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The Mediating Role of Online Fear of Missing Out in the Relationship Between Nomophobia and Online Gambling

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Abstract

Objective: *This study aimed to examine the mediating role of online fear of missing out in the relationship between nomophobia and aviator gambling symptoms severity.*

Methods: *The study's methodology was associative and cross-sectional in nature. Its population included all university students who resided in the Senga suburb of Gweru, Zimbabwe, during semester time (academic year 2025). 253 students were recruited using convenience and snowball sampling methods. Students completed the Nomophobia Questionnaire, Online Fear of Missing Out Inventory and the adapted Online Gambling Symptom Assessment Scale. Descriptive statistics, Pearson's product moment correlation and structural equation modelling were used to analyse data at $p < .05$ level of significance in the JASP software (version 0.18.3).*

Results: *Nomophobia was positively correlated with online fear of missing out ($p < .001$). Online fear of missing out was positively correlated with aviator gambling symptom severity ($p < .001$). Nomophobia's correlation with aviator gambling symptom severity was non-significant ($p = .057$). The direct effect of nomophobia on aviator gambling symptom severity was not statistically significant (95% CI [-0.071, 0.026]) while its total effect was marginally significant (95% CI [0.002, 0.097]). Nomophobia's indirect effect on aviator gambling symptom severity through online fear of missing out was significant (95% CI [0.037, 0.115]).*

Conclusion: *This study demonstrates that nomophobia predicts aviator gambling symptom severity through online fear of missing out. Interventions to reduce students' vulnerability to aviator gambling should target the cognitive-emotional experience of fear of missing out.*

Keywords*: aviator gambling; fear of missing out; nomophobia; university students; Zimbabwe*

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1. Introduction

The rapid proliferation of mobile digital technologies has transformed the human way of life (Yildirim & Correia, 2015). These technologies have been integrated into various facets of social, economic and academic life. For example, smartphones are now central to academic engagement, communication, entertainment and everyday functioning among university students. This ease of access to digital platforms has, however, raised concerns about the changing nature of problematic online behaviours (Gainsbury et al., 2015). Gambling through various online platforms is one of the problematic behaviours that has emerged from this rapid growth of digital technologies. This practice has grown to become a public health concern (Dasgupta & Ghimire, 2026; Eisenberg et al., 2026; Fadipe & Odionye, 2026) as gambling has been legalised in different countries with limited and inconsistent regulation (World Health Organization [WHO], 2024).

Online gambling is the act of wagering through internet-enabled devices such as smartphones, tablets and computers (Judijanto & Tehedi, 2024). An example of this practice is the aviator gambling game. In the game, players must cash out their bets before the multiplier randomly crashes as the virtual airplane "flies away". Failure to do so results in loss of the entire stake. This structure creates tension between anticipated reward and potential loss which reinforces repeated participation through near-miss experiences (Clark et al., 2009). Online and offline gamblers are affected differently. Research has highlighted that online gambling contributes more to gambling-related challenges than traditional offline gambling (Chóliz et al., 2021; Effertz et al., 2018). This makes online gambling a concerning practice which requires urgent attention. Gender is an important factor associated with harm emanating from gambling. Wardle et al. (2024) reported that gambling related harm affects about 5.5% of women and 11.19% of men across the globe. This indicates that men are affected more than women. Meanwhile, factors that have contributed to the rise of online gambling are convenience, anonymity, continuous accessibility and the integration of mobile money services for deposits and withdrawals (Griffiths, 2003). Aggressive marketing by gambling operators and exposure to online content have also been identified as potential factors in driving addictive tendencies and risky online engagement (Hing et al., 2014; Kim et al., 2017; WHO, 2024; Zhu, 2025).

In Zimbabwe, persistent economic hardship, high youth unemployment and increased smartphone penetration have contributed to the rapid growth of online gambling, particularly on the aviator game. Reports have linked the game to financial loss, criminal activity, psychological distress and suicide (Jeke, 2025). Severe consequences of gambling include financial difficulties, interpersonal conflict, suicidal behaviour and income-generating crimes (WHO, 2024). University students may be among the vulnerable groups (Scandroglio et al., 2022) because of academic pressure, financial insecurity and limited coping resources. In such circumstances, online gambling may function as one of the maladaptive coping strategies (Böke et al., 2019). Additionally, students pervasively use the internet for academic, social and entertainment purposes

which puts them in perpetual online exposure thereby increasing the probability of engagement in problematic online activities such as gambling (Granero et al., 2026).

