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EXPLORING THE RELATIONSHIP BETWEEN PSYCHOPATHY AND CRIMINAL THINKING AMONG UNDERGRADUATE STUDENTS IN PESHAWAR, THE MEDIATING ROLE OF IMPULSIVITY

Ayesha Kaleem

Department of Psychology, Fazaia College of Education for Women, Peshawar affiliated with Air University

Email: ayeshakaleem@fcwp.edu.pk

Nageena Qamar

Department of Psychology, Fazaia College of Education for Women, Peshawar affiliated with Air University

Email: nageenaqamar@fcwp.edu.pk

Dr. Shaista Nazir

Department of Psychology, Fazaia College of Education for Women, Peshawar affiliated with Air University

Email: msshaistakhan@fcwp.edu.pk

ABSTRACT

This study interrogates the intricate interplay between psychopathy, impulsivity and criminal cognitions within an undergraduate population. Psychopathy, characterized by affective detachment, manipulativeness and antisocial proclivities has been consistently implicated in criminogenic cognition, yet the underlying mechanisms remain incompletely understood. Impulsivity, a multifaceted construct encompassing cognitive, motoric and non-planning dimensions is posited as a pivotal mediator in this nexus. Employing a correlational, cross-sectional design, data were obtained from 200 randomly selected BS-level students (aged 19-24) across multiple higher education institutions in Peshawar. Measures included the Levenson Self-Report Psychopathy Scale, Texas Christian University Criminal Thinking Scale and Barratt Impulsiveness Scale-Brief. Analysis conducted via SPSS version 22, encompassed Pearson correlation, mediation modeling and multiple regression. Results revealed a robust positive association between psychopathic traits and criminal cognitions. Mediation analysis indicated that impulsivity partially accounted for this relationship, with both psychopathy and impulsivity emerging as a significant predictor of criminogenic cognition, jointly explaining 72.5% of variance. Practically, the study underscores the imperative for early screening and targeted interventions focusing on self-regulation skills to mitigate criminal ideation in at-risk student populations. Future research should incorporate longitudinal and multi-model approaches to further unravel the temporal and causal dynamics of these interventions

Keywords: Psychopathy, Impulsivity, Criminal Thinking, Mediation, Undergraduate Students



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Introduction

Psychopathy

Psychopathy is defined a personality disorder characterized by emotional apathy, Ruthless disregard for other's feelings, impulsivity and a propensity for socially deviant behavior. Individual with this condition often exhibit a striking absence of emotional depth, failing to genuinely connect with others or experience remorse for harmful actions. Their impulsive nature and lack of self-control frequently lead to destructive choices, perpetuating a pattern of antisocial conduct that disregard societal norms and conventions (Cleckley, 1941; Hare, 1996).

According to Patrick (2006), psychopathy is characterized by a profound deficiency in emotional resonance, a hardened indifference to the well-being of others, a blatant disregard for individual rights and boundaries. Individual with these conditions often exhibit reckless impulsivity, cunning exploitative behavior and a tendency to prey on other for personal gain. Furthermore, they frequently display a pronounced inclination towards aggressive and harmful conduct, perpetuating a pattern of violent and criminal behavior.

A distinctive feature of psychopathy is the propensity to engage in morally reprehensible actions, despite demonstrating awareness of their own shortcomings and errors (Patrick, 2006). Another defining characteristic of psychopaths is the affective impairment, which has been extensively examined in clinical research, yet its physiological correlates remain shrouded in controversy. Notwithstanding, empirical evidence suggests that psychopaths may exhibit heightened sensitivity to emotional stimuli compared to the general population; however, their elevated autonomic arousal state leads to habituation, thereby increasing their emotional response threshold (House & Miligan, 1976).

Individual with psychopathic tendencies possess a unique set of personality features, highlighted with affective apathy, mercilessness, deceptive maneuvering, reckless impulsivity and a blatant disregard for responsibility (Porter & Woodworth, 2007).

