

Development and Validation of Juvenile Domination Scale

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The aimed of the present study was to develop a reliable and valid self-report measure for Juvenile Domination. The items of the scale were based on information obtained through interviews with 30 juvenile delinquents. A pool of 35 statements was generated. After initial screening and piloting, 22 items were selected for the self-report measure, named the Juvenile Domination Scale, which used a 5-point rating scale. This scale was finalized and administered to a sample of ($N=211$) juvenile delinquents. Along with the newly developed scale, the Measure of Criminal Social Identity Scale (Boduszek et al., 2012) and a demographic form were also administered. Based on Principal Component Factor Analysis, a three-factor solution was established, with subscales labeled as Self-assertive, Hubristic Pride, and Indomitable. The scale demonstrated satisfactory internal consistency and concurrent validity. Furthermore, an independent sample of ($N=200$) participants was used for Confirmatory Factor Analysis, yielding satisfactory results for the newly developed scale. Thus, the Juvenile Domination Scale has proven to be a reliable and valid indigenous measure for delinquents. The study's implications suggested that the Juvenile Domination Scale could be valuable for screening and correctional counseling services.

Keywords: juveniles, domination, hubristic pride, social identity, criminal thinking, counseling¹

Introduction

Adolescents constitute a significant demographic not only in Pakistan but globally. The adolescent phase holds immense significance as it marks a period of self-discovery and identity formation. Many adolescents engage

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in disruptive and antisocial behaviors, raising concerns among parents regarding their well-being. Traditionally, there is limited literature available on the distinction and association between various forms of antisocial behaviors, such as intrusion, destruction, truancy, or community disturbance, and more severe delinquent behaviors like violent crimes, drug trafficking, assaults, homicides, and robberies. In recent times, adolescent involvement in unlawful activities has become more prevalent, leading to substantial deviations from ethical paths, which pose significant challenges for adolescents, their families, and society at large. Extensive efforts have been made over the years to identify the causal factors of delinquency and categorize juvenile delinquent activities (O'Hagan et al., 2019; Papp et al., 2019; Simourd & Andrews, 1994; Shagufta et al., 2015; Thapa et al., 2021).

Juvenile delinquency is an escalating concern that is alarmingly on the rise globally. A majority of juvenile delinquents are involved in illicit and violent crimes such as theft, assaults, vandalism, murder, shoplifting, burglary, robberies, arson, rape, and more (Lakhani et al., 2022; Sarwar, 2016). As time progresses, the types of crimes are becoming increasingly violent and illicit (Fitriana et al., 2022; Siegel & Welsh, 2015). The prevalence of juvenile delinquency has evolved into a biopsychosocial concern. Therefore, it becomes essential to develop an assessment tool that can evaluate and predict dominant criminal thinking, shedding light on the cognitive aspect of delinquency.

Dominant criminal thinking refers to a belief in one person's complete control or influence over others (Sana & Rafiq, 2017). This concept is closely linked to entitlement and power orientation, where an individual seeks influential control over others and feels entitled to privileges and special treatment (as previously elucidated by researchers like Knight et al., 2006; Mills & Kroner, 1999; Sana & Batool, 2017; Sana & Rafiq, 2017; Walters, 2002; Yochelson & Samenow, 1977). Furthermore, when considering an individual's thinking pattern in terms of cultural aspects and the age of offenders, the construct of domination varies, as discussed by Walters (2006) in his inventory (Sana & Rafiq, 2017).

Several studies related to delinquency have shown that criminal thinking styles are significant predictors of future criminal behavior. The complexity of human behavior and its motivation by a multitude of consistent factors underlie the reasons for criminal thinking (Abiama,

2015; Bandura et al., 1982; Banse et al., 2013; Hubbard & Pealer, 2009; Listwan et al., 2007; Semel, 2016; Stück et al., 2021). The literature suggests a substantial association between criminal behavior and thinking, as consistent criminal thinking patterns may lead to criminal behavior (Andrews & Bonta, 2010; Brown et al., 2015; Boduszek et al., 2014, 2016; Jha & Sharma, 2020; Juarez & Howard, 2022; Mazher et al., 2022; Mills et al., 2002; Nesdale et al., 2009; Simourd et al., 2016; Skilling & Sorge, 2014; Tangney et al., 2012; Vitaro et al., 2000; Walters, 2002, 2016).

Several factors play a crucial role in contributing to delinquency among adolescents. Poverty (Cummings et al., 1991; Davies et al., 2016), parenting styles (Baumrind, 2005; Moitra et al., 2018), peer influence, community (Javakhishvili et al., 2020), and family environment (Steinberg, 2017) are among the most prominent factors. The effects of family relations have a lasting impact on children, influencing their behavior patterns related to learning, financial matters, political views, and spirituality (Ahmed & Murtaza, 2016; Kim & Choi, 1994; Yun et al., 2016). Additionally, peer influence plays a significant role in criminal behavior, which can have both positive and negative consequences. Research has shown that children who associate with delinquent peers are more likely to engage in criminal activities and have a history of arrests compared to those without such associations (Farrington & Bergström, 2018; Huijsmans et al., 2021; Padilla, 2020; Wojciechowski, 2018).

