



Offender Recidivism as A Function of Criminal Thinking Style and Criminogenic Needs

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ABSTRACT

Objective: The present investigation explored representative variables of criminal attitude and psychopathy, to analyze offender recidivism as a function of criminogenic needs which include dynamic risk variables connected to criminal behavior, and criminal thinking style, which refers to cognitive tendencies behind the criminal mentality.

Method: Sample of 124 inmates was selected through purposive-maximum variation sampling. They completed Ohio Risk Assessment System-CST, TCU-Criminal thinking Scale, Levenson Self Report Psychopathy Scale, Criminal Sentiments Scales-M in addition to a preliminary form to gather demographic details and criminal history.

Result: The collected data were analyzed using stepwise Multiple Regression model to reveal that Criminal Rationalization thinking style appeared as the strongest predictor for criminal attitude while Entitlement, Power Orientation, Justification and Cold heartedness criminal thinking style appeared as the strongest predictors for psychopathy. Criminogenic needs variable was eliminated from both the regression models, as a predictor for psychopathy and criminal attitude respectively.

Conclusion: Overall, the study emphasizes the importance of comprehensive interventions that address these factors to successfully reduce recidivism rates and support the reintegration of offenders into society.

Keywords: *Offender recidivism, Criminal Attitude, Psychopathy, Criminal Thinking Style, Criminogenic Needs*

1. Introduction

The present investigation explored representative variables of criminal attitude and psychopathy, to analyze offender recidivism as a function of criminogenic needs, which are dynamic risk variables connected to criminal behavior and criminal thinking style, which refers to cognitive tendencies and erroneous beliefs behind the criminal mentality.

According to Andrews and Bonta (1998), criminogenic needs signify dynamic qualities of criminals and their physical and social environments that, when altered, are associated to decreased rates of recidivism. Antisocial personality traits, pro-offending attitudes and beliefs, impulsivity, poor problem-solving skills, substance misuse, high levels of animosity along with rage, and contact with criminals are a few examples (Andrews and Bonta, 1998). According to research, criminogenic needs are more prevalent in the community of offenders than in the overall population. This implies that a majority of those individuals who are incarcerated are from the criminal community and will eventually reintegrate there (Andress, Wildes, Rehtine, and Moritsugu, 2004). Guebert and Olver (2014) examined violent juvenile offenders and discovered a substantial correlation between drug usage measures and criminogenic risk and need. Additionally, they noticed that young people who simultaneously had substance use problems or disruptive behavior disorders had more pronounced criminogenic need profiles. While, in their study of the criminogenic needs of female offenders, Hollin and Palmer (2010) stressed the significance of precisely recognizing and meeting requirements in the areas of money, housing, education, work, and drug usage. In summary, these investigations establish the significance of addressing criminogenic needs, such as substance misuse, disruptive behavioral disorders, and socioeconomic issues, to lower recidivism rates.

Criminal thinking, on the other hand is the mental attitude that leads to the beginning and maintenance of persistent criminal and antisocial behavior (Walters, 2006). Criminal thinking or cognition encompasses both the mental processes and mental contents presuming the control of human behavior. Authoritarian and permissive parenting styles were found to be favorably associated with criminal social identity and criminal thinking, but authoritative parenting styles revealed a negative association, according to Sana, Rafiq, and Iqbal (2021). When Jha and Dhillon (2020) examined the association between criminal thinking style and social moral reasoning, they found that negative association between criminal thinking style and sociomoral reasoning in both offender and non-offender populations. Similarly, Alkhubata and Abdihaq (2018) looked at the relationship between adolescent criminal thinking

style and perceived parental maltreatment, emphasizing the predictive power of this viewpoint. The complicated interactions between numerous variables and criminal thinking style across distinct offender populations are clarified by these studies. These findings also highlight the significance of taking individual differences and demographic information into account when identifying and correcting criminal thinking patterns.

Recidivism, which is obtained from the Latin *recidivus* (or "falling back"), is a criminal's propensity to commit offences again and again after being found guilty. Recidivism is a phrase that describes reoffending behavioral patterns and a pro-criminal way of life and is often related to other terms like habitual, chronic, or career offender (Shoeman, 2010). In this study recidivism was studied by criminal attitude, which illustrates their attitude towards committing crimes, defending their choices, and having a worldview that encourages and supports criminal behavior. Criminal attitudes are frequently characterized by an intolerance for social standards, a lack of compassion for others, and the conviction that engaging in criminal activity is acceptable or even necessary. To understand criminal views among ex-offenders, Boduszek et al. (2011) emphasized on the effect of personality factors, criminal associates, and recidivism. He discovered that psychoticism was the most accurate predictor of criminal attitudes, accounting for 71% of the variation in criminal views together with personality traits, association with criminals, and likelihood to reoffend.