Psychopathy is characterized by several key features: (1) distinct cognitive impairments, particularly in specific learning domains, and (2) affective representation dysfunction, leading to (3) difficulties in recognizing and respecting moral and conventional boundaries, as well as limitations in adopting socially accepted moral norms, and (4) deficits in behavioral flexibility and habit reversal (Blair, 2005).

Psychopathy is marked by a number of emotional impairments, encompassing aberrant fear processing (Lykken, 1957; Patrick et al., 1994), impaired empathetic abilities (Blair, 1995), and disrupted somatic feedback mechanisms (Damasio, Tranel, & Damasio, 1990).

Criminal Thinking

Criminal thinking is characterized as collection of cognitive processes that include beliefs, values and attitudes that legitimize as well as promote engagement in criminal activities. This cognitive framework inclines an individual to perceive and process information in a way that promotes criminal behavior, influencing decision making process (Andrews et al., 2006). Walters (2009) conceptualizes criminal thinking as a mental process that enables individual to justify or take part in criminal activities as well as sustain non-compliance with legally mandated norms, regulations and laws set by the government.

According to Walters (2006a), criminal thinking consists of two key factors: thought content (what individual think) and cognitive processes (how individual think), both factors play an important role in driving and perpetuating chronic deviant and illegal behavior.

Criminalistic thought patterns are characterized as a dysfunctional cognitive framework consisting of maladaptive thinking that supports a life of crime by providing



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rationalizations and excuses for engaging in criminal acts or illegal conduct (Taxman et al., 2011).

Crime-facilitating conditions are marked by distorted criminalistic thought patterns (Walters, 2003), these distorted thinking styles leads to the poor judgement as offenders are more likely to take incorrect decisions with these distorted thinking patterns which in turn exacerbate their future offending (Walters, 2006b). According to Boduszek and Hyland (2012), illegal thought patterns are the product of social interactions with offenders and the association with peers who commit crimes plays a primary role in the development of illegal actions.

Criminalistic thought patterns are a cognitive framework consisting of different ways of thinking, feeling, and believing that encourage and promote engagement in illegal activities and a delinquent way of life (Walters, 1995). According to Douglas and Skeem (2005), criminal thinking influences an individual's inner decision-making processes, attitudes and perceptions also it affects an individual's interactions with environments, situations and others, ultimately influencing their likelihood of engaging in unlawful actions.

According to Walters (2017), a decrease in thinking criminally is a strong predictor of decreased illicit behavior, highlighting the potential for cognitive change to drive behavioral reform.

Impulsivity

Impulsivity, as defined by Mueller et al. (2001), is the tendency to act on impulse without taking into consideration the potential negative outcomes which result in quick and impulsive responses to either internal or external stimulation. Impulsivity is a pivotal construct in the study of psychopathology, featuring prominently in the diagnostic criteria of numerous mental health disorders (Evdenden, 1999). Nevertheless, research on impulsivity has been hindered by inconsistent definitions and measurement approaches. The intricate structure of impulsivity was recently clarified by Whiteside and Lynam (2001), who delineated four different aspects that underlie reckless behavior such as emotional reactivity, impulsive decision making, behavioral impulsivity and sensory-seeking propensity.

Impulsivity, characterized as a tendency to exhibit swift, spontaneous responses to internal and external stimuli, often disregarding the potential detrimental consequences for oneself or others (Chamberlain & Sahakian, 2007), which according to Moeller et al. (2001), is crucial in forming individual personality characteristics as well as it can contribute to a number of externalizing mental health conditions. Specifically, impulsivity can contribute to borderline personality disorder, characterized by impulsive emotional dysregulation (American Psychiatric Association, 1994), antisocial personality disorder, marked by impulsive aggression and disregard for others (Swann et al., 2009b), and substance use disorder, where impulsive behavior exacerbate addiction (Ersche et al., 2010; Moeller et al., 2002).

Impulsivity refers to a stable predisposition, wherein individuals exhibit a persistent pattern of rapid and delayed decision-making in contexts marked by ambiguity or unclear outcomes (Heckel et al., 1989). Impulsivity involves acting on impulse with little forethought, resulting in reckless, spontaneous, poorly planned and potentially damaging conduct (Daruna & Barnes, 1993; Moeller et al., 2001; Visser et al., 1996).

