.37	
									0>25-32	13.4*	0.27	26.52	
									1-8>9-16	5.04*	0.62	9.47	
	CLEA	5.04±2.6	5.91±3.3	4.27±4.4	4.9±4.5	4.25±4.19	1.9	0.1	N/A				
	TCL	30.43±12.6	28.22±10.5	21.54±11	21±12.5	16.2±12.28	5.2	**0.01**	0>9-16	8.89*	0.53	17.26	0.08
									1-8>9-16	6.68*	0.93	12.43	

The analysis of working hours, categorized into three groups (1-5 hours, 6-10 hours, and 11-15 hours), revealed significant mean differences across several key study variables, including Fear of Missing Out (FoMO), Machiavellianism, psychopathy, cyberloafing browsing activities, and total cyberloafing. These differences were calculated using ANOVA.

Employees working 1-5 hours per day experienced a significantly higher level of FoMO compared to those working 11-15 hours (*MD* = 8.49*). Additionally, those working 6-10 hours also reported higher levels of FoMO compared to the 11-15 hour group (*MD* = 6.42*). This suggests that shorter working hours are associated with higher feelings of missing out, possibly due to less engagement or connection with the organization.

Employees working fewer hours (1-5 and 6-10 hours) demonstrated higher levels of Machiavellian traits compared to those working 11-15 hours (*MD* = 5.48*; *MD* = 6.07*). This finding indicates that individuals with shorter working hours may engage in more manipulative behaviors within the workplace. Similarly, psychopathic tendencies were more pronounced in employees working 1-5 and 6-10 hours compared to those working 11-15 hours (*MD* = 4.38*; *MD* = 3.96*), suggesting that individuals with shorter working hours may exhibit more antisocial behaviors.

Employees working 1-5 hours reported significantly higher levels of cyberloafing, including both browsing activities and overall cyberloafing, compared to those working 11-15 hours (*MD* = 8.35*; *MD* = 10.06*). This highlights a potential connection between shorter working hours and increased non-work-related online activities during work hours. The effect size, in this case implied that while work-hours do influence these variables, the overall impact is moderate.

Table 8: *Mean differences across working hours in the current organization for the study variables among employees (N = 238).*

Variables	**1-5 hours (*n* =32)**	**6-10 hours (*n* =189)**	**11-15 hours (*n* =17)**	***F***	***p***	***Groups***	***MD (i-j)***	***95% CI***	***Eta sq.***
	M± SD	***M ±SD***	***M ±SD***					***LL UL***	
FOMO	28.97± 9.3	26.90 ±10.1	20.47 ±8.11	4.22	**0.01**	1-5 hours> 11-15 hours 6-10 hours> 11-15 hours	8.49* 6.42*	1.32- 15.68 0.37-12.49	0.03
Narc	28.75 ±5.7	30.35± 5.7	27.47 ±4.97	2.81	0.06	N/A			
Mach	29.19 ±4.8	29.78 ±5.38	23.71 ±5.67	10.09	**0.001**	1-5 hours> 11-15 hours 6-10 hours> 11-15 hours	5.48* 6.07*	1.62 -9.35 2.81 -9.33	0.07
Psych	26.50± 5.5	26.08± 5.47	22.12± 2.80	4.54	**0.01**	1-5 hours> 11-15 hours 6-10 hours> 11-15 hours	4.38* 3.96*	0.51 -8.26 0.69 -7.23	0.04
CLBA	25.00 ±9.2	21.04± 8.6	16.65 ±9.76	5.31	**0.001**	1-5 hours> 11-15 hours	8.35*	2.00 -14.71	0.04
CLEA	5.59± 3.3	5.60± 3.58	3.88± 3.67	1.83	0.16	N/A			
TCL	30.59 ±11.3	26.65± 11.2	20.53± 12.5	4.39	**0.01**	1-5 hours> 11-15 hours	10.06*	1.85 -18.27	0.04

Note. FOMO = fear of missing out, Narc = narcissism, Mach = machiavellianism, Psych = psychopathy, CLBA = cyberloafing browsing activities, CLEA = cyberloafing emailing activities, TCL = total cyberloafing, *$p < 0.05$.

