Fear Of Missing Out (FoMO), psychological distress, and problematic smartphone use among college students: A cross-sectional study in a semi-regimented environment

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Abstract
Aim: This study examined whether Fear of Missing Out (FoMO) and psychological distress (depression, anxiety, stress) predict Problematic Smartphone Use (PSU) among male college students in a semi-regimented educational environment. Specifically, it assessed levels of FoMO and distress and tested their relationships and predictive value for PSU.

Methodology: A quantitative descriptive–predictive, cross-sectional design was used. A purposive sample of 283 male maritime students (ages 18–24) completed standardized instruments: DASS-21 (depression, anxiety, stress), the 10-item FoMO scale, and the Smartphone Addiction Scale–Short Version (SAS-SV). Data were analyzed with descriptive statistics, Spearman rank-order correlations, and binomial logistic regression to identify predictors of high-risk PSU.

Results: Most students were categorized as latent-risk for PSU (83.7%); 16.3% were high-risk. Spearman correlations indicated moderate positive associations between PSU and depression (Spearman's ρ = .437, p < .001), anxiety (Spearman's ρ = .411, p < .001), stress (Spearman's ρ = .442, p < .001), and FoMO (Spearman's ρ = .522, p < .001). In logistic regression, anxiety (β = 0.797, OR = 2.22, p = .029) and FoMO (β = 1.343, OR = 3.83, p = .002) were significant predictors of high-risk PSU, while depression and stress were not significant when controlling for other variables.

Conclusion: In this semi-regimented student sample, higher anxiety and FoMO substantially increased the odds of problematic smartphone use. Interventions that address FoMO and anxiety—such as psychoeducation, resilience training, and digital-wellness programs—may help reduce PSU among students in regimented or isolated educational settings.

Keywords: *Fear of Missing Out; Problematic Smartphone Use; Psychological Distress; Semi-regimented; Cross-sectional*

INTRODUCTION

Due to the drastic advancement in technology, smartphones have become an essential component of modern society and are widely used across different age groups. As smartphones become increasingly embedded in everyday life, concerns about their psychological and behavioral effects have intensified, particularly among student populations. Global reports show a steady rise in problematic smartphone use, with prevalence rates ranging from 20% to 40% among adolescents and young adults (Taylor, 2023). This digital surge is particularly noticeable among younger generations, who display a higher level of connectivity than older ones (Mason et al., 2022). Within Asia, studies have consistently reported some of the highest levels of mobile dependency globally, adversely affecting students' physical and psychological well-being (Chia et al., 2020; Guo et al., 2020; Subramaniam et al., 2024). In the Philippines, researchers have also reported similar patterns. Filipino young adults (18-24 years old) spend an average screen time of 8.52 hours a day (Kemp, 2023), which is twice the recommended average screen time for adults of 2-4 hours a day (American Academy of Child and Adolescent Psychiatry, 2025). This high prevalence of smartphone use among young Filipinos has been linked to digital over-engagement, which have been associated with depression, anxiety, insomnia, and impaired academic performance (Santos et al., 2023; Puyat et al., 2021).

Despite growing literature on smartphone use and its impact to wellbeing, contrasting findings still exist. At present, problematic smartphone use (PSU), characterized by obsessive gadget use that is detrimental to individual's

daily functioning (Billieux, 2012), had been found to affect the younger generation and poses a significant risk to their social relationships, academic performance, physical and mental health addiction (Anderl et al., 2023; Lu et al., 2021; Tang et al., 2021). However, recent studies conducted during the pandemic also highlighted that smartphone use, specifically accessing social media, serve as coping mechanisms by providing emotional support among students (Flynn et al., 2020; Schneider et al., 2023) .

In the post-pandemic times, remote learning and isolation become common in educational settings. However, this is not new for some institutions specifically those employing regimented training style. However, research exploring the reality of students in regimented educational environments—particularly maritime institutions—is limited (Abadicio et al., 2025). Students in regimented environments operate within systems characterized by strict schedules, discipline-oriented training, and controlled access to personal devices such as smartphones. Research reported that students in regimented or isolated environments often face unusual challenges that can impact their overall well-being such as high level of loneliness, isolation and distress (Bonner & Ellender, 2022; Khraban, 2022). These conditions may potentially increase problematic digital engagement driven by Fear of Missing Out (FoMO) or the fear of missing out opportunities to have enjoyable experience as others (Przybylski et al., 2013). Understanding the interaction of these factors within such contexts is crucial, given the unique psychosocial demands of maritime education and the potential impact on future seafarers' mental health.

