

Predicting Adolescent Risk-Taking Behavior from Sensation Seeking and Peer Pressure

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ABSTRACT

Objective: This study aimed to investigate the predictive roles of sensation seeking and peer pressure in adolescent risk-taking behavior among Nigerian adolescents.

Methods and Materials: This descriptive-correlational research included 350 adolescents selected via convenience sampling from secondary schools in urban and semi-urban areas of Nigeria, with the sample size determined by Morgan and Krejcie's sampling table. Participants completed the Adolescent Risk-Taking Questionnaire (ARQ) by Gullone et al. (2000), the Brief Sensation Seeking Scale (BSSS-8) by Hoyle et al. (2002), and the Resistance to Peer Influence Scale (RPI) by Steinberg and Monahan (2007). Data were analyzed using descriptive statistics, Pearson correlations, and multivariate linear regression via SPSS-27.

Findings: Descriptive analysis showed moderate levels of adolescent risk-taking behavior ($M = 3.27$, $SD = 0.74$), high sensation seeking ($M = 3.56$, $SD = 0.67$), and moderate peer pressure ($M = 2.91$, $SD = 0.81$). Correlation analysis revealed significant positive relationships between risk-taking behavior and sensation seeking ($r = .63$, $p < .01$), as well as peer pressure ($r = .58$, $p < .01$). Regression analysis indicated that sensation seeking and peer pressure significantly predicted adolescent risk-taking behavior ($F(2,347) = 162.83$, $p < .01$), jointly explaining 48% of its variance ($R^2 = .48$). Sensation seeking ($\beta = 0.40$, $t = 8.43$, $p < .01$) and peer pressure ($\beta = 0.35$, $t = 7.45$, $p < .01$) were both significant positive predictors.

Conclusion: This study confirms that both sensation seeking and peer pressure strongly predict adolescent risk-taking behaviors among Nigerian adolescents, highlighting the combined impact of individual predispositions and social influences. Interventions designed to reduce adolescent risk-taking should simultaneously address internal traits such as sensation seeking, and external factors, particularly peer pressure, to effectively mitigate adverse outcomes associated with adolescent risk behaviors.

Keywords: Adolescent risk-taking behavior, Sensation seeking, Peer pressure, Predictors, Nigerian adolescents

1. Introduction

Adolescence is a developmental period marked by significant transformations in cognitive, social, and emotional domains, often associated with increased tendencies toward risk-taking behavior (Tian, 2024; 丁, 2023). Risk-taking behaviors among adolescents, characterized by the pursuit of novel and stimulating experiences despite potential negative outcomes, have been extensively examined due to their critical impact on adolescent well-being and developmental trajectories (Lomakin, 2019; Salas-Rodríguez et al., 2022). Adolescents' engagement in behaviors such as substance use, delinquency, reckless driving, and unsafe sexual practices raises considerable public health concerns globally, highlighting the necessity for in-depth exploration of predictive factors (Nagel, 2019; Wasserman et al., 2017). Previous literature underscores that these behaviors are not simply acts of impulsivity but rather complex interactions between individual characteristics and contextual influences (Defoe et al., 2022; Maepa & Ntshalintshali, 2020). Therefore, understanding predictors of adolescent risk-taking behavior, specifically the role of sensation seeking and peer pressure, remains a critical research agenda.

Sensation seeking, a personality trait characterized by the pursuit of excitement, adventure, and novel experiences, is widely recognized as a significant psychological predictor of adolescent risk-taking (Lu & Fu, 2022; 丁, 2023). High sensation seekers exhibit a heightened willingness to engage in risky activities primarily driven by an intrinsic need for stimulation and novelty (Peeters et al., 2017; Siraj et al., 2021). This predisposition is notably intensified during adolescence, a developmental period marked by increased neurological sensitivity to reward-related stimuli (Maciejewski et al., 2018). Neuroscientific findings confirm that during adolescence, neural regions associated with reward processing, such as the nucleus accumbens, exhibit greater activation, correlating significantly with heightened sensation-seeking behaviors (Dai et al., 2023; Liang et al., 2022). Furthermore, adolescents with higher sensation seeking often have reduced behavioral control mechanisms, leading to a greater susceptibility to engage in behaviors with potential adverse consequences (Peeters et al., 2017). Despite the predominantly negative framing of risk-taking, recent literature also indicates that some forms of sensation seeking may facilitate prosocial risk-taking, particularly when supported by adaptive parental and social relationships (Braams et al., 2025; Li & Ma, 2025).