Impulsivity, whether considered as a response pattern or a broad personality trait, has far-reaching implications across various domains, including criminal behavior (Patton et al., 1995), pathology of the personality (Moeller et al., 2001), reckless decision making



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(Stanford et al., 1996), suicidal tendencies (Asberg et al., 1976), disorders related to eating (Askenazy et al., 1998), substance addiction (Lee & Pau, 2002) and aggressive behavior (Halperin & Newcorn, 1998).

Psychopathy and criminal thinking

Research has repeatedly demonstrated that psychopathic characteristics, criminal thinking and unlawful activities are significantly correlated (Walters, 2007; Walters & Mandell, 2007).

According to the research by Dembo et al. (2007), people who have high degree of psychopathic traits are strongly correlated to their likelihood of thinking in a way that led to criminal behavior. Specifically, individuals with elevated psychopathic tendencies had a considerably increased likelihood of committing a crime than those with mild psychopathic features.

Ragatz et al. (2011) explored the association between psychopathic predispositions and deviant cognitive patterns among adolescents identified as chronic bullies during late high school years, finding that elevated levels of criminogenic cognition were strong predictors of bullying conduct. Empirical evidence has consistently demonstrated that individuals exhibiting psychopathic characteristics are more inclined to engage in persistent criminal activities (DeLisi, 2009), with psychopathy identified as a predominant predictor of recurrent violent offenses (Harris et al., 2001). Furthermore, such individuals display a heightened probability of early involvement with the juvenile justice system (Forth & Book, 2007) and are disproportionately represented in cases involving violent acts (Hare & McPherson, 1984).

The construct of psychopathic traits remains foundational in understanding the etiology of recurrent criminal offenses. Vaughn and Howard (2005) assert that psychopathic traits offer a compelling explanatory framework for why certain individuals exhibit chronic and severe antisocial behavior, a view echoed by DeLisi (2009), who posits that psychopathy provides a more robust explanation for criminal activity than alternative psychological constructs.

A consistent pattern across empirical literature affirms a significant correlation between psychopathic features and distorted cognitive schemas associated with criminality (Gonsalves, Scalora, & Huss, 2009; Mitchell & Tafrate, 2011; Simourd & Hoge, 2000). Specifically, individuals exhibiting psychopathic characteristics are more likely to hold views that encourage illegal behavior, support actions harmful to others and display weak attitudes toward altruistic and selfless behavior. This cognitive profile suggests that psychopathy substantially influences the development and maintenance of criminally oriented attitudes and ideation.

Given that psychopathic tendencies comprise a unique set of personality characteristics and considering the established impact of personality on thought process (Jones, Miller & Lynam, 2011), which suggest that psychopathic tendencies can shape an individual inclination for criminal thinking patterns. Research indicates that individual with psychopathic tendencies exhibit a stronger affinity for criminal ideologies and take greater satisfaction in engaging in unlawful activities (Simourd & Hoge, 2000), setting them apart from offenders who lack such traits. Psychopathy and criminal thinking increase the chance of reoffending. Understanding how they are connected will help identify whether the presence of psychopathic traits specifically signals distinct patterns of criminal thinking (Gonsalves et al., 2009; Morgan et al., 2010).

Mandracchia et al. (2015) empirically demonstrated that, even when the demographic variables were statistically controlled, heightened levels of primary and secondary



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psychopathic tendencies significantly determined an increase in overall criminologic cognition, as well as specific subsets of harmful thought patterns.

Psychopathy and impulsivity

Anestis, Anestis and Joiner (2009) conducted an empirical inquiry into the association between psychopathic personality traits and impulsive behavioral tendencies among university students, utilizing the UPPS assessment tool. Their findings revealed a robust and statistically significant positive relationship between socially deviant psychopathic attributes and various facets of impulsivity. These findings were substantiated by Ray et al. (2009), whose replication of the study within offender population reaffirmed the consistency of this linkage across both clinical and non-clinical samples.