While international studies have explored FoMO, psychological distress, and PSU, limited research has examined these variables within semi-regimented environments, particularly in the Philippine context. Existing findings remain inconsistent, especially regarding whether distress or FoMO lead to PSU. Moreover, no published local study have investigated these constructs among maritime students, especially in the post-pandemic period. This gap necessitates the present study, which contributes to development of contextually appropriate interventions, informing maritime education policy, and advancing post-pandemic digital well-being research.

Review of Related Literature and Studies

Problematic Smartphone Use (PSU) and Student Well-being

Smartphones' growing popularity and high usage among students have the potential to shape, influence, or transform their behaviors. Consistent findings have shown association between PSU and negative psychological outcomes. Studies have linked excessive smartphone use to increased levels of low self-esteem (Dupuis et al., 2020), depression and anxiety (Pourafshari et al., 2022; Yang et al., 2021) particularly in adolescent and young adult populations. One possible explanation is that students often turn to their smartphones to cope with emotional distress, thus leading to potential dependence (Chu et al., 2021). Moreover, students also tend to seek social connections through the use of smartphones, but this excessive reliance on virtual interactions can further aggravate feelings of isolation (Ng et al., 2020; Pera, 2020).

The Role of Fear of Missing Out (FoMO)

FoMO is consistently identified as a critical factor influencing PSU. According to Przybylski et al. (2013), FoMO drives individuals to engage compulsively with their smartphones to avoid feelings of exclusion. This aligns with other more recent studies which demonstrate that FoMO exacerbates psychological distress and leads to increased smartphone use (Akbari et al., 2021; Buyukbayraktar, 2020). While the majority of studies have highlighted the negative consequences of problematic smartphone use, some research has presented contrasting findings. Certain studies have suggested that moderate smartphone use may not necessarily be detrimental and can even have positive effects, such as facilitating social connections and reducing boredom (Nawaz, 2024; Wolniewicz et al., 2020). These findings highlight a potential gap in understanding the mechanisms and a need for research that clarifies the pathways through which psychological distress influences smartphone use.

Cultural and Contextual Factors Affecting Digital Behaviors

Different cultural norms, educational systems, and social environments may contribute to variations in the occurrence and manifestation of PSU among students. Several Asian studies which reported high prevalence of smartphone addiction have emphasized cultural, emotional, and contextual factors shaping digital behavior (Duc et al., 2024; Zhang et al., 2021). Filipino students commonly report strong familial ties, collectivist values, and high

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engagement with online communities, conditions that may intensify FoMO and digital reliance (Buctot et al., 2020; Reyes, 2020) Meanwhile, Southeast Asian studies have revealed similar patterns, underscoring that high social media engagement and academic stress contribute significantly to PSU (Li et al., 2022; Ting & Chen, 2020; Abad Santos et al., 2023). However, most of the studies identified in the literature employed university participants in foreign countries and limited local studies are available. Thus, exploring PSU with consideration of cultural and contextual factors would help in understanding this prevailing concern among students.

Also, the impact of the environment, particularly in regimented settings, presents contrasting findings. Students in regimented or semi-regimented learning environments—such as maritime academies, military schools, and other discipline-oriented institutions—experience unique psychosocial conditions. Research suggests that restricted connectivity may heighten students' anxiety due to social disconnection, potentially increasing FoMO and amplifying reliance on smartphones (Khraban, 2022; Xing et al., 2021; Zhong et al., 2024). However, some studies suggest that structured environments can enhance resilience (McInerney et al., 2024) . This discrepancy suggests that the context of smartphone use may vary significantly among different student populations, underscoring the need for a nuanced approach to research.

Synthesis of Literature

The reviewed studies collectively highlight the complex interplay between psychological distress, FoMO, and problematic smartphone use among students. Distress and FoMO have consistently emerged as significant emotional and cognitive predictors of maladaptive digital behavior, supporting theoretical propositions from the I-PACE Model and Self-Determination Theory.

While there are significant insights into how these factors relate, gaps in the literature warrant further investigation. More in-depth studies that examine psychological distress and FoMO as predictors of problematic smartphone use under regimented conditions. Moreover, the contrasting results and the lack of clear cultural context of how smartphone addiction impacts Filipino maritime students' well-being specifically in controlled environment can be a gap that can be explored through research.

Theoretical Framework

The present study was anchored on two major theoretical perspectives that explain the psychological and behavioral mechanisms underlying problematic smartphone use: the Interaction of Person–Affect–Cognition–Execution (I-PACE) Model and Self-Determination Theory (SDT). These frameworks provided a coherent basis for examining how psychological distress and Fear of Missing Out (FoMO) may influence the risk of problematic smartphone use among students in a semi-regimented educational environment.