Aggressive and violent behaviors in children can also lead to delinquency as they experience dissatisfaction and disappointment due to academic and social failures. Spending time with aggressive peers can further exacerbate these aggressive behaviors. Factors such as low socio-economic status, association with delinquent peers, lack of supervision, disorganized neighborhoods, criminal parents, exposure to violence, and more can hinder children's social development (Jelínek & Květon, 2016).

Furthermore, inequality is a significant factor contributing to delinquency. Individuals with lower incomes often aspire to achieve a higher standard of living, which may lead them to adopt illegal means to attain it. Education can serve as a means to reduce crime by providing individuals with legal opportunities to improve their income and use their abilities (Gumus, 2004; Umair, 2019).

Research indicates that antisocial activities can result from negative social experiences and the way individuals cope with these experiences. This study focuses on risk-buffering relationships between temperament, perceived parenting, socio-economic status, and gender concerning antisocial behavior. Understanding the causal factors behind emotional and behavioral problems in children and adolescents often leads to childhood experiences. The early parent-child relationship plays a pivotal role in shaping a child's development from infancy (Cain et al., 2019; Eisenberg et al., 2010, 2017; Saleem et al., 2015; Schorr et al., 2020).

Rationale

While various assessment tools exist for measuring delinquency in juveniles, there is currently no assessment tool or scale that can measure and predict juvenile dominant criminal thinking. This aspect of thinking includes factors that may predict the causal factors of recidivism. Adolescence is a stage where youth seek independence and self-identity, and some engage in antisocial activities, raising concerns among parents. Culturally, there is limited information available regarding the association and differences between minor forms of antisocial behavior, such as truancy, destruction, intrusion, or public disturbance, and more serious delinquent behaviors like murder, theft, drug dealing, and violent crimes (Sana & Rafiq, 2017).

While researchers have empirically explored and developed techniques to identify and assess the causal risk factors of criminal thinking, there has been no attempt to develop and validate an assessment tool for juvenile dominant criminal thinking. This study aims to pioneer this field of research, providing insights into dominant criminal thinking within a cultural context. Additionally, the study fills a gap in the literature by exploring juvenile domination and developing an indigenous tool to measure this phenomenon.

Objectives

The primary objective of this study is to develop a comprehensive and psychometrically sound scale, known as the Juvenile Domination Scale (JDS), to assess the phenomenology of domination among juvenile delinquents.

Methodology

Sample

A sample of ($N=211$) juvenile delinquents, aged between 10 and 17 years, was selected.

Sampling Strategy

Purposive Sampling was used to recruit the Sample.

Inclusion Criteria

All juvenile delinquents who were on parole and probation periods were included in the study.

Exclusion Criteria

Participants who did not provide their informed consent or declined to participate were the only ones excluded from the study.

Research Design

The exploratory research design was used.

Phase I: Generation of Items

The primary objective of this research is to investigate the phenomenon of domination among a group of juvenile delinquents in order to create a reliable and valid scale for assessing juvenile domination. To achieve this, we delved into the phenomenology associated with the concept of domination to uncover patterns of thought and expressions related to it. In this phase, individual interviews were conducted with 30 juvenile delinquents. Following the exploration phase, items that appeared repetitive or lacked clarity were removed from the final item list. Subsequently, a set of 35 refined thought patterns was submitted to a panel of six experts (consisting of four criminologists and two psychologists) for content validity assessment. Following empirical validation, 22 out of the original 35 items were deemed suitable for inclusion in the final Juvenile Domination Scale (JDS).

Phase II: Pilot Study

A pilot study was done to check the feasibility, responsiveness of items, and initial reliability of the construct. The newly developed Juvenile Domination Scale (JDS) was administered to 30 juvenile

delinquents during this phase. It took participants approximately 10 minutes to complete the scale. The outcomes of this preliminary phase indicated that the scale was user-friendly, and the items were easily understood.

Phase III: Establishing Psychometric Properties of JDS

To establish the psychometric properties of JDS, Exploratory Factor Analysis (EFA), construct validity, and concurrent validity was verified.

Assessment Measures

Demographic Questionnaire

Demographic Questionnaire: The demographic questionnaire gathered information on various demographic variables, including age, background details, educational history, type of committed crime (violent or nonviolent), and the duration of incarceration in months.

Juvenile Domination Scale (JDS)

Developed specifically for the current research, the Juvenile Domination Scale (JDS) comprises 22 domination thought patterns among juvenile delinquents. Respondents rate these patterns on a 5-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). A higher score on this scale indicates a greater inclination toward dominant thinking in juvenile delinquents.

Measure of Criminal Social Identity

To assess concurrent validity, the Measure of Criminal Social Identity (MCSI) was utilized. Originally developed by Boduszek et al. in 2012 and adapted by Shagufta in 2015, this scale consists of 8 items distributed across three subscales: Cognitive Centrality, In-group Effect, and In-group Ties. Respondents rated items on a 5-point Likert scale, ranging from "strongly agree" (5) to "strongly disagree" (1). The internal consistency of the Urdu version of the Measure of Criminal Social Identity (MCSI) ranged from .68 to .91.