Alongside individual psychological traits, peer pressure constitutes a pivotal social-contextual factor significantly influencing adolescent risk-taking. Adolescents are especially vulnerable to peer influences due to their developmental need for social acceptance and affiliation within peer groups (Junaid et al., 2025; Nie et al., 2022). Peer pressure often manifests as a direct encouragement or implicit expectation to conform to group norms, which frequently endorse risk-related behaviors (Jia et al., 2021; Siraj et al., 2021). For instance, adolescents perceiving higher susceptibility to peer influence exhibit greater engagement in substance use, unsafe sexual behavior, and other risky practices (Dou et al., 2022; Junaid et al., 2025). Peer acceptance is critical in adolescents' social worlds, often surpassing parental influences during middle to late adolescence, and shaping their decision-making processes related to risk behaviors (Dou et al., 2020; Jia et al., 2021). The neurological basis for susceptibility to peer pressure further suggests that adolescents exhibit neural sensitivity to peer acceptance cues, especially within reward-processing brain regions, thereby amplifying the impact of peers on risk-related decision-making processes (Dai et al., 2023; Maciejewski et al., 2018).

Beyond direct peer influences, family dynamics also serve as significant contextual moderators in shaping adolescent risk behaviors. Positive family functioning, characterized by effective communication, strong emotional bonding, and consistent parental monitoring, mitigates adolescents' susceptibility to negative peer pressure (Keyzers et al., 2019; Thomas et al., 2019). Conversely, poor parental supervision and increased family conflicts have been repeatedly linked to heightened adolescent risk-taking behavior, partially mediated through reduced self-control and compromised emotional regulation (Dou et al., 2022; Moreira & Telzer, 2017). Empirical evidence consistently demonstrates that family-related variables such as parent-child relationship quality, parental supervision, and attachment significantly predict adolescents' risk behaviors, emphasizing the critical interplay between familial and peer contexts (Bao et al., 2023; Liu et al., 2019). Moreover, negative family experiences and structural issues, including parental separation or traumatic family environments, exacerbate adolescents' engagement in risky behaviors through compromised psychological resilience (Maepa & Ntshalintshali, 2020; Moreira & Telzer, 2017). Conversely, adolescents experiencing strong parental support and cohesive family structures tend to develop greater resilience, psychological capital, and effective coping strategies,

reducing their vulnerability to peer-driven risky behaviors (Li & Ma, 2025; Siriphadung, 2019).

Additionally, psychological constructs such as self-control and emotional regulation significantly mediate the relationships between sensation seeking, peer pressure, and risk-taking behaviors (Liang et al., 2022; Lu & Fu, 2022). Adolescents with high levels of self-control exhibit greater resistance to impulsive decision-making, even when confronted with sensation-seeking opportunities or peer-induced pressures (Dou et al., 2020; Jia et al., 2021). Conversely, adolescents characterized by deficits in emotional awareness and regulation (alexithymia) exhibit increased vulnerability toward risky behaviors due to their inability to effectively manage emotions in decision-making contexts (Lu & Fu, 2022; Thomas et al., 2019). The interplay between psychological vulnerabilities, such as a future negative time perspective or limited coping abilities, further intensifies adolescents' propensity toward impulsive and harmful behaviors (Dou et al., 2020; Nagel, 2019).

