

Internet-related Behavior and Mind Wandering

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Abstract: *Awareness of attention, especially mind-wandering, is more prominent nowadays because of the development of technology that empowers a person to do several jobs and focus on several things simultaneously. This study examines internet-related behavior, namely online fear of missing out and compulsive internet use on mind wandering on active internet users. This correlational study involved 327 internet users aged 17-40 years selected by convenience sampling. Data analysis using multiple regression analysis to determine the effect of FOMO and CIU on mind wandering. This research confirms that fear of missing out and compulsive internet use positively correlate with mind wandering. Other findings explain that mind-wandering and fear of missing out are negatively correlated with age. This study explicates that the contribution of internet-related behavior is significant to the incidence of mind wandering, which proves the influence of internet use on inattention, especially in young internet active users. Therefore, the younger generation must be cognizant of and monitor the use and impact of internet use, especially concerning the necessity to maintain focus when handling task demands. This study proposes addressing the adverse consequence of FOMO, compulsive internet use, and mind-wandering on productivity and wellbeing further, notably for the young age.*

Keywords: *Fear of Missing Out; Internet Use; Mind-wandering*

INTRODUCTION

The phenomenon of mind-wandering has grown quite an interesting discussion when addressing attention performance. According to control failure theory, mind wandering refers to thoughts that are not attached to the

immediate circumstances as the downfall of the executive control process due to task-irrelevant thought (Gong & Ding, 2018) Mind-wandering also befalls when there was an external disruption, and an individual fails



to sustain attention at the task (Mendoza et al., 2018)

Individuals and task characteristics predict the occurrence of mind-wandering. For example, mind-wandering more commonly occurs and more severe on high-demand tasks and low-working memory capacity individuals. Notwithstanding, another study has shown that mind-wandering is more predominant in more complex errands than longer errands (JG et al., 2014). Studies suggest that mind-wandering has more negative effects, such as negative moods, high-level stress, and low self-esteem, notably in task-demand situations. (Mooneyham & Schooler, 2013; Poerio et al., 2013). Task-unrelated thoughts or off-task remain unnoticeable but closely associated with lower online learning and academic performance (Szpunar et al., 2013; Hollis & Was, 2016). In line with these studies, people on task reported that high mind-wandering and weak motivation negatively impacted their engagement with the task performance (Seli et al., 2019; Brosowsky et al., 2020). Mind-wandering was too undermining to concentrate on lengthy task needs and task-focused attention (Galéra et al., 2012; Yanko & Spalek, 2014; Walker & Trick, 2018).

These pandemic circumstances and social restrictions are advancing most activities online, and the need to be connected to the

internet rises, springing from online classes to work from home. This condition requires people always to be connected to the internet. Internet activity was the most strong determinant of media multitasking, with respondents reporting more prominent media multitasking while encouraged to remain engaged with others (Kononova & Chiang, 2015). The general high use of mass communication technology nowadays habits to regular browser exchanging, how diverted one feels and how frequently one perplexes utilizing technology were significantly linked with higher mind-wandering (Bockarova, 2016; Johannes et al., 2018). Internet use and internet-related activity and disorder may predict inattention, challenges in attention shifting, and distractibility (Sansevere & Ward, 2021; Zhang et al., 2021; Marin et al., 2021). Nevertheless, another study shows a diverse end. Media multitasking activity is not associated with heightened vulnerability to external intrusion or decreased performance due to mind-wandering (Ralph et al., 2015; May & Elder, 2018; Wiradhany et al., 2020).

Alternating activity to online and the obligation to always be connected concurrently, the need for internet technology is progressing. Studies propose that people pronounced they invested more energy in SNSs during the pandemic, caused

by fear of missing out, notably in adolescents (Bloemen & De Coninck, 2020; Gioia et al., 2021). The tenacious online checking behavior ingrained in FOMO leads to compulsion. When investing more time browsing with their internet-enabled gadgets such as smartphones proactively, it is additionally habitually receptive (or maybe detached) through the numerous social-related notifications received (Elhai et al., 2021)

This study aims to determine whether there is a relationship between relationship between internet-related behavior, particularly FOMO and compulsive internet use, particularly with the frequency of mind-wandering in the younger generation of internet users. This study also aims to validate the diversity in previous research concerning internet use and its impact on attention.