It is important to understand the psychological mechanisms underlying persistent digital behaviours explaining engagement in online gambling activities like the aviator. Two constructs which have potential relationships with aviator gambling are nomophobia and Fear of Missing Out (FOMO). Nomophobia refers to the anxiety, discomfort or distress experienced when an individual is unable to access or use a mobile phone (King et al., 2013). Recent evidence suggests that nomophobia is highly prevalent among university students. In a systematic review and meta-analysis involving 11,300 students from eight countries, Tuco et al. (2023) found high levels of moderate and severe nomophobia among university populations. Similarly, Qutishat et al. (2020) reported that 99.33% of university students in Oman experienced some degree of nomophobia, with moderate levels being the most common. Naser et al. (2023) also found widespread mobile phone dependence among university students across several Middle Eastern countries. These findings indicate a growing trend of smartphone dependence in young adults which has adverse psychological effects (Clayton et al., 2015). However, dependence on smartphones alone may not sufficiently explain engagement in specific behaviours such as online gambling. Cognitive and emotional processes may direct smartphone use toward particular online activities.

FOMO refers to the apprehension that others may be having rewarding experiences from which one is absent (Przybylski et al., 2013). Research indicates that FOMO is common among university students and young adults (Elhai et al., 2018; Przybylski et al., 2013). Milyavskaya et al. (2018) found that students frequently experienced FOMO during academic or work-related activities and that these experiences were associated with stress, fatigue, sleep problems and negative affect. Similarly, Ibrahim et al. (2022) reported significant positive relationships between FOMO, anxiety and depression among students. Previous studies have also linked FOMO to compulsive social networking site use (Fioravanti et al., 2021), excessive internet use (Akbari et al., 2021), narcissistic traits (Jabeen et al., 2023), impaired concentration and reduced well-being (Hayran & Anik, 2021). Furthermore, FOMO may interfere with cognitive functioning and academic performance in the presence of smartphones (Niu et al., 2022). However, little remains known about how FOMO relates to aviator gambling among Zimbabwean students.

FOMO has been conceptualized as a self-regulatory deficit associated with dissatisfaction, negative affect and a need for social reassurance (Wegmann et al., 2017). Smartphones may therefore become tools for managing FOMO-related distress, while separation from them may increase nomophobic anxiety. Several studies have reported significant positive associations between nomophobia and FOMO (Gezgin et al., 2018; Okur et al., 2022; Wen et al., 2023). Bacaksiz et al. (2022) and Çatıker et al. (2022) further reported moderate positive correlations between these constructs among university students. These findings suggest that FOMO may operate as a motivational process that strengthens dependence on digital connectivity. This interpretation is consistent with the Interaction of Person-Affect-Cognition-Execution (I-PACE) model, which proposes that

problematic internet-related behaviours arise through interactions between predisposing characteristics, cognitive-affective responses and reinforcing features of online applications (Brand et al., 2016). Within this framework, nomophobia may reflect a vulnerability linked to constant connectivity, whereas FOMO may function as a motivational mechanism directing engagement toward rewarding online activities.

The widespread availability of smartphones has transformed gambling into a continuous, portable and highly accessible activity (Whelan et al., 2021). Prior research has associated smartphone dependence with compulsive behaviours, nomophobia (Ergin & Ozer, 2023) as well as with psychological distress and addictive tendencies (Cheng et al., 2025; Volungis et al., 2020). Smartphone addiction has also been linked to problematic gaming and online gambling (Aya & Bektas, 2021; Erdem et al., 2026; Li et al., 2022; Yilmaz et al., 2023). Debora and Wijaya (2025) found positive associations between nomophobia and online gambling among students, while Öz and Erdogdu (2023) reported links between nomophobia and gaming addiction. However, smartphone accessibility alone may not fully explain persistent gambling behaviour. Motivational processes such as FOMO may interact with this accessibility to promote online gambling engagement activities.

The aviator game illustrates how online gambling platforms may exploit FOMO-driven decision-making. The game displays live feeds of other players' wins and cash-outs. This feature may create perceptions that others are benefiting financially while the individual is being left behind (Hing et al., 2016). Such social comparison processes may intensify financial FOMO and increase risk-taking behaviour. Emerging evidence suggests that financial FOMO is associated with speculative trading, gambling participation and problem gambling severity among young adults (Song et al., 2024). Song et al. (2025) and Wang and Qiu (2025) further found that FOMO mediated the relationship between sensation-seeking and betting intentions. Similarly, Ivantchev and Ivantcheva (2023) argued that FOMO amplified through digital and social trading environments may contribute to irrational financial risk-taking and gambling-like behaviour. Thus, FOMO has potential to play a role in aviator gambling.

