

Original Article

Digital Attitudes and ADHD Tendencies Among Filipino Generation Z: A Structural Model of Selected Biopsychosocial Factors

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Abstract. The increasing integration of digital technology into everyday life has raised concerns about its relationship to cognitive functioning and psychological well-being, particularly among Generation Z. This study examined the associations between digital attitudes and self-reported ADHD tendencies among Filipino Generation Z individuals within a biopsychosocial framework that included sleep quality, coping strategies, and perceived social support. A quantitative cross-sectional design was employed involving 527 Filipino participants aged 18–25 years recruited through online convenience sampling. Standardized instruments were utilized, including the Adult ADHD Self-Report Scale (ASRS), Media and Technology Usage and Attitudes Scale (MTUAS), Pittsburgh Sleep Quality Index (PSQI), Brief COPE Inventory, and Multidimensional Scale of Perceived Social Support (MSPSS). Structural equation modeling was conducted to examine direct and indirect relationships among variables. Results revealed a significant positive association between digital attitudes and ADHD tendencies. Sleep quality, avoidant coping, emotion-focused coping, and family support were also significantly associated with ADHD tendencies. Poor sleep quality and greater reliance on maladaptive coping strategies were associated with higher ADHD tendencies, whereas stronger family support was associated with lower ADHD tendencies. However, bootstrapped indirect effects demonstrated that sleep quality, coping strategies, and perceived social support did not significantly mediate the relationship between digital attitudes and ADHD tendencies. These findings suggest that biopsychosocial factors may independently relate to attentional tendencies rather than function as mediating mechanisms. The study highlights the importance of adopting a biopsychosocial perspective when examining digital behaviors and attentional functioning among Filipino Generation Z. Future longitudinal studies are recommended to clarify the directionality of these relationships and further refine models of digital engagement and psychological well-being.

Keywords: ADHD tendencies; Digital attitudes; Generation Z; Sleep quality; Social support

The rapid expansion of digital technologies has significantly transformed the daily experiences of young individuals worldwide. Generation Z represents the first cohort to grow up fully immersed in digital environments, where smartphones, social media platforms, streaming services, and online communication technologies are integral parts of everyday life. Digital technologies provide numerous educational, occupational, and social opportunities; however, researchers have increasingly expressed concerns regarding their potential associations with cognitive functioning and mental health outcomes among young populations (Vogels, 2021).

Attention-deficit/hyperactivity disorder (ADHD) is a neurodevelopmental condition characterized by persistent patterns of inattention, impulsivity, and hyperactivity that interfere with functioning and development (Thomas et al., 2021). Contemporary perspectives recognize attentional difficulties as existing along a continuum, with individuals in the general population exhibiting varying attentional tendencies without necessarily meeting clinical diagnostic criteria. The present study, therefore, focuses specifically on self-reported ADHD tendencies rather than clinical diagnosis or disorder prevalence.

Recent research has explored how digital engagement may relate to attentional functioning. Digital environments expose users to rapid information streams, multitasking demands, continuous notifications, and fragmented attention patterns, all of which may contribute to cognitive overload and attentional difficulties (Moisala et al., 2021). Studies on media multitasking suggest that frequent switching between digital tasks is associated with increased distractibility and reduced sustained attention (Nagata et al., 2022). Furthermore, excessive digital engagement has been associated with psychological distress, emotional dysregulation, and behavioral difficulties among adolescents and young adults.

Digital attitudes represent multidimensional orientations toward technology use that include positive attitudes toward technology, anxiety related to technology absence or dependence, negative perceptions regarding technology, and preferences for task switching. These dimensions reflect both adaptive and maladaptive aspects of digital engagement. Positive attitudes may reflect technological competence and connectivity, whereas technology dependence and excessive multitasking tendencies may contribute to attentional strain and reduced cognitive regulation. Because these dimensions do not necessarily operate uniformly, examining digital attitudes within a broader biopsychosocial framework may provide a more nuanced understanding of their relationship with attentional tendencies. (Estévez-Pérez et al., 2021).

Sleep quality represents one important biopsychosocial factor associated with both digital engagement and attentional functioning. Prolonged screen exposure, particularly in the evening, has been associated with circadian rhythm disruption, melatonin suppression, and poor sleep quality (Hale et al., 2022). Sleep disturbances are strongly associated with impaired executive functioning, emotional regulation difficulties, and increased inattentive behaviors. Young adults with poorer sleep quality often demonstrate greater cognitive fatigue and attentional problems.

