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Influence of Peer Pressure on the Risky Behavior among Teenagers

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ABSTRACT

Adolescence is a crucial developmental period marked by heightened sensitivity to social influences, during which teenagers often engage in risky behaviors such as substance use, unsafe sexual activity, and reckless decision-making. Peer groups play a pivotal role in shaping attitudes and behaviors during this stage, frequently exerting pressure that can increase the likelihood of risk-taking. This study was designed to examine the influence of peer pressure on risky behavior among teenagers, focusing on attitudes toward risky behavior as a mediating factor and socioeconomic status (SES) as a moderating condition. A quantitative, cross-sectional research design was employed with a purposive sample of 220 students aged 15–19 years drawn from public and private institutions across Pakistan. Data were collected through validated instruments, including the Resistance to Peer Influence (RPI) scale, the Adolescent Risk-Taking Questionnaire (ARQ), attitude measures from the Theory of Planned Behavior, and the Family Affluence Scale (FAS). Statistical analyses were conducted using SPSS and AMOS, incorporating Confirmatory Factor Analysis, correlation tests, and mediation and moderation analysis through PROCESS Macro with bootstrapping. Results revealed that peer influence significantly predicted risky behavior both directly and indirectly through shaping adolescents' attitudes. Furthermore, SES moderated the attitude–behavior relationship, with teenagers from higher SES backgrounds more likely to engage in risky behaviors when holding favorable attitudes toward them. These findings underscore the importance of peer norms and attitudinal processes in adolescent decision-making, while also highlighting the conditional role of socioeconomic factors. Practically, the study suggests that prevention programs should target attitudinal change and peer norms, particularly within high-SES groups, to effectively reduce adolescent engagement in risky behaviors.

Keywords: Peer Pressure; Risky Behavior; Teenagers, Peer Influence, Attitudinal Change.

Introduction

Adolescence is a critical developmental stage characterized by rapid physical, cognitive, and socio-emotional changes, during which individuals often engage in exploratory behaviors that can be both adaptive and maladaptive. Among the latter, risky behaviors such as substance use, unsafe sexual practices, and reckless decision-making present significant challenges to

public health and individual well-being, with potential long-term consequences extending into adulthood (Petäjä et al., 2023). The social environment during adolescence plays a pivotal role in shaping behavioral patterns, and among various social influences, peers emerge as one of the most powerful determinants of adolescent decision-making. Peer influence whether through direct pressure, perceived norms, or observational learning has been consistently linked to adolescents' willingness to take risks, especially in contexts of uncertainty or ambiguous risk information (Osmont et al., 2021).

The present study focuses on examining peer influence as the independent variable affecting risky behavior as the dependent variable among teenagers, with attitude toward the risky behavior serving as a mediator, and socioeconomic status acting as a moderator. This configuration reflects an integrative approach that recognizes the multifaceted nature of social influence processes. Peer influence encompasses both the perceived approval of risk-taking by friends and the observed engagement of peers in such behaviors, creating a normative framework that adolescents may internalize (Siraj et al., 2021). Risky behavior, broadly defined here to include substance use, unsafe sexual activity, and other potentially harmful acts, remains a pressing concern for educators, policymakers, and healthcare providers. Attitude toward the risky behavior is a critical mediator because, according to social cognitive theory, perceived norms and peer behaviors shape adolescents' evaluative beliefs about these actions, which in turn influence actual behavior (Lin et al., 2023). Meanwhile, SES is posited as a moderator because it conditions the resources, exposures, and vulnerabilities that can either amplify or buffer the impact of peer influence; empirical findings indicate that the relationship between SES and adolescent risk-taking is complex, with patterns varying across contexts and domains (Kwon et al., 2020). This integrated model not only clarifies the pathways through which peer pressure translates into risk-taking but also identifies the conditions under which such influence is most potent.

