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Fear of Missing Out (FoMO) and its relation with Depression and Anxiety among University Students

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Abstract

FoMO stands for "Fear of Missing Out", and it was found that greater FoMO reported a high level of depression and anxiety. Results from this crosssectional study revealed that the majority of the participants had a low level of FoMO and normally scored on depression and anxiety. A significant positive relationship was found between FoMO and psychological variables, and the results also highlighted considerable gender differences in the prevalence of FoMO. Findings may provide insight and further understanding about this phenomenon and how FoMO is not only fulfilling the relatedness needs but also leading to psychological distress.

Keywords: fear of missing out, depression, anxiety, university students

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1.0 Introduction

In particular, smartphone owners and younger users, who constitute today's "always-on" generation, are in constant contact with their digital devices (Schmidt et al., 2018). Throughout the day, technology accompanies its owner and helps the individual make life easier in challenging times. In other words, this mobile device is not only a technological tool, but it also appears as a "digital companion" (Carolus et al., 2019). Social media has been an essential part of students' lives, with 95% of this population having internet access, and most of it is gained through technology devices. The sites are growing as a convenient tool for learning purposes, especially for higher education levels at the universities. In the ever-growing era of technology, the desire and demand to own and use a smartphone make people feel a need to keep in contact with others. People are often curious or interested in what others are doing (Abel et al., 2016). In this regard, the phenomenon begins with the attachment to social media and becomes a smartphone addiction (Chaudhry & Prichard, 2015). As a result, they would likely experience an aversive feeling of missing out on current yet unattended events. This phenomenon is called FoMO. FoMO stands for "Fear of Missing Out", which refers to the "pervasive apprehension that others might be having rewarding experiences from which one is absent" (Przybylski et al., 2013). Hence, this study aims to identify the relationship of FoMO with depression and anxiety among undergraduate Health Sciences students in one of the public universities in Selangor. The current study also explored the level of FoMO, depression, and anxiety among the participants and identified the gender differences in FoMO levels.

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2.0 Literature Review

It was found that those who experience a high level of FoMO are assumed to have a severe willingness to remain constantly keeping upto-date or being informed of what others are doing through social media. A previous study suggests that individuals who experience FoMO may attempt to reduce the anxious feeling by checking up on other people through social media (van Rooij et al., 2018). In addition, FoMO seemed to be more prevalent among participants when they did not have access to their phones than they had (Mannion & Nolan, 2020). Nonetheless, the more often people check their social media accounts, the more they discover that they are missing out on the events. The vicious cycle may then strengthen itself, turning into some other psychological symptoms.

Currently, mental issues among young people are becoming a growing public health concern globally. In Malaysia, it has been reported that young individuals between 16 to 24 years old contributed to the highest percentage of mental disorders. According to National Health and Morbidity Survey (2017), the prevalence of depression and anxiety among adolescents was 36.6% and 79.4%, respectively. This is somewhat consistent with a study conducted toward IIUM Health Sciences students, where more than one-third population accounted for the prevalence of depression (Nahas et al., 2019). Meanwhile, another local study found that internet addiction was significantly associated with depression (Othman & Lee, 2017). These prove how serious the problems are, especially among those youths, and effective programs should be developed to address the issues adequately.

As reported in previous works of literature, the relationship of FoMO with depression and anxiety has been well developed. Nevertheless, studies have yet to expand the research among Malaysians. In Malaysia, there are scarce and minimal studies on FoMO, especially among university students, as most of them are conducted in Western countries. Generalizing results from a survey may be inappropriate since the cultural differences could lead to different results compared to the other countries. Besides, few studies have been conducted on Health Sciences students even though there is a need to address the issues, given the complexity of the learning process (Nahas et al., 2019) that these students have to endure.

3.0 Methodology

3.1 Study Design

A cross-sectional study was conducted involving 281 undergraduate students from the Faculty of Health Sciences in one public university in Selangor from January to June 2021. This study design has been chosen because it is inexpensive and can generally be performed relatively more quickly than a cohort study (Setia, 2016). It is also considered one of the best ways to determine the relationships between different exposures and outcomes. Typically, many cross-sectional studies are conducted through questionnaires, making it easier to reach a significant subject population (Wang & Cheng, 2020).