Psychological coping strategies may also shape how individuals respond to stressors associated with contemporary digital environments. Adaptive coping strategies such as problem-focused coping may promote emotional regulation and resilience. In contrast, maladaptive coping strategies such as avoidance and excessive emotional coping may be associated with psychological distress and attentional difficulties. Individuals experiencing attentional challenges may rely more heavily on emotion-focused or avoidant coping strategies when managing stress and academic demands. (Brand et al., 2022).

Social support likewise represents an important psychosocial factor associated with psychological well-being. Supportive family relationships, friendships, and interpersonal networks may promote resilience and healthier emotional functioning among young individuals (Paulus et al., 2021). Within the Filipino cultural context, family support systems and collectivist values may play particularly important protective roles against psychological stressors associated with rapid technological and social changes.

Despite the increasing prevalence of digital technology use in the Philippines, empirical research examining the relationship between digital attitudes and attentional functioning among Filipino Generation Z remains limited. The Philippines consistently ranks among countries with high rates of social media engagement and internet use (Kemp, 2023), making it important to understand how digital engagement patterns relate to psychological functioning among Filipino youth.

Guided by the biopsychosocial framework, this study aimed to examine the structural relationships among digital attitudes, sleep quality, coping strategies, perceived social support, and self-reported ADHD tendencies among Filipino Generation Z. Specifically, the study explored both direct and indirect relationships among these variables using structural equation modeling. Although mediating pathways were examined, the study primarily aimed to identify biopsychosocial factors associated with attentional tendencies within contemporary digital environments.

Methodology

Research Design

This study employed a quantitative cross-sectional research design to examine the relationships among digital attitudes, self-reported ADHD tendencies, sleep quality, coping strategies, and perceived social support among Filipino Generation Z. Structural equation modeling (SEM) was utilized to examine direct and indirect relationships among variables within the proposed biopsychosocial framework.

Participants and Sampling Technique

The study involved 527 Filipino participants aged 18–25 years recruited through online convenience sampling procedures. Participants were required to be Filipino residents within the specified age range and active users of digital technologies. Online recruitment methods were utilized to maximize accessibility and participation among digitally engaged young adults.

Research Instrument

Several standardized instruments were utilized to measure the variables included in the study. ADHD tendencies were measured using the Adult ADHD Self-Report Scale (ASRS) developed by Kessler et al. (2005). The ASRS is a widely used self-report screening tool designed to assess attentional and hyperactivity-related tendencies among adults. Digital attitudes were measured using the Media and Technology Usage and Attitudes Scale (MTUAS) developed by Rosen et al. (2013), which assesses multidimensional attitudes and behavioral orientations toward digital technologies. Sleep quality was measured using the Pittsburgh Sleep Quality Index (PSQI), developed by Buysse et al. (1989), a standardized instrument that assesses sleep quality and disturbances. Coping strategies were measured using the Brief COPE Inventory developed by Carver (1997), which assesses problem-focused, emotion-focused, and avoidant coping strategies. Perceived social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS), developed by Zimet et al. (1988), which assesses support from family, friends, and significant others.

Data Gathering Procedure and Ethical Considerations

Data collection was conducted through an online survey platform. Participants were provided with informed consent forms outlining the purpose of the study, confidentiality procedures, voluntary participation, and withdrawal rights. No personally identifiable information was collected.

Data Analysis Procedure

Descriptive statistics were used to summarize participant responses and variable distributions. Structural equation modeling was conducted to examine direct and indirect relationships among variables. Reliability and convergent validity were assessed using Cronbach's alpha, composite reliability, and average variance extracted (AVE). Bootstrapping procedures were utilized to evaluate indirect effects within the structural model.

Results and Discussion

Descriptive Results

Digital Attitude of the Respondent

Table 1 presents the respondents' degree of digital attitude across four dimensions: positive attitude, anxiety about being without technology, negative attitudes toward technology, and preference for task switching. Respondents demonstrated a high positive attitude toward technology ($M = 3.69$, $SD = 0.75$), suggesting strong acceptance and appreciation of digital tools in everyday life. This reflects the central role of technology among young adults, particularly Generation Z, who are often described as digital natives. Despite this positive orientation, respondents also reported a moderate level of anxiety about being without technology ($M = 3.29$, $SD = 0.98$). This finding indicates that while digital technologies offer numerous advantages, reliance on them may also lead to discomfort or unease when disconnected, a phenomenon associated with digital dependence (Nagata, 2024). Negative

attitudes toward technology were also rated at a moderate level ($M = 3.34, SD = 0.83$), suggesting that respondents recognize potential disadvantages of technology use, such as distraction, excessive screen exposure, or information overload.