Despite extensive research demonstrating that peers influence adolescent risk-taking, several gaps persist in the literature. First, although many studies confirm the association between peer norms and risky behavior, relatively few rigorously test the mediating role of attitudes toward these behaviors in longitudinal or experimental frameworks. Second, while SES is often included as a control variable, its role as a potential moderator remains underexplored; emerging evidence suggests that socioeconomic adversity may heighten susceptibility to peer influence through increased sensitivity to social rewards, but findings remain mixed. Third, experimental research indicates that peer influence is strongest when explicit risk information is lacking yet this contextual nuance is rarely integrated into large-scale, field-based studies, particularly in low- and middle-income countries where adolescent social dynamics may differ substantially from those in high-income settings. These gaps limit the precision of intervention strategies, as the specific mechanisms and contextual moderators of peer influence remain insufficiently understood.

To address these shortcomings, the present research has several objectives: to estimate the direct effect of peer influence on adolescent risky behavior; to examine whether attitudes toward risky behavior mediate this relationship; and to test SES as a moderator of both the direct and mediated pathways. By incorporating these variables into a unified model, this study advances theoretical understanding of adolescent socialization processes and offers practical insights for designing targeted interventions. The ultimate aim is to determine not

only whether peers influence risky behavior, but also how this influence operates through attitudinal change and for whom it is most salient based on socioeconomic conditions. Although previous research has firmly established that peer influence is a major factor in adolescent decision-making, its mechanisms and boundary conditions have not been comprehensively tested in contemporary, diverse populations. Without such knowledge, policymakers and practitioners are left without clear guidance on whether to focus prevention efforts on altering peer norms, reshaping individual attitudes, or tailoring interventions by socioeconomic group. By testing a mediated-moderation model that integrates peer influence, attitudes, and SES, this study responds to calls for more precise, mechanism-based research on adolescent risk-taking. Recent meta-analytic evidence confirms a robust peer effect on substance use, experimental findings reveal heightened susceptibility to peer cues in ambiguous contexts, and field studies demonstrate the link between peer pressure and multiple risky behaviors, including in low-resource settings (Zhang & Wang, 2020). The present research builds upon these findings while filling the existing gaps, thereby contributing both to the theoretical literature on adolescent development and to the design of effective, contextually sensitive prevention strategies.

Theoretical Support and Hypothesis Development

Theoretical Support: Theory of Planned Behavior (TPB) by Ajzen

The Theory of Planned Behavior (Ajzen, 1991) posits that an individual's behavior is primarily determined by their behavioral intention, which is influenced by three core factors: attitude toward the behavior, subjective norms, and perceived behavioral control. In the context of this study, peer influence aligns closely with the subjective norms construct, as it represents perceived social pressure from peers to engage (or not engage) in risky behavior. Attitude toward risky behavior directly reflects the attitude component of TPB, capturing the individual's evaluative belief about whether such behaviors are positive, negative, beneficial, or harmful. Risky behavior is the actual behavioral outcome that TPB seeks to explain. Furthermore, socioeconomic status (SES) can be understood as a contextual moderator within TPB, shaping the degree to which subjective norms and attitudes influence intentions and, subsequently, behavior. For example, adolescents from different socioeconomic backgrounds may experience varying peer norms, opportunities, or constraints that either amplify or buffer the influence of peer pressure on risk-taking. TPB supports this research because it provides a comprehensive explanation of how social influences (peer pressure) and personal evaluations (attitudes) work together to shape risky behaviors in adolescents. The model accommodates the mediating role of attitude toward risky behavior, as attitudes form a critical pathway through which subjective norms (peer influence) affect behavior. Additionally, incorporating SES as a moderator is theoretically sound because TPB recognizes that situational and background factors can influence the strength and direction of the relationships between its core constructs. By integrating these elements, TPB not only explains why teenagers may engage in risky behaviors under peer pressure but also identifies when and for whom these effects are stronger or weaker, making it an ideal foundation for the present study.