The Interaction of Person–Affect–Cognition–Execution (I-PACE) Model

The I-PACE Model, developed by Brand et al. (2019), posits that addictive digital behaviors emerge from dynamic interactions among personal predispositions (P), emotional states or affect (A), cognitive responses (C), and executive functioning (E). According to the model, individuals who experience emotional vulnerability (e.g., psychological distress) or cognitive biases (e.g., heightened FoMO) may be more likely to engage in maladaptive digital behaviors, particularly when situational triggers or stressors are present.

This model is highly relevant to the present study because maritime students operate within a semi-regimented system marked by strict schedules, reduced autonomy, and intermittent access to digital communication. Such conditions may intensify emotional discomfort or anxiety about being disconnected from one's social network, thereby increasing tendencies toward compensatory smartphone use. The model situates psychological distress and FoMO within the I-PACE structure, the study evaluated how emotional and cognitive mechanisms jointly contribute to smartphone addiction risk.

Self-Determination Theory (SDT)

Self-Determination Theory (SDT), introduced by Deci & Ryan (1985), emphasizes that individuals' psychological well-being depends on the satisfaction of three basic psychological needs: autonomy, competence, and relatedness. When these needs are not met—particularly in structured or controlled environments—individuals may experience heightened distress and adopt maladaptive coping behaviors.

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In the context of a maritime academy, students' autonomy is often restricted, schedules and routines are externally imposed, and opportunities for self-directed behavior are limited. These conditions may result in frustration, particularly with respect to autonomy and relatedness. Restricted or regulated smartphone access may further intensify feelings of disconnection, increasing FoMo and subsequently the tendency to engage in excessive smartphone use when access becomes available. SDT therefore provided a strong conceptual foundation for examining FoMO and psychological distress as predictors of smartphone addiction risk within this population.

Together, the I-PACE Model and SDT offered complementary perspectives that guided the study's research questions, hypotheses, and analytical approach. The interplay between these two frameworks reveals a more holistic understanding of PSU. Unmet psychological needs as per SDT can create a fertile ground for distress and FoMO through the cognitive-emotional interactions described in the I-PACE model. When individuals do not have their needs for autonomy, competence, or relatedness met in their offline lives, they may turn to their smartphones to fulfill these needs. This dependence can then trigger cognitive and emotional responses that reinforce their behavior, leading to a cycle of addictive behaviors. These frameworks justified the study's focus on emotional and cognitive predictors and supported the use of a correlational design to examine their relationships with problematic smartphone use.

Conceptual Framework

The conceptual framework of this study was developed based on the assumptions of the I-PACE Model and Self-Determination Theory, along with empirical evidence linking psychological distress, FoMO, and problematic smartphone use. The framework illustrates how psychological distress and FoMO function as key predictors of smartphone addiction risk among students in a semi-regimented educational setting.

Specifically, psychological distress was conceptualized as an emotional vulnerability that may increase students' reliance on smartphones as a coping mechanism. Consistent with the I-PACE Model, distress was expected to contribute to heightened smartphone engagement due to attempts to alleviate negative affect. FoMO was conceptualized as a cognitive and motivational factor that drives increased smartphone use. Students who fear being excluded from social interactions or important updates may exhibit compulsive checking behaviors or excessive dependence on their devices. Lastly, PSU risk represented the behavioral outcome of interest. It encompassed signs of problematic or compulsive smartphone use that may impair daily functioning. Based on theoretical and empirical evidence, higher psychological distress and higher FoMO scores were expected to be associated with greater PSU risk.

The conceptual model depicts the direct pathways from psychological distress and FoMO, to PSU risk. Both variables were hypothesized to exert independent and significant influences on smartphone addiction risk, consistent with prior literature and the theoretical propositions of SDT and the I-PACE Model.

The model also acknowledges the semi-regimented environment as a contextual factor that may amplify both emotional and cognitive vulnerabilities, though it was not treated as a variable in the statistical analysis. Instead, it served as a contextual condition that helped interpret the findings and clarify the study's contributions.

Independent Variables (IV): Psychological Distress and Fear of Missing Out (FoMO)
⬇
Dependent Variable (DV): Problematic Smartphone Use

Statement of the Problem

Problematic Smartphone Use (PSU) emerges as a growing concern among young adults due to its association with psychological distress and maladaptive technology-related behaviors. While international studies have examined PSU, Fear of Missing Out (FoMO), and mental health outcomes, limited research has explored how these factors interact within semi-regimented academic environments where social interaction is restricted and smartphone access is regulated. Moreover, existing findings remain inconsistent, with some studies linking distress to PSU and others suggesting the opposite. The emerging conceptualization of FoMO as a contributor to psychological distress and addictive technology use further requires investigation, especially among Filipino college students who are increasingly exposed to FoMO-triggering content online. These gaps highlight the need to examine how psychological distress and FoMO influence PSU within a semi-regimented maritime institution in the Philippines, where students' experiences of isolation and structured routines may uniquely shape their smartphone use patterns.