Psychopathy, represents number of persistent personality traits, recurring patterns of behavior, and interpersonal features that depart from societal norms and expectations, was also selected as a proxy variable for recidivism. The absence of empathy and guilt, superficial emotions, deceptive and manipulative behavior, impulsivity, and contempt for the rights and welfare of others are all hallmarks of psychopathy. Hemphill, Hare, and Wong (2011) investigated the association between psychopathy and recidivism. The rate of reoffending among convict samples was found to be significantly predicted by psychopathy through an analysis of numerous articles employing the Hare Psychopathy Checklist Revised scale. The study also found that compared to non-psychopathic people and convicts, inmates who had psychopathy were four times more likely to conduct violent recidivism and three times more likely to participate in general recidivism.

The previous research investigations have offered insights into the intricate dynamics of criminal conduct and recidivism by addressing several variables which influence recidivism. For instance, Self-reported substance uses and dependency, together with psychopathic traits, were found to be important predictors of sexual and violent recidivism in high-risk sex offenders (Bazinet et al., 2022). According to Guan and Lo (2022), proactive criminal thinking functions as a mediator between the influence of perceived crime advantages on recidivism and the role of criminal thinking and perceived crime benefits in predicting future offending.

Grandhi et al. (2022) investigated the relationship between locus of control along with coping methods and discovered that external locus of control and an avoidant coping style both predicted of reoffending. Mungai and Okul (2021) discovered that antisocial personality traits significantly contributed to recidivism. Hasgul (2014) discovered corresponding risk factors for recidivism among individuals with antisocial personality disorder, such as having previously executed violent crimes, experiencing fewer schooling opportunities, maintaining both a criminal record and a record of mental illness, and having poor living conditions. Overall, these studies collaboratively provide clarification on the complex nature of recidivism and emphasize the significance of considering personality traits, criminal attitude, coping mechanisms, psychopathic traits, criminal thinking, and substance use when comprehending and addressing recidivism.

2. Method and Procedure:

2.1 Purpose

The major objective of the present inspection was to examine how Offender Recidivism could be predicted through Criminal Thinking Style and Criminogenic needs, using constructs of Criminal attitude and Psychopathy to represent offender recidivism.

2.2. Participants

The sample consisted of 124 prisoners aged 19-50 years (mean age= 32.92; 44.35% lying b/w 19-30 years, 36.29% lying b/w 31-40 years, 19.35% lying b/w 41-50 years), who were either convicted (54.83%) or undergoing a trial (45.16%) from District Jail Kaithu and Modal Central Jail Kanda, Shimla, Himachal Pradesh. Of the total sample, majority of the inmates were males (92.74%) while only 5.64% constituted females and 1.6% of the total fraction identified as other gender. Participants were imprisoned for a variety of index offences, however most of the inmates were incarcerated for NDPS (41.12%) followed by Murder (22.58%) then Rape (20.16%) and all other types of crimes were clubbed as others category (16.12%). Also, maximum proportion (84.67%) of the sample was represented by first time offenders and only 15.31% were convicted with multiple offences. It was also observed that 50.80% inmates were with high education (12th and above), 41.11% with lower education (till 10th or below) and only 8.06% were uneducated.

2.3 Materials

Participants completed Ohio Risk Assessment System-CST, TCU-Criminal thinking Scale, Levenson Self Report Psychopathy Scale, Criminal Sentiments Scales-M in addition to a preliminary form to gather demographic and other details like Educational Qualification, Time period of Imprisonment, Number of convictions, mental and physical health status, crime and sentencing etc.

2.4 Procedure

The sample was selected using Purposive maximum variation sampling and the data was collected using mixed method, survey along with interview method. The survey administration as well as interview occurred individually for each participant, of which the survey administration took around 10-15mins for completion while the interview took around 30-45mins. Furthermore, for this study, Quasi-experimental research design was selected, considering the nature of the research question. Overall, the use of a quasi-experimental design was considered ideal for the subject of this study since it permits the modification of interested variables while controlling for other pertinent factors. It is also frequently employed in criminal justice research when random assignment is impractical.