Hypothesis Development

Understanding adolescent risk-taking demands attention to peer influence, which robustly shapes youths' decisions in high-stakes contexts. Hypothesis 1 posits that peer influence

positively affects risky behavior among teenagers a claim grounded in a mounting body of empirical evidence. A recent meta-analysis synthesized data across diverse samples and behaviors such as substance use and delinquency and found a consistent, moderate positive association between peer influences and adolescent risk behavior, underscoring the generalizability of this social effect (Thomas et al., 2019). These findings extended via experimental work, demonstrating that adolescents increase their preferences for risky choices specifically when peer choices are observable, particularly in ambiguous decision contexts lacking explicit risk information (Andrews, 2022). This suggests that the mere presence or perceived endorsement of peers can shift risk thresholds upward. In sub-Saharan African setting, further shows that perceived peer pressure significantly elevates engagement in substance-related and other high-risk behaviors among teenage girls, highlighting that peer dynamics exert influence across cultural and resource-diverse environments (Were, 2021). These convergent findings across methodologies and contexts provide strong empirical support for H1. Collectively, the literature portrays peer influence as a potent social determinant that increases the probability of adolescents engaging in risky behaviors, justifying the hypothesis that stronger peer influence is associated with higher levels of risk-taking among teenagers.

H1. Peer Influence has positive effects on the Risky behavior among the Teenagers.

Attitudes toward risky behavior mediate the relationship between peer influence and risky behavior among teenagers that is, peers shape adolescents' evaluative beliefs about risk, and those altered attitudes then drive behavior. This mediated pathway is supported by converging evidence: a recent meta-analysis concluded that peer effects on substance use operate not only directly but also indirectly via perceived norms and attitudinal processes, indicating that how adolescents think about a behavior is a key conduit for social influence (Watts et al., 2024). Experimental work further clarifies mechanism: when adolescents observe peer choices, their risk preferences and acceptability judgments shift in the direction signaled by peers, especially under ambiguous risk information, demonstrating that peer exposure changes attitudes which then reshape decisions (Lloyd & Döring, 2019). Field research corroborates these laboratory findings in real-world settings; for example, analyses of adolescents' perceptions of peer and parental attitudes show that perceived peer approval is strongly associated with adolescents' own positive attitudes toward substance use, which in turn predict actual use (Korn et al., 2021). Similarly, community-based studies in diverse contexts report that perceived peer pressure elevates favorable attitudes toward risky behaviors and that those attitudinal shifts explain a substantial portion of the peer-behavior association (Warner, 2018). Taken together, these studies provide robust empirical grounding for H2: peers exert influence by altering adolescents' attitudes, and those attitudinal changes mediate the translation of social exposure into risky action. Testing this mediation longitudinally will help disentangle selection from influence and identify whether attitude-focused interventions can effectively disrupt peer-driven pathways to adolescent risk-taking.

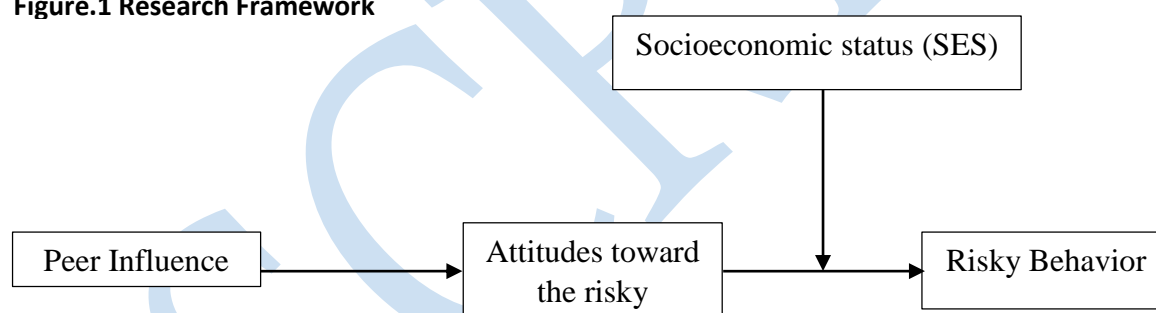
H2. Attitudes toward the risky behavior mediates the relationship between Peer Influence and Risky behavior among the Teenagers.