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Research Objectives

General Objective:

To investigate the predictive relationships among Fear of Missing Out (FoMO), psychological distress, and Problematic Smartphone Use (PSU) among maritime college students in a semi-regimented environment.

Specific Objectives:

1. To determine the levels of psychological distress (stress, anxiety, and depression) and FoMO among the students.
2. To assess the risk level of Problematic Smartphone Use among the students.
3. To examine the relationships among psychological distress, FoMO, and PSU.
4. To test whether psychological distress and FoMO significantly predict Problematic Smartphone Use.

Research Questions

1. What are the levels of psychological distress experienced by the respondents in terms of:
   a. stress,
   b. anxiety, and
   c. depression?
2. What is the level of Fear of Missing Out (FoMO) among the respondents?
3. What is the level of Problematic Smartphone Use (PSU) among the respondents?
4. Are there significant relationships among psychological distress, FoMO, and PSU?
5. Do psychological distress and Fear of Missing Out significantly predict Problematic Smartphone Use?

Hypotheses

The following hypotheses were tested at the 0.05 level of significance:

- **H₀ (Null Hypothesis):** There is no significant relationship among psychological distress, Fear of Missing Out (FoMO), and Problematic Smartphone Use (PSU).
- **Hₐ (Alternative Hypothesis):** There is a significant relationship among psychological distress, Fear of Missing Out (FoMO), and Problematic Smartphone Use (PSU).

METHODS

Research Design

This study employed a descriptive–correlational research design to examine the relationships among psychological distress, fear of missing out (FoMO), and problematic smartphone use among students in a semi-regimented maritime institution. Correlational research was appropriate because it allowed the researcher to measure naturally occurring variations in psychosocial variables and determine their associations without manipulating conditions (Schober & Schwarte, 2018). This design was appropriate to the current study which aims to describe the level and relationships among the key variables and determine the potential predictive relationship of Psychological distress and FoMO to Problematic Smartphone Use (PSU) without any manipulation.

Population and Sampling

The study was conducted in a tertiary maritime school in Bataan, Philippines which employed semi-regimented training among students. The sample was limited to students who met the following criteria: (1) enrolled as 2nd class or 3rd class student for the 2nd Semester of Academic Year 2023-2024 (2) male, (3) age 18-24 years old and (4) has access to and uses any type of smartphone device. Purposive sampling technique was used to target students who were most likely to experience psychological distress related to smartphone use, thereby providing richer data for analysis. Specifically, the sample was limited to 2nd class and 3rd class male students which were identified to have the highest frequency of counseling cases. The set criteria ensured that the sample had characteristics relevant to the psychological constructs identified in this study. Moreover, female students were excluded from the study due to the nature of the locale study wherein majority of the population are male with only 61 (3.6%) female students. This parameter was set to ensure homogeneity and validity of data interpretation.

Instruments

Three standardized self-report instruments were used to measure psychological distress, FoMO, and PSU. All instruments were previously validated in international research and demonstrated strong psychometric properties. No item was omitted from the original.

Depression Anxiety Stress Scales (DASS-21) (Antony et al., 1998) was used to quantify the extent to which an individual is exhibiting signs of a psychological distress which were measured in three correlated dimensions: Depression (α = 0.94), Anxiety (α = 0.87), and Stress (α = 0.91) (Antony et al., 1998; Coker et al., 2018). Items were rated using a four-point Likert scale that ranges from 0 (Never) to 3 (Almost always). The item scores on each scale were summed together and multiplied by two to obtain the three scale scores which were compared to a standard cut-off scores in terms of severity which range from normal to extremely severe (Henry & Crawford, 2005). All the DASS questionnaires were validated in the public domain and can be used for research purposes in either a group or an individual setting. The DASS-21 was particularly suited for this study as it provides a nuanced understanding of the psychological distress experienced by students in high-pressure environments.

Fear of Missing out Scale (FoMOS) developed by Przybylski et al. (2013) was also used to quantify FoMO or the extent to which people worry about missing out on social events. FoMOS demonstrates high internal consistency (α = .82) (Przybylski et al., 2013). Additionally, it was also valid for measuring related constructs specifically social media engagement (r = .40). It consisted of 10 items which were rated using a 5-point Likert scale from 1 (not at all true of me) to 5 (very true of me) and added to obtain individual scores which can be interpreted as low, moderate, or high (Mohammed et al., 2023).