Given the significance of risk-taking behaviors on adolescent health and future outcomes, a thorough understanding of the predictive roles of sensation seeking and peer pressure is imperative. Although existing studies have separately explored these variables in relation to risk-taking, there is still limited research examining these factors jointly, particularly among adolescents from diverse cultural backgrounds and developing countries such as Nigeria. Examining these associations within the Nigerian context is crucial, as sociocultural nuances uniquely shape adolescents' susceptibility to risk behaviors. Nigeria presents a valuable context for exploring these dynamics due to its rapidly evolving societal structure, characterized by increasing peer influence in urbanized areas, weakening traditional family structures, and changing adolescent identities. Thus, this study aims to examine how sensation seeking and peer pressure collectively predict adolescent risk-taking behaviors among Nigerian adolescents. This integrated approach seeks to contribute significantly to the theoretical understanding of adolescent risk behaviors and inform culturally sensitive interventions targeting risk reduction among adolescents in Nigeria.

2. Methods and Materials

2.1. Study Design and Participants

This research employed a descriptive-correlational design to investigate the predictive roles of sensation seeking and peer pressure in adolescent risk-taking behavior. The

statistical population consisted of adolescents enrolled in secondary schools in Nigeria. Using Morgan and Krejcie's sampling table, a sample size of 350 participants was determined and selected through convenience sampling from several secondary schools located in urban and semi-urban regions of Nigeria. Participants ranged in age from 13 to 18 years (Mean age = 15.7; SD = 1.4), comprising both males and females. Ethical considerations included obtaining informed consent from school authorities and parents, as well as assent from the participating adolescents. Participants were informed of their rights to confidentiality and voluntary participation, ensuring compliance with ethical standards.

2.2. Measures

2.2.1. Risk-Taking Behavior

To measure adolescents' risk-taking behavior, the Adolescent Risk-Taking Questionnaire (ARQ) developed by Gullone et al. (2000) was utilized. This tool comprises 40 items that assess the frequency of engagement in various risk-related behaviors specific to adolescence. The ARQ includes subscales such as thrill-seeking, reckless behavior, rebellious acts, and antisocial behavior. Participants respond on a 5-point Likert scale ranging from 1 (never) to 5 (very often), with higher scores indicating greater involvement in risk-taking behaviors. The ARQ has demonstrated strong internal consistency across subscales and has been validated in multiple cultural contexts, confirming its reliability and construct validity in adolescent populations (Bao et al., 2023; Braams et al., 2025; Defoe et al., 2022).

2.2.2. Sensation Seeking

Sensation seeking was measured using the Brief Sensation Seeking Scale (BSSS-8) developed by Hoyle, Stephenson, Palmgreen, Lorch, and Donohew (2002). The BSSS-8 contains 8 items and evaluates four dimensions of sensation seeking: thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility, with two items per subscale. Responses are rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), and higher scores represent greater sensation-seeking tendencies. The BSSS-8 is widely used in adolescent and young adult research, with established reliability coefficients (Cronbach's alpha typically above 0.75) and validated construct and convergent validity in several empirical studies (Siraj et al., 2021).

2.2.3. Peer Pressure

Peer pressure was assessed using the Resistance to Peer Influence Scale (RPI) developed by Steinberg and Monahan (2007). The RPI consists of 10 paired statements designed to capture an adolescent's susceptibility to peer influence. Respondents choose between each pair of contrasting statements (e.g., "Some people go along with their friends just to keep their friends happy" versus "Other people refuse to go along with what their friends want to do, even though they know it will make their friends unhappy"), and then rate the chosen response on a 4-point scale indicating how true it is for them. The total score reflects the level of resistance to peer pressure, with lower scores indicating higher susceptibility. The scale has shown good internal consistency ($\alpha > 0.70$) and demonstrated convergent validity with other behavioral and self-regulation measures in adolescents (Junaid et al., 2025).

2.3. Data Analysis

Data analysis was conducted using SPSS-27 software. Initially, descriptive statistics such as mean, standard deviation, skewness, and kurtosis were computed to assess the distribution of the collected data and ensure assumptions of normality were met. Subsequently, Pearson's correlation coefficient was employed to examine the strength and

direction of the relationships between the dependent variable (adolescent risk-taking behavior) and the independent variables (sensation seeking and peer pressure). To further evaluate the predictive power of sensation seeking and peer pressure on adolescent risk-taking behaviors, a multiple linear regression analysis was performed. Prior to conducting regression analysis, assumptions including linearity, multicollinearity, and homoscedasticity were evaluated to ensure the validity of the findings. The significance level was set at 0.05 for all statistical tests.