3.2 Study Setting and Participants

This study was conducted toward students in one public university in Selangor, and the data was collected through an online Google Form due to the COVID-19 pandemic situation. Permission from the Research Ethics Committee was obtained to conduct this study (Approval no: 600-TNCPI 5/1/6). Participants' information and responses were kept confidential to ensure their privacy. Convenience sampling was the method used to recruit the participants based on the inclusion criteria as follows: (i) undergraduate Health Sciences students and (ii) have at least one social media account such as Instagram, Facebook, Twitter, or others. Those participants were excluded if they were undergraduate students who had been on special leave. The sample size was calculated by using Raosoft Sample Size Calculator. The initial sample size calculated for this study was 314 students. However, only 281 (89.50%) students were recruited due to the restriction to access a wide range of intended participants through the virtual platform.

3.3 Study Procedure and Instrumentation

Data was collected through a self-administered questionnaire consisting of four parts: the informed consent form, the demographic information, the Fear of Missing Out Scale (FoMOs), and the Depression, Anxiety and Stress Scale - 21 Items (DASS-21).

The first part begins with informed consent, which provides written agreement about participants' informed and voluntary participation in the study. Once the participants agree to participate in the study, they will proceed to the second part of demographic information, containing six questions. In this part, the participants need to complete the information regarding their age, gender, study program, year of study, semester, and most social media used.

The third part of the questionnaire is the Fear of Missing Out Scale (FoMOs) (Przybylski et al., 2013) which is a 10-item measure with a five-point Likert scale ranging from "1 = Not at all true of me" to "5 = Extremely true of me." The questionnaire was designed where the items represent anxiety from missing out on experiences or learning about friends' rewarding experiences (Elhai et al., 2016). The score is calculated by summing up each item's scores and divided by 10 (Reer et al., 2019). This instrument showed good reliability, with coefficient alphas ranging from 0.87 to 0.90. This is the main instrument to measure FoMO in the field (Burnell et al., 2019).

The final part of the questionnaire is the Depression, Anxiety and Stress Scale – 21 (DASS-21), which was developed to assess the three dimensions of emotional distress, namely depression, anxiety, and stress (seven items for each dimension) (Lovibond & Lovibond, 1995). This self-administered questionnaire with 21 items is based on a four-point Likert scale ranging from "0 = did not apply to me at all" to "3 = applied to me very much, or most of the time." Every seven items scale is multiplied by two. The higher score indicates the more severe negative emotional states experienced by the individuals. In this study, only the subscales of depression and anxiety were used, which have moderately strong Pearson's correlation for the concurrent, convergent, and discriminant validity compared to similar measures

(Coker et al., 2018). The reliability of DASS-21 was illustrated by Cronbach's alpha values of 0.78, 0.81, and 0.89 for the stress, depression, and anxiety subscales, respectively (Coker et al., 2018).

3.4 Data Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) Version 21. The demographic information of the participants and the level of FoMO, depression, and anxiety were calculated using descriptive statistics. Spearman's correlation coefficient test was used to describe the strength of association between variables: Fear of Missing Out (FoMO), depression, and anxiety. In relation to identifying the significant differences between male and female participants in terms of FoMO level, an independent samples t-test was carried out.

4.0 Findings

4.1 Demographic characteristics of participants

The demographic characteristics of the participants are presented in Table 1. A total of N=281 participants were involved in this crosssectional study. The respondents ranged in age from 19 to 25, with an average age of 22.71. There were 234 female respondents (83.3%) and 47 male respondents (16.7%). The majority of the respondents were from a study program of Occupational Therapy (45.9%), followed by Physiotherapy (10.3%), Medical Laboratory Technology (10%), Environmental Health and Safety (7.8%), Optometry (7.5%), Nutrition and Dietetics (6.8%), Medical Imaging (6.8%), and Nursing (5%). As for the year of study and semester, the mean was 3.37 and 6.09, respectively. In relation to the most social media used by the participants, Twitter was mentioned by 111 participants as the platform that they used the most. The least social media used was Pinterest (0.4%), with only one participant. Other than that, Instagram was comprised of 102 users (36.3%), followed by WhatsApp (8.9%), YouTube (6%), TikTok (5.3%), and Facebook (3.6%).