Numerous researchers have consistently identified impulsivity as a fundamental characteristic of psychopathy (Blackburn & Coid, 1998; Block, 1995; Daderman, 1999; Hare, 1982; Jones & Paulhus, 2011; Klinteberg et al., 1992; Lynam, 1997; Stanford et al., 1994; Malesza & Ostaszewski, 2016; March et al., 2017; Vitacco & Rogers, 2001). This trait is widely recognized as a key component of psychopathic personality.

Several behaviors that are the characteristics of psychopathy such as reckless sexual encounters, compulsive gambling, substance abuse and illicit activities exhibit impulsive tendencies (Blaszczynski et al., 1997; Harris et al., 2007; Sylvers et al., 2011). Such behaviors are indicative of deficient self-regulatory mechanisms and a pronounced proclivity toward impulsive actions.

Empirical findings suggest that psychopathic individuals display heightened reward-seeking behaviors in tandem with profound deficits in fear reactivity and anxiety modulation (Fowles & Dindo, 2006). Consequently, their disinhibited behavioral profile persists largely unmoderated by aversive outcome anticipation, reflecting a severely impaired inhibitory control system.

According to renowned psychopathy expert Robert Hare, the majority of individuals engage in anticipatory cognitive processing, weighing the potential consequences of their actions prior to making behavioral decisions (Hare, 1970, 1993). However, individual with psychopathic tendencies struggle to engage in this reflective process. Their impulsive nature compels them to opt for the most expedient solution, prioritizing immediate gains over careful consideration of potential risks and consequences.

Psychopathy represents a multifaceted personality pathology marked by manipulative, impulsive and anti-social tendencies accompanied by superficial emotional experiences (Baskin-Sommers et al., 2012; Marcus et al., 2019). This disorder has been extensively studied with a researcher identifying two distinct subtypes: primary and secondary psychopathy. As articulated by Levenson et al. (1995), primary psychopathy is typified by affective coldness and interpersonal detachment, which facilitate calculated, exploitative conduct devoid of empathy or moral restraint. Conversely, secondary psychopathy emerges from affective instability and behavioral dysregulation, manifesting predominantly as impulsive, erratic and socially maladaptive tendencies.

Impulsivity and criminal thinking

Individuals exhibiting impulsivity, sensation-seeking and a limited focus on future outcomes demonstrate a markedly increased propensity for engaging in illegal acts (Deitzer et al., 2023). The link between short-term mindsets and crime has been extensively documented, highlighting the need to explore the intersection of impulsivity and unlawful activities. Griffin et al. (2017) determined that impulsive behavior is a key dispositional factor linked to various forms of high-risk and socially disruptive behaviors,



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including risky sexual activities, harmful substance use, compulsive gambling, aggressive outbursts and violent conduct which can contribute to criminal engagement.

Empirical evidence repeatedly demonstrated that impulsive traits exhibited during adolescence serves as a significant prognostic indicator of delinquent and criminal behaviors emerging in late adolescence and persisting into early adulthood (Bechtold et al., 2013). Specifically impulsive tendencies have been linked to violent crimes including physical fights, weapon use, harm to others, armed robbery and intimate partner violence. Notably, impulsivity constitutes a fundamental psychological determinant in the onset and perpetuation of criminal activities as evidenced by its systematic incorporation into the predictive criteria of widely utilized tools for assessing criminal propensity. These measures prioritize impulsivity over other constructs, determining its importance in predicting criminal behavior.

The psychological concept of self-control consists of the ability to manage impulsive drives. Empirical studies consistently demonstrate correlations between differences in self-regulatory abilities and a broad range of antisocial behaviors (Eisenberg & Fabes, 1992; Reynolds, 2006). According to Bayrami et al. (2014), criminal behavior and other antisocial actions may stem from declining cognitive capacities. The brain operates through two distinct cognitive systems: executive functions and impaired executive functions. Executive functions encompass logical reasoning, decision-making, behavioral regulation and emotive processes driven by feelings, desires and instincts. Impaired executive functions and social perceptions can influence decision-making at high-risk situation, potentially leading to criminal activity. Notably, substance abuse related risky behaviors have been linked to dysfunction in the prefrontal cortex and hippocampus regions, area critical for modulating impulses and guiding goal-directed, responsible behavior.