Lastly, Smartphone Addiction Scale Short version (SAS-SV), created and validated by Kwon et al. (2013), was used to measure young adults' addictive behaviors related to smartphone use. It has high concurrent validity, internal consistency (α =.91) and can be used to detect high-risk groups for smartphone addiction. SAS-SV consists of 10 items and rated using a 6-point Likert scale. The overall score ranges from 10 to 60, where higher scores denote a higher risk of smartphone addiction. It has a set cut-off point to determine high-risk level of smartphone addiction which varies according to gender (Male = 31, Female = 33).

Data Collection

Data were collected after securing approval from the institution and the relevant ethics review body. Survey administration was done inside the classroom through online survey via Google Form from April to May 2024. Instructions were provided in clear academic language, and participants completed the instruments without reporting difficulties. Personal information gathered was limited only to age, gender and program to ensure that inclusion criteria were met. The survey form setting was also set to require response in all items to secure completeness of submitted data. All responses were stored in digital files accessible only to the research team. Out of the 897 enrolled students, the reseacher gathered a total of 283 valid responses, yielding a response rate of 31.5%.

Treatment of Data

The data gathered were analyzed quantitatively using both descriptive and inferential statistics. Frequencies, percentages, means, and standard deviations were used to determine the levels of psychological distress, FoMO, and risk of problematic smartphone use. Spearman rank correlation analysis was also used to examine the relationships among variables because the data did not meet the normality assumptions required for parametric tests (Rebekic, 2015).

In addition, Binary logistic regression was employed to determine whether psychological distress and FoMO predicted smartphone addiction risk. Although PSU was measured on a continuous scale, scores were dichotomized into high-risk and latent-risk categories based on validated cut-offs (Kwon et al., 2013). Dichotomization was applied for practical interpretability. However, the analysis acknowledged that converting continuous scores to categorical outcomes may reduce statistical sensitivity.This test was appropriate since PSU as an outcome variable was dichotomous and the aim was to predict the probability based on one or more predictors – psychological distress and FoMO (King, 2008). Assumptions for logistic regression were assessed before analysis. Tolerance values greater than 0.10 and variance inflation factors (VIF) less than 10 indicated acceptable levels of multicollinearity. The significance of the model was evaluated using the chi-square statistic, with pseudo-R² values used to estimate explained variance.

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Regression coefficients (β), standard errors (SE), odds ratios (OR), 95% confidence intervals (CI), and p-values were reported to ensure statistical transparency.

Ethical Considerations

Prior to data gathering, respondents were asked to fill out an electronic informed consent which highlighted voluntarily participation and confidentiality. Anonymity was also ensured by not collecting names and securely storing the data. The respondents were also informed of the minimal risks associated with completing the survey and were provided with the researcher's contact information should participation evoke discomfort. This study obtained Ethics Review Board (ERB) approval in order to ensure respondents' safety.

RESULTS and DISCUSSION

This section provides an overview of the respondents' profiles in terms of the three study variables: Psychological Distress, Fear of Missing Out (FoMO), and Problematic Smartphone Use (PSU).

Level of Psychological Distress

Table 1 showed the frequency and percentage for each level of stress, anxiety and depression subscales of DASS-21 as compared to the norm. This provides an overview of the student's level of psychological distress.

Table 1. Level of Psychological Distress

Severity Level	Stress			Anxiety			Depression		
	aRange	*n*	*%*	*aRange*	*n*	*%*	*aRange*	*n*	*%*
Normal	0-7	195	68.9	0-3	76	26.9	0-7	101	35.7
Mild	8-9	33	11.7	4-5	63	22.3	8-9	71	25.1
Moderate	10-12	35	12.4	6-7	56	19.8	10-12	68	24.0
Severe	13-16	20	7.1	8-9	33	11.7	13-16	33	11.7
Extremely Severe	17+	0	0	10+	55	19.4	17+	10	3.5
Total		283	100		283	100		283	100

Note. *aScoring interpretation adapted from Henry & Crawford (2005)*

Table 1 revealed that majority of the respondents (N=283) exhibited normal levels of psychological distress. Specifically, stress levels were predominantly normal to mild for 80.5% (n = 228) of participants, with 19.5% (n= 55) reporting moderate to severe stress. This indicates that majority of the respondents experienced relatively normal symptoms of stress which does not significantly affect daily functioning. Results also show anxiety levels were more evenly distributed, with 49.2% (n = 139) reporting normal to mild anxiety symptoms, but a considerable proportion experiencing moderate to extremely severe anxiety. This means that this population may experience anxiety symptoms like autonomic arousal such as dryness of mouth and worrying about a specific situation. Lastly, 60.8% (n = 172) scored within normal ranges for depression, while 39.2% showed moderate to severe depressive symptoms. This suggests that the majority of the respondents do not experience clinically significant levels of depression. Some protective factors within the study locale can possibly contribute to this result such as peer support and physical exercise.

