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The Paradox of Digital Connectivity: Examining the Relationship between Attention, FOMO and Social Media Integration in the era of AI Algorithms among Young Adults

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Abstract: With the vigorously flourishing existence of technology and the growing integration of Artificial Intelligence (AI) in social media platforms through algorithmic content filtering and tailored digital content, young adults are seen to be digitally connected with one another yet experience heightened anxiety and distractibility. As digital platforms, especially social media, are designed to attract users' attention, usage patterns indicate that habitual and dysregulated use is associated with numerous psychological, social, and physical developmental problems. The Fear of Missing out (FOMO) substantially increases problematic and compulsive usage of social media, while conversely, reducing attention, resultant of which is poor present moment awareness. Attention is conceptualized as the capacity to maintain mindful, present moment awareness and intentional focus amid competing internal and external stimuli, according to Brown and Ryan (2003). FOMO is understood as a persistent worry that others are participating in rewarding experiences from which one is absent, driving a compulsive need to remain connected in order to avoid feelings of social exclusion and disconnection from others. Social media integration refers to the extent to which an individual's social interactions, emotional experiences, and daily activities are intertwined with their use of social media. The current study attempts to investigate the relationship between Attention, FOMO, and Social Media Integration among young adults in the context of AI-driven digital environments. The total sample is 60, equally divided among females and males. To assess these constructs, the study employs three standardized instruments: Mindful Attention Awareness Scale (MAAS), Fear of Missing out Scale (FoMOS), and Social Media Use Integration Scale (SMUIS). Mean and Standard Deviation (SD) were calculated in addition to correlation and t-ratio for finding out the results.

Keywords: *Artificial Intelligence, Attention, Fear of Missing out (FOMO) and Social Media Integration*

1. Introduction

In the recent times, the digital world has expanded itself in ways where individuals' social interactions as well as information consumption have augmented. The developments in social media platforms with the enhanced integration of AI have provided individuals with increased opportunities for connectivity enabling interactions not only among individuals but also with AI driven chatbots. Despite its advantageous position, here exists a paradoxical consequence of technological integration, whereby heightened online engagement promotes social interaction while concurrently fostering attentional fragmentation and psychological distress.

Artificial Intelligence has the ability make the experience of each day more intuitive and smarter by integrating predictive intelligence with the platforms we use. Artificial intelligence now constitutes an integral component of contemporary social media platforms. For example, YouTube provides video recommendations based on users' search histories and viewing behaviors, whereas Facebook suggests potential connections by analyzing users' locations and activity patterns. As technological developments continue to evolve, artificial intelligence is increasingly being incorporated into social media, steadily influencing and becoming embedded within users' everyday digital practices.

1.1 Attention

Attention is the taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought. Focalization, concentration, of consciousness are of its essence. It implies withdrawal from some things in order to deal effectively with others. . William James, a pioneer in the study of psychology, devoted much space to attention in his book, *The Principles of Psychology* (1890), noting that it can be either involuntary and effortless or voluntary and effortful. According to James, attention allows people to perceive, distinguish and remember better than they otherwise could. Modern digital platforms operate within the framework of the attention economy, where technological systems actively compete to capture and commercially exploit users' limited cognitive attention (Davenport & Beck, 2001).

According to recent studies, young adults constitute one of the most active demographic groups on social media platforms, as they are found to substantially integrate social media into multiple domains of their life such as academic, social and personal. These dynamics demonstrates that young adults are more likely to experience the cognitive strains associated with constant digital engagement. A study was conducted by Weaver and Swank (2021) on 278 undergraduate students to study problematic social media use, FoMO, mindful

attention, self-esteem and life satisfaction. The result depicted that PSMU and FoMO were negatively related to mindful attention, self esteem and life satisfaction.

1.2 FoMO: Fear of Missing Out

The rapid proliferation of technology has enabled nearly half of the global population to access the internet via smartphones (Statista.com, 2021; We Are Social, 2018). This development has substantially reduced geographical barriers and social isolation, fostering a sense of interconnectedness often described as a “global village.” Despite these significant advantages, this widespread accessibility has also introduced certain challenges, including the tendency toward excessive or problematic use among some individuals, which has prompted increasing scholarly attention to this phenomenon (Griffiths, 1996; Young, 1996). FoMO is understood as a persistent worry that others are participating in rewarding experiences from which one is absent, driving a compulsive need to remain connected to avoid feelings of social exclusion and disconnection from others.