3. Findings and Results

The demographic analysis indicated that out of the total 350 adolescent participants, 182 (52.0%) were female, and 168 (48.0%) were male. Regarding age distribution, 47 participants (13.4%) were 13 years old, 62 (17.7%) were aged 14 years, 80 (22.9%) were 15 years old, 78 (22.3%) were 16 years old, 51 (14.6%) were aged 17 years, and 32 (9.1%) participants were 18 years old. In terms of geographical location, 214 adolescents (61.1%) attended schools in urban areas, while 136 (38.9%) were from semi-urban regions of Nigeria. Furthermore, analysis of school type revealed that 201 (57.4%) adolescents attended public schools, and 149 (42.6%) attended private secondary schools.

Table 1

Descriptive Statistics for Adolescent Risk-Taking Behavior, Sensation Seeking, and Peer Pressure (N = 350)

Variables	Mean	Standard Deviation
Risk-Taking Behavior	3.27	0.74
Sensation Seeking	3.56	0.67
Peer Pressure	2.91	0.81

The descriptive analysis in Table 1 indicated that the mean score of risk-taking behavior was 3.27 (SD = 0.74), suggesting moderate engagement of adolescents in risk-related activities. Sensation seeking had the highest mean score of 3.56 (SD = 0.67), indicating a relatively high inclination among adolescents toward sensation-seeking behaviors. Peer pressure exhibited the lowest mean score of 2.91 (SD = 0.81), suggesting moderate levels of perceived peer influence among participants.

Prior to conducting correlation and regression analyses, assumptions of normality, linearity, homoscedasticity, and multicollinearity were assessed. Skewness and kurtosis values for all variables fell within the acceptable range of ± 2 , confirming normal distribution of the data (Risk-taking

behavior: skewness = 0.45, kurtosis = -0.78; Sensation seeking: skewness = -0.39, kurtosis = 0.61; Peer pressure: skewness = 0.56, kurtosis = -0.54). Scatterplots revealed linear relationships among variables, and visual inspection of residual scatterplots showed homoscedasticity without discernible patterns or extreme outliers. Moreover, multicollinearity was evaluated using tolerance and Variance Inflation Factor (VIF) statistics, where tolerance values ranged from 0.72 to 0.85, and VIF values ranged from 1.18 to 1.39, indicating no violation of the multicollinearity assumption. Thus, all assumptions required for performing parametric correlation and regression analyses were confirmed to be adequately met.

Table 2*Pearson Correlations Between Risk-Taking Behavior, Sensation Seeking, and Peer Pressure (N = 350)*

Variables	Risk-Taking Behavior (r)	p-value
Sensation Seeking	.63	< .01
Peer Pressure	.58	< .01

The correlation analysis in Table 2 showed significant positive correlations between adolescent risk-taking behavior and both independent variables. Specifically, risk-taking behavior was positively correlated with sensation

seeking ($r = .63, p < .01$) and peer pressure ($r = .58, p < .01$). These results imply that adolescents who reported higher sensation seeking and greater susceptibility to peer pressure tended to engage more frequently in risk-taking behaviors.

Table 3*Summary of Regression Results Predicting Adolescent Risk-Taking Behavior*

Source	Sum of Squares	df	Mean Squares	R	R ²	Adj. R ²	F	p
Regression	92.75	2	46.38	.69	.48	.47	162.83	< .01
Residual	98.80	347	0.28					
Total	191.55	349						

Regression analysis in Table 3 revealed a statistically significant model ($F(2, 347) = 162.83, p < .01$), indicating that sensation seeking and peer pressure significantly predicted adolescent risk-taking behavior. The value of R^2

was .48, suggesting that these two independent variables collectively explained 48% of the variance in adolescents' risk-taking behaviors. The adjusted R^2 of .47 further confirmed the robustness of this predictive model.