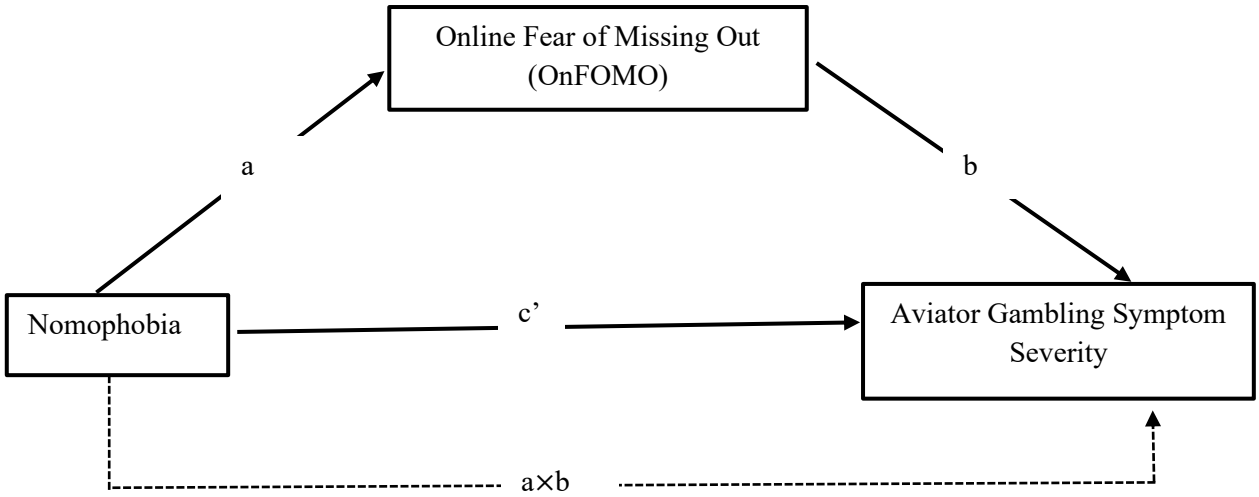
Although previous studies have examined relationships between FOMO and nomophobia (Gezgin et al., 2018; Hosgor & Hosgor, 2019), FOMO and social media addiction (Topino et al., 2023), and FOMO and internet addiction (Anastasya et al., 2022), limited research has examined these constructs in relation to online gambling, particularly aviator gambling. Ortega-Barón et al. (2025) noted that the role of FOMO in problematic internet-related behaviours remains insufficiently explored and called for further investigation into its predictive and mediating functions. There is gap in the understanding of the mediating role of FOMO in nomophobia's relationship with online gambling in general and aviator gambling in particular. This gap is more pronounced in the Zimbabwean context where nomophobia and online gambling research remains scanty. This gap limits the development of theory-driven interventions for aviator gambling in digitally connected student populations. In the absence of local empirical evidence, mental health practitioners and university authorities may fail to identify

psychological risk factors associated with aviator gambling among students. Considering these issues, the present study answers the following question: Does FOMO mediate the relationship between nomophobia and aviator gambling symptom severity among university students?

Based on the above empirical evidence, we proposed a mediation model shown in Figure 1 below. In this model, online fear of missing out (mediator) mediates the relationship between nomophobia (independent variable) and online gambling symptom severity (dependent variable). We hypothesized that nomophobia would be positively associated with online fear of missing out (path a), which would in turn be positively associated with online gambling symptom severity (path b). Path c' shows the hypothesised direct effect of nomophobia on online gambling, although we expected it to be non-significant after accounting for the indirect pathway (a×b).

Figure 1

Conceptual Mediation Model Showing Hypothesized Relationships Among Study Variables



2. Methods

This section describes the research design, study population and sample, measurement instruments, data collection procedures, and statistical analyses employed in the study.