Procedure

To secure participant data, official permission was obtained from the Inspector General (IG) of Prisons in Punjab, Pakistan. After that permission to use scale was granted by original authors of scales via email. Following the necessary approvals, a purposive sampling technique was employed to select participants for the research study. The research protocol included the Demographic Performa, Juvenile Domination Scale (JDS), and Measure of Criminal Social Identity (MCSI). Prior to administering these protocols, participants received assurances regarding the confidentiality and anonymity of their responses. Some research instruments were self-administered, while others were facilitated by researchers and prison assistant superintendents. In total, 211 juvenile delinquents willingly participated in the study and completed the research protocol, which typically required approximately 15 minutes finishing. Subsequently, participants were provided with debriefing information and acknowledged for their valuable contributions

Results

This section encompasses an examination of the factorial structures, psychometric attributes, and the validities of the Juvenile Domination Scale (JDS). Items displaying factor loadings lower than 0.40 were excluded from consideration in the ultimate structure of the JDS. The Kaiser-Meyer-Olkin (KMO) measure of sample adequacy, which registered at 0.83, fell within the acceptable range of 0.8 to 1.0, as established by Shrestha (2021). Additionally, Bartlett's test of Sphericity ($\chi^2 (105) = 892.22, p < .001$) confirmed the suitability of the data for factor analysis.

Table 1

Factor Structure of Juvenile Domination Scale (N=211) with Varimax Rotation

Sr. No	Item No	I	II	III
1	10	.70	.13	.16
2	14	.70	.21	.07
3	13	.68	.12	-.10
4	11	.68	.16	.20

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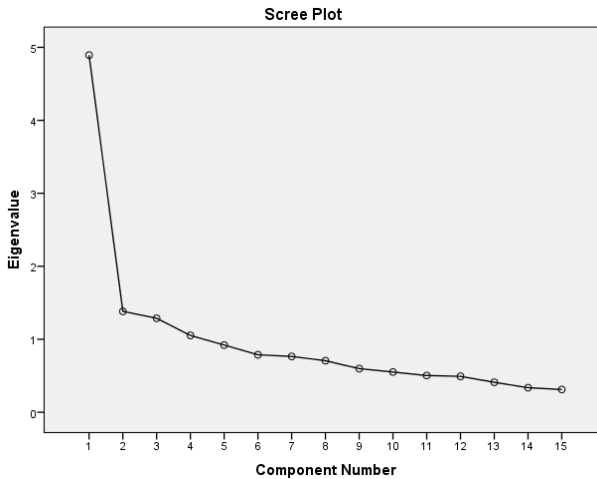
5	12	.63	.03	.21
6	6	.62	.16	.18
7	16	.47	.25	.08
8	9	.45	.33	-.14
9	15	.43	.29	.12
10	19	.09	.73	.15
11	17	.17	.73	.04
12	18	.31	.69	-.04
13	20	.17	.61	.30
14	4	.03	.21	.81
15	5	.33	.03	.80
Eigen Values		4.89	1.38	1.29
% Variance		32.62	9.22	8.58
Cumulative %		32.62	41.84	50.42

Note. Items with .40 or above loadings are boldfaced in the resultant factors.

As indicated in Table 1, a criterion of .40 or higher was employed for item retention within the respective factors. A cumulative variance of 50.42% was accounted for by the three identified factors. Items exhibiting factor loadings below .40 were excluded from the final structure, while items with ambiguous loadings were assessed in light of their content relevance for appropriate factor placement. Moreover, the decision to retain two items in factor III was based on the correlation that established their interrelationship. It is worth noting that factor III, comprising two items, was considered reliable as it demonstrated minimal cross-correlation with other factors (Goretzko et al., 2021; Yong & Pearce, 2013).

Figure 1

Scree Plot Showing Extraction of Three Factors of Juvenile Domination Scale



As shown in Figure 1, the scree plot shows extraction of three factors. The retention criteria revealed a three-factor solution with Eigen values greater than 1 (Kaiser, 1974).

Description of Factors

Through careful examination, each factor was labeled based on identified common themes.

Factor 1: Self-Assertive

This factor comprises 9 items. A high score on the self-assertive factor characterizes a juvenile who perceives themselves as opinionated, aggressive, and powerful relative to others. For instance, items such as “*people are afraid of me*”, “*no one can catch me*”, and “*I do not like feeble people*” reflect this dimension (Sana & Rafiq, 2017).

Factor 2: Hubristic Pride

The hubristic pride factor consists of 4 items. A high score in this factor denotes a juvenile who displays overconfidence. Items such as “*the rules that apply to others do not apply to me*” and “*society holds others responsible for their sins*” capture this dimension (Sana & Rafiq, 2017).

The term 'hubris' originates from Greek and signifies “*excessive pride, exceeding the bounds set for humans*” (Baldick, 2008).

Factor 3: Indomitable

This factor within the scale includes 2 items. A high score in this factor indicates a juvenile who perceives themselves as unbeatable. Items like “*I consider myself above the law*” and “*it is okay to commit a crime for self-defense*” reflect this dimension (Sana & Rafiq, 2017).

Confirmatory Factor Analysis (CFA)

To evaluate the model of the newly developed construct, a confirmatory factor analysis (CFA) was conducted using Amos. The Juvenile Domination Scale (JDS) was subjected to a goodness-of-fit model assessment to determine the suitability of the CFA.