Moreover, while the results on the level of psychological distress were found to be expected in non-clinical populations, the context of a semi-regimented environment, characterized by intensive physical training and restricted sleep, warrants further consideration. The prevalence of normal stress levels might be considered a surprising finding considering the nature of the study locale. One possible explanation was that, the results might indicate a high level of resilience among the students. This aligns with existing research on resilience in demanding environments such as studies on military personnel (Khraban, 2022) and athletes (Hrozanova et al., 2021) which revealed that individuals can adapt to high-stress situations through a combination of psychological, physiological, and social factors. It can also be possible that the students have normalized the stress associated with their environment. Existing studies have shown that chronic exposure to even moderate levels of stress can have detrimental effects on physical and mental

health (Elhai et al., 2020; Pera, 2020; Yun & Greenwood, 2022). Thus, it is important to consider whether this "normal" level of stress is still optimal for their well-being and the potential long-term consequences. Furthermore, the normalization of stress might mask underlying issues and prevent students from seeking support.

Level of Fear of Missing Out (FoMO)

This section presents the frequency and percentage for each level of FoMO to determine the respondents' level of FoMO as compared to the norm. FoMO was conceptualized as the fear of missing out on social events. This highlights the extent to which respondents utilize social media to maintain connection and worry about missing out on social events.

Table 2. Level of FoMO

Level	[a]Range	n	%
Low	10-20	115	40.6
Moderate	21-39	158	55.8
High	40-50	10	3.5
Total		283	100

Note. [a]*Scoring interpretation adapted from Mohammed et. al., (2023)*

Table 2 shows a moderate level of FoMO, with 55.8% (n = 158) scoring in the moderate range. This moderate level suggests that while FoMO is a concern, it was not pervasive across all aspects of students' lives. However, it is important to note that even moderate levels of FoMO can have significant impacts on well-being. Respondents frequently reported pre-occupation with social events and concern about missing shared experiences, which is notable given the restrictions on social interaction inherent to the semi-regimented environment. This moderate FoMO level highlights a psychological tension between the need for social connection and the limitations imposed by the respondents' setting.

Level of Problematic Smartphone Use (PSU)

Table 3 shows the frequency and percentage for each risk level of smartphone addiction to determine the respondents' risk level of PSU as compared to the cut-off score by Kwon et al. (2013). Specifically, PSU refers to the degree to which the respondents experience symptoms of addiction such as compulsion and dysfunction.

Table 3. Risk Level of Problematic Smartphone Use of the Respondents

Risk Level	Range	n	%
[b]Latent Risk	0-31	237	83.7
[c]High Risk	32-60	46	16.3
Total		283	100

Note. [a]*Score interpretation based on Kwon (2013)*
[b]*Latent risk means existing symptoms were not enough to warrant risk of addiction*
[c]*High risk means symptoms have reached the threshold which can be attributed to addiction[9.4.3]*

Table 3 shows the SAS-SV scores which indicated that 83.7% (n=237) of students fell within the latent risk category for PSU. This means that respondents experience inconsequential level of interference in their daily lives due to smartphone use regardless of gender. Results also indicated that 16.3% (n=46) of the respondents were classified as high risk for PSU. This indicates that while most students managed their smartphone use appropriately, a considerable number of students was at risk of developing problematic behaviors. Interestingly, results indicated that 16.3% (n=46) of the respondents were classified as high risk for PSU.

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This specifies that while most students managed their smartphone use appropriately, a considerable number of students was at risk of developing problematic behaviors. Although this was relatively lower than the reported prevalence rate of PSU among Filipino students (Buctot et al., 2020), this still raises concerns given the context of strict restrictions on gadget use in the study locale. Previous researches noted that excessive smartphone use can negatively impact mental health, leading to increased rates of anxiety and depression (Anderl et al., 2023; Kim, 2021; Nawaz, 2024; Ting & Chen, 2020). This highlights the need for interventions that promote healthy smartphone usage habits, particularly for those at high risk.

Relationship Among Psychological Distress, FoMO and PSU

This section shows the correlations among the identified study variables. This highlights the extent to which psychological distress and FoMO contributes to the risk of developing problematic smartphone use.