2.1. Research Design, Statistical Population, Sample and Sampling Method

The current study employed a quantitative, associative cross-sectional design which allowed it to examine predictive relationships among variables at a single point in time (Ato et al., 2013). The study's population consisted of all university students residing in the Senga suburb of Gweru, Zimbabwe. The study sample consisted of 253 undergraduate students who were recruited through convenience sampling. Based on Fritz and MacKinnon's (2007) recommendations of mediation analysis using bootstrap methods (minimum sample size of 148 to detect small effects), our sample size provided adequate statistical power to detect the hypothesized indirect effect.

2.2.Instruments

The following standardized instruments were used to collect the data required for the study.

Nomophobia Questionnaire (NMP-Q)

The instrument was developed to measure individuals' levels of nomophobia (Yildirim & Correia, 2015). The tool consists of twenty 7-point Likert scale items. Item responses range from strongly disagree (1) to strongly agree (7). Scores on each item are totaled to provide a picture of an individual's level of nomophobia. Total scores are interpreted as follows: NMP-Q score = 20 (Absent nomophobia), 21 ≤ NMP-Q score < 60 (Mild nomophobia), 60 ≤ NMP-Q score < 100 (Moderate nomophobia) and 100 ≤ NMP-Q score < 140 (Severe nomophobia). The original study reported excellent internal consistency of α =.945 (Yildirim & Correia, 2015). Jahrami et al.'s (2023) reported excellent pooled internal consistency for the scale (Cronbach's α =.93, range = .91 to .95). In the present study, the scale demonstrated excellent internal consistency (α = 0.94).

Online Fear of Missing Out (OnFOMO) Inventory

The tool measures individuals' levels of online social media-related fear of missing out (Sette et al., 2020). It consists of twenty item statements, each with 4-point Likert scale responses (1 = has nothing to do with me, 2 = has little to do with me, 3 = has a moderate amount to do with me and 4 = has a lot to do with me). Its scores range from 20 to 80, with higher scores representing greater fear of missing out. The original scale's Cronbach's alpha internal consistency was good (scale total Cronbach's α = 0.93). The current study yielded excellent internal consistency (α = 0.91).

Online Gambling Symptom Assessment Scale (OGSAS)

The OGSAS is a 12-item self-report instrument that assesses the severity of gambling symptoms and their fluctuation over time, especially during treatment and is also used in research studies where physician administration is impossible (Kalkan & Griffiths, 2021). The tool is not for the diagnosis of gambling disorders but for the monitoring of symptoms. Each item has descriptor anchors related to it and the Likert-type responses range from 0 to 4. The total scores on the OGSAS range from 0 to 48 and higher scores indicate greater severity of gambling symptoms. OGSAS requires respondents to reflect on their experiences over the "past week" as they respond to each question. For contextual relevance, all items were adapted to reference the aviator game directly. For example, the original item "If you had unwanted urges to gamble during the past week, on average, how strong were your urges?" was modified to "If you had unwanted urges to play the aviator gambling game during the past week, on average, how strong were your urges?" This adaptation was applied consistently across all items for specificity and clarity in capturing aviator-related gambling behaviour. The adapted OGSAS demonstrated preliminary evidence of factorial validity in the present sample with all items loading positively on a dominant general factor (loadings = .545 - .859) which accounted for 58.5% of the variance. The adequacy of the factor structure was supported by a KMO of .941 and a significant Bartlett's test of sphericity, $\chi^2(66) = 2241.207$, $p < .001$). Kalkan

and Griffiths (2021) reported good internal consistency reliability for the scale (Cronbach's α = .83). In the present study, the scale demonstrated excellent internal consistency (α = 0.94).

2.3. Data Collection and Analysis

After obtaining all the necessary permissions, the study was presented to prospective participants. The objectives, assessments and ethical issues involved in the study were described to them. Ethical issues explained to prospective participants included confidentiality, informed consent and the voluntary nature of participation. The prospective participants went on to recruit others through referrals. A structured questionnaire was then distributed to individuals who agreed to take part. Participants signed informed consent forms before responding to the questionnaire. The questionnaire requested participants to provide their socio-demographic information before responding to the NMP-Q, OnFOMO inventory and the adapted OGSAS. Preliminary data analysis was descriptive. This included measures of central tendency (arithmetic mean and standard deviation) and frequency analysis (both absolute and relative frequencies). Mean and standard deviation were used to analyze participants' levels of nomophobia, OnFOMO and aviator gambling symptom severity. They were also used to analyze demographic characteristics (age and number of social media accounts). Frequency analysis was conducted on participants' gender and level of study. Pearson's correlation analysis tested relationships among variables. Structural Equation Modelling was used to test the mediation effects of OnFOMO. All the descriptive and inferential statistical analyses were conducted using JASP version 0.18.3 (JASP Team, 2024) and statistical significance was set at $p < .05$.