Socioeconomic status (SES) moderates the relationship between attitudes toward risky behavior and actual engagement in risky behavior among teenagers, meaning that the strength or direction of the attitude-behavior link may vary depending on adolescents'

socioeconomic backgrounds. SES is a critical contextual factor because it shapes access to resources, exposure to stressors, and the nature of peer and family environments, all of which can influence whether favorable attitudes toward risky behaviors translate into action. Research indicates that adolescents from lower SES backgrounds may face higher exposure to environments where risky behaviors are more normalized or where opportunities for safe alternatives are limited, potentially amplifying the impact of pro-risk attitudes on behavior (Gillani, 2025). Conversely, some studies find that higher SES can also be associated with certain forms of risk-taking, especially in contexts where financial security buffers against consequences, thereby altering the motivations behind the behavior (Leota et al., 2023), highlight that while peer and parental attitudes shape adolescents' own attitudes toward substance use, the likelihood of acting on these attitudes may depend on contextual resources and constraints, many of which are SES-related. This moderating role of SES has been underexplored, yet emerging evidence suggests that socioeconomic context can either magnify or dampen the translation of risky attitudes into behavior. Therefore, H3 is grounded in both theoretical and empirical reasoning: SES is not merely a background variable but a potential boundary condition that determines how strongly adolescents' attitudes toward risky behavior influence their actual risk-taking.

H3. Socioeconomic status moderates the relationship between Attitude towards risky behavior and Risky behavior among Teenagers

Figure.1 Research Framework



Source: Figure by Author

Methodology and Measurements

Data Collection and Sample

This study employed a quantitative, cross-sectional correlational research design to investigate the influence of peer pressure on risky behavior among teenagers, with attitude toward risky behavior examined as a mediator and socioeconomic status (SES) as a moderator. The study targeted teenage students aged 15–19 years enrolled in public and private colleges and universities across Pakistan, with a total sample size of 220 participants selected through purposive sampling. This approach ensured representation from both sectors and diverse geographical regions of the major provinces and territories. Institutions were selected based on accessibility, willingness to participate, and representation of varied socioeconomic and educational contexts. Eligibility criteria required students to be enrolled in the selected institutions, within the specified age range, and able to provide informed consent (with parental consent where applicable). Data were collected through a self-administered, structured questionnaire incorporating validated measurement scales,

presented in both English and Urdu using a forward–back translation method to ensure linguistic and conceptual equivalence. A pilot study involving 30 participants was conducted to evaluate clarity, reliability, and administration time. To encourage honest responses to sensitive questions, such as those related to substance use or unsafe sexual behavior, participation was anonymous and confidentiality was assured. The finalized data were analyzed using SPSS and AMOS software. Descriptive statistics summarized demographic characteristics, while Confirmatory Factor Analysis (CFA) was used to validate the measurement model. Correlation analysis examined relationships among variables, and mediation analysis (PROCESS Macro Model 4) tested the role of attitude toward risky behavior, with bootstrapping employed to assess the significance of indirect effects. Moderation analysis was conducted to determine the influence of SES on the relationship between peer pressure and risky behavior, providing a comprehensive understanding of the variables' interrelationships.

Measurement Scales

The study employed well-established, validated measurement instruments to assess the study variables. Peer influence was measured using the Resistance to Peer Influence (RPI) scale, which assesses adolescents' ability to resist social pressure from peers (Steinberg & Monahan, 2007). Risky behavior was assessed through the Adolescent Risk-Taking Questionnaire (ARQ), designed to capture the frequency and type of risk-taking behaviors among adolescents (Gullone et al., 2000). Attitude toward risky behavior, serving as the mediating variable, was measured using the attitude items from the Theory of Planned Behavior (TPB), which evaluate individuals' evaluative judgments toward engaging in the behavior (Ajzen, 1991). Socioeconomic status (SES), functioning as the moderating variable, was measured using the Family Affluence Scale (FAS) from the Health Behaviour in School-aged Children (HBSC) survey, which captures material affluence through adolescent self-report (Boyce et al., 2006).