3. Results and Discussion

3.1 Effect of criminogenic needs and Criminal Thinking style on Offender Criminal Attitude:

Table 1: Descriptive Statistics for Criminal attitude regression model

Descriptive Statistics			
	Mean	Std. Deviation	N
CRIMINAL ATTITUDE	12.27	6.908	124
CRIMINOGENIC NEEDS	9.08	4.816	124
ENTITLEMENT	25.22	5.747	124
JUSTIFICATION	20.36	7.505	124
POWER ORIENTATION	24.56	8.487	124
COLD HEARTEDNESS	14.42	4.241	124
CRIMINAL RATIONALISATION	34.68	6.095	124
PERSONAL IRRESPONSIBILITY	30.16	6.949	124

Since there were 7 predictor variables in the study, in order to determine or identify the subset of variable(s) that are most strongly related to the outcome variable of criminal attitude, a stepwise (forward) regression was conducted to determine which Predictor variables among the 7 variables of *Criminogenic needs*, *Entitlement criminal thinking*, *justification criminal thinking*, *Power orientation criminal thinking*, *cold heartedness criminal thinking*, *criminal rationalisation criminal thinking* and finally *personal irresponsibility* appear as significant predictor.

Table 2: Stepwise Regression Table

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	CRIMINAL RATIONALISATION	.	Forward (Criterion: Probability-of-F-to-enter <= .050)

a. Dependent Variable: CRIMINAL ATTITUDE

Table 3: Model Summary Table of Stepwise Regression for Criminal attitude

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	Sig.	F	Durbin-Watson	
1	.515 ^a	.365	.359	6.477	.265	44.056	0.001	1.936		

Table 4: Significance table of stepwise regression for Criminal Attitude

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1847.984	1	1847.984	44.056	<.001 ^b
	Residual	5117.403	122	41.946		
	Total	6965.387	123			

a. Dependent Variable: CRIMINAL ATTITUDE

b. Predictors: (Constant), CRIMINAL RATIONALISATION

The analysis revealed that among the variables considered, only criminal rationalisation emerged as a significant predictor of criminal attitude ($F(1/122) = 44.056$, $p = 0.001$, which is less than the significance level of 0.05). The concept of criminal rationalisation refers to the inclination of individuals to use flawed reasoning or rationalizations to justify their criminal behavior.

Upon examining the coefficient table (5), it can be observed that the tolerance value for the variable criminal rationalisation is 1.000. Tolerance indicates the correlation between predictor variables and typically ranges from 0 to 1. In this case, the value of 1.000 suggests a lack of multicollinearity, implying that criminal rationalisation is not highly correlated with the other predictor variables. The multiple correlation coefficient (R) was found to be 0.515, meaning that the combined set of predictor variables, including criminal rationalisation, accounts for 36.5% of the variance in the dependent variable of criminal attitude. This indicates that roughly 36.5% of the differences in criminal attitude can be explained by considering all the predictor variables together.

Specifically, the standardized beta coefficient for criminal rationalisation is 0.515, indicating a positive relationship with criminal attitude. The corresponding t-value is significant (< 0.001), further supporting the significance of this relationship. Moreover, criminal rationalisation contributes approximately 26.5% towards the prediction of criminal attitude, which is the largest individual impact among the variables examined. In summary, these findings suggest that the tendency to employ faulty reasoning or rationalizations to justify criminal behavior, as captured by the variable criminal

Model	Standardized Coefficients Beta	t	Sig.	Correlations			Collinearity Statistics	
				Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)		-2.228	.028					
CRIMINAL RATIONALSIATION	.515	6.637	<.001	.515	0.515	0.515	1.000	1.000

rationalisation, plays a significant role in understanding and predicting criminal attitudes.

Table 5: Coefficient table of stepwise regression for criminal attitude

3.2 Effect of criminogenic needs and Criminal Thinking style on Offender psychopathy

Table 6: : Descriptive Statistics for Psychopathy regression model

Descriptive Statistics			
	Mean	Std. Deviation	N
PSYCHOPATHY	54.24	11.147	124
CRIMINOGENC NEEDS	9.08	4.816	124
ENTITLEMENT	25.22	5.747	124
JUSTIFICATION	20.36	7.505	124
POWER ORIENTATION	24.56	8.487	124
COLD HEARTEDNESS	14.42	4.241	124
CRIMINAL RATIONALSIATION	34.68	6.095	124
PERSONAL IRRESPONSIBILITY	30.16	6.949	124

Since there were 7 predictor variables in the study, in order to determine or identify the subset of variable(s) that are most strongly related to the outcome variable of offender psychopathy, a stepwise (forward) regression was conducted to determine which Predictor variables among the 7 variables of *Criminogenic needs*, *Entitlement criminal thinking*, *justification criminal thinking*, *Power orientation criminal thinking*, *cold heartedness criminal thinking*, *criminal rationalisation criminal thinking* and finally *personal irresponsibility* appear as significant predictor.