Table 2

Confirmatory Factor Analysis for JDS (N = 200)

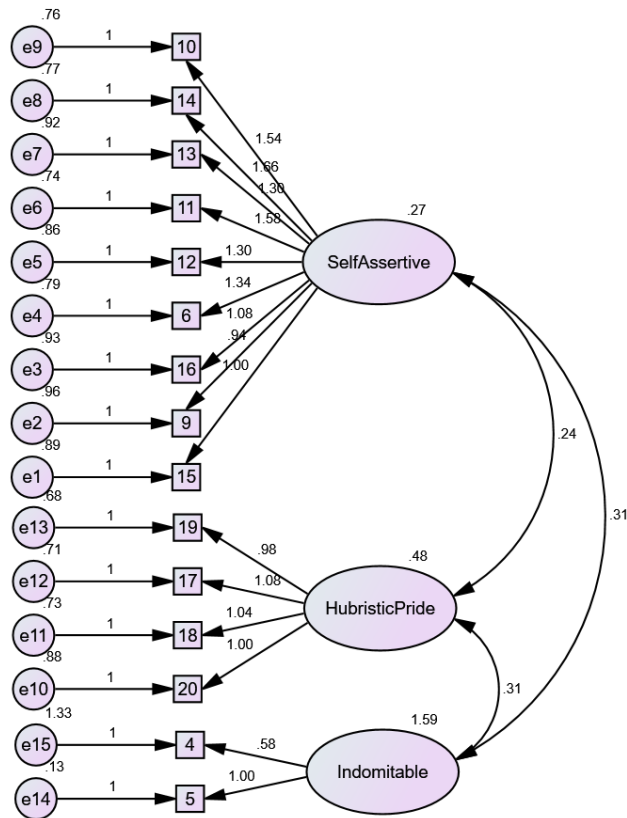
Scale	χ^2 (df)	GFI	CFI	RMSEA
JDS	155.87 (87)	.91	.91	.06

Note. χ^2 = chi-square; *df* = degrees of freedom; *GFI* = goodness of fit index; *CFI* = comparative fit index; *RMSEA* = root mean square error of approximation; *JDS* = Juvenile Domination Scale.

As depicted in Table 2, the confirmatory factor analysis (CFA) conducted for the Juvenile Domination Scale (JDS) yielded results indicating a favorable model fit within acceptable ranges. The chi-square with degrees of freedom, the goodness of fit index (GFI), root mean square error of approximation (RMSEA), and the comparative fit index (CFI) for the Juvenile Domination Scale (χ^2 (87) = 155.87; $p < .001$; GFI = .91; CFI = .91; RMSEA = .06) all fell within acceptable thresholds, as described in the literature (Kline, 2012; Tabachnik & Fidell, 1996)

Figure 2

Confirmatory Factor Analysis of the Juvenile Domination Scale (N = 200)



Note. Confirmatory Factor Analysis of the Juvenile Domination Scale (JDS; $\chi^2(87) = 155.87$; $p < .001$; $GFI = .91$; $CFI = .91$; $RMSEA = .06$).

Psychometric Characteristics of the Juvenile Domination Scale (JDS)

Construct Validity

The JDS exhibited a noteworthy positive correlation with its individual factors, accompanied by satisfactory internal consistency ($\alpha = .67$ to $.85$), as detailed in Table 3.

Concurrent Validity

Concurrent validity was assessed through the application of the Measure of Criminal Social Identity (MCSI). The findings revealed a significant positive correlation between the overall JDS scores and those of the MCSI ($r = .52, p < .01$). This correlation suggests that juveniles displaying elevated levels of domination-oriented criminal thinking tend to exhibit strong associations with delinquent peer groups, as summarized in Table 3.

Table 3

Inter-factor Correlations of JDS and MCSI, Cronbach's Alphas, Means, and Standard Deviation (N=211)

Factor	1	2	3	4	MCSI T
1. Self-assertive	—	.51**	.36**	.92**	.47**
2. Hubristic pride		—	.30**	.75**	.38**
3. Indomitable			—	.58**	.32**
4. JDS Total				—	.52**
M	36.18	16.73	6.88	59.78	32.58
SD	6.61	3.38	2.35	9.99	4.86
A	.82	.72	.67	.85	.72

Note. MCSI T = Total of Measure of Criminal Social Identity, JDS = Juvenile Domination Scale.

** $p < .01$

Discussion

Criminal thinking styles hold three significant implications when working with delinquents. Firstly, these styles serve a purpose in shaping perceptions. Secondly, they serve as predictors of disruptive and delinquent behavior. Lastly, they can be modified through correctional interventions (Kroner & Morgan, 2014). As our behavior is influenced by internal traits, inherited traits, and environmental stimuli, these behaviors

require motivation for reactions (Sana & Rafiq, 2017). Therefore, criminal thinking is strongly influenced by environmental factors, deferred expectations from family and friends, and an internally distorted perspective, which further increases the probability of risk factors.

In this research, the dominant criminal thinking style was examined and transformed into a self-report measure, the JDS, consisting of three factors: Self-assertive, Hubristic pride, and Indomitable (Sana & Rafiq, 2017; Walters, 1990; Yochelson & Samenow, 1976, 1977). Juvenile Domination emerges from three thought patterns: self-assertive, referring to an opinionated and forceful self-perception in comparison to others, hubristic pride, representing dangerously overconfident individuals (Tracy & Robins, 2007; Sana & Rafiq, 2017), and indomitable, signifying an undefeatable self-perception.