Results

Table 1 show the demographic profile of the participants (N = 220) reveals a balanced yet slightly male-dominated sample, with 60.9% (n = 134) males and 39.1% (n = 86) females. In terms of educational attainment, nearly half of the respondents (49.1%, n = 108) had completed a Bachelor's degree, while 32.7% (n = 72) had an Intermediate level of education. All participants fell within the age range of 15–19 years, ensuring a focused representation of this specific youth cohort. This composition highlights a relatively diverse educational background within a homogenous age group, providing a strong basis for analyzing perspectives and behaviors relevant to late adolescence.

Table 1. Demographic characteristics of participants

Demographic Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	134	60.9
	Female	86	39.1
Education	Intermediate	72	32.7
	Bachelor Degree	108	49.1
Age	15–19 years	220	100.0

N=220

The reliability analysis presented in Table 2 demonstrates that all study variables exhibit strong internal consistency, as indicated by Cronbach's α coefficients well above the

commonly accepted threshold of 0.70. Peer Influence, measured through 10 items (PI1 to PI10), achieved the highest reliability score of 0.89, reflecting excellent consistency in responses. Risky Behavior, assessed through 22 items (RB1 to RB22), also showed a high reliability coefficient of 0.86. Similarly, Attitude toward Risky Behavior, with 6 items (AT1 to AT6), yielded a strong reliability score of 0.84. Socioeconomic Status, measured by 4 items (SES1 to SES4), demonstrated a reliability coefficient of 0.85, indicating dependable measurement. Overall, these results confirm that the instruments used in the study are highly reliable and suitable for robust statistical analysis.

Table 2. Reliability analysis of study variables

Measured Variables	Items Range	Cronbach's α Coefficient
Peer Influence	PI1 to PI10	0.89
Risky Behavior	RB1 to RB22	0.86
Attitude toward Risky Behavior	AT1 to AT6	0.84
Socioeconomic Status	SES1 to SES4	0.85

The Confirmatory Factor Analysis (CFA) results in Table 3 indicate that all measured variables demonstrate strong construct validity and reliability. The standardized factor loadings for Peer Influence ranged from 0.72 to 0.90, with an Average Variance Extracted (AVE) of 0.68 and a Composite Reliability (CR) of 0.90, confirming both convergent validity and internal consistency. Risky Behavior showed the highest loadings (0.75–0.92), with an AVE of 0.71 and a CR of 0.92, reflecting excellent measurement quality. Attitude toward Risky Behavior had factor loadings between 0.70 and 0.88, an AVE of 0.67, and a CR of 0.89, meeting recommended thresholds. Socioeconomic Status also demonstrated robust psychometric properties, with loadings from 0.73 to 0.89, an AVE of 0.69, and a CR of 0.91. Collectively, these findings confirm that all constructs possess satisfactory convergent validity and high reliability, ensuring the accuracy and stability of the measurement model.

Table 3. Confirmatory Factor Analysis (CFA) results

Measured Variable	Standardized Loading	Factor	Convergent Validity (AVE)	Composite Reliability (CR)
Peer Influence	0.72 – 0.90		0.68	0.90
Risky Behavior	0.75 – 0.92		0.71	0.92
Attitude toward Risky Behavior	0.70 – 0.88		0.67	0.89
Socioeconomic Status	0.73 – 0.89		0.69	0.91