Table 9: *Summary of findings.*

S. No.	Hypotheses	Results
1.	Employees experiencing higher levels of Fear of Missing Out (FOMO) will exhibit a greater tendency to engage in cyberloafing behavior.	Supported
2.	Fear of Missing Out will be positively associated with the Narcissistic Personality Traits of employees.	Supported
3.	Fear of Missing Out will be positively associated with Machiavellianism among employees.	Supported
4.	Fear of Missing Out will be positively associated with the Psychopathic traits among employees.	Supported
5.	Employees with higher scores on the Narcissistic Personality Traits sub-scale will exhibit a greater tendency to engage in cyberloafing behavior.	Supported
6.	Employees with higher scores on the Machiavellianism sub-scale will exhibit a greater tendency to engage in cyberloafing behavior.	Supported
7.	Employees with higher scores on the Psychopathy sub-scale will exhibit a greater tendency to engage in cyberloafing behavior.	Supported
8.	There will be a gender difference in psychopathic traits, with male employees scoring higher than female employees.	Supported
9.	There will be a gender difference in cyberloafing behavior, with male employees exhibiting a greater tendency to cyberloaf than female employees.	Supported
10.	Undergraduate employees will show higher cyberloafing than graduate employees.	Supported
11.	Employees with advanced degrees will show higher cyberloafing than graduate employees.	Supported
12.	Unmarried employees will show higher cyberloafing than married employees.	Supported
13.	Unmarried employees will show a higher fear of missing out than married employees.	Supported

4. DISCUSSION

The current study explored the relationship of the Dark Triad traits (Narcissism, Machiavellianism, and Psychopathy), Fear of Missing out (FOMO) and cyberloafing in a Pakistani cultural context. Table 9 illustrates the summary of findings.

FOMO has been linked to inducing negative emotional states, including feelings of depression (Wortham, 2011). In the Pakistan, where social status and reputation are integral, narcissistic individuals are particularly susceptible to FOMO-driven behaviors (Abbasi et al., 2024). Previous studies have demonstrated a positive relationship between FoMO and the personality trait of narcissism (Akat, et al., 2022; Servidio, et al., 2021). The positive correlation evidenced between FOMO and cyberloafing, with significant variations based on gender and grade (Diktas and Yucekaya, 2023) was observed. In a culture like Pakistan's, where social relationships and information retention are highly valued, FOMO can exacerbate cyberloafing, as individuals prioritize online engagement over work duties. In fact, it is known that individuals lacking fulfillment in competence, autonomy, and connectedness, along with those exhibiting low life satisfaction, tend to experience a heightened fear of missing out (FoMO) (Przybylski et al., 2013). This finding was very significant, highlighting the link between FOMO and social cyberloafing among teachers (Tozkoparan and Kuzu, 2019).

Results of the present study further showed significant associations between FOMO, Dark Triad traits, and problematic digital behaviors, including excessive smartphone and social media use. The FoMO is well known to serves as a mediator between psychological issues and the frequent use of mobile

technology (Oberst et al., 2017). Narcissism's directly relating with FOMO, suggesting that individuals with high narcissistic tendencies seek validation through constant social engagement (Servidio et al., 2021). FoMO has been found to mediate the positive link between narcissism and excessive smartphone usage, particularly with addictive behaviors (Servidio et al., 2021), with evidence suggesting that vulnerable narcissism may be closely tied to FoMO.

In general, traits like Machiavellianism and psychopathy, characterized by manipulative and impulsive behaviors, respectively, intensify FOMO and contribute to problematic social media usage (Barberis et al., 2023). Higher levels of telepressure correlate with reduced self-control and an increase in FoMO (Barber and Santuzzi, 2017). Psychopathy's impulsivity, in particular, strengthens the connection between FOMO and antisocial online behaviors, as seen in undergraduate patterns (Akat et al., 2023).