Table 1: Demographic characteristics of participants						
Variable		N (%)	Mean	Min.	Max.	
Age Gender		281 (100)	22.71	19	25	
	Male	47 (16.7)	-	-	-	
	Female	234 (83.3)	-	-	-	
	Total	281 (100)				
Study program	Occupational Therapy	129 (45.9)	-	-	-	
	Environmental Health and	22 (7.8)	-	-	-	
	Safety Medical Imaging	19 (6.8)	-	-	-	
	Medical Laboratory Technology	28 (10)	-	-	-	
	Nursing	14 (5)	_	-	-	
	Nutrition and Dietetics	19 (6.8)	-	-	-	
	Optometry	21 (7.5)	-	-	-	
	Physiotherapy	29 (10.3)	-	-	-	
	Total	281 (100)				
Year of Study		281 (100)	3.37	1	4	
Semester		281(100)	6.09	2	8	
	Facebook	10 (2 6)				
	Twitter	10 (3.6)	-	-	-	
Most social		111 (39.5) 102 (36.3)	-	-	-	
media used	Instagram WhatsApp	25 (8.9)	-	-	-	
	TikTok	25 (6.9) 15 (5.3)	-	-	-	
	YouTube	17 (6)	-	-	-	
	Pinterest	1 (0.4)	-	-	-	
	Total	281 (100)	-	-	-	
N = number of		201 (100)	-	-	-	

N = number of participants

4.2 Level of Fear of Missing Out, depression, and anxiety of participants

Table 2 presented the level of Fear of Missing Out (FoMO), depression, and anxiety among participants. From the table, it can be seen that the mean score for FoMO, depression, and anxiety were 1.91 (SD = .28), 3.50 (SD = .86), and 3.61 (SD = .90) respectively. The median score was used as the cut-off score in analyzing the level of FoMO. Participants who obtained lower than the median score will

be classified in the low-level group. In contrast, participants who scored above the median score will be categorized in the high-level category. DASS-21 subscale score and interpretation were used as the cut-off value to determine the level of depression and anxiety. The majority of the participants were in the low-level group of FoMO and predominately reported normal, followed by a moderate level of depression and anxiety.

Table 2: Level of FoMO, depression, and anxiety				
Variable	N (%)	Mean	SD	
Fear of Missing Out		1.91	0.28	
Low (score 1.0 to 2.9)	257 (91.5)			
High (score 3.0 to 5.0)	24 (8.5)			
Depression		3.50	0.86	
Normal (0-9)	188 (66.9)			
Mild (10-13)	35 (12.5)			
Moderate (14-20)	44 (15.7)			
Severe (21-27)	4 (1.4)			
Extremely Severe (28+)	10 (3.6)			
Anxiety		3.61	0.90	
Normal (0-7)	201 (71.5)			
Mild (8-9)	20 (7.1)			
Moderate (10-14)	33 (11.7)			
Severe (15-19)	11 (3.9)			
Extremely Severe (20+)	16 (5.7)			
N = number of participants SD = standard doviation				

N = number of participants, SD = standard deviation

4.3 Relationship of Fear of Missing Out with depression and anxiety

The Spearman's rho correlation test was conducted to investigate the relationship of FoMO with psychological variables, as presented in Table 3. The results showed a statistically significant positive correlation of FoMO with depression among undergraduate students (rs' = .149, p < .05). In addition, FoMO was also found to be a statistically significant positive correlation with anxiety among undergraduate students (rs' = .154, p < .05).

Table 3: Correlation among varial	bles	
Variable	Depression	Anxiety
Fear of Missing Out (FoMO)	.149*	.154*
Note. *p < .05; **p < .01		

4.4 Gender differences in Fear of Missing Out level

In relation to comparing the mean scores of Fear of Missing Out between male and female respondents, an independent samples t-test was conducted. As presented in the Table 4, it can be seen that Female students (M = 19.71, SD = 7.17, N = 234) scored much higher on the FoMO level than male students (M = 16.00, D = 4.81, N=47). The mean difference of FoMO score between both genders are statistically significant (p = 0.000; 95% CI -5.40, -2.04).