Table 7: Stepwise regression table for psychopathy

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	ENTITLEMENT	.	Forwardm (Criterion: Probability-of-F-to-enter \leq .050)
2	POWER ORIENTATION	.	Forwardm(Criterion: Probability-of-F-to-enter \leq .050)
3	JUSTIFICATION	.	Forward (Criterion: Probability-of-F-to-enter \leq .050)
4	COLD HEARTEDNESS	.	Forwardm(Criterion: Probability-of-F-to-enter \leq .050)

a. Dependent Variable: PSYCHOPATHY

Table 8: Model summary table of stepwise regression for Psychopathy

Model Summary ^a									
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Change Statistics			
						R Square Change	F Change	Sig F Change	Durbin Watson
1	.597 ^a	.357	.352		8.975	.357	67.735	<0.001	
2	.713 ^b	.509	.500		7.879	.152	37.308	<0.001	

3	.749 ^c	.561	.550	7.478	.052	14.315	<0.001	
4	.759 ^d	.576	.561	7.383	.015	4.121	<0.045	1.819

Predictors: (Constant), Entitlement

Predictors: (Constant), Entitlement, Power Orientation

Predictors: (Constant), Entitlement, Power Orientation, Justification

Predictors: (Constant), Entitlement, Power Orientation, Justification, Cold Heartedness

Dependent Variable: Psychopathy

Table 9: Significance table of stepwise regression for Psychopathy

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5455.926	1	5455.926	67.735	<.001 ^b
	Residual	9826.816	122	80.548		
	Total	15282.742	123			
2	Regression	7771.786	2	3885.893	62.601	<.001 ^c
	Residual	7510.956	121	62.074		
	Total	15282.742	123			
3	Regression	8572.300	3	2857.433	51.098	<.001 ^d
	Residual	6710.442	120	55.920		
	Total	15282.742	123			
4	Regression	8796.902	4	2199.226	40.351	<.001 ^e
	Residual	6485.840	119	54.503		
	Total	15282.742	123			
a. Dependent Variable: PSYCHOPATHY						
b. Predictors: (Constant), Entitlement						
c. Predictors: (Constant), Entitlement, Power Orientation						
d. Predictors: (Constant), Entitlement, Power Orientation, Justification						
e. Predictors: (Constant), Entitlement, Power Orientation, Justification, Cold Heartedness						

The prediction model comprised of four of the seven predictors and was achieved in four steps. The model was statistically significant, [$F(4, 119) = 40.351, p < .05$] and accounted for approximately 57.6% of the variance of psychopathy ($R^2 = 0.576$, Adjusted $R^2 = 0.561$). The results revealed that Entitlement, Power Orientation, Justification, Cold Heartedness appeared to be significant predictors for the variable of offender psychopathy both independently and in combination. Entitlement is the idea that one is entitled to benefits that other people do not receive or that one deserves special treatment or privileges while Justification criminal thinking style describes a person's capacity to rationalise or explain their unlawful behaviour by coming up with explanations or defences. Power Orientation describes a person's propensity to seek out power and authority over others, frequently through means of coercion or manipulation, on the other hand Cold heartedness criminal thinking style describes a lack of care for the feelings and well-being of others as well as a lack of empathy. People with high levels of cold-heartedness may commit crimes without feeling regret or guilt.

Table 10: Coefficient table of stepwise regression for Psychopathy

The coefficient table indicated that the model including only Entitlement had the strongest predictive power (Beta coefficient value = 0.323, $p = 0.001 < 0.05$), and it accounted for 35.7% of the variance in psychopathy alone ($\Delta R^2 = 0.357$, $F = 67.735$, $p < 0.05$). In the second step, the addition of Power Orientation emerged as the second most powerful predictor (Beta coefficient = 0.327, $p < 0.001$), contributing approximately 15.2% of the variance in psychopathy ($\Delta R^2 = 0.152$, $F = 37.308$, $p < 0.05$). Including Power Orientation increased the R2 value by 0.152 or 15.2%.