Table 4. Correlation Matrix Relating the Respondents' Level of Psychological Distress, Fear of Missing Out and Problematic Smartphone Use

Variables	Psychological Distress			FoMO	PSU
	Depression	*Anxiety*	*Stress*		
4.1 Depression	-				
4.2 Anxiety	.642**	-			
4.3 Stress	.803**	.706**	-		
4.4 FoMO	.616**	.561**	.587**	-	
4.5 PSU	.437**	.411**	.442**	.522**	-

**Correlation is significant at the .001 level (2-tailed)

Table 2 indicate a notable relationship between psychological distress, fear of missing out (FoMO), and problematic smartphone use. The significant correlation coefficients (p < .001) indicate that the null hypothesis can be rejected, affirming that substantial relationships exist among these variables. Specifically, Spearman rank-order correlations which demonstrated moderate positive relationships between PSU and psychological distress subscales: depression (Spearman's ρ = .437, p < .01), anxiety (Spearman's ρ = .411, p < .01), and stress (Spearman's ρ = .442, p < .01). FoMO also showed a strong positive correlation with PSU (Spearman's ρ = .522, p < .01). These moderate correlations suggest that as psychological distress and FoMO increase, so too does PSU, supporting the theoretical framework that these factors were interconnected.

The moderate strength of the relationship also underscores the significant but not overwhelming association that PSU has with FoMO. This suggests that considering the social restrictions in a semi-regimented training environment, it was highly possible that the respondents' desire to connect can aggravate their fear of missing out. Students may perceive that they were missing out on essential social experiences or opportunities for connection and consequently, may turn to their smartphones as a means of alleviating these feelings, thus exacerbating their addiction to the devices (Schneider et al., 2023).

Psychological Distress and FoMO as a Predictor of PSU

Given the significant correlations revealed among psychological distress, FoMO and PSU, the study proceeded in utilizing logistic regression analysis to further explore the potential predictive relationships between the variables. This final section of the chapter presents the extent to which psychological distress – stress, anxiety and depression – and FoMO might serve as predictors of problematic smartphone use (PSU). Data were tested prior to analysis to confirm that key assumptions for binomial logistic regression were met. Assumption testing showed that the distribution of residuals was normal, there were minimal presence of outliers, data points were not clustered or correlated. Specifically, tolerance values were > 0.1 and variance inflation factors (VIF) were < 10, indicating acceptable multicollinearity.

Table 5. Binomial Logistic Regression Analysis on Psychological Distress and FoMO Predicting the Risk Level of Problematic Smartphone Use

Predictor	β	SE	OR	p	95% CI
Depression	.266	.384	1.305	.488	.615 – 2.767
Anxiety*	.797	.364	2.219	.029	1.086 – 4.532
Stress	-.629	.375	.533	.094	.255– 1.113
FoMO*	1.343	.434	3.831	.002	1.636 – 8.971

N=283
*Significant at 0.05 level
χ^2=51.087, df = 4, p = <.001
Cox & Snell = 0.165, Nagelkerke = 0.281

Table 5 shows that overall model was statistically significant ($\chi^2(4) = 51.087$, p < .001) and explained between 16.5% (Cox & Snell R²) and 28.1% (Nagelkerke R²) of the variance in PSU. This indicated that the predictors reliably distinguished between latent-risk and high-risk users. While statistically significant, this indicates that a substantial portion of the variance in PSU was explained by factors not included in the model. The sensitivity (73.9%) and specificity (74.7%) were relatively balanced, signifying a similar ability to correctly identify both high-risk and latent-risk PSU cases. However, it is important to note that this sensitivity level might be affected by the dichotomization of PSU scores.

Among the predictors, anxiety emerged as a significant individual predictor (β = 0.797, p < .05), with an odds ratio (OR) of 2.219, indicating that students with higher anxiety were more than twice as likely to be at risk for PSU. FoMO was an even stronger predictor (β = 1.343, p < .002), with an OR of 3.831, suggesting nearly four times greater odds of PSU risk with increasing FoMO levels. Depression and stress subscales did not significantly predict PSU when controlling for anxiety and FoMO, indicating their effects may be indirect or mediated by these variables.

Theoretically, this supports the claim of Self-Determination Theory (Deci & Ryan, 1985) that unmet psychological needs—particularly relatedness—may drive students to seek connection through smartphone use. Considering the limited social interaction associated with the study locale, findings of this study highlighted that students in a semi-regimented environment often experience restricted autonomy and limited real-time social interaction, conditions that may heighten their reliance on smartphones to fulfill relatedness needs despite their physical proximity to peers. Morever, the significant correlations between psychological distress and smartphone addiction risk also support the I-PACE Model, which proposes that emotional vulnerabilities may predispose individuals toward maladaptive digital behaviors such as compulsive smartphone use (Brand et al., 2019). Students in controlled environment experiencing higher distress may rely on smartphones for mood regulation, distraction, or escape from negative emotions. Taken together, these results illustrate how regimented conditions, emotional pressures, and cognitive biases converge to shape smartphone overuse in this unique educational context.