Table 4: Gender differences in level of FoMO					
Variables	Male (n=47) Mean (SD)	Female (n=234) Mean (SD)	Mean diff. (95% CI)	t-stats (df)	P value
Fear of Missing Out	16.00 (4.81)	19.71 (7.17)	-3.72 (-5.40, -2.04)	-4.41 (92.59)	0.000

SD = standard deviation; CI = confidence interval; df = degrees of freedom

5.0 Discussion

The present study investigated the relationship between Fear of Missing Out (FoMO) and psychological variables. The main finding revealed that there was a significant relationship between dependent and independent variables. This is consistent with the prior studies. Previous research has explored the relationship between FoMO with depression and found its positive association (Baker et al., 2016). FoMO was found to be significantly correlated with the total time students engage in social media. In addition, there was a study that described that those with a more significant FoMO showed a decrease in overall mood and an increase in social media usage (Przybylski et al., 2013). Insecure striving (the feeling that a person must strive to compete for one's place in the social world and avoid mistakes and inadequacy) is strongly linked to a missing out experience in a person with depression. People who are depressed may believe that they are losing social competitors such as competing for support, care, and acceptance. As a result, those who are depressed may be more prone to FoMO. Another study found that FoMO is related to anxiety (Beyens et al., 2016). People with FoMO will tend to feel anxious and worried about other people's activities, and they will believe that things that are done or belong to others are more enjoyable. Moreover, people with higher FoMO are also more prone to the tendency to develop Facebook addiction since they may report unpleasant feelings such as anxiety whenever there is regular online interaction with what others are doing (Bais & Reves, 2019).

Findings from this study also reported that the majority of the undergraduate students reported a low level of FoMO (91.5%) which is in line with previous studies. In the prior research, most young adult participants were in the low FoMO score category compared to the very high FoMO score category (5.5%) (Savitri, 2019). A similar result was observed in the study of 416 students in Indonesia. According to the findings, the overall trend of FoMO among students is in a low category, which indicates that students are unconcerned about whether they miss important information or notifications on social sites (Maysitoh, Ifdil, & Ardi, 2020).

The severity level of psychological morbidities was also investigated in the current study. In this study, the respondents predominantly reported normal, followed by a moderate level of depression and anxiety. These outcomes are consistent with those of previous studies that looked into the mental health of students. A recently reported study on university students in Sialkot, Pakistan, showed the similar findings on depression which the majority of the students were in the normal to moderate level group (Asif et al., 2020). Meanwhile, another literature also investigated the level of depression and anxiety among students of Health Sciences at home quarantine during the COVID-19 pandemic and found that the high prevalence was reported in minimal to moderate severity level (Yadav et al., 2021).

In this study, it was found that there were significant gender differences in which females (M= 19.71) scored much higher than males (M= 16.00) in the prevalence of FoMO score. A previous study (Lo Coco et al., 2020) supported the current finding. It could be assumed that a higher level of female engagement on social media throughout young adulthood (Oberst et al., 2017) might exacerbate their FoMO. Another study conducted on medical students in Indonesia also showed that the majority of respondents in the high-level FoMO category were female and spent more time on social media (Setiadi & Agus, 2020). This could be due to the majority of women using a smart device for communication or social media, but males use the smart device more commonly for entertainment, such as playing games or browsing for news (Choi et al., 2015).

The limitation of this study is that the female gender and undergraduates from the Occupational Therapy program made up the majority of the participants. This could be due to the female dominant in the enrollment to the university. This limitation could affect the generalizability of the study's findings. As a drawback in most of the earlier research, this study also did not use a longitudinal approach, which would have been beneficial in understanding the evolution of the presenting problems better. Thus, the future researcher can involve a wide range of samples as study participants and employ the longitudinal study to determine if the finding holds true over time or if people that demonstrate more depressive and anxiety symptoms concerning FoMO remain the same as time goes by on.

6.0 Conclusion and Recommendations

The present study contributed to a limited but growing body of literature about FoMO among university students. It has revealed the information regarding the relationship between FoMO and other psychological variables such as depression and anxiety among tertiary students in Malaysia. These outcomes lay the groundwork for future studies on FoMO by establishing a platform to understand more about these associations. FoMO has become one of the significant components in determining the psychological effects of social media use, especially on the aspect of depression and anxiety. Furthermore, findings revealed that when a person has a high level of FoMO, the psychological well-being tends to become lower. These findings have provided an insight into understanding the role of psychological-related variables toward university students concerning the fear of missing out on any information. However, this study is confined to only one public university, and the result cannot be generalized to represent all university students. Future research is required to support the results provided and should emphasise more on extensive and complex explorations of the relationships between the constructs explored in this current study.

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