The third step involved the addition of Justification to the model, which further improved the prediction by 5.2% ($\Delta R^2 = 0.052$, $p = 0.001 < 0.05$, $F = 14.135$). Justification exerted a positive effect on offender psychopathy (Beta coefficient value = 0.267, $p < 0.001$). Finally, the fourth step included Cold Heartedness, which increased the overall variance in offender psychopathy by 1.5% ($\Delta R^2 = 0.015$, $p = 0.045 < 0.05$, $F = 4.121$). Cold Heartedness also had a significant positive influence on offender psychopathy (Beta coefficient value = 0.124, $p = 0.045 < 0.05$).

In summary, the Entitlement thinking style carried the highest weight in the model, followed by Power Orientation and Justification, while Cold Heartedness had the lowest weight. Entitlement and Power Orientation exhibited relatively stronger influences on offender psychopathy compared to Justification and Cold Heartedness, as evident from the coefficients. The findings of the analysis indicate that the Entitlement thinking style had the most substantial impact on the prediction of offender psychopathy in the model. This suggests that individuals who possess a strong sense of entitlement, believing they deserve special treatment or privileges, are more likely to exhibit traits associated with psychopathy.

Following Entitlement, the Power Orientation variable emerged as the second most influential predictor. This implies that individuals who display a strong inclination towards seeking power and authority over others, often through coercive or manipulative means, are more likely to exhibit psychopathic tendencies.

The third significant predictor in the model was Justification. This suggests that individuals who possess a tendency to rationalize or justify their unlawful behavior are more likely to exhibit psychopathic traits. This finding highlights the role of cognitive distortions and the ability to justify morally objectionable behavior in psychopathy.

Lastly, Cold Heartedness had the lowest weight among the predictors. Individuals with high levels of Cold Heartedness demonstrate a lack of empathy and concern for the feelings and well-being of others. Their reduced capacity for empathy may contribute to their ability to commit crimes without remorse or guilt.

Overall, the findings emphasize that the Entitlement thinking style, Power Orientation, Justification, and Cold Heartedness are all important factors in understanding and predicting offender psychopathy. However, the weight and influence of each predictor in the model suggest that Entitlement and Power Orientation have relatively stronger associations with psychopathy compared to Justification and Cold Heartedness. These findings contribute to our understanding of the psychological factors underlying psychopathic behavior and can inform interventions and prevention strategies targeting individuals at risk of developing psychopathic traits.

4. Conclusion

The current study is a proxy study, that was necessitated due to lack of epidemiological evidence in the existing area of interest. In summary, this proxy study adopted criminal attitude and psychopathy as representatives for recidivism (Mungai & Okul, 2021; Banse et. al., 2013; Boduszek et.al., 2012; Jill & Crino, 2012; Hemphill et.al. 2011; Laurell & Daderman, 2005) to investigate the predictive ability of criminogenic needs, criminal thinking style on

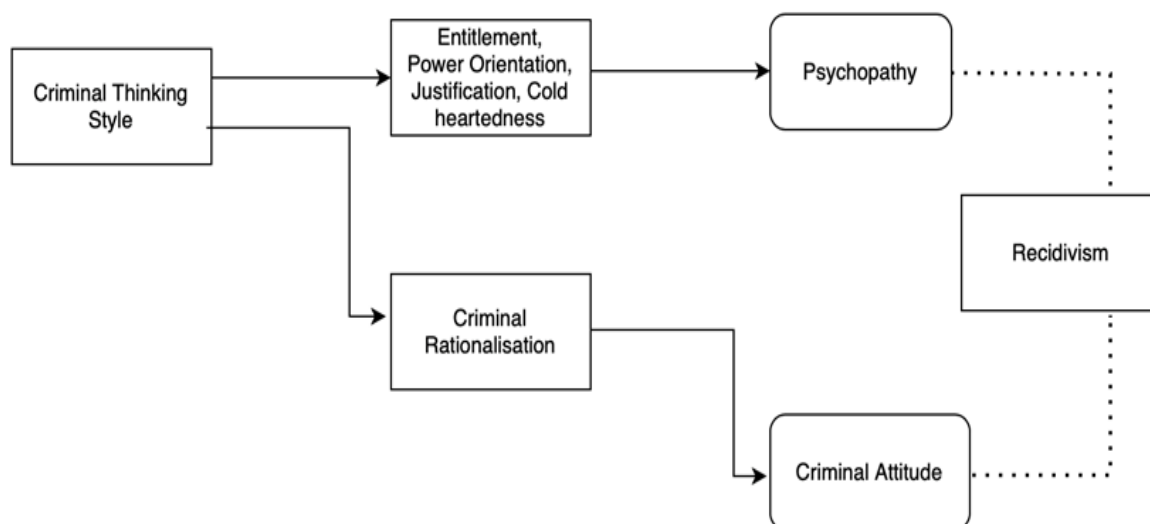
Coefficient		Standardized Coefficients	t	Sig.	Correlations		Collinearity Statistics	
Model	Beta				Partial	Part	Tolerance	VIF
1	(Constant)		7.593	<.001				
	ENTITLEMENT	.597	8.230	<.001	.597	.597	1.000	1.000
2	(Constant)		6.401	<.001				
	ENTITLEMENT	.431	6.220	<.001	.492	.396	.846	1.183
	POWER ORIENTATION	.423	6.108	<.001	.485	.389	.846	1.183
3	(Constant)		6.481	<.001				
	ENTITLEMENT	.325	4.539	<.001	.383	.275	.715	1.399
	POWER ORIENTATION	.348	5.059	<.001	.419	.306	.774	1.292
	JUSTIFICATION	.275	3.784	<.001	.326	.229	.692	1.445
4	(Constant)		4.703	<.001				
	ENTITLEMENT	.323	4.578	<.001	.387	.273	.715	1.399
	POWER ORIENTATION	.327	4.762	<.001	.400	.284	.757	1.321
	JUSTIFICATION	.267	3.709	<.001	.322	.222	.690	1.450
	COLD HEARTEDNESS	.124	2.030	.045	.183	.121	.955	1.047

