

Peer Influence as a Mediator of the Relationship between Parental Bond and Criminal Thinking: A Self-Determination Perspective

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Received: 12-11-2025

Revised: 28-11-2025

Accepted: 13-12-2025

Published: 27-12-2025

ABSTRACT

Criminal thinking refers to cognitive distortions that justify antisocial and unlawful conduct and is increasingly recognized as a clinically relevant barrier to rehabilitation, relapse prevention, and reintegration. Parental bonding is a foundational developmental influence on emotional security and self-regulation, whereas peer environments shape identity formation, behavioral norms, and cognitive justification processes particularly among vulnerable individuals. Self-Determination Theory (SDT) proposes that chronic frustration of autonomy, relatedness, and competence needs can heighten susceptibility to maladaptive external influence and deviant social reinforcement, which may contribute to criminogenic cognition. This study examined associations between parental bonding and criminal thinking among drug rehabilitation patients in Pakistan and evaluated whether peer influence can be positioned as a theoretically defensible mediating mechanism within an SDT framework. Using the available dataset, empirical analyses focused on parental bonding and criminal thinking, while dark tetrad traits were modeled as criminogenic personality correlates. A cross-sectional correlational design was employed. Participants (N = 123) were recruited from rehabilitation centers in Lahore, Pakistan. Measures included the Parental Bonding Instrument (PBI), the Texas Christian University Criminal Thinking Scales (TCU-CTS), and the Short Dark Tetrad (SD4). Data were analyzed using descriptive statistics, reliability analysis, bivariate correlations, hierarchical regression, and regression-based mediation modeling. Criminal thinking was positively associated with dark tetrad traits and demonstrated meaningful patterns across

psychosocial indicators. Parenting dimensions did not yield a statistically significant indirect pathway through dark tetrad traits. However, results supported SDT-consistent interpretations that social-contextual mechanisms particularly peer influence may act as reinforcement pathways shaping criminogenic cognition in addiction-linked rehabilitation populations. The findings confirm that criminogenic personality traits are strongly linked to criminal thinking among Pakistani rehabilitation patients. Although peer influence could not be tested as a statistical mediator within the available dataset, SDT provides a coherent explanatory model suggesting that need frustration within family relationships increases vulnerability to deviant peer norms, reinforcing criminal thinking styles. Rehabilitation programs should combine cognitive restructuring, family-based relational repair, and peer-context interventions to reduce criminogenic cognition and relapse vulnerability.

Keywords: criminal thinking; parental bonding; peer influence; self-determination theory; dark tetrad; rehabilitation; Pakistan

INTRODUCTION

Criminal thinking is a clinically significant cognitive construct reflecting maladaptive beliefs and rationalizations that normalize aggression, entitlement, rule-breaking, and unlawful behavior (Knight et al., 2006). In rehabilitation contexts, criminal thinking is not merely a criminological concept; rather, it is a psychological risk indicator associated with weak treatment engagement, reduced accountability, resistance to change, and relapse vulnerability (Institute of Behavioral Research, 2014). Individuals who endorse high criminal thinking may perceive harmful actions as justified or necessary, reducing their motivation to internalize prosocial decision-making.

Within Pakistan, drug addiction and rehabilitation are shaped by intersecting family, social, and cultural pressures. Many individuals entering treatment report family conflict, emotional distance, and long-standing exposure to social environments that normalize substance use and associated antisocial behaviors. Under such conditions, criminal thinking may emerge as a functional cognitive strategy used to minimize guilt, externalize blame, or justify harmful coping.

Parental Bonding and Criminogenic Cognition

Parental bonding reflects the perceived quality of early caregiving and socialization and is frequently operationalized through the dimensions of care and overprotection/control (Parker et al., 1979). Parental care supports emotional security, internal self-regulation, and adaptive coping, whereas harsh control and emotional inconsistency may contribute to distress-driven coping styles, resentment, or oppositional tendencies. The Parental Bonding Instrument (PBI) provides a validated method to assess perceived parenting experiences in the first 16 years of life (Parker et al., 1979; Xu et al., 2016).

In Pakistani households, parental authority may be culturally accepted; however, emotional invalidation, psychological unavailability, or rigid discipline can limit healthy autonomy development. When youth experience low warmth and restricted emotional expression, they may begin to seek belonging and validation outside the family system.

Sdt, Peer Influence, and External Regulation

Self-Determination Theory argues that autonomy, competence, and relatedness are foundational psychological needs supporting healthy motivation and behavioral internalization (Ryan & Deci, 2000). When these needs are chronically frustrated, individuals may adopt externally controlled motivation patterns, increasing reliance on social approval and group norms.

Peer influence becomes especially relevant in this motivational framework. Peer groups may provide immediate social belonging and identity stability when family relationships fail to meet emotional needs. Yet, in high-risk contexts, peer networks can normalize deviance and shape maladaptive cognition through reinforcement and modeling.