Table 4*Multivariate Regression Results Predicting Adolescent Risk-Taking Behavior*

Predictor Variables	B	Standard Error	β	t	p
Constant	0.61	0.14	-	4.36	< .01
Sensation Seeking	0.44	0.05	0.40	8.43	< .01
Peer Pressure	0.32	0.04	0.35	7.45	< .01

Regression results in Table 4 demonstrated that both sensation seeking ($\beta = 0.40, t = 8.43, p < .01$) and peer pressure ($\beta = 0.35, t = 7.45, p < .01$) significantly and positively predicted adolescent risk-taking behavior. Sensation seeking had a slightly stronger standardized beta coefficient compared to peer pressure, indicating that sensation seeking was relatively more influential in predicting risk-taking behaviors among adolescents. The constant (intercept) was statistically significant ($B = 0.61, t = 4.36, p < .01$), further supporting the reliability of the predictive model.

This study aimed to predict adolescent risk-taking behavior based on sensation seeking and peer pressure among Nigerian adolescents. Findings indicated significant positive correlations between both sensation seeking and peer pressure with adolescent risk-taking behaviors. Moreover, regression analysis confirmed that sensation seeking and peer pressure significantly predicted adolescent risk-taking behavior, jointly explaining substantial variance. The results align with prior research highlighting sensation seeking and peer pressure as critical individual and contextual factors associated with increased risk-taking among adolescents (Junaid et al., 2025; Siraj et al., 2021; 丁, 2023). Specifically, the strong positive correlation between sensation seeking and risk-taking behavior resonates with previous studies suggesting that adolescents with heightened sensation-seeking tendencies often pursue novel experiences without fully considering potential negative outcomes

4. Discussion and Conclusion

(Peeters et al., 2017; 丁, 2023). Consistent with neuroscientific evidence, adolescents exhibiting elevated levels of sensation seeking demonstrate increased activation within brain regions responsible for reward processing, such as the nucleus accumbens, making them more likely to engage in risky behaviors due to a higher sensitivity to reward and novelty (Dai et al., 2023; Maciejewski et al., 2018). This neurodevelopmental perspective provides further support for our results and highlights sensation seeking as a robust individual predictor of adolescent risk behaviors.

The current findings on peer pressure as a significant predictor of adolescent risk-taking behavior further confirm the substantial role peers play in shaping adolescents' risk-related decisions. Adolescents who perceived greater susceptibility to peer influence reported higher engagement in risk behaviors, consistent with prior literature emphasizing adolescents' need for social acceptance and affiliation as key drivers of their risk-taking activities (Junaid et al., 2025; Nie et al., 2022). Peer acceptance represents a fundamental social reward for adolescents; consequently, many adolescents may engage in risk-taking behaviors to secure approval and avoid social exclusion (Dou et al., 2022; Jia et al., 2021). Such behaviors might include substance use, unsafe sexual activities, and reckless behaviors, further illustrating the critical impact of peer norms and social expectations during adolescence (Jia et al., 2021; Nie et al., 2022). Additionally, our findings extend current research by demonstrating the simultaneous effect of sensation seeking and peer pressure, emphasizing the joint influence of personal predispositions and external social contexts on adolescent risk-taking behaviors.

Moreover, our study underscores the complex interaction between individual traits (sensation seeking) and contextual social pressures (peer influence). Adolescents characterized by high sensation-seeking tendencies might seek peers who reinforce or encourage risky behaviors, thus creating environments conducive to further risk-taking. This finding aligns with existing research highlighting the intersection between personality traits and social contexts in adolescent behavior (Defoe et al., 2022; Siraj et al., 2021). Adolescents with elevated sensation seeking often experience lower impulse control and poorer emotional regulation, making them more vulnerable to external influences such as peer pressure (Liang et al., 2022; Lu & Fu, 2022). Furthermore, adolescents susceptible to peer pressure are often those lacking effective self-control, reinforcing risky behaviors due to diminished capacity to resist external influences (Dou

et al., 2020; Liang et al., 2022). Thus, our findings strongly support the hypothesis that sensation seeking and peer pressure collectively contribute to adolescent risk behaviors through both direct and interactive pathways.