offender recidivism.

The findings specifically suggested that the criminal rationalisation thinking style was the strongest predictor of criminal attitude, indicating that people who apply cognitive distortions and rationalisations to defend their criminal behaviour are more likely to have negative attitudes towards the law and commit crimes again. On the other hand, the criminal thinking styles of Entitlement, Power Orientation, Justification, and Cold-heartedness emerged as the most reliable indicators for psychopathy, indicating that people with these thinking patterns demonstrate traits associated with psychopathic tendencies such as an absence of empathy, an attitude of entitlement, and a tendency for manipulating other people. Criminogenic needs were eliminated as a significant predictor from both the models.

The inference made from the results is that, in contrast to general criminogenic needs, criminal thinking styles, particularly criminal rationalisation, have a greater influence on the development of criminal attitudes and psychopathy. The precise cognitive distortions connected to criminal rationalisation seem to be better predictors of criminal attitudes, whereas other ways of thinking are more strongly connected to psychopathic features in offenders. The present study helps us understand that how tendency to reoffend is mediated by the criminal cognition and needs, as well as what constructs could be used to effectively study recidivism. The implications of these findings extend to both research and practise. First, it emphasises the value of researching specific thinking styles in the field of criminal psychology. It is possible to gain a greater knowledge of how these cognitive processes affect criminal behaviour and recidivism by concentrating on various aspects of criminal thinking. It also emphasises the significance of considering a variety of factors when examining the connection between criminal thinking, criminogenic needs, and recidivism.

In terms of practicality, the results suggest that correctional intervention strategies aimed at criminal attitudes and psychopathy should pay special emphasis to addressing criminal thinking patterns. The tendency to commit crimes again might be greatly impacted by these cognitive distortions and personality factors. There may be an increased likelihood of lowering criminal attitudes and psychopathic inclinations by creating interventions that test



and alter associated thought patterns, consequently lowering the probability of recidivism. Additionally, it is important to take into account the non-significant influence of criminogenic needs on the study's end variables. It might suggest that other aspects of recidivism prediction, such as personal traits, the social setting, or additional criminogenic needs not examined in this study, are more relevant.

Figure 1: Conceptualisation of the research findings

5. Suggestions

The findings obtained from the present study locate towards future directions for more empirical researches to identify the trends as well as correlates of recidivism among Indian inmates with respect to the constructs of criminal thinking style and criminogenic needs. Therefore the necessary suggestions for the future study could be as follow:

- The future study oriented to be conducted in the similar area should incorporate representative sampling procedure along with larger sample proportion, in order to make the results obtained to be more generalized for all inmates.
- Different age groups could be studied and compared for the same variables in order to understand the effect of these variables through different life stages.
- This study could be extended to be tested under different geographical settings like rural areas, sub-urban areas, urban areas and tribal areas as well in order to assess the validity of the results.

- Longitudinal studies can be carried out to study the variability of criminal cognition and criminogenic needs across different life stages.
- The study could incorporate more female offenders, in order to study a gender based difference in both the predictor variables for the outcome variable.

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