The prevalent risk factors associated with distorted thinking patterns are strongly linked to the desire for sovereignty and independence, where parents and elders exert control over a child's life (Saleem et al., 2014). At times, the pressure of dominance suppresses a child's internal and external personality, leading to feelings of dependency, low self-confidence, and a loss of freedom. This emphasis on conformity and traditionalism exerts a strong and insidious influence on intra-familial relations (Stewart et al., 1999; Saleem et al., 2014; Wang & Leichtman, 2000). Parents, family, siblings, teachers, and peers play a crucial role in shaping a child's behavior, nurturing thoughts, beliefs, and actions (Saleem & Mehmood, 2011). In many Asian cultures, conventional practices are based on family harmony, conformity, and respect for parents and authority figures (Stewart et al., 1999). If parents frequently employ physical aggression and assert power to control their children's behavior, children may adopt similar strategies (Bandura, 1978), as high demands and low responses from parents are associated with serious violence among teenagers (Balogun & Chukwumezie, 2010; Gorman-Smith et al., 2000; Kauser & Pinquart, 2016).

Causal risk factors for juvenile delinquency are often influenced by cultural, social, and economic circumstances. There is a constant pursuit of perfection and control among individuals, with family and society being common competitors that establish norms for acceptable behavior and traits. Deviating from these assigned rules, results in a loss of affiliation with family and society. For example, self-assertiveness and indomitability may be related to the clash between modern and traditional

practices and the application of new technologies. A child studying in an advanced school may feel compelled to completely assimilate into that environment linguistically, in terms of personality, beliefs, finances, or family background. When there is a conflict between modern and traditional lifestyles, thought patterns motivate children to adapt to their surroundings. These societal and family norms lead young people to great lengths to maintain a lifestyle they cannot afford, ultimately driving some individuals to resort to illegal means to achieve their goals. Therefore, thought patterns in juvenile delinquents often lead to poor decisions and criminal activities.

Self-assertive and indomitable criminal thinking styles are theoretically linked to power orientation (Sana & Batool, 2017; Walter, 2007). Complex situations empower delinquents to exert control over others, either through domination or by diminishing other's self-worth. Incongruities between socially accepted norms or limited opportunities to achieve goals legally create a sense of frustration among youngsters, leading them to view a delinquent career as a more viable means of coping with these incongruities. Hence, an intense focus on future goals combined with inappropriate methods to achieve them quickly.

Notably, the most prominent feature of domination styles is hubristic pride, which is related to the concept of entitlement (Sana & Batool, 2017; Walters, 2007). Hubristic pride reflects the thinking pattern of overconfident individuals who believe they deserve special privileges. This attitude is highlighted in various theoretical models of criminal thinking styles, providing specific reasons for individual's criminal behavior (Boduszek & Hyland, 2012; Sana & Batool, 2017). Emotional discrepancies, unmet expectations, and self-serving opportunities contribute to distorted perspectives and cognitions. In such circumstances, individuals tend to restructure their inconsistencies.

The JDS demonstrated appropriate internal consistency and satisfactory concurrent validity with the accepted model. The relationship between juvenile domination and a criminal social identity aligns with the literature, illustrating that individuals who exert power over others and believe themselves to be undefeatable are often affiliated with criminal friends. The JDS also correlates positively with its factors, namely, self-assertive, hubristic pride, and indomitable (Sana & Rafiq, 2017). These correlation outcomes support previous research findings that causal factors of delinquency and involvement in delinquent

activities are significantly associated. The study further confirms that social factors, such as failures in social and academic life, are significantly linked to aggressive and violent behavior (Hasan & Adil, 2020). Dissatisfaction and disappointment stemming from violence and aggression in family and society can cause distress in children.

Conclusion

The current research represents the first endeavor to develop an assessment tool for evaluating and understanding the predominant criminal thinking style among juvenile delinquents. The findings from this study indicate that the Juvenile Domination Scale is a psychometrically suitable and comprehensive assessment tool. However, it is essential to interpret the results of this research while taking into account certain limitations. To address these limitations, it is recommended that future research consider the development of projective assessments, particularly for juvenile delinquents who may have limited reading and writing abilities. Additionally, utilizing correctional counseling and cognitive-behavioral therapy (CBT) as a foundation to predict the risk of recidivism (i.e., reoffending) and modify the dominant criminal thinking style is suggested. Furthermore, improving the precision of assessing distorted thought styles in juvenile delinquents can be achieved through the universal inclusion of the dominant criminal thinking style in the Juvenile Domination Scale, as culture can influence the exposure and expression of thought patterns, albeit with inconsistent effects on the cognitions of juvenile delinquents.