METHOD

This study used a quantitative approach, which used a psychological scale to collect data from the field and analyze the data using statistics. Respondents were obtained by convenience sampling with the characteristics of the sample are active internet users. Respondents involved in this study were 327 people consisting of 68% women. The research subjects consisted of students, college students, and workers. The mean age of the respondents was 20.6 years,

with the youngest 17 years old and the oldest 40 years old. More than 89% of respondents have a senior high school education level, and the rest are bachelor's degrees, master's degrees, diplomas, and junior high school.

The variables used in this study are fear of missing out and compulsive internet use, which describes internet-related behavior and mind-wandering. There were three scales used in this research. All instruments used have been adapted to the Indonesian version. The Online-Fear of Missing Out Scale is used to measure the fear of missing out. (Sette et al., 2020) This scale consists of 20 items. One example of an item is "*Saya merasa kesal (kecewa) ketika teman saya tidak men-tag saya di postingannya*". On-FOMO scale used Likert responses ranging from strongly disagree (1-point) to strongly agree (5-point) with Cronbach Alpha reliability .85.

The short compulsive internet use scale is used to measure compulsive internet use (Gmel et al., 2019). This scale consists of 8 items. One example of an item is "*Seberapa sering Anda merasa sulit untuk berhenti menggunakan internet saat Anda online?*". S-CIUS also used a Likert scale consisting of strongly disagree (0-point) to strongly agree (4-point). This scale has good internal consistency, with a Cronbach Alpha score is .86.

Mind-wandering is measured using a mind wandering scale and has sufficient internal consistency (Cronbach's alpha = .66)(Mrazek et al., 2013). This scale consists of 5 items with six responses ranging from almost never (1-point) to almost always (6-point).

This study was conducted using paper-based forms and internet-based forms aimed at active internet users according to the sample criteria in this research. Data analysis in this study used multiple regression to see the role

of fear of missing out and compulsive internet use in predicting mind-wandering. R software is used to perform data analysis (R Core Team, 2020) with the psych package to analyze the psychometric properties of research measurement tools (Revelle, 2021).

RESULT AND DISCUSSION

Result

The normality test in this study is used the Z value of kurtosis and skewness. The results obtained are as in table 1.

Table 1. Result of Normality Data Testing

Variables	Z kurtosis	Z skewness
Fear of missing out	.27	-.53
Compulsive internet use	.27	.01
Mind-wandering	-.27	-.52

Based on table 1, it can be seen that the z values of kurtosis are .27, .27, and -.27 for fear of missing out, compulsive internet use, and mind-wandering variables, respectively. Meanwhile, the z value of skewness is -.53, .1, and -.52 for fear of

missing out, compulsive internet use, and mind-wandering, respectively.

The results of the correlation test for several variables involved in this study can be seen in table 2.

Table 2. Result of Correlation Test

Variables	Age	FoMO	CIU
Age	-		
FoMO	-.12*	-	
CIU	-.09	.54**	-
MW	-.12*	.25**	.47**

Note: FoMO = Fear of Missing Out; CIU = Compulsive Internet Use; MW = Mind-wandering;

* = significant at the .05 level; ** = significant at the .01

From table 2, it can be seen that there is a significant negative correlation between mind-wandering and age with a value of $r = -.12$, $p < .05$, which means that the higher a person's age, the less he does mind-wandering. In addition, the results of this research indicate that mind-wandering has a positive correlation with fear of missing out with $r = .25$, $p < .01$, which means that the higher the fear of missing out experienced by a person, the higher the person's mind-wandering. Furthermore, the results of this study indicate that mind-wandering has a positive correlation with compulsive internet use with a value of $r = .47$, $p < .01$, which means that someone who experiences compulsive internet use has the possibility of also doing mind-wandering.

Based on table 2, it can also be understood that there is no relationship between compulsive internet use and age with $r = -.09$, $p > .05$. However, along with this result, there is also a significant positive relationship

between compulsive internet use and fear of missing out with $r = .54$, $p < .001$, which means that someone who experiences compulsive internet use also tends to encounter fear of missing out. Besides, the results of this study also point that there is a significant negative relationship between fear of missing out and age with a value of $r = -.12$, $p < .05$, which means that the higher a person's age, the tendency to experience fear of missing out tends to be rare.