Interestingly, other individual subscale of distress such as depression and stress did not show significant odds ratios in the regression model. This non-significant result could be due to the possible indirect influence through anxiety and FoMO (Wolniewicz et al., 2020; Yang et al., 2021). Furthermore, factors such as the specific demographics of the respondents, the environment, and the availability of alternative coping mechanisms could influence the strength and nature of the relationships observed. Research suggests that environmental stressors can affect how individuals use technology; for instance, during periods of high stress, individuals may use smartphones as a means of escape rather than as a source of addiction (Flynn et al., 2020; Schneider et al., 2023; Vaingankar et al., 2022). Thus, it can be possible that the regulated access to smartphones among the respondents allow them to use their smartphones as a means to cope despite the high-level of stress that comes with the semi-regimented training.

Conclusions

This study provided empirical findings to contribute to the understanding of the complex interplay between psychological distress, Fear of Missing Out (FoMO), and Problematic Smartphone Use (PSU) among male college

students in a semi-regimented environment. Students generally have a normal level of psychological distress in all three subscales – stress, anxiety, and depression which can be due to the (1) presence of protective factors such as a higher resilience which was observed among students in similar environments and (2) possible normalization of stress among the respondents.

In terms of Fear of Missing Out (FoMO), a moderate level of FoMO may particularly be relevant in the semi-regimented setting, where limited social interaction may heighten the need for face-to-face interactions and social conversations, despite digital connectivity. This finding emphasized the importance of promoting meaningful interactions and fostering a sense of community among students, even in semi-regimented environments.

In conclusion, results from this study contributed to the growing popularity of FoMO as a strong psychosocial correlate of smartphone addiction risk specifically in regimented learning contexts, supported by a significant odds ratio (OR = 3.831). The findings of this study extended the mental health literature among maritime students in the Philppines, which remains sparse despite rising concerns about digital health and well-being in the post-pandemic time. Furthermore, this study shed light on the interconnectedness of psychological distress, FoMO, and PSU, emphasizing the need for holistic approaches to support the mental health of students in regimented environment. It provided evidence relevant to maritime education stakeholders who require empirically grounded insights to improve student support services, promote digital self-regulation. In terms of policymaking, findings of this study helped align institutional practices with global mental health standards and the global aim of achieving the United Nation's Sustainable Development Goal (SDG) specifically Target 3.4 which aims to promote mental well-being and reducing premature deaths and Target 4.4 which encourage schools to foster relevant skills, including socio-emotional skills, for better employment and mental well-being.

Recommendations

Given the elevated risk of PSU and its predictive relationship with anxiety and FoMO, interventions may target these psychological factors to effectively reduce problematic smartphone behaviors and maximize protective resources that supports student well-being. It is recommended that mindfulness-based interventions, such as brief daily sessions, be integrated during designated off-screen time, focusing on breath awareness and emotional regulation could be integrated into the students' training schedules to enhance coping skills and decrease compulsive phone use. This demonstrated efficacy in reducing anxiety and promoting emotional regulation (Wu et al., 2022).

Additionally, regular psychoeducational programs that increase awareness about FoMO and its impact can empower students to recognize and manage these social anxieties. Monthly or bi-weekly group dynamics activities that foster genuine social connectedness within the regimented environment may mitigate feelings of exclusion and reduce reliance on digital connectivity as a sole source of social fulfillment (Akbari et al., 2021; Buyukbayraktar, 2020).

At the institutional level, policy adjustments may balance smartphone restrictions with opportunities for safe, face-to-face social engagement. Moreover, counseling services may integrate screening for FoMO and anxiety symptoms as part of their assessment protocols to identify students at risk for PSU early (Maghoromi, 2023).

Some future research directions and gaps also emerged based on the findings of this study. Further exploration of the resilience factors among students was crucial to identify specific traits or support systems that contribute to their ability to maintain normal stress levels despite the demanding environment. Moreover, help-seeking behaviors of students would be valuable area to explore, this could shed light if students feel comfortable seeking support when needed, or if they suppress their concerns due to the normalized perception of stress. While FoMO and anxiety significantly predict PSU, a substantial portion of variance also remained unexplained. Future research could explore additional factors such as personality traits (e.g., impulsivity), social support, coping styles, or environmental stressors that may influence PSU. Incorporating qualitative approaches might also uncover contextual nuances impacting smartphone use behaviors.

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