References

- Abiama, E. E. (2015). The Impact of Psychoticism and Gender on Self-Disclosure of Criminal Tendencies in the Prison and Non-Prison Population. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 20(3), 83-88.
- Ahmed, U., & Murtaza, A. (2016). Factors Affecting Juvenile Delinquency in Punjab, Pakistan: A Case Study Conducted at Juvenile Prisons in Punjab Province. *Mediterranean Journal of Social Sciences*, 7(4), 372.
- Andrews, D. A., & Bonta, J. (2010). *The Psychology of Criminal Conduct* (5th ed.). New Providence, NJ: LexisNexis Matthew Bender.
- Baldick, C. (2008). The Oxford dictionary of literary terms. *Oxford reference online*.
- Balogun, S. K., & Chukwumezie, M. (2010). Influence of family relationship, parenting style, and self-esteem on delinquent behavior among juveniles in remand homes. *Global Journal of Human Social Science*, 10(2), 46-56.
- Bandura, A. (1978). Reflections on self-efficacy. *Advances in behaviour research and therapy*, 1(4), 237-269.
- Bandura, A., Reese, L., & Adams, N. E. (1982). Microanalysis of Action and Fear Arousal as a Function of Differential Levels of Perceived Self-Efficacy. *Journal of Personality and Social Psychology*, 43(1), 5-21.
- Banse, R., Koppehele-Gossel, J., Kistemaker, L. M., Werner, V. A., & Schmidt, A. F. (2013). Pro-criminal attitudes, intervention, and recidivism. *Aggression and Violent Behavior*, 18(6), 673-685.
- Baumrind, D. (2005). Patterns of parental authority and adolescent autonomy. *New Directions for Child and Adolescent Development*, 108, 61-69.
- Boduszek, D., & Hyland, P. (2012). Psycho-sociological review of criminal thinking style. *Journal of Humanistics and Social Sciences*, 1(1), 28-36.
- Boduszek, D., Adamson, G., Shevlin, M., & Hyland, P. (2012). Development and validation of a Measure of Criminal Social Identity within a sample of Polish recidivistic prisoners. *Criminal Behaviour and Mental Health*, 22(5), 315-324. doi: 10.1002/cbm.1827

- Boduszek, D., Adamson, G., Shevlin, M., Hyland, P., & Dhingra, K. (2014). Psycho-sociological Investigation of Criminal Behaviour within a Prison Sample Using Retrospective Data. *The Howard Journal of Criminal Justice*, 53(1), 31-48.
- Boduszek, D., Dhingra, K., & Debowska, A. (2016). The integrated psychosocial model of criminal social identity (IPM-CSI). *Deviant Behavior*, 37(9), 1023-1031.
- Brown, S. L., Gottschall, S., & Bennell, C. (2015). *Criminal behavior*. In *APA handbook of forensic psychology, Vol. 1: Individual and situational influences in criminal and civil contexts*. (pp. 219-256). American Psychological Association.
- Cain, N. M., Meehan, K. B., Roche, M. J., Clarkin, J. F., & De Panfilis, C. (2019). Effortful control and interpersonal behavior in daily life. *Journal of personality assessment*, 101(3), 315-325.
- Cummings, E. M., Ballard, M., El-Sheikh, M., & Lake, M. (1991). Resolution and children's responses to interadult anger. *Developmental Psychology*, 27(3), 462
- Davies, P. T., Martin, M. J., Coe, J. L., & Cummings, E. M. (2016). Transactional cascades of destructive interparental conflict, children's emotional insecurity, and psychological problems across childhood and adolescence. *Development and Psychopathology*, 28(3), 653-671.
- Eisenberg, N., Smith, C. L., & Spinrad, T. L. (2011). *Effortful control: Relations with emotion regulation, adjustment, and socialization in childhood*. In K. D. Vohs, & R. F. Baumeister (Eds.), *Handbook of self-regulation: Research, theory and applications* (2nd ed., pp. 263– 283). New York, NY: Guilford Press.
- Farrington, D. P., & Bergstrøm, H. (2018). *Family Background and Psychopathy*. *Handbook of Psychopathy*, 354.
- Fitriana, M., Wood, M., Ling, W. S., & Siau, C. S. (2022). Quality of life and mental well-being as preventive factors towards the occurrence of juvenile delinquency among Malaysian adolescents. *Humanities, Arts and Social Sciences Studies (Former Name Silpakorn University Journal of Social Sciences, Humanities, And Arts)*, 174-184.
- Gorman-Smith, D., Tolan, P. H., & Henry, D. B. (2000). A developmental-ecological model of the relation of family functioning to patterns of delinquency. *Journal of Quantitative Criminology*, 16(2), 169–198. doi: 10.1023/A:1007564505850