3. Results

The study sample consisted of 253 participants of whom 119 were male (47%), 131 were female (51.8%) and 3 preferred not to reveal their gender (1.2%). In terms of academic year, 41 (16.2%) participants were in first year, 147 (58.1%) in second year, 15 (5.9%) in third year, 48 (19%) in fourth year and only 2 (0.8%) in fifth year of study. Each participant had approximately 4 social media accounts (M = 3.98, SD = 1.97). Participants' mean age was 21.9 years (SD = 2.35).

Table 1 presents reliability coefficients of the study's instruments as well as descriptive statistics and correlations of study variables. Participants reported moderate levels of nomophobia (M = 81.43, SD = 27.65) and OnFOMO (M = 42.71, SD = 12.59). They further reported mild symptoms of aviator gambling (M = 9.15, SD = 10.70). As shown in Table 2, the correlation between nomophobia and aviator gambling symptom severity was weak, positive and nonsignificant, $r(251) = .12$, $p = .057$. The correlation between nomophobia and OnFOMO was moderate, positive and statistically significant, $r(251) = .57$, $p < .001$. Similarly, OnFOMO was positively and significantly correlated with aviator gambling symptom severity, $r(251) = .28$, $p < .001$.

Table 1
Descriptive Statistics, Reliability and Correlation Estimates

Variable	*M*	*Sd*	Min	Max	α	Correlations		
						1	2	3
1. NMP-Q	81.43	27.65	20	140	0.94	-		
2. ONFOMO	42.71	12.59	20	80	0.91	.57**	-	
3. OGSAS	9.15	10.70	0	46	0.94	.12	.28**	-

Note. NMP-Q = Nomophobia score; OnFOMO = Online Fear of Missing Out Score; OGSAS = Aviator gambling Symptom Severity Score. **p < .001 (two-tailed).

A structural equation modelling approach with bias-corrected bootstrap estimation was conducted to determine whether OnFOMO mediated the relationship between nomophobia and aviator gambling symptom severity. Results are presented in Table 2 and Figure 2.

Nomophobia significantly predicted OnFOMO (B = 0.259, SE = 0.024, z = 11.022, p < .001, 95% CI [0.209, 0.308]). Similarly, OnFOMO significantly predicted aviator gambling symptom severity (B = 0.271, SE = 0.062, z = 4.350, p < .001, 95% CI [0.143, 0.410]).

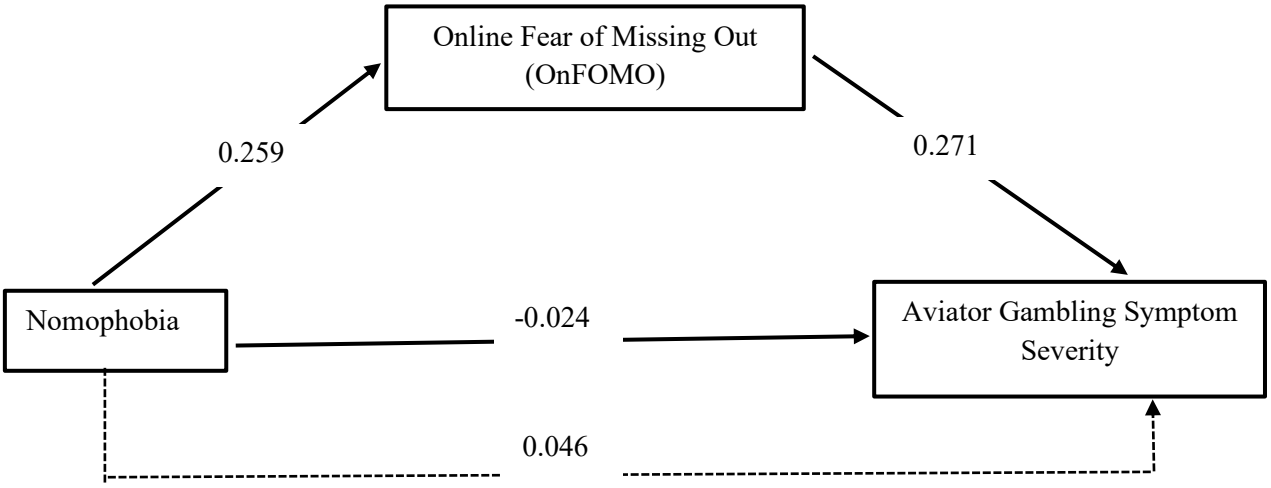
The direct effect of nomophobia on aviator gambling symptom severity was not statistically significant (B = -0.024, SE = 0.028, z = -0.844, p < .399, 95% CI [-0.071, 0.026]). The total effect of nomophobia on aviator gambling symptom severity was small and marginally significant (B = 0.046, SE = 0.024, z = 1.917, p = .055, 95% CI [0.002, 0.097]). Notably, the indirect effect of nomophobia on aviator gambling symptom severity through OnFOMO was significant (B = 0.070, SE = 0.017, z = 4.046, p < .001, 95% CI [0.037, 0.115]).