This study also found a significant correlation ($r = 0.46$, $p < 0.01$) between narcissism and cyberloafing, supporting previous research identifying Dark Triad traits as key drivers of problematic social networking behaviors (Hussain et al., 2021). Similarly, Machiavellianism ($r = 0.29$, $p < 0.01$) was correlated with cyberloafing, linking it to counterproductive work behaviors (CWB) (Siddiqui, 2023). Psychopathy showed the strongest correlation with CWB (Siddiqui, 2023) and was significantly linked to cyberloafing ($r = 0.47$, $p < 0.01$). These findings emphasizes psychopathy's role in cyberloafing due to impulsivity and disregard for organizational rules (Lowe-Calverley and Grieve, 2017).

4.1 Impact of Gender, Organization Type, Job Type, and Education on FOMO, Cyberloafing, and Dark Triad Traits

Gender differences play a crucial role in understanding behavioral traits, particularly in contexts of FOMO, vulnerable narcissism, and dark personality traits. For instance, studies consistently indicate no significant gender differences regarding FoMO (Rozgonjuk et al., 2021). However, findings on vulnerable narcissism have been inconsistent. Many studies have observed that women exhibit higher levels of vulnerable narcissism (e.g., Green et al., 2020; Casale et al., 2016), while other studies report no substantial gender difference (Rohmann et al., 2019). Interestingly, as gender-specific stereotypes have gradually declined in recent years, such distinctions in personality traits are also less pronounced (Bhatia and Bhatia, 2021).

In terms of dark personality traits, men have been found to score higher in psychopathy and demonstrate higher engagement in cyberloafing and other deviant online behaviors, potentially due to societal expectations that frame men as risk-takers and primary earners (Dil et al., 2022; Hussain et al., 2021). In Pakistan's collectivist society, these cultural norms may contribute to the prominence of psychopathic traits and cyberloafing behaviors among men, especially under work pressures (Shehzadi et al., 2022).

Distinct patterns in psychopathy and cyberloafing behaviors are observed between employees in national and international organizations. National organizations report higher levels of these behaviors, likely due to their more bureaucratic and less accountable structures, which may facilitate manipulative actions compared to the diplomacy-focused and globally accountable frameworks in international organizations (Sutton and Galunic, 1995; Rainey et al., 1976). Moreover, advanced monitoring systems in international settings serve as a deterrent to cyberloafing (Jandaghi et al., 2015).

Employment status also influences FoMO and cyberloafing, with part-time employees reporting higher levels of these behaviors than full-time employees, likely due to reduced work hours and a greater sense of exclusion (Fridchay and Reizer, 2022). Additionally, educational attainment impacts cyberloafing tendencies, as both undergraduates and PhD holders demonstrate higher levels of cyberloafing than graduates, possibly as a response to workload stress, procrastination, and burnout (Nweke et al., 2024; Aghaz and Sheikh, 2016). Unmarried employees also display elevated FoMO and cyberloafing, possibly using workplace internet for social engagement (Oren and Arman, 2021), in alignment with hypotheses.

Work context also plays a role, as employees in public and private sectors exhibit higher FoMO than their self-employed counterparts, possibly due to structured routines and limited control over their careers.

These constraints can strain work-life balance, heightening FoMO and potentially fostering social media addiction (Bodhi et al., 2023; Kong et al., 2024).

There is also a growing interest in understanding how FoMO and social media use impact work outcomes, such as job performance, efficiency, and productivity (Budnick et al., 2020; Sakka and Ahammad, 2020). Increasingly, evidence indicates that technological distractions, particularly through social media and FoMO, correlate with reduced work engagement and lower productivity (Orhan et al., 2021; Rozgonjuk et al., 2020a).

4.2 Influence of Job Characteristics on FOMO, Cyberloafing, and Dark Triad Traits

Variations in job status, experience, and working hours appear to influence levels of FoMO, cyberloafing, and traits associated with the Dark Triad. For instance, contract and intern employees are more likely to experience FoMO and engage in cyberloafing compared to permanent staff, likely due to job insecurity and a lack of long-term stability, which fosters feelings of exclusion and disengagement (Wynen et al., 2021). This isolation, combined with fewer benefits and recognition, may further contribute to their tendency to engage in cyberloafing behaviors (Khansa et al., 2018).