Self-control is a fundamental concept in criminology, consistently supported by empirical evidence showing its inverse relationship with criminal behavior (Pratt & Cullen, 2000; Rocque et al., 2016; Title, 2011). According to Gottfredson and Hirschi (1990), impulse control encompasses multiple dimensions, particularly the capacity to regulate one's actions despite immediate desires. Impulsivity a crucial component of self-control serves a significant role in criminological research. Individuals with impulsive tendencies exhibit behavioral patterns distinct from those individuals capable of exercising restraint (Matthews et al., 2004). Notably, impulsive drives have been consistently linked to antisocial behavior (Lynam & Miller, 2004).

Psychopathy, impulsivity and criminal thinking

Gonsalves et al. (2009) conducted an empirical investigation into the link between maladaptive cognitive schemas and psychopathic traits within the cohort male forensic inpatients. Their findings indicated a significant positive correlation between the impulsive-irresponsible and antisocial subdimensions of psychopathy and the presence of criminally oriented thought patterns, therefore proving a hypothesis that criminal thinking is intimately tied to the impulsivity-driven and deviant aspects of psychopathic personality (Ullah et al., 2021).

The Triarchic Model of Psychopathy sheds a light on three key components: empathy, resilience and sensation-seeking. According to Patrick and Drislane (2015), this model comprises three distinct dimensions: Disinhibition, Meanness and Boldness. Loss of inhibition is characterized by impulsive tendencies, deficient inhibitory control, reactive aggression and emotional instability, Meanness involves diminished empathetic sensitivity, weakened interpersonal attachment, interpersonal disdain, exploitative



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interpersonal strategies and callousness that might lead to a greater propensity for harming others and engaging in antisocial acts, which is often associated with criminal thinking patterns. Boldness encompasses traits such as self-assuredness, social dominance, emotional steadiness and a heightened tolerance for risk-taking (Patrick & Drislane, 2015). Although robust links between psychopathy, impulsivity and criminal thought patterns have been well-documented, the intermediary function of impulsivity within this triadic relationship remains underexplored particularly within emerging adult populations. The existing literature primarily focuses on adult offenders or clinical populations, neglecting the unique dynamics of this association during adolescence and early adulthood and the underlying thought patterns underlie the manifestation of criminal behavior. Accordingly, the present research seeks to elucidate the mediating function of impulsive tendencies in the linkage between psychopathic traits and criminogenic cognitive patterns within an undergraduate population.

Theoretical framework

The present research builds on multiple widely accepted psychological models. Hare's (1991) Psychopathy Checklist-Revised (PCL-R) forms the conceptual cornerstone for operationalizing psychopathy, delineating core traits such as glib superficiality, deficient empathy and pronounced impulsivity, attributes that substantially contributes to antisocial proclivities. These psychopathic traits that is emotional-detachment and manipulative interpersonal styles may exacerbate an individual's vulnerability to illegal cognition.

Moreover, according to Cognitive Distortion Theory given by Yochelson and Samenow (1976) people with criminal or illegal tendencies sometimes have distorted way of thinking. People with these distorted thought patterns usually consider antisocial or illegal acts normal and justifiable.

Here, impulsivity can play a role of mediator in between psychopathy and criminal thinking. According to Evan's (2008) Dual Process Model, people usually make decisions in two ways. One, that is slow and rational and the other, that is more hasty and impulsive. People with high impulsive tendencies are more likely to prioritize immediate gratifications and they do not think about future consequences. People with psychopathic tendencies are more likely to think this way especially in their tendency to take risks and ignore social rules or law (Ullah, 2025).

According to The general Aggression Model proposed by Anderson and Dill (2000), individuals with traits like psychopathy and impulsivity which interact with cognitive and affective aspects are more likely to engage in aggressive and criminal behavior. These models form the basis of present study by shedding light on how impulsivity play a vital role in linking psychopathic traits to illegal or criminal thoughts and conduct.