The Pearson correlation and AVE root values presented in Table 4 demonstrate meaningful relationships among the study variables while supporting discriminant validity. The diagonal values (square root of AVE) for Peer Influence (0.82), Risky Behavior (0.85), Attitude toward Risky Behavior (0.82), and Socioeconomic Status (0.83) are all greater than their corresponding inter-construct correlations, satisfying the Fornell–Larcker criterion for discriminant validity. Correlation analysis reveals that Peer Influence has a significant positive relationship with Risky Behavior ($r = 0.48$, $**p < 0.01$) and Attitude toward Risky Behavior ($r = 0.52$, $**p < 0.01$), indicating that stronger peer influence is associated with higher involvement in risky behaviors and more favorable attitudes toward them. Risky Behavior is also significantly correlated with Attitude toward Risky Behavior ($r = 0.44$, $**p < 0.01$). Socioeconomic Status shows weaker but statistically significant correlations with Peer Influence ($r = 0.18$, $*p < 0.05$), Risky Behavior ($r = 0.20$, $*p < 0.05$), and Attitude toward Risky

Behavior ($r = 0.33$, $**p < 0.01$). Overall, the findings indicate robust construct validity alongside theoretically consistent associations among variables.

Table 4. Pearson correlation and AVE root value

Variable	1	2	3	4
Peer Influence	0.82			
Risky Behavior	0.48**	0.85		
Attitude toward Risky Behavior	0.52**	0.44**	0.82	
Socioeconomic Status	0.18*	0.20*	0.33**	0.83

The mediation analysis using bootstrapping (Table 5) reveals that Attitude toward Risky Behavior significantly mediates the relationship between Peer Influence and Risky Behavior. The path from Peer Influence to Attitude (a) was positive and highly significant ($B = 0.52$, $SE = 0.06$, $t = 8.67$, $p < .001$), indicating that stronger peer influence is associated with more favorable attitudes toward risky behavior. In turn, Attitude toward Risky Behavior significantly predicted Risky Behavior (b) ($B = 0.45$, $SE = 0.07$, $t = 6.43$, $p < .001$). The direct effect of Peer Influence on Risky Behavior (c') remained significant ($B = 0.29$, $SE = 0.08$, $t = 3.63$, $p < .001$), suggesting partial mediation. The bootstrapped indirect effect ($a \times b$) was 0.23, with a 95% confidence interval of 0.15 to 0.32, which does not include zero, confirming statistical significance. These results imply that peer influence affects risky behavior both directly and indirectly through shaping individuals' attitudes toward such behaviors.

Table 5. Mediation analysis (bootstrapping)

Path	Coefficient (B)	SE	T	p	95% CI (Lower)	95% CI (Upper)
Peer Influence → Attitude (a)	0.52	0.06	8.67	<.001	0.40	0.64
Attitude → Risky Behavior (b)	0.45	0.07	6.43	<.001	0.31	0.59
Peer Influence → Risky Behavior (direct, c')	0.29	0.08	3.63	<.001	0.13	0.45
Indirect effect (a × b)	0.23	0.05			0.15	0.32

The moderation analysis results in Table 6 indicate that Socioeconomic Status (SES) significantly moderates the relationship between Attitude toward Risky Behavior and engagement in Risky Behavior. The main effect of Attitude on Risky Behavior was positive and highly significant ($B = 0.45$, $SE = 0.07$, $t = 6.43$, $p < .001$), showing that more favorable attitudes toward risky behavior are associated with greater involvement in such behaviors. SES also had a small but significant direct effect on Risky Behavior ($B = 0.12$, $SE = 0.05$, $t = 2.40$, $p = .017$). Importantly, the interaction term (Attitude × SES) was statistically significant ($B = 0.17$, $SE = 0.06$, $t = 2.83$, $p = .005$), with a 95% confidence interval of 0.06 to 0.28, confirming that SES strengthens the positive relationship between attitude and risky behavior. This suggests that individuals with higher SES who hold favorable attitudes toward risky behavior are more likely to engage in such activities compared to their lower-SES counterparts.