- Gumus, E. (2004). Crime in urban areas: An empirical investigation. *Akdeniz I.I. B.F. Dergisi*, 7, 98-109.
- Hubbard, D. J., & Pealer, J. (2009). The importance of responsivity factors in predicting reductions in antisocial attitudes and cognitive distortions among adult male offenders. *The Prison Journal*, 89(1), 79-98.
- Huijsmans, T., Nivette, A. E., Eisner, M., & Ribeaud, D. (2021). Social influences, peer delinquency, and low self-control: An examination of time-varying and reciprocal effects on delinquency over adolescence. *European journal of criminology*, 18(2), 192-212.
- Javakhishvili, M., Vazsonyi, A. T., Phagava, H., & Pagava, K. (2020). Depressive symptoms among adolescents in Georgia: the role of ethnicity, low self-control, parents, and peers. *International journal of public health*, 65, 1373-1382.
- Jelínek, M., & Květon, P. (2016). Violent videogame playing and its Relations to Antisocial Behaviors. *International Journal of Psychological and Behavioral Sciences*, 10(6), 1957-1960.
- Jha, N. K., & Sharma, U. (2020). Personality and criminal thinking styles of offenders: A theoretical overview. *IAHRW International Journal of Social Sciences Review*, 8(4-6), 170-174.
- Juarez, T., & Howard, M. V. (2022). Self-reported change in antisocial attitudes and reoffending among a sample of 2,337 males convicted of violent offenses. *Criminal Justice and Behavior*, 49(1), 3-19.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31-36.
- Kauser, R., & Pinquart, M. (2016). Gender Differences in the Associations between Perceived Parenting Styles and Juvenile Delinquency in Pakistan. *Pakistan Journal of Psychological Research*, 31(2), 549-568.
- Kim, U., & Choi, S. H. (1994). Individualism, collectivism, and child development: A Korean perspective. *Cross-cultural roots of minority child development*, 227-257.
- Kline, R. B. (2012). *Assumptions in structural equation modeling*. Handbook of structural equation modeling, 111, 125.
- Knight, K., Garner, B. R., Simpson, D. D., Morey, J. T., & Flynn, P. M. (2006). An assessment for criminal thinking. *Crime & Delinquency*, 52(1), 159-177.

- Kroner, D. G., & Morgan, R. D. (2014). An overview of strategies for the assessment and treatment of criminal thinking. In R. C. Tafrate & D. Mitchell (Eds.), *Forensic CBT: A handbook for clinical practice* (pp. 85-103). John Wiley & Sons, Oxford. doi: 10.1002/9781118589878.ch5
- Lakhani, A., Ali, M. M., Sarwar, J., & Sabir, M. (2022). Predicting the Role of Emotional and Behavioral Problems on Delinquent Tendencies in Adolescents. *Clinical and Counselling Psychology Review, 4*(1), 16-36.
- Listwan, S. J., Van Voorhis, P., & Ritchey, P. N. (2007). Personality, criminal behavior, and risk assessment: implications for theory and practice. *Criminal justice and behavior, 34*(1), 60-75.
- Mazher, S., Masood, S., & Simourd, D. J. (2022). A Cross-Cultural Examination of the Criminal Sentiments Scale–Modified. *Criminal Justice and Behavior, 49*(9), 1295-1310.
- Mills, J. F., & Kroner, D. G. (1999). Measures of criminal attitudes and associates: User guide. (Unpublished instrument and user guide).
- Mills, J. F., Kroner, D. G., & Forth, A. E. (2002). Measures of criminal attitudes and associates (MCAA) development, factor structure, reliability, and validity. *Assessment, 9*(3), 240-253.
- Moitra, T., Mukherjee, I., & Chatterjee, G. (2018). Parenting behavior and juvenile delinquency among low-income families. *Victims & Offenders, 13*(3), 336-348.
- Nesdale, D., Maass, A., Kiesner, J., Durkin, K., Griffiths, J., & James, B. (2009). Effects of peer group rejection and a new group's norms on children's intergroup attitudes. *British Journal of Developmental Psychology, 27*(4), 799-814.
- O'Hagan, H. R., Brown, S. L., Jones, N. J., & Skilling, T. A. (2019). The reliability and validity of the measure of criminal attitudes and associates and the pride in delinquency scale in a mixed sex sample of justice-involved youth. *Criminal justice and behavior, 46*(5), 751-769.
- Padilla, D. D. (2020). Psycho-social Factors on Delinquent Behavior among Junior High School Students: Basis for an Intervention Program. *Asian Journal of Multidisciplinary Studies, 3*(1), 7-16.
- Papp, J., Campbell, C. A., & Anderson, V. R. (2019). Assessing the incremental validity of Andrews and Bonta's "moderate four" predictors of recidivism using a diverse sample of offending and truant youth. *International journal of offender therapy and comparative criminology, 63*(6), 854-873.

- Saleem, S., Ihsan, Z., & Mahmood, Z. (2014). Development of Interpersonal Difficulties Scale for University Students. *Pakistan Journal of Psychological Research*, 29(2), 277-297.
- Saleem, S., Mahmood, Z., & Subhan, S. (2015). Perceived Parental Practices and Mental Health Problems: Cross-Cultural Validation of EMBU-C on Pakistani Adolescents. *FWU Journal of Social Sciences*, 9(1), 44-52.
- Sana, F., & Batool, I. (2017). Development and Validation of an Indigenous Criminal Thinking Scale. *Pakistan Journal of Psychological Research*, 32(1), 117-139.
- Sana, F., & Rafiq, M. (2017). Parenting, criminal thinking styles, and identity among juvenile delinquents (MS dissertation, University of Management and Technology).
- Schorr, M. T., Tietbohl-Santos, B., de Oliveira, L. M., Terra, L., de Borba Telles, L. E., & Hauck, S. (2020). Association between different types of childhood trauma and parental bonding with antisocial traits in adulthood: A systematic review. *Child abuse & neglect*, 107, 104621.
- Semel, R. A. (2016). Incorporating the Jesness Inventory-Revised (JI-R) in a best-practice model of juvenile delinquency assessments. *Journal of Forensic Psychology Practice*, 16(1), 1-23.
- Shagufta, Sonia (2015) Criminal Social Identity in a Sample of Incarcerated Juvenile Offenders in Pakistan. (Doctoral thesis, University of Huddersfield). Retrieved from http://eprints.hud.ac.uk/27932/1/Sonia_Shagufta-A_complete_thesis_January_2016.docx.pdf
- Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, 9(1), 4-11.
- Simourd, D. J., Olver, M. E., & Brandenburg, B. (2016). Changing criminal attitudes among incarcerated offenders: Initial examination of a structured treatment program. *International Journal of Offender Therapy and Comparative Criminology*, 60(12), 1425-1445.
- Skilling, T. A., & Sorge, G. B. (2014). Measuring antisocial values and attitudes in justice-involved male youth: Evaluating the psychometric properties of the Pride in Delinquency Scale and the Criminal Sentiments Scale–Modified. *Criminal Justice and Behavior*, 41(8), 992-1007.