Conceptual framework

This research endeavors to examine the intricate association between psychopathic traits and patterns of criminal cognition, with a particular emphasis on the mediating influence of impulsivity. The conceptual framework is illustrated in figure 1.1.

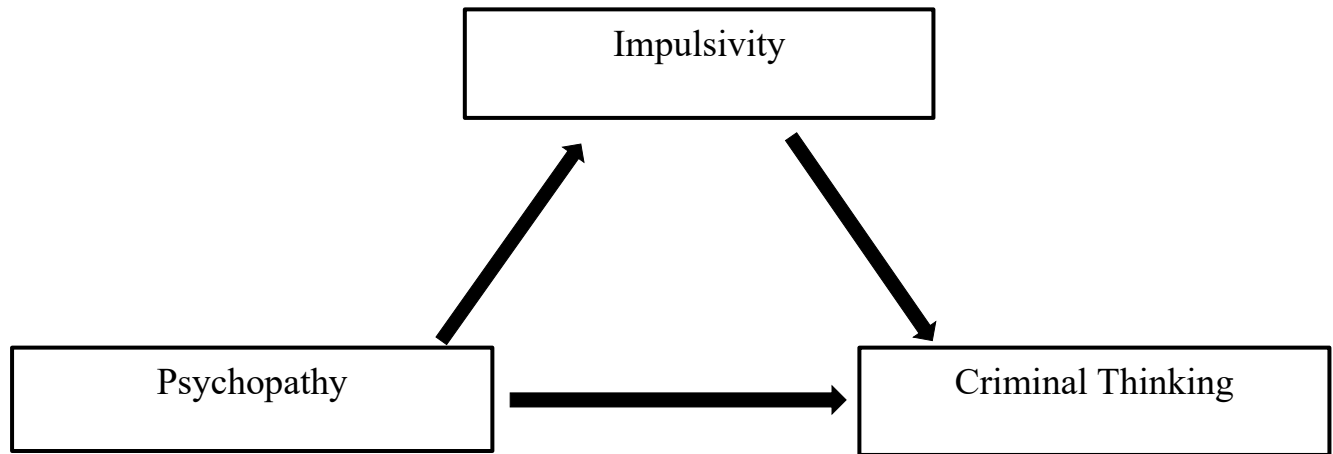


Figure 1.1 diagrammatic representation of research variables

Objectives of the study

The present research is designed to pursue the following core objectives:

- 1.To critically analyze the link between psychopathic tendencies and patterns of criminal thinking within an undergraduate student population.
- 2.To systematically investigate the prevalence of psychopathic characteristics and criminal thinking styles among undergraduate students.
- 3.To assess the mediating influence of impulsivity in the dynamic interplay between psychopathy and predispositions toward criminal behavior in undergraduate cohorts.
- 4.To determine the extent to which impulsivity modifies or amplifies the link between psychopathic personality dimensions and cognitive patterns indicative of criminal intent within student populations.

Hypotheses

H₁: Psychopathy significantly correlates with criminal thinking among university-level students.

H₂: Impulsivity significantly mediates the link between psychopathic tendencies and criminal thinking among undergraduate cohorts.

H₃: Psychopathic dispositions and impulsive tendencies have a significant predictive effect on criminal thinking patterns among undergraduate students.

Method:

Participants for the present investigation were procured through a randomized selection process across multiple universities and colleges situated in Peshawar. The final sample consisted of 200 undergraduate students, with an age ranging between 19-24years. Only those currently enrolled in accredited BS-level programs were deemed eligible for inclusion, while individuals below 19 years of age or not pursuing undergraduate studies were excluded. Before starting data collection, permission was obtained from concerned institutional authorities. Every participant was formally approached and were briefed about the aims, objectives and ethical framework of research and they were assured that their confidentiality would be maintained. Voluntary participation was prioritized and respondents were informed that they can withdraw anytime without any consequence.