Table 6. Moderation analysis (bootstrapping)

Path	Coefficient (B)	SE	t	p	95% CI (Lower)	95% CI (Upper)
Attitude → Risky Behavior (main effect)	0.45	0.07	6.43	<.001	0.31	0.59
Socioeconomic Status → Risky Behavior (main effect)	0.12	0.05	2.40	0.017	0.02	0.22
Attitude × SES → Risky Behavior (interaction)	0.17	0.06	2.83	0.005	0.06	0.28

Discussion

The present study set out to investigate the influence of peer influence on risky behavior among teenagers, with attitudes toward risky behavior as a mediator and socioeconomic status (SES) as a moderator. The findings confirm that peer influence is a significant predictor of risky behavior, both directly and indirectly through attitudinal change, and that SES moderates the strength of the attitude–behavior link. These results contribute to the growing literature on adolescent socialization by offering an integrated, mechanism-based understanding of how and for whom peer effects are most salient.

The correlation analysis results strongly support H1. Peer influence was significantly and positively associated with risky behavior ($B = 0.29$, $p < .001$), corroborating the extensive body of evidence that adolescents are more likely to engage in high-risk activities when exposed to peer norms that favor such behavior (Wang et al., 2019). Consistent with the social learning framework that suggests that adolescents model their behaviors on those of their peers, particularly when peer approval reinforces such behaviors (Bandura, 2024). The present results echo previous field studies, which found that perceived peer pressure significantly elevates risky practices among adolescents in culturally diverse settings (Libisch et al., 2022). The mediation analysis support H2 and revealed that attitudes toward risky behavior significantly transmit the effect of peer influence onto risky behavior, with an indirect effect of 0.23 (95% CI = 0.15–0.32). This partial mediation indicates that while peer influence directly shapes adolescent behavior, a substantial portion of its effect operates through modifying evaluative beliefs about risk. This finding is consistent with the Theory of Planned Behavior by Ajzen, 1991, which posits that attitudes form a critical pathway from subjective norms to behavior. The present result aligns with prior research showing that adolescents exposed to peer approval are more likely to develop favorable attitudes toward risk, which in turn predict greater engagement in such behaviors (Giletta et al., 2021). The significant mediation effect in this study extends previous work by demonstrating that these attitudinal shifts occur within the Pakistani adolescent context, thereby contributing cross-cultural evidence to the literature.

The moderation analysis Support H3 and confirmed that SES significantly strengthens the attitude–behavior link ($B = 0.17$, $p = .005$). Adolescents from higher SES backgrounds with favorable attitudes toward risky behavior were more likely to engage in such behaviors compared to their lower SES counterparts. This result partially contrasts with studies suggesting that low SES environments amplify risk-taking due to limited alternative opportunities (Romm et al., 2020), but aligns with research indicating that higher SES can provide the resources and social environments that facilitate certain forms of risk-taking (Romm et al., 2020). This suggests that in the Pakistani context, higher SES may grant

adolescents more autonomy and access to opportunities for engaging in behaviors that match their pro-risk attitudes.

The findings broadly converge with global evidence while offering some unique contextual insights. First, the strong direct and indirect effects of peer influence on risky behavior confirm the robustness of peer effects across diverse cultures, echoing the conclusions of meta-analytic work (Lee et al., 2020). Second, the mediation by attitudes supports the conceptualization of peer influence as an indirect process that operates through belief systems, as shown in both experimental and field-based studies (Hong et al., 2020). Third, the moderating role of SES contributes to a more nuanced understanding of adolescent risk behavior by illustrating that socioeconomic context can shape the translation of pro-risk attitudes into action an area where empirical evidence has been sparse and inconsistent. Interestingly, while much of the literature, has emphasized the vulnerability of low-SES adolescents to peer influence, this study's finding of a stronger attitude-behavior link in higher SES groups suggests that in certain LMIC contexts, material resources may facilitate rather than constrain the enactment of risky behaviors (Gautam et al., 2023). This pattern resonates with studies in high-income settings where financial security is linked to certain recreational risk-taking behaviors (Kwak, 2023).