FoMO was conceptualized using self-determination theory (SDT), which was developed by Ryan et al and applied by Przybylski et al to understanding what drives FOMO. In SDT, social relatedness can drive intrinsic motivation, which in turn can encourage positive mental health. Przybylski et al applied SDT to FoMO, proposing that FoMO is a negative emotional state resulting from unmet social relatedness needs. A study was conducted by Jongbloets (2020) on 76 participants to study FoMO and social media use the results indicated that people with higher level of FoMO have a stronger habitual social media use and people with a stronger habitual social media use perform more media multitasking behaviors.

1.3 Social Media Use

Social media such as Facebook, Twitter, Instagram, Snapchat, or LinkedIn, where people can share, co-create, or exchange various forms of digital content, including information, messages, photos, or videos (Kaplan & Haenlein, 2010). Social media integration denotes the degree to which social networking platforms are incorporated into individuals’ everyday lives, influencing their communication practices, social relationships, and facets of identity formation (Jenkins-Guarnieri, Wright, & Johnson, 2013).

It emphasizes the role of digital media in shaping personal, social, and professional spheres, including the ways individuals acquire information, maintain social connections, and present themselves to others (boyd & Ellison, 2007). A study was conducted by AIYousef et. al. (2025) on 335 students to assess Mindful Attention and Social Media Addiction, the results indicated that higher social media use was linked to lower attention.

1.4 Purpose

The purpose of the study is to examine the relationship between attention, FoMO and social media integration in the era of AI algorithms among young adults.

1.5 Hypotheses

H1: It is expected that there will be significant relationship between attention and Fear of Missing Out (FoMO).

H2: It is expected that there will be significant relationship between Fear of Missing Out (FoMO) and social media use.

H3: It is expected that there will be a significant relationship between attention and social media use.

H4: It is expected that young female and male adults will differ in their levels of attention, FoMO and social media use.

2. Methodology

2.1 Sample

The present study included a sample of 60 participants, equally divided among females and males. The participants were young adults between the ages of 18 and 25 years and were drawn from the population of social media users. A purposive sampling technique was utilized to recruit individuals who satisfied the inclusion criteria of being active users of social media within the specified age range. Data was gathered through an online survey administered using Google Forms.

2.2 Measures

Mindful Attention Awareness Scale (MAAS) developed by Brown and Ryan (2003), is designed to assess dispositional mindfulness, particularly the extent to which individuals attend to and remain aware of present-moment experiences in their daily lives. The scale consists of 15 items, and responses are recorded on a 6-point Likert scale ranging from 1 (almost always) to 6 (almost never). Higher scores indicate greater levels of mindfulness and present-moment awareness. The MAAS has demonstrated strong internal consistency, with Cronbach's alpha values reported between .82 and .87 across different samples. In terms of validity, the scale has shown good construct and convergent validity, as it is positively associated with psychological well-being and negatively related to stress, anxiety, and depression.

Fear of Missing Out Scale (FoMOS) was developed by Przybylski, Murayama, DeHaan, and Gladwell (2013) to measure the extent to which individuals experience

concerns that others might be having rewarding experiences without them. The scale includes 10 items that assess feelings related to missing social experiences and the desire to remain constantly connected with others. Responses are measured on a 5-point Likert scale ranging from 1 (not at all true of me) to 5 (extremely true of me). Higher scores represent greater levels of fear of missing out. The scale has demonstrated good reliability, with a Cronbach's alpha of approximately .87. It also shows strong construct validity, with significant associations with social media engagement, lower psychological need satisfaction, and reduced life satisfaction.

Social Media Use Integration Scale (SMUIS) developed by Jenkins-Guarnieri, Wright, and Johnson (2013), assesses the extent to which social media is incorporated into individuals' daily routines and social interactions. The scale consists of 10 items that evaluate both the behavioral integration of social media into everyday activities and the emotional connection individuals have with social media platforms. Responses are recorded on a Likert-type scale, with higher scores indicating greater integration of social media use in daily life. The scale has demonstrated good internal reliability, with Cronbach's alpha values ranging from approximately .80 to .89. Additionally, the SMUIS has shown evidence of construct validity through its associations with patterns of social media use, social connectedness, and related psychological outcomes.

2.3 Procedure

The research process began with an extensive review of existing literature related to the key variables of the study, namely mindful attention, fear of missing out (FoMO), and social media integration. Based on the theoretical perspectives and previous research findings, appropriate hypotheses were formulated to examine the expected relationships among these variables. The aim and nature of the study were clearly communicated to the participants prior to the commencement of data collection.