Additionally, the findings corroborate previous studies demonstrating that family functioning, parent-child relationships, and school connectedness serve as protective factors against adolescent risk-taking behaviors. Although family factors were not directly investigated in this study, prior literature consistently indicates that adolescents experiencing supportive family environments display greater resilience to peer pressure and reduced sensation-seeking tendencies, indirectly diminishing their involvement in risk behaviors (Bao et al., 2023; Keyzers et al., 2019; Liu et al., 2019). Conversely, poor parental supervision and weak family structures exacerbate adolescents' susceptibility to both sensation seeking and peer influences, increasing their likelihood of engaging in risk-taking behaviors (Dou et al., 2022; Moreira & Telzer, 2017; Thomas et al., 2019). Thus, despite the focus on individual and peer factors, understanding adolescents' risk-taking behaviors requires an integrated consideration of familial influences as well.

The study also contributes to the existing knowledge by contextualizing adolescent risk behaviors within the Nigerian socio-cultural setting. Adolescents in rapidly urbanizing Nigerian communities might experience weakening traditional familial control, increasing peer influence, and heightened desire for novel and stimulating experiences due to exposure to globalized cultural norms. Such societal dynamics potentially intensify adolescents' vulnerability to sensation seeking and peer influences, thus amplifying their risk behaviors. This context-specific interpretation extends the applicability of findings from prior global studies and reinforces the importance of understanding adolescent behaviors within culturally nuanced frameworks.

5. Limitations & Suggestions

Despite its contributions, this study has several limitations. Firstly, the correlational nature of this research restricts the ability to infer causation from observed associations. Secondly, the reliance on self-reported measures of risk-taking behavior, sensation seeking, and peer pressure raises concerns regarding potential response biases, including social desirability effects. Participants might have either underestimated or exaggerated their involvement in risk behaviors, thus affecting data accuracy.

Thirdly, convenience sampling within specific geographical areas in Nigeria may limit generalizability, as the findings may not fully represent adolescents from diverse rural or remote contexts. Finally, although sensation seeking and peer pressure are critical factors, other important variables such as family functioning, school environment, psychological resilience, and socioeconomic factors were not directly assessed, potentially omitting significant predictors of adolescent risk-taking behaviors.

Future research should adopt longitudinal and experimental designs to clarify causative pathways between sensation seeking, peer pressure, and risk-taking behaviors, providing stronger evidence on temporal relationships. Additionally, employing objective behavioral measures or multi-informant reporting (such as peer, teacher, or parental reports) could enhance measurement reliability and validity. Researchers might also investigate the moderating roles of protective factors, including parental supervision, family cohesion, socioeconomic status, and psychological resilience, to develop a more comprehensive understanding of adolescent risk behaviors. Furthermore, cross-cultural comparative studies involving adolescents from various socio-cultural backgrounds within Nigeria and across different countries would enhance the generalizability and cultural applicability of findings.

Given these findings, interventions targeting adolescent risk-taking behaviors should emphasize both individual-level and peer-group dynamics. Educational programs designed to increase adolescents' awareness of their sensation-seeking tendencies and the consequences of risk behaviors could help adolescents develop better decision-making skills. Practitioners, including school counselors and psychologists, should implement peer-based educational interventions that equip adolescents with practical strategies for resisting peer pressure, assertive communication skills, and healthy risk-taking alternatives. Schools and communities could collaborate to create structured opportunities for adolescents to engage in positive, prosocial risk-taking activities, such as sports or community involvement, which fulfill adolescents' desires for excitement and social belonging without adverse consequences. Finally, enhancing parental awareness and involvement through community workshops and parenting programs might strengthen family cohesion, reducing adolescents' susceptibility to negative peer influences and promoting healthier developmental trajectories.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed to this article.

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