In Pakistan, research increasingly highlights how social reinforcement contexts contribute to behavioral dysregulation. For example, peer-based validation and social influence through digital platforms have been associated with aggression and impulsive behavioral tendencies (Fareed et al., 2024). Similarly, cyberbullying-related behaviors and social media reinforcement patterns highlight how peer norms can shape moral disengagement and distorted cognition (Jabeen et al., 2025c). These processes overlap conceptually with the normalization and justification patterns observed in criminal thinking.

Dark Tetrad Traits as Criminogenic Correlates

Criminogenic cognition is shaped not only by context but also by dispositional vulnerabilities. The dark tetrad traits Machiavellianism, narcissism, psychopathy, and everyday sadism are consistently linked with exploitative interpersonal styles, reduced empathy, and antisocial tendencies (Paulhus et al., 2020). Therefore, criminal thinking may reflect the convergence of early relational vulnerabilities and personality-linked risk factors.

Aim and Hypotheses

This study examined parental bonding correlates of criminal thinking among Pakistani rehabilitation patients and evaluated whether peer influence can be positioned as an SDT-consistent mediating mechanism. Dark tetrad traits were tested as measurable dispositional correlates.

Hypotheses:

- H1.Criminal thinking will be positively associated with dark tetrad traits.
- H2.Parental bonding dimensions (care and control) will be associated with criminal thinking.
- H3.The parental bond–criminal thinking relationship will be explainable through SDT-consistent psychosocial mechanisms, including peer influence as a theoretically defensible pathway.

METHOD

Research design

A cross-sectional correlational design was used to examine psychosocial correlates and predictors of criminal thinking among individuals receiving rehabilitation services.

Participants

A total of 123 participants were recruited from rehabilitation centers in Lahore, Pakistan, using purposive sampling. The sample was predominantly male (96%) and primarily consisted of early and middle adults. The mean age was 29.04 years (SD = 7.36).

Measures

1. **Texas Christian University Criminal Thinking Scales (TCU-CTS; CTS 3.0):**
Criminal thinking / criminogenic cognition assess karne ke liye 36-item scale use ki gayi (Institute of Behavioral Research, 2014; Knight et al., 2006). Ye measure antisocial cognition

patterns (e.g., entitlement/power orientation, justification, impulsive criminal reasoning) capture karta hai. Responses Likert-type format mein hoti hain aur higher scores higher criminal thinking indicate karte hain. Current sample mein scale ki internal consistency acceptable rahi (Cronbach's $\alpha = .72$). To ensure comprehension, participants were encouraged to ask questions if any item was unclear. Administration was conducted in a structured manner to minimize misinterpretation

2. Parental Bonding Instrument (PBI):

Parenting experiences ko assess karne ke liye PBI use ki gayi jo parental bonding ko do dimensions mein measure karti hai: Parental Care (warmth/support) aur Parental Control/Overprotection (psychological control/autonomy restriction) (Parker et al., 1979; Xu et al., 2016). Is study mein reliability values adequate rahin: Care $\alpha = .73$ aur Control $\alpha = .69$, jahan higher care stronger bonding aur higher control overprotective parenting ko reflect karta hai.

3. Short Dark Tetrad (SD4):

Dark personality traits assess karne ke liye SD4 (28 items) use ki gayi, jo Machiavellianism, Narcissism, Psychopathy, aur Everyday Sadism ko measure karti hai (Paulhus et al., 2020). Higher scores higher dark traits indicate karte hain. Current dataset mein subscales ki reliability acceptable-to-good rahi: Crafty $\alpha = .76$, Special $\alpha = .70$, Wild $\alpha = .79$, aur Mean $\alpha = .82$.

Procedure

Participants provided informed consent. All measures were administered individually in rehabilitation settings. Ethical safeguards were maintained including voluntary participation, confidentiality, and participant anonymity.

DATA ANALYSIS

Descriptive statistics and Cronbach's alpha reliability coefficients were computed. Pearson correlations were used to examine bivariate relationships. Hierarchical regression assessed predictors of criminal thinking. Regression-based mediation modeling was used to test measurable indirect pathways through dark tetrad traits.

RESULTS

Table 1

Sociodemographic characteristics of participants (N = 123)

Demographics	n	%	M (SD)
Age			29.04 (7.36)
Early adults (18–25)	49	40	
Middle adults (26–35)	54	44	
Late adults (36–45)	16	13	
Older adults (46–55)	2	1	

Gender			
Male	118	96	
Female	5	4	
Marital status			
Single	68	56	
Married	52	42	

Table 2

Scale characteristics and internal consistency (N = 123)

Measure	k	M	SD	Cronbach's α
TCU-CTS Total	36	72.06	14.25	.72
PBI Parental Care	24	44.80	10.67	.73
PBI Parental Control	26	36.94	9.58	.69
SD4 Total	28			

Note. SD4 subscales demonstrated acceptable reliability: Crafty $\alpha = .76$; Special $\alpha = .70$; Wild $\alpha = .79$; Mean $\alpha = .82$.

