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**THE ROLES OF GENETIC, CHILDHOOD MALTREATMENT, AND
IMPULSIVITY IN CRIMINAL BEHAVIOUR OF SRI LANKAN MALE
CONVICTS**

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Abstract

Criminal violence is one of the most alarming trends that has imposed a significant cost to society. Criminal violent behaviour is a multifaceted phenomenon predisposed to various factors such as psychological, biological, sociological and economic. However, less attention has been given to the physiological and biological roots that influence criminal violence. Therefore, the present study investigates the interplay between genetic (*MAOA*, *DAT-1* allelic variants) and socio-environmental (childhood maltreatment), and behavioural traits (impulsivity) in criminal violence of male convicts in Sri Lanka. Male convicts categorized as violent (N=100), non-violent (N=90) in Welikada Prison, Borella and normal control, (N=100) were recruited for the study. All participants were surveyed using the translated and validated Childhood Trauma Questionnaire (CTQ) and impulsivity using Barratt Impulsivity Scale-Version 11 (BIS-11). The relationship between the above factors was established based on six hypotheses by employing Chi-Square Test of Independence with Phi and Cramer's V indices, the Independent t-test followed by the Levene's test, the Mann-Whitney U test with the Cohen's r, and Logistic Regression followed by Model fitness assessed using the Omnibus Tests of Model Coefficients and the Hosmer-Lemeshow Test. The hypotheses testing revealed positive results for *MAOA* low activity variant careers to exhibit increased violent criminal behavior ($p < 0.05$, Chi-square test), emotional neglect to be positively associated with violent criminal behaviour ($p = 0.04$, Independent t-test), and motor impulsiveness was positively associated with violent criminal behaviour ($p = 0.039$, Mann Whitney U test). *MAOA* low activity variants, emotional neglect, and motor impulsiveness played determining roles in criminal violent behaviour of male convicts. This study further highlights the importance of establishment and conductance of better early childhood interventions in Sri Lankan community, especially addressing emotional neglect in order to prevent the development of violence behavior. Particularly, the community should be educated about childhood physical and emotional development and minimize traumatic experiences foreseen a violent free community along with measures taken to reduce high impulsive behaviours in individuals such as behavioural strategies and psychological interventions.

Keywords: Criminal Violence, *MAOA* Gene Variants, *DAT-1* Gene Variants, Childhood Maltreatment, Impulsivity

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