Table 1. *Respondents' Degree of Digital Attitude*

Digital Attitude Dimension	M	SD	Descriptive
Positive Attitude	3.69	0.75	High
Anxiety About Being Without Technology or Dependence on Technology	3.29	0.98	Moderate
Negative Attitudes Toward Technology	3.34	0.83	Moderate
Preference for Task Switching	2.16	0.66	Low
Overall Attitude	3.19	0.37	Moderate

Note. M = Mean; SD = Standard Deviation. Maximum possible score = 5.0

Meanwhile, the preference for task switching was relatively low ($M = 2.16, SD = 0.66$), indicating that respondents generally prefer to focus on a single task rather than frequently switching between multiple digital activities. Research suggests that excessive media multitasking may impair attentional control and cognitive performance (Woodfield et al., 2024). Overall, the moderate digital attitude score ($M = 3.19, SD = 0.37$) reflects a balanced perspective toward technology, in which respondents appreciate its benefits while acknowledging potential risks.

ADHD Tendencies Among Respondents

Table 2 presents the distribution of respondents according to ADHD tendency levels.

Table 2. *Respondents' Level of ADHD Tendencies*

ADHD Tendency Level	Frequency	Percent
Low Score (0 to 7) - Exhibit Minimal or No ADHD Tendencies	223	42.3%
Moderate Score (8 to 15) - Exhibit Mild to Moderate ADHD Tendencies	261	49.5%
High Score (16 and above) - Exhibit Significant ADHD Tendencies	43	8.2%
Total Actual Score	Mean	SD
	8.65	4.53

Note. M = Mean; SD = Standard Deviation

Nearly half of the respondents (49.5%) exhibited mild to moderate ADHD tendencies, while 42.3% showed minimal or no tendencies. Only 8.2% demonstrated high ADHD tendencies. The overall mean score ($M = 8.65, SD = 4.53$) suggests that the sample generally falls within the mild-to-moderate range of ADHD-related behaviors.

These findings support the conceptualization of ADHD symptoms as existing along a continuum rather than as a strictly categorical condition (American Psychiatric Association, 2022). Many individuals in the general population may display varying levels of attentional difficulties without meeting the full diagnostic criteria for ADHD. Matson (2023) notes that inattentive symptoms such as difficulty sustaining focus, disorganization, and forgetfulness are particularly common among young adults navigating academic and occupational demands. The presence of respondents with higher ADHD tendencies remains important, as these individuals may face challenges in academic performance, productivity, and daily functioning. Early awareness and support strategies may therefore help mitigate potential negative outcomes.

The Level of Respondents' Selected Biopsychosocial Factors In Terms of the Respondents' Level of Quality of Sleep

Table 3. *Respondents' Level of Quality of Sleep*

Quality of Sleep Level	Frequency	Percent
Global PSQI > 4 - Poor Sleep	462	87.7%
Global PSQI ≤ 4 - Good Sleep	65	12.3%
Total Score	M	SD
	8.18	3.05

Note. M = Mean; SD = Standard Deviation; PSQI = Pittsburgh Sleep Quality Index

Results show that 87.7% of respondents reported poor sleep quality, while only 12.3% reported good sleep quality. The mean PSQI score ($M = 8.18, SD = 3.05$) exceeds the threshold for poor sleep, indicating widespread sleep difficulties among the participants. Sleep disturbances are closely linked to cognitive and emotional functioning.

Previous research indicates that insufficient sleep may impair attention, memory, and executive functioning (Demirkan et al., 2025). Individuals with ADHD are particularly vulnerable to sleep problems, including delayed sleep patterns and difficulty maintaining consistent sleep schedules (Coogan & McGowan, 2021). Poor sleep may therefore contribute to increased attentional difficulties and emotional dysregulation, creating a reciprocal relationship between sleep problems and ADHD symptoms. Participants who reported stronger digital engagement demonstrated higher levels of ADHD tendencies, supporting previous research linking excessive digital media use to attention difficulties (Nagata et al., 2022).