The data was gathered through an online questionnaire created using Google Forms. Participants were asked to give their informed consent before proceeding with the questionnaire, ensuring that their participation was voluntary. Demographic details such as age and gender were obtained at the beginning of the survey along with the information regarding their usage of social media sites. Subsequently, the standardized measures used in the study, the Mindful Attention Awareness Scale (MAAS), the Fear of Missing Out Scale (FoMOS), and the Social Media Use Integration Scale (SMUIS) were administered to assess the relevant constructs. Participants were instructed to read each statement carefully and respond based on their personal experiences. After completing the questionnaire, participants

were thanked for their time and cooperation. The collected responses were then organized and evaluated using appropriate statistical analysis, and the findings were interpreted in accordance with the objectives and hypotheses of the study.

3. Analysis of data

Table 1. *Descriptive statistics*

S.no.	Variables	Gender	N	Mean	Standard Deviation
1.	Attention	Female	30	125.60	13.82
		Male	30	104.33	15.95
2.	FoMO	Female	30	69.10	7.17
		Male	30	69.60	8.51
3.	Social Media Integration	Female	30	87.27	7.7
		Male	30	82.27	7.42

Table 2. *Correlation Matrix*

	Attention	FoMO	Social Media Integration
Attention	—		
FoMO	-0.10	—	
Social Media Integration	-0.14	0.35**	—

Note. * $p < .05$, ** $p < .01$

Table 3. *t test values of variables*

	t ratio	df	p
Attention	2.76	58.0	<.01
FoMO	-0.08	58.0	<.01
Social Media Integration	0.94	58.0	<.01

4. Discussion of Results

The present study explored the associations among mindful attention, fear of missing out (FoMO), and social media use integration among young adults. The results indicated a negative correlation between mindful attention and FoMO ($r = -0.10$), suggesting that individuals with higher levels of mindfulness tend to report slightly lower levels of FoMO. However, this relationship was not statistically significant. Therefore, **H1 is not supported.**

Although the association was weak, the direction of the relationship is consistent with earlier findings. For instance, Weaver and Swank (2021) reported that FoMO was negatively related to mindful attention among college students, suggesting that individuals who maintain greater awareness of present experiences may be less prone to anxiety about missing out on social interactions.

The analysis further revealed a positive correlation between FoMO and social media use ($r = 0.35$, $p < .01$), indicating that individuals with higher levels of FoMO are more likely to engage more frequently with social media platforms. This finding highlights the role of FoMO as a significant psychological factor underlying social media engagement, as individuals who fear missing out may feel compelled to stay continually connected to online platforms to remain informed about others' activities. This result is consistent with previous research, including a 2024 Italian study involving university students which found that FoMO is significantly associated with problematic or excessive social media use. Therefore, **H2 is Supported.**

With regard to the relationship between mindful attention and social media use, the findings showed a negative correlation ($r = -0.14$). This suggests that individuals with higher mindfulness may engage slightly less in social media activities. However, the relationship was not statistically significant, indicating that mindful attention did not meaningfully predict social media use in the present sample. Although the findings were not significant, earlier research has reported similar trends. A meta-analysis involving 14 studies and 5,355 participants found that lower levels of mindfulness were associated with higher levels of problematic social media use. Therefore, **H3 is not supported.**

The study also examined gender differences across the variables. The findings indicated no significant difference between males and females in terms of social media use ($t = 0.94$), suggesting that both genders demonstrate similar patterns of engagement with social networking platforms. Therefore, **Hypothesis is not supported.** Similarly, no significant gender differences were observed in FoMO levels ($t = -0.08$), indicating that males and females experience comparable levels of fear of missing out. These findings are consistent with the results reported by Karishma and Bhatt (2025), who also found no significant gender-based differences in FoMO. Therefore, **Hypothesis is not supported.**

However, a significant gender difference was found in mindful attention ($t = 2.76$), indicating that males and females may differ in their attentional patterns and present-moment awareness. This suggests that processes of attention may vary across genders due to cognitive or environmental influences. Therefore, **Hypothesis is supported.**

5. Conclusion

Overall, the findings provide insight into the psychological dynamics associated with social media engagement among young adults. While FoMO appears to be an important factor driving social media use, mindful attention demonstrated weaker and non-significant relationships with both FoMO and social media integration in the present study. Additionally, although attentional processes showed gender differences, levels of FoMO and patterns of social media use appeared largely similar across males and females. These results suggest that psychological factors such as FoMO may play a stronger role in shaping social media behavior than demographic characteristics such as gender within highly connected digital environments.

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