- Steinberg, L. (2017). A social neuroscience perspective on adolescent risk-taking. In *Biosocial Theories of Crime* (pp. 435-463). Routledge.
- Stewart, S. M., Bond, M. H., Zaman, R. M., McBride-Chang, C., Rao, N., Ho, M. L., & Fielding, R. (1999). Functional parenting in Pakistan. *International Journal of Behavioral Development, 23*(3), 747-770.
- Stück, E., Briken, P., & Brunner, F. (2021). Changes in the Risk of Sexual Reoffending: The Role and Relevance of Perceived Self-Efficacy and Adult Attachment Styles in Correctional Treatment. *Sexual Abuse: a Journal of Research and Treatment, 10790632211054048-10790632211054048*.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using Multivariate Statistics 3rd edition Harper Collins*. New York.
- Tangney, J. P., Stuewig, J., Furukawa, E., Kopelovich, S., Meyer, P. J., & Cosby, B. (2012). Reliability, validity, and predictive utility of the 25-item Criminogenic Cognitions Scale (CCS). *Criminal justice and behavior, 39*(10), 1340-1360.
- Thapa, S., Brown, S. L., & Skilling, T. A. (2021). The relationship between self-esteem, gender, criminal attitudes, and recidivism in a youth justice sample. *Criminal Justice and Behavior, 48*(4), 539-555.
- Tracy, J. L., & Robins, R. W. (2007). The psychological structure of pride: a tale of two facets. *Journal of Personality and Social Psychology, 92*(3), 506-525. doi: 10.1037/0022-3514.92.3.506
- Umair, M. (2019). The socioeconomic determinants of crime in Pakistan. *Budapest International Research and Critics Institute-Journal, 2*(3), 1-6.
- Vitaro, F., Brendgen, M., & Tremblay, R. E. (2000). Influence of deviant friends on delinquency: Searching for moderator variables. *Journal of Abnormal Child Psychology, 28*(4), 313-325.
- Walters, G. D. (1990). *The criminal lifestyle: Patterns of serious criminal conduct*. SAGE Publications, Incorporated.
- Walters, G. D. (2002). The Psychological Inventory of Criminal Thinking Styles (PICTS): A review and meta-analysis. *Assessment, 9*, 283-296.
- Walters, G. D. (2006). Proactive and reactive composite scales for the Psychological Inventory of Criminal Thinking Styles (PICTS). *Journal of Offender Rehabilitation, 42*(4), 23-36.

- Walters, G. D. (2007). The latent structure of the criminal lifestyle: A taxometric analysis of the lifestyle criminality screening form and psychological inventory of criminal thinking styles. *Criminal Justice and Behavior*, *34*, 1623-1637.
- Walters, G. D. (2016). Predicting recidivism with the Criminal Sentiments Scale: A meta-analysis of a putative measure of criminal thought content. *Criminal Justice and Behavior*, *43*(9), 1159-1172.
- Wang, W., & Leichtman, M. D. (2000). Same beginnings, different stories: A comparison of American and Chinese children's narratives. *Child Development*, *71*, 1329 -1346.
- Wojciechowski, T. W. (2018). The interaction between the development of deviant peer influence and resistance to peer influence: Relevance for predicting offending in early adulthood. *Journal of Developmental and Life-Course Criminology*, *4*, 322-342.
- Yochelson, S., & Samenow, S. E. (1976). *The criminal personality: A profile for change* (Vol. 1). New York: Jason Aronson.
- Yochelson, S., & Samenow, S.E. (1977). *The criminal personality* (Vols. 1-3). New York: Jason Aronson, Inc.
- Yun, H. J., Cui, M., & Blair, B. L. (2016). The mediating roles of adolescent disclosure and parental knowledge in the association between parental warmth and delinquency among Korean adolescents. *Journal of Child and Family Studies*, *25*, 2395-2404.
- Hasan, S., & Adil, M. (2020). Managing juvenile offenders with conduct disorder in Pakistan. *The Lancet Psychiatry*, *7*(8), e48.
- Goretzko, D., Pham, T. T. H., & Bühner, M. (2021). Exploratory factor analysis: Current use, methodological developments and recommendations for good practice. *Current psychology*, *40*, 3510-3521.

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