In Terms of the Respondents' Coping Strategies

Table 4 presents the coping strategies used by the respondents.

Table 4. *Respondents' Coping Strategies*

Coping Strategy	M	SD	Descriptive
Problem Focused Coping	2.81	0.53	Moderate
Emotion-Focused Coping	2.79	0.47	Moderate
Avoidant Coping	2.19	0.54	Low

Note. M = Mean; SD = Standard Deviation; Maximum possible score = 4.0

Participants reported moderate use of problem-focused coping ($M = 2.81$, $SD = 0.53$) and emotion-focused coping ($M = 2.79$, $SD = 0.47$), while avoidant coping was relatively low ($M = 2.19$, $SD = 0.54$). Problem-focused coping involves actively addressing stressors through planning and problem-solving, while emotion-focused coping involves managing emotional responses to stress. The lower reliance on avoidant coping is noteworthy because avoidance strategies have been associated with negative psychological outcomes and increased stress levels. The moderate use of adaptive coping strategies suggests that respondents possess some capacity to manage stress effectively. However, previous research indicates that individuals with ADHD may struggle with executive functioning skills needed for effective problem-solving, which can influence their coping choices (Shanmugasundaram et al., 2023).

In Terms of the Respondents' Social Support

Table 5. *Respondents' Social Support*

Category	Low (n, %)	Moderate (n, %)	High (n, %)	M	SD
Significant Other	81 (15.4%)	156 (29.6%)	290 (55.0%)	5.05	1.80
Family	128 (24.3%)	217 (41.2%)	182 (34.5%)	4.24	1.79
Friends	57 (10.8%)	194 (36.8%)	276 (52.4%)	5.05	1.57

Note. n = Frequency; % = Percentage; M = Mean; SD = Standard Deviation

The results indicate that support from significant others and friends was relatively strong, with 55.0% and 52.4% of respondents reporting high levels of support from each, respectively. Family support was somewhat lower, with 41.2% reporting moderate support. Social support is widely recognized as a protective factor that promotes psychological well-being and resilience. Supportive relationships can buffer the negative effects of stress and contribute to improved emotional functioning (Chen et al., 2024). For individuals experiencing ADHD tendencies, strong interpersonal support systems may enhance coping abilities and reduce psychological distress.

In Terms of the Relationship Between Digital Attitude and ADHD Tendencies

Table 6. *Relationship Between Digital Attitude and ADHD Tendencies*

Coefficient	p-value	Decision	Conclusion
0.417	< 0.001	Reject null	Significant

Note. The null hypothesis is rejected at $p < 0.001$, indicating a significant relationship between digital attitude and ADHD tendencies.

Results revealed a significant positive relationship between digital attitudes and ADHD tendencies ($\beta = 0.417$, $p < .001$). The findings suggest that stronger digital engagement patterns and technology-related attitudes are associated with higher levels of self-reported ADHD tendencies among Filipino Generation Z. Digital environments often involve rapid information processing, continuous notifications, and multitasking demands that may contribute to attentional fragmentation and cognitive overload (Moisala et al., 2021). Previous studies have similarly reported associations between excessive screen engagement and attentional difficulties among adolescents and young adults (Santos et al., 2023). However, given the cross-sectional nature of the study,

directional or causal interpretations should be avoided. It is also plausible that individuals with greater attentional difficulties may engage differently with digital technologies or develop distinct digital behavioral patterns.

Measurement Model Evaluation

The measurement model was evaluated using Cronbach's alpha, composite reliability, and average variance extracted (AVE) to assess the reliability and convergent validity of the constructs included in the structural equation model.

Table 7. *Measurement Model Evaluation*

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Avoidant Coping	.73	.74	.35
Digital Attitude	.49	.85	.28
Emotion-Focused Coping	.75	.79	.27
Family Support	.92	.92	.81
Friends Support	.92	.93	.80
Problem-Focused Coping	.80	.81	.41
Significant Other Support	.93	1.03	.82

Note. Acceptable reliability is generally indicated by Cronbach's alpha and composite reliability values of .70 or higher, while AVE values of at least .50 support convergent validity.