The regression analysis results showed that the value of $F(2, 324) = 46.86$, $p < .001$, which indicates that the model made has shown promising results. Moreover, the R^2 value of the model shows a value of .2243 which means that the fear of missing out and compulsive internet use can explain mind-wandering by 22.43%.

Table 3 further shows the results of the regression analysis in this study.

Table 3. Multiple Regression Analysis

Variable	B	SE B	β	P
Constant	13.64	1.02		$P < .001$
FOMO	-.002	.02	-.005	$P > .05$
CIU	-.31	.03	.48**	$P < .001$

Note: SE B = Standard error B; ** = significant at the .001.

Table 3 further shows the results of the regression analysis in this study. From table

3, it is determined that the fear of missing out does not enact in predicting mind-wandering



with a value of $\beta = -.005$, $p > .05$. Meanwhile, the variable compulsive internet use can portray in predicting mind-wandering with a value of $\beta = .48$, $p < .001$.

Discussion

This study indicates a significant positive correlation between FOMO with mind-wandering. FOMO has been classified in scientific findings as having two discrete fundamental parts, concern that others are experiencing rewarding experiences that one is missing, and a persistent yearning to keep connected with others in one's social network (Elhai et al., 2021). FOMO prompts social media use which is often reached through smartphones. With the increasing smartphone access, individuals tend to engage and feel more anxious to leave off their phones (Maeng, Sally., Arbeau, 2018). This negative outcome of FOMO makes people encounter weakened attention because they will find it challenging to regulate their habitual reaction to constantly checking when a notification appears on their smartphone (Fitz et al., 2019; Citko & Owsieniuk, 2020).

The result of this research also proves that compulsive internet use is positively associated with mind-wandering. In line with FOMO, excessive internet use or frequent technology usage also prophesies digital distraction, especially in a task situation, and

causes an individual more predisposed to problematical use of technology (Chen et al., 2014; 2020). Digital distractions were also shown to be significantly and positively connected to the quantity of time required to finish the project. The longer the time learners spent on smartphones and internet sites not associated with the assignment, the more time they require to accomplish the assignment (Patil, Rajvardhan and Brown, Matt and Ibrahim, Mohamed and Myers, Jeanine and Brown, Kristi and Khan, Muhammad and Callaway, 2019)

Both internet-related behavior variables are related to inadequate control over the urge to be continuously connected to social networks or the internet. This habit is reinforced by the pandemic situations that make people do online activities. The use of the internet is like two sides of a coin, it is a way to stay in touch and connect with others, but it is also a maladaptive coping strategy against psychological discomfort in the face of a pandemic, particularly in adolescents and young adults (Maeng, Sally., Arbeau, 2018; Fernandes et al., 2020; Rozgonjuk et al., 2021). These study results are in line with the research findings that FOMO is negatively associated with age.

The study also points out that compulsive internet use can foretell the incidence of mind wandering compared to FOMO. The Internet

enables individuals to be continually occupied with information, communication, and entertainment anytime. These three engagements involve cognitive and emotional functions, which are essential processes in focused attention (Wang & Zhao, 2017). When a person uses social media and the internet excessively, individuals will experience information and communication overload exposure, leading to the negative impact of fatigue, especially in high-demand performance situations, for example, during working and studying (Kamal et al., 2020).

This study has potential limitations. The convenience sampling method does not present the representativeness of all participant's demographic characteristics. Most of the data collection using the internet-based questionnaire due to pandemic, possibly gained participants with good access to the Internet solely, could have influenced the generalization of the conclusions. This

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study also did not precisely determine intentional or unintentional mind-wandering.

CONCLUSION

The development of technology and the pandemic circumstances have induced individuals to do more activities online. This research uncovered that internet-related behavior, particularly FOMO and CIU, was blended with mind wandering. It means that the anxiety of desiring information and relationships obtained on online platforms and the inability to regulate internet use is relevant to the emergence of disruption and interference in attention.

Subsequent research can clarify the purpose of using the Internet, whether related to when studying or working, and seeing its effect on intentional or unintentional mind wandering. Further research can also consider the characteristics of the subject's learning or job to assign the productive purposes of internet users from other purposes.

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