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After getting informed consent, participants filled out a booklet which consists of demographic information form and three standardized scales: the Levenson Self Report Psychopathy Scale (Levenson et al., 1995), the Texas Christian University Criminal Thinking Scale (Knight et al., 2006) and the Barratt Impulsiveness Scale Brief (Steinberg et al., 2013). The completed measures were subsequently collected and prepared for statistical analysis, which included correlational, multiple regression, and mediation analysis.

Results:

Table 1 Psychometric Properties of Scales

Scales	<i>M</i>	<i>SD</i>	Range	Cronbach's α
Levenson Self-Report Psychopathy scale	65.70	11.53	43-87	.85
Criminal Thinking Scale (TCU CTS 3.0)	29.99	4.72	21.1-42.3	.81
Barratt Impulsiveness Scale (BIS-11)	21.68	6.77	11-33	.87

Table 1 presents the psychometric attributes of the scales employed in this research. The Levenson Self-Report Psychopathy Scale (LSRP) exhibited a mean score of 65.70 ($SD=11.53$) with scores ranging from 43 to 87; the Criminal Thinking Scale (TCU CTS 3.0) had a mean score of 29.99 ($SD=4.72$) with scores ranging from 21.1 to 42.3; and the Barratt Impulsiveness Scale (BIS-11) had a mean score of 21.68 ($SD=6.77$) with scores ranging from 11 to 33. Reliability coefficients (Cronbach's α) for these scales were .85 for LSRP Scale, .81 for Criminal Thinking Scale (TCU CTS 3.0) and .87 for Barratt Impulsiveness Scale (BIS-11), indicating a high degree of internal consistency for each scale ($\alpha > .80$).

Table 2 Correlation between Psychopathy and Criminal Thinking

Variables	1	2
Psychopathy	-	.811***
Criminal Thinking	.811***	-

*** $p < .001$

Table 2 provides an elucidation of the correlational dynamics between psychopathy and criminal thought processes. The statistical analysis yielded a robust positive interlink between these two constructs ($r=.811$, $p<.001$), suggesting that individuals characterized by heightened psychopathic traits are more likely to engage in criminal thought processes. The statistically significant correlation coefficient obtained in this study mitigates the likelihood that the observed relationship between psychopathy and illegal thought processes is a chance occurrence. Consequently, the findings corroborate the initial hypothesis, which predicted a statistically substantial and positively aligned association was observed between psychopathic traits and criminogenic cognitive patterns within the undergraduate population.

Table 3 Regression analysis for Mediation of Impulsivity between Psychopathy and Criminal thinking



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Variable	<i>B</i>	95%CI	<i>SE B</i>	β	R^2	ΔR^2
Step 1					.66	.66***
Constant	8.19***	[5.95, 10.43]	1.13			
Psychopathy	0.33***	[.29, .36]	0.02	.81***		
Step 2					.72	.72***
Constant	11.70***	[9.46, 13.95]	1.14			
Psychopathy	0.17***	[.11, .22]	0.03	.41***		
Impulsivity	0.33***	[.24, .42]	0.05	.48***		

Note CI= confidence interval

*** $p < .001$

Table 3 articulates the influence exerted by psychopathic tendencies and criminally-oriented cognition among university undergraduates. The outcomes from Step 1 indicate that psychopathic traits served as a statistically significant predictor of deviant cognitive patterns, accounting for approximately 65.7% of the total variance in the model ($R^2 = .66$, $F(1, 198) = 379.60$, $p < .001$). The unstandardized regression coefficient ($B = 0.33$) was statistically significant ($SE = 0.02$, $\beta = .81$, $p < .001$), signifying a markedly strong and positively directed association between psychopathic personality traits and criminal cognition. In Step 2, the integration of impulsivity as a mediating construct resulted in a substantial and statistically meaningful increase in the proportion of explained variance, elevating the model's explanatory power to 72.5% ($R^2 = .72$, $F(2, 197) = 259.75$, $p < .001$). Both psychopathy ($B = 0.17$, $SE = 0.03$, $\beta = .41$, $p < .001$) and impulsivity ($B = 0.33$, $SE = 0.05$, $\beta = .48$, $p < .001$) were identified as statistically consequential determinants of criminogenic cognitive patterns. Furthermore, the decline in the regression coefficient for psychopathy from Step 1 to Step 2 (from $\beta = .81$ to $\beta = .41$) implies that impulsivity operates as a partial mediator in the link between psychopathic traits and criminal cognition, supporting the notion that both psychopathic characteristics and impulsive tendencies have direct effects on criminogenic cognitive patterns.