Results indicated that most constructs demonstrated acceptable internal consistency, as reflected by Cronbach's alpha and composite reliability values. Family support, friends support, and significant other support demonstrated particularly strong reliability estimates. Problem-focused coping, avoidant coping, and emotion-focused coping also demonstrated acceptable composite reliability values. However, the digital attitude construct demonstrated a relatively low Cronbach's alpha value ($\alpha = .49$), although its composite reliability remained acceptable ($CR = .85$). This discrepancy may reflect the multidimensional nature of the digital attitude construct, which combines varying dimensions such as positive attitudes toward technology, technology-related anxiety, negative perceptions toward technology, and preference for task switching. These dimensions may not necessarily operate in the same psychological direction, potentially contributing to lower internal consistency. In terms of convergent validity, several constructs demonstrated AVE values below the recommended threshold of .50, particularly digital attitude, avoidant coping, emotion-focused coping, and problem-focused coping. Lower AVE values suggest that the indicators may not strongly converge toward a single latent construct. This finding further supports the conceptual complexity of the digital attitude variable and suggests that future studies may benefit from examining its dimensions separately rather than as a single composite construct. Despite these limitations, the constructs demonstrated acceptable overall composite reliability and were retained for structural model analysis, given the exploratory nature of the biopsychosocial framework examined in the present study.

Structural Model Evaluation

Structural equation modeling was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS. Bootstrapping procedures were performed to estimate the significance of direct and indirect effects within the proposed biopsychosocial framework.

Table 8. *Structural Model Evaluation*

Endogenous Variable	R ²	Adjusted R ²	Interpretation
ADHD Tendencies	.24	.23	Weak to moderate explanatory power
Avoidant Coping	.10	.10	Low explanatory power
Emotion-Focused Coping	.13	.13	Low explanatory power
Family Support	.00	.00	Negligible explanatory power
Friends Support	.07	.07	Low explanatory power
Problem-Focused Coping	.05	.05	Low explanatory power
Significant Other Support	.02	.01	Negligible explanatory power
Sleep Quality	.03	.02	Negligible explanatory power

Note. R² values of .25, .50, and .75 are commonly interpreted as weak, moderate, and substantial explanatory power, respectively.

The structural model demonstrated weak to moderate explanatory power for ADHD tendencies ($R^2 = .24$), indicating that the biopsychosocial variables included in the model explained approximately 24% of the variance in self-reported ADHD tendencies among Filipino Generation Z participants. This suggests that while digital attitudes, sleep quality, coping strategies, and social support are meaningfully associated with attentional tendencies, additional variables not included in the present study may also contribute to attentional functioning.

Digital attitude demonstrated relatively limited explanatory power for several biopsychosocial variables, including sleep quality, coping strategies, and perceived social support. These findings may indicate that digital attitudes operate more directly in relation to attentional tendencies rather than indirectly through the proposed mediating variables.

Direct Effects of Biopsychosocial Factors

Table 9. Direct Effects of Digital Attitude, Sleep Quality, Coping Strategies, and Social Support on ADHD Tendencies

Predictor Variable	Outcome Variable	Path Coefficient	p-value	Decision	Conclusion
Digital Attitude	Avoidant Coping	-0.317	0.3394	Accept null	Not significant
Digital Attitude	Emotion-Focused Coping	-0.361	0.3365	Accept null	Not significant
Digital Attitude	Family Support	-0.058	0.4513	Accept null	Not significant
Digital Attitude	Friends' Support	-0.259	0.3326	Accept null	Not significant
Digital Attitude	Problem-Focused Coping	-0.232	0.3491	Accept null	Not significant
Digital Attitude	Significant Other Support	-0.127	0.3707	Accept null	Not significant
Digital Attitude	Sleep Quality	-0.161	0.346	Accept null	Not significant
Sleep Quality	ADHD Tendencies	0.103	0.0146	Reject null	Significant
Problem-Focused Coping	ADHD Tendencies	-0.051	0.3374	Accept null	Not significant
Emotion-Focused Coping	ADHD Tendencies	0.232	0.000	Reject null	Significant
Avoidant Coping	ADHD Tendencies	0.24	0.000	Reject null	Significant
Support from Significant Others	ADHD Tendencies	0.032	0.4679	Accept null	Not significant
Support from Family	ADHD Tendencies	-0.143	0.0004	Reject null	Significant
Support from Friends	ADHD Tendencies	0.049	0.2787	Accept null	Not significant

Note. Significant relationships are highlighted ($p < 0.05$).