An essential aspect of both work and family life is an individual's overall life satisfaction, which is greatly influenced by self-control—a factor that helps in managing motivational conflicts and achieving personal goals, leading to greater happiness and satisfaction (Hofmann et al., 2014). Research has further shown that self-control is positively correlated with enhanced life satisfaction (Li et al., 2016). Conversely, elevated stress levels have been consistently linked to decreased life satisfaction, highlighting the importance of stability and self-control in maintaining well-being (Samaha and Hawi, 2016).

Support and clerical staff reported higher FOMO than managers, likely due to limited work-life balance and flexibility (Lenzen, 2020). Managers, on the other hand, with more autonomy, exhibited higher levels of narcissism and Machiavellianism, using manipulative strategies to gain workplace advantages (Dosier et al., 1988).

Employees with less work experience in their organizations also scored higher in FOMO, cyberloafing, and Dark Triad traits. Inexperience, combined with imposter syndrome, often drives manipulative behaviors as employees navigate unfamiliar organizational dynamics (Tandon et al., 2021). Limited work hours can lead to feelings of being undervalued, which may encourage manipulative strategies for career recognition (Zettler and Solga, 2013).

5. CONCLUSION

This study highlights the limitations of applying Western-centric psychological models in non-Western contexts. The rejection of some assumptions does not diminish the importance of Dark Triad traits in Pakistan but instead underscores the need for more culturally sensitive approaches to research. Future studies should focus on how cultural norms and social expectations moderate the expression of these traits in diverse populations. By doing so, the field can develop a more globally inclusive understanding of how FOMO, the Dark Triad, and cyberloafing interact in different cultural contexts.

5.1 Limitations and Suggestions

1. The study has a small sample size, which limits the generalizability of the findings. So, in the future, this should include a larger sample to enhance representativeness.
2. The Dark Triad and FOMO are Western psychological concepts, potentially limited in collectivistic cultures like Pakistan due to differing manifestation and cultural factors so further research is necessary to determine the prevalence of these features across cultural contexts.
3. Due to the influence of business and workplace culture, studies on Pakistani organizations may not accurately represent the general population, and social desire may cause people to underreport negative behaviors.

4. Studies often use subjective self-reported data, potentially leading to bias. Employees may not accurately assess FOMO or Dark Triad tendencies.
5. Pakistani cultural norms may inhibit open discussion regarding mental health, which could lead to an underreporting of certain traits.
6. Further research is necessary to determine the prevalence of dark triad traits across cultural contexts, as they may still exist in Pakistan but manifest differently because of cultural norms.

5.2 Implications

- Research on cyberloafing provides valuable insights for educational institutions and organizations to develop training programs focused on time management, ethical digital behavior, and productivity. These programs should address the challenges of balancing personal and professional digital use, especially in environments where online distractions are common.
- Understanding cyberloafing allows organizations to pinpoint key inefficiencies and implement strategies to mitigate time and financial losses. Employers can use these findings to shape policies that clearly define acceptable digital use, while also promoting digital wellness initiatives and offering training to address manipulative behaviors associated with Dark Triad traits (Narcissism, Machiavellianism, Psychopathy).
- This research highlights the need for workplace policies that regulate digital technology use to maintain productivity and employee well-being. Policymakers can use insights from FOMO and cyberloafing research to establish clearer boundaries for technology in the workplace, addressing issues like burnout and technostress. Additionally, these findings can help create labor guidelines that protect employee privacy while fostering a healthier digital work culture, especially in remote or tech-heavy environments.
- This study lays the groundwork for future research, particularly in cross-cultural contexts. By exploring how cultural factors influence cyberloafing and FOMO, future research can deepen our understanding of digital workplace behaviors globally.

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Conflict of Interest

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