Table 4 Regression Coefficients of Psychopathy and Impulsivity on Criminal Thinking

Variables	<i>B</i>	<i>SE</i>	<i>t</i>	<i>P</i>	95%CI
Constant	11.70	1.14	10.28	.000	[9.46, 13.95]
Psychopathy	.17	.03	6.05	.000	[.11, .22]
Impulsivity	.33	.05	6.97	.000	[.24, .42]

Note. $R^2 = .725$, $F(2, 197) = 259$, $P < .001$

Table 4 delineates the contributory influences of psychopathy and impulsive tendencies on the emergence of criminal cognition among undergraduate participants. The coefficient of determination ($R^2 = .725$) suggests that the predictive variables collectively accounted for 72.5% of the variance observed in the criterion variable, as demonstrated by the regression output ($F(2, 197) = 259$, $P < .001$). Empirical analysis further revealed that psychopathy was a statistically significant predictor of criminally inclined thinking patterns ($\beta = .41$, $P < .001$) and impulsivity also positively predicted criminal thinking patterns ($\beta = .47$, $P < .001$). These outcomes offer empirical substantiation for hypothesis (H_3), affirming that both psychopathic traits and impulsive tendencies serve as a meaningful predictor of criminal cognition among the undergraduate cohort.



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Discussion

The present investigation aimed to delineate the complex interrelations among impulsivity, criminal cognition and psychopathic traits within a university population. The study was guided by four principal objectives: (1) examining the association between psychopathic features and criminogenic thought processes; (2) assessing the prevalence and extent of psychopathic tendencies and criminal cognitive styles; (3) evaluating the mediating function of impulsivity in the psychopathic-criminal thinking nexus and (4) exploring how impulsivity influence the link between psychopathic traits and criminogenic thought patterns.

Preliminary psychometric evaluations revealed that all measurement instruments employed demonstrated high internal reliability, with Cronbach's alpha coefficients exceeding the threshold of .80. According to the descriptive statistics, the individuals' scores on the Levenson Self-report Psychopathy Scale (LSRP) and the Criminal Thinking Scale (TCU CTS 3.0) varied, with mean scores indicating moderate degrees of criminal thinking and psychopathic tendencies.

The correlation study showed a high positive association in between criminal thinking and psychopathy which support the study's first hypothesis (H_1). This finding suggests that these psychopathic traits must be addressed especially in terms of behavior management interventions in order to reduce criminal thought patterns and conduct as increased psychopathic scores is associated with higher risk of engagement in criminogenic cognitions. Moreover, regression-based mediation analysis showed that impulsivity partially mediates the nexus between psychopathy and criminal thinking. These outcomes indicate that impetuous tendencies function as a psychological mechanism by which psychopathy affect criminal cognition thereby it highlights the intermediary role of impulsivity.

Multiple regression analysis revealed that both psychopathy and impulsivity act as a significant predictor of criminal thoughts patterns among undergraduate population which shows that it is very important to consider psychopathic traits and impulsiveness when figuring out criminal conduct.

The findings of this study have implications over academic settings and policy development. Early identification of impulsive and psychopathic traits is very crucial in order to develop more strategic and effective interventions.

Conclusion

The present investigation offers valuable insight into how psychopathy, criminal thinking and impulsivity are linked among undergraduate students in Peshawar. The results confirm the intermediary role of impulsivity in the relationship between psychopathy and criminal thinking. These findings emphasized the need for early interventions and corrective programs to work on impulsive behavior in order to lower the probability of criminal actions.

The outcomes also suggest that people who show strong impulsive habits and psychopathic features should be identified early and should be given proper help through interventions or therapies. By highlighting how these variables are interconnected, the study helps us better understand the thinking and personality patterns that lie behind criminal behavior.

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