Table 2
Mediating Analysis of OnFOMO in Nomophobia and Aviator Gambling Symptom Severity

Path	B	SE	Z	P	95% CI
Direct effect					
NMP-Q → OGSAS	-0.024	0.028	-0.844	.399	[-0.071, 0.026]
Indirect effect					
NMP-Q → OnFOMO → OGSAS	0.070	0.017	4.046	< .001	[0.037, 0.115]
Total effect					
NMP-Q →OGSAS	0.046	0.024	1.917	.055	[0.002, 0.097]
a path					
NMP-Q → OnFOMO	0.259	0.024	11.022	< .001	[0.029; 0.308]
b path					
OnFOMO → OGSAS	0.271	0.062	4.350	< .001	[0.143; 0.410]

Note. NMP-Q = Nomophobia; OnFOMO = Online Fear of Missing Out; OGSAS = Aviator Gambling Symptom Severity. Estimates are unstandardized regression coefficients. Confidence intervals are bias-corrected bootstrap 95% intervals based on 5000 resamples.

Figure 2
Path Coefficients of the Mediation Model Variables



4. Discussion

The present study examined relationships among nomophobia, online fear of missing out (OnFOMO) and aviator gambling severity in university students residing in the Senga suburb of Gweru, Zimbabwe. Results revealed mild aviator gambling symptoms but moderate levels of nomophobia and OnFOMO among students. Nomophobia had a weak positive association with aviator gambling symptom severity and a significant, moderate positive association with OnFOMO. OnFOMO had a significant positive association with aviator gambling symptom severity. The direct effect of nomophobia on aviator gambling symptom severity was not statistically significant while its total effect was small and marginally significant. Nomophobia predicted aviator gambling symptom severity through online fear of missing out.

This study discovered moderate nomophobia and OnFOMO levels as well as mild symptoms of aviator gambling among participants. These findings correspond with previous findings (Ibrahim et al., 2022; Milyavskaya et al., 2018; Naser et al., 2023; Qutishat et al., 2020; Tuco et al., 2023). The mild aviator gambling severity symptoms may indicate that this type of gambling may still be in the early stages among students. The finding corresponds with Effertz et al.'s (2018) position that online gambling within student populations usually starts at low, recreational levels before progressing to harmful levels. The pattern also highlights the recency of the growth of aviator gambling in the Zimbabwean context. Regardless of its recent growth, students may still take part occasionally and experimentally instead of compulsively. The findings may also imply that students may not be engaging in aviator gambling due to established gambling dependence but just for excitement, curiosity and social influence. This explanation is consistent with the notion that social motivations and excitement-seeking are among the most common drivers of initial gambling involvement in young adults (Chóliz et al., 2021; Kim et al.2017). Peer normalisation and widespread exposure may result in gambling activities being viewed as harmless among university students, a finding in line with Hing et al. (2014) study who documented how aggressive marketing and online

exposure normalise gambling behaviour. Additionally, the small amounts involved in betting as well as intermittent participation in this population may reduce the perception of risk. Nonetheless, the mild severity of aviator gambling symptoms in our sample should be taken seriously as what may start as recreational gambling may eventually escalate into repetitive and problematic behaviour. As highlighted by Böke et al. (2019) and Scandroglio et al. (2022), university students are vulnerable to gambling escalation because of the financial stress, academic stress and limited coping resources. The probability of escalation is further heightened by sensation-seeking tendencies documented in student populations (Zhu, 2025).