Bivariate Associations

Criminal thinking correlated positively with dark tetrad traits ($r = .51, p < .01$), supporting Hypothesis 1. Parental bonding dimensions showed weaker direct associations with criminal thinking, indicating parenting influences may operate indirectly through psychosocial mechanisms.

Hierarchical Regression

In Step 1, parental relation status significantly predicted criminal thinking ($\beta = .19, p < .05$), whereas age, education, family system, and birth order were not significant predictors. In Step 2, father and mother care/control dimensions did not show statistically significant unique prediction, suggesting limited direct parenting effects when modeled alongside demographic factors.

Mediation Analysis (Dark Tetrad as Measured Mediator)

Parental care did not significantly predict dark tetrad traits ($p = .973$), while dark tetrad traits significantly predicted criminal thinking ($b = .46, p < .001$). Parental control also did not significantly predict dark tetrad traits ($p = .595$), while dark tetrad significantly predicted criminal thinking ($b = .45, p < .001$). Indirect effects were not statistically supported.

DISCUSSION

This study examined parental bonding correlates of criminal thinking among Pakistani rehabilitation patients while incorporating SDT as a conceptual framework and evaluating dark tetrad traits as criminogenic correlates. The most consistent empirical pattern was the strong association between dark tetrad traits and criminal thinking, highlighting the role of dispositional vulnerabilities in criminogenic cognition. This finding aligns with criminogenic cognition theory emphasizing that antisocial cognitive styles often co-occur with personality traits characterized by callousness, manipulation, dominance, and impulse dysregulation (Knight et al., 2006; Paulhus et al., 2020).

Parenting dimensions did not show significant direct prediction in multivariable models. In rehabilitation contexts, individuals often experience multiple cumulative risks, including unstable peer networks, prolonged substance exposure, and socioeconomic strain, which may reduce the statistical detectability of early parenting effects in cross-sectional analysis. Nevertheless, SDT provides a strong explanatory model through which parenting can influence outcomes indirectly by shaping psychological need satisfaction (Ryan & Deci, 2000).

Although peer influence was not measured as a quantitative mediator in the dataset, peer pathways remain theoretically central to SDT-based interpretation. Weak parental bonding can frustrate autonomy and relatedness needs, increasing reliance on peer groups for belonging, identity, and emotional safety. If those peer environments normalize deviant behavior, they can reinforce cognitive distortions such as moral justification and externalization, thereby strengthening criminal thinking.

These interpretations are strengthened by Pakistani evidence showing that peer-driven reinforcement processes particularly in digital environments are linked with aggression and maladaptive behavioral tendencies (Fareed et al., 2024). Moreover, social media addiction and cyberbullying dynamics demonstrate the rapid spread of harmful peer norms and reinforcement patterns in Pakistan, supporting the broader influence of peer ecology on cognition and behavior (Jabeen et al., 2025c).

IMPLICATIONS FOR REHABILITATION AND PREVENTION

The findings support interventions addressing cognitive, relational, and social components of criminal thinking. Rehabilitation services should combine:

Criminal cognition restructuring and accountability-focused work (Institute of Behavioral Research, 2014).

Family-based counseling aimed at repairing emotional security and communication.

Peer-context restructuring through prosocial networks, mentorship, and relapse prevention planning, and SDT-informed motivational interventions emphasizing autonomy support and competence-building.

In addition, stigma and weakened parental support may reduce adaptive coping and increase reliance on external validation. Pakistani evidence suggests that perceived parental support and stigma significantly shape help-seeking tendencies and decision-making autonomy in youth contexts (Jabeen et al., 2025b). These findings are important for rehabilitation planning because shame-based experiences may indirectly strengthen reliance on maladaptive peer networks.

LIMITATIONS

This study was cross-sectional, limiting causal inference. Self-report measures may introduce bias. Peer influence was not directly measured as a quantitative mediator, restricting statistical mediation testing for

peer pathways. The sample was limited to rehabilitation centers in Lahore, which may reduce generalizability to other regions or community samples.

CONCLUSION

Criminal thinking among Pakistani rehabilitation patients is strongly associated with criminogenic personality traits. Parenting dimensions showed limited direct predictive effects in statistical models; however, SDT offers a coherent framework suggesting that unmet psychological needs in early family relationships may increase vulnerability to deviant peer influence, which can reinforce criminal cognition. Future research should incorporate validated peer influence measures and longitudinal designs to empirically test peer mediation pathways and inform targeted prevention and rehabilitation programs.

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