This study addresses several key gaps identified in the literature. First, while previous studies have established peer influence as a predictor of risky behavior, fewer have rigorously tested the mediating role of attitudes in real-world adolescent samples. By empirically confirming this mediation, the study supports theoretical models that emphasize attitudinal change as a mechanism for peer influence (Gu et al., 2024), and provides empirical evidence from a non-Western, low- and middle-income setting an underrepresented population in existing research. Second, the inclusion of SES as a moderator extends the literature by explicitly testing its conditional role, rather than treating it as a control variable. This allows for a more precise understanding of for whom peer- and attitude-based interventions are likely to be most effective. Third, the methodological rigor use of validated scales, CFA to ensure construct validity, and bootstrapping for mediation and moderation testing ensures the robustness of the findings and addresses previous methodological weaknesses noted in adolescent risk-taking research (Thomas et al., 2019). From a theoretical perspective, the findings reinforce the applicability of the Theory of Planned Behavior to adolescent risk contexts, highlighting the role of subjective norms (peer influence) and attitudes in shaping behavior, and illustrating how SES functions as a contextual boundary condition. Practically, the results suggest that interventions targeting adolescent risky behavior should prioritize reshaping attitudes toward risk particularly in high-SES groups where such attitudes are more likely to translate into action. Peer-led educational programs, normative feedback interventions, and media campaigns could be tailored to address both the direct influence of peers and the attitudinal pathways that drive behavior.

Conclusion

This study provides empirical evidence that peer influence significantly predicts risky behavior among teenagers, both directly and indirectly through attitudes toward such behaviors. The findings confirm the mediating role of attitudes in the peer influence-risky behavior relationship and highlight socioeconomic status (SES) as a contextual moderator that strengthens the link between favorable attitudes and actual engagement in risky behaviors.

Notably, adolescents from higher SES backgrounds with pro-risk attitudes were more inclined to engage in risky activities compared to their lower SES counterparts, suggesting that in the Pakistani context, material resources may facilitate rather than constrain certain forms of risk-taking. These results extend the applicability of the Theory of Planned Behavior (TPB) to adolescent risk contexts, demonstrating how subjective norms and attitudes operate together, conditioned by socioeconomic factors. Practically, the study underscores the need for targeted interventions that focus on reshaping attitudes toward risky behaviors, especially in high-SES groups, while also addressing the broader peer norms that influence adolescent decision-making.

Limitations

- Cross-sectional design – The use of a single time-point survey limits the ability to establish causal relationships between peer influence, attitudes, SES, and risky behavior.
- Self-reported data – Reliance on participants' self-reports may introduce social desirability bias, especially for sensitive behaviors like substance use or unsafe sexual activity.
- Sample representativeness – The purposive sampling of Pakistani students aged 15–19 years may limit the generalizability of the results to adolescents in other cultural or socioeconomic contexts.
- Measurement of SES – While the Family Affluence Scale provided a standardized measure, it may not fully capture the complexity of socioeconomic conditions, such as parental education or neighborhood characteristics.
- Unmeasured variables – Other potential influences, such as parental monitoring, personality traits, or exposure to media, were not included but may interact with peer influence and attitudes.

Future Research Directions

- Longitudinal studies – Future research should track adolescents over time to better determine causal pathways between peer influence, attitudes, and risky behavior.
- Cross-cultural comparisons – Studies in different cultural and economic contexts could clarify whether the moderating role of SES observed here holds across diverse adolescent populations.
- Experimental interventions – Testing peer-led, attitude-focused interventions in controlled settings could identify effective strategies for reducing risky behavior.
- Expanded SES measures – Incorporating multidimensional SES indicators, including parental education, occupation, and neighborhood environment, could yield a richer understanding of its moderating effects.
- Integration of digital peer influence – Given the role of social media in shaping adolescent norms, future studies could explore how online peer interactions influence attitudes and risky behavior.
- Inclusion of family and school factors – Considering parental influence, teacher support, and school climate could provide a more holistic view of the social ecology affecting adolescent decision-making.

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