Contrary to previous studies which reported significant positive associations between smartphone dependence and gambling and gaming related challenges (Ayar & Bektas, 2021; Debora & Wijaya, 2025), our study found no significant association between nomophobia and aviator gambling symptoms severity. Consistent with the I-PACE model (Brand et al., 2016), which distinguishes between predisposing characteristics (such as smartphone dependence) and the cognitive-affective mechanisms that actually drive specific problematic behaviours, this non-significant direct effect suggests that nomophobia alone may not be sufficient to drive engagement with aviator gambling. In addition, students' reliance on smartphones may not always translate into aviator gambling intentions. As King et al. (2013) conceptualized, nomophobia primarily involves anxiety about disconnection from one's mobile phone and communication networks, rather than an attraction to any specific online activity such as gambling. Therefore, the dependence on smartphones may signify normal functional dependence and not behavioural dysfunction. Excessive smartphone attachment may not singularly contribute to aviator gambling but requires the mediation of some motivational factors as demonstrated by Wegmann et al. (2017) who demonstrated that online-specific FOMO serves as a key motivational process linking digital dependence to problematic internet use. Another explanation is that nomophobia entails anxiety about the disconnection from a smartphone instead of attraction to aviator gambling itself. This means that a student may fear disconnection from the internet and from communication without pursuing stimulation from aviator gambling. Our finding extends existing scholarly work by showing that nomophobia may be a vulnerability factor for aviator gambling and not a direct determinant of it (Brand et al., 2016; Wegmann et al., 2017). Additionally, our findings demonstrate that problematic gambling can only be partially explained by smartphone dependence and therefore attention should also be directed toward the emotional and motivational processes that shape how digital technologies are used. This explanation supports Przybylski et al. (2013) who identified FOMO as a self-regulatory deficit which drives online engagement.

The study further found a significant positive association between nomophobia and OnFOMO. This finding is consistent with previous research (Bacaksiz et al., 2022; Çatıker et al., 2022; Gezgin et al., 2018; Okur et al., 2022; Wen et al., 2023). As theorised by Przybylski et at. (2013), individuals with high nomophobia may experience stronger fears of missing social interactions, opportunities or rewarding online experiences

whenever disconnected from their phones (Clayton et al., 2015; Elhai et al., 2018). Thus, the constant checking of smartphones acts as a means of coping with uncertainty as well as a way of maintaining social connectedness. Students experiencing high nomophobia may constantly monitor notifications, social media feeds and online conversations for self-reassurance that they are still socially informed and included. Such behaviours may temporarily reduce anxiety associated with disconnection. However, repeated reassurance-seeking may reinforce dependence on constant online presence (Wegmann et al., 2017). In this way, nomophobia and OnFOMO may operate in a mutually reinforcing cycle. Fear of disconnection increases online checking behaviours, while continuous online exposure increases awareness of what others are doing or gaining (Milyavskaya et al., 2018). This finding indicates that nomophobia and OnFOMO are closely linked cognitive-affective processes rooted in the need for continuous digital connectivity. The result may also reflect the social realities of young adults in contemporary digital environments where belongingness, identity and peer approval are increasingly negotiated online (Przybylski et al., 2013; Milyavskaya et al., 2018).

OnFOMO was positively associated with and significantly predicted aviator gambling symptom severity. This finding supports previous studies linking FOMO with excessive internet use and problematic social media engagement (Akbari et al., 2021; Fioravanti et al., 2021). It is also consistent with recent findings connecting financial FOMO with gambling sensitivity and speculative trading behaviour (Song et al., 2024). Aviator gambling platforms may intensify OnFOMO through live displays of other players' wins, rapid betting cycles and real-time reward feedback. These features may create pressure to participate immediately in order to avoid perceived missed opportunities for financial gain. The structure of aviator gambling may be psychologically stimulating for individuals who already fear exclusion from rewarding experiences. When individuals see other gamblers win, they may think financial opportunities are constantly occurring and that delayed participation results in loss (Hing et al., 2016). This perception encourages impulsive betting decisions driven by urgency and emotional arousal (Brand et al., 2016; Wegmann et al., 2017). Heightened OnFOMO among students predisposes to impulsive gambling decision making.