Structural model analysis revealed several significant direct relationships with ADHD tendencies. Sleep quality demonstrated a significant positive association with ADHD tendencies ($\beta = 0.103$, $p = .0146$), indicating that poorer sleep quality was associated with higher ADHD tendencies. Previous literature consistently demonstrates that sleep disturbances impair executive functioning, sustained attention, and emotional regulation (Coogan & McGowan, 2021). Emotion-focused coping ($\beta = 0.232$, $p < .001$) and avoidant coping ($\beta = 0.240$, $p < .001$) were also significantly associated with higher ADHD tendencies. Individuals experiencing attentional difficulties may rely more heavily on emotional regulation strategies and avoidance behaviors when coping with stress and academic demands. These findings are consistent with prior studies linking maladaptive coping strategies with attentional and emotional difficulties (Shanmugasundaram & Tamilarasu, 2023). Family support demonstrated a significant inverse association with ADHD tendencies ($\beta = -0.143$, $p < .001$), suggesting that stronger family support was associated with lower self-reported ADHD tendencies. Within Filipino culture, family systems often provide emotional guidance, behavioral structure, and social support that may help promote resilience and adaptive functioning among young adults. In contrast, problem-focused coping, support from friends, and support from significant others did not demonstrate significant direct relationships with ADHD tendencies.

Indirect Effects and Mediation Analysis

Table 10. Indirect Effects and Mediation Analysis of Digital Attitude, Sleep Quality, Coping Strategies, and Social Support on ADHD Tendencies

	Path Coefficient	p-value	Decision	Conclusion
Digital Attitude -> Avoidant Coping -> ADHD Tendencies	-0.076	0.3592	Accept null	Not significant
Digital Attitude -> Sleep -> ADHD Tendencies	-0.017	0.3891	Accept null	Not significant
Digital Attitude -> Significant Other -> ADHD Tendencies	-0.004	0.6071	Accept null	Not significant
Digital Attitude -> Problem-Focused -> ADHD Tendencies	0.012	0.4757	Accept null	Not significant
Digital Attitude -> Friends -> ADHD Tendencies	-0.013	0.4765	Accept null	Not significant
Digital Attitude -> Family -> ADHD Tendencies	0.008	0.4523	Accept null	Not significant
Digital Attitude -> Emotion-focused -> ADHD Tendencies	-0.084	0.3535	Accept null	Not significant

Bootstrapped indirect effects revealed that sleep quality, coping strategies, and perceived social support did not significantly mediate the relationship between digital attitudes and ADHD tendencies. All indirect effects demonstrated non-significant p-values greater than .05. These findings indicate that although several biopsychosocial factors were independently associated with ADHD tendencies, they did not function as significant mediating mechanisms between digital attitudes and attentional tendencies within the present model. The absence of significant mediation effects may suggest that digital attitudes have more direct associations with attentional tendencies than they do with sleep, coping strategies, or perceived social support. It is also possible that additional unmeasured variables, such as emotional regulation, academic stress, personality traits, or

problematic internet use, may better explain the mechanisms linking digital engagement and attentional functioning.

Conclusion

This study examined the structural relationships among digital attitudes, selected biopsychosocial factors, and self-reported ADHD tendencies among Filipino Generation Z. Findings revealed that digital attitudes were significantly associated with ADHD tendencies, while sleep quality, avoidant coping, emotion-focused coping, and family support were also significantly associated with attentional tendencies. Although the hypothesized mediation effects were not supported, the findings highlight the importance of considering multiple biopsychosocial factors when examining attentional functioning among young adults within contemporary digital environments. The results suggest that sleep quality, coping strategies, and family support may relate independently to attentional tendencies rather than function as mediating mechanisms. The study contributes to the growing literature on digital engagement and psychological functioning among Generation Z within the Filipino context. However, the cross-sectional design precludes causal inference from the observed relationships. Future longitudinal studies are recommended to examine further potential bidirectional relationships between digital engagement and attentional functioning. Several limitations should also be acknowledged. The use of convenience sampling and online recruitment may limit the generalizability of findings to the broader Filipino Generation Z population. Self-report measures may also be subject to response bias. Furthermore, the study assessed self-reported ADHD tendencies rather than clinical diagnoses. Additional research utilizing longitudinal and clinical approaches may help clarify the mechanisms underlying digital engagement and attentional functioning among young adults.

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