However, the small correlation between OnFOMO and aviator gambling symptom severity suggests that there may be other interacting factors which play a role in shaping this type of gambling among students. As previous studies indicated, economic hardship, peer influence, impulsivity, sensation-seeking, emotional distress and financial expectations may also contribute to gambling behaviour among students（Böke et al., 2019; Kim et al., 2017; Scandroglio et al., 2022; Zhu, 2025). In Zimbabwe's difficult economic environment, gambling may additionally represent hope for quick financial relief among some students (Jeke, 2025). Social pressure and exposure to stories of successful gamblers may further strengthen gambling participation (Hing et al., 2014; Kim et al., 2017). As a result, OnFOMO should not be interpreted as the sole or dominant predictor of aviator gambling. Instead, it may function as one psychological factor

operating within a broader network of social, economic and emotional influences (Brand et al., 2016; Wardle et al., 2024).

Nomophobia's predictive effect on aviator gambling symptom severity through online fear of missing out and its non-significant direct effect correspond with Zhao et al.'s (2010) indirect-only mediation pattern. This finding supports the I-PACE model which emphasizes the role of cognitive and emotional mechanisms in problematic online behaviours (Brand et al., 2016). The findings suggest that nomophobia may create psychological dependence on continuous connectivity, but gambling behaviour emerges when this dependence activates fears of missing rewarding online experiences. In other words, students may not gamble because they are attached to smartphones themselves, but because smartphones constantly expose them to socially and financially stimulating online environments. Continuous internet access increases exposure to gambling advertisements, betting discussions, live gambling feeds and peer narratives of financial success. Such exposure may heighten perceptions that important financial opportunities are being missed. OnFOMO may therefore represent a psychological mechanism which links digital dependence to online gambling engagement. The present findings are also consistent with studies showing that FOMO mediates the relationship between psychological traits and gambling intentions (Song et al., 2025; Wang & Qiu, 2025). Similarly, FOMO amplified through digital environments may promote financial risk-taking behaviours (Ivantchev & Ivantcheva, 2023). The current study extends this literature by demonstrating that OnFOMO may function as a psychological pathway through which digital dependence translates into gambling engagement. This sequential explanation provides a more comprehensive understanding of aviator gambling than models focusing only on direct associations between smartphone use and gambling behaviour. The findings further suggest that problematic gambling among students may emerge through interactions between digital dependence, emotional processes and motivational factors rather than through smartphone use alone.

Our findings suggest that dependence on smartphones alone may not be sufficient to explain engagement in aviator gambling. Rather, students may engage in gambling when smartphone dependence is accompanied by persistent fears of being excluded from rewarding online experiences. Consistent with the I-PACE model (Brand et al., 2016), smartphones, therefore, offer a gateway for the operation of motivational and emotional processes in such circumstances. The finding further suggests that smartphone attachment may only create readiness for online engagement, while the actual movement toward gambling behaviour is driven by psychological expectations of reward, inclusion and opportunity (Przybylski et al., 2013; Wegmann et al., 2017). Students who constantly fear being left behind socially or financially may become more attentive to online gambling opportunities circulating on digital platforms (Song et al., 2024). In this process, the smartphone becomes more than a communication device. It becomes a continuous point of access to socially stimulating and financially tempting online spaces. This may explain why students with high smartphone attachment do not necessarily gamble unless fears of missing out are activated (Elhai et al., 2018).

We acknowledge several limitations of this study. First, the adapted OGSAS measures general online gambling and has not been independently validated for Aviator gambling although it demonstrated good psychometric properties within our sample. Future studies should develop and validate game-specific online gambling symptom measures for improved accuracy in the assessment of symptom severity. Causal inferences about the observed mediated relationship are precluded by the study's cross-sectional design. Future studies may benefit from longitudinal studies which can establish temporal precedence among nomophobia, OnFOMO and online gambling. Additionally, the recruitment of participants through convenience sampling limits the generalisability of our findings to all Zimbabwean students. Future studies should recruit participants through probability sampling techniques and in multiple geographic locations to improve generalizability of findings.

5. Conclusion

The study highlights the significant role of OnFOMO in explaining aviator gambling symptom severity among Zimbabwean university students. The findings show that nomophobia is prevalent among tertiary students but its effect on online gambling is indirect through OnFOMO. The strong relationship between nomophobia and OnFOMO along with the modest but significant link between OnFOMO and aviator gambling highlights the importance of motivational and cognitive processes in understanding online gambling behaviour. Our findings demonstrate that interventions for aviator gambling may benefit from addressing fear of missing out, emotional regulation and maladaptive online engagement patterns.

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Conflict of interest

Authors declare no conflict of interest.

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