

# Criminality and Mental Health: Implications for Society

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Crimes are fast increasing in rate and frequency in this part of the world. The gravity of the situation is so alarming that it has disturbed the social fabric of the society by means of its severe psychological and emotional impact. Of late, heinous murders are being reported and the perpetrators are close acquaintances. Recent reports about murder by fathers have shocked the nation. Though social reasons and adversities are held responsible for such crimes but questions are often raised about the mental state of such perpetrators? This is the time when there is a dire need to assess the situation scientifically and medically if something is to be done for prevention and to sustain the social integrity.

Researchers in the field of behavioral genetics have asserted claims for a genetic basis of numerous physical behaviors, including homosexuality, aggression, and impulsivity and nurturing. Growing scientific and popular focus on genes and behavior has contributed to resurgence of behavioral genetic determinism—the belief that genetics is the major factor in determining the behavior.<sup>1</sup> An important gene 5-HT1 B was debated for the etiology of antisocial alcoholism.<sup>2</sup>

There are three ways of defining antisocial behavior: the first approach equates with criminality and delinquency—criminality is defined as engaging in activities that result in criminal prosecution or incarceration, while, delinquency is defined as engagement in unlawful activities while under the age of 18<sup>3</sup>, the second approach used in genetic studies is to use diagnostic criteria for various personality disorders that are associated with increased risk of criminal activity, like: antisocial personality disorder, the three childhood disorders—attention deficit hyperactivity disorder, conduct disorder and oppositional defiant disorder have been identified as risk factors for the development of antisocial personality disorder.<sup>3</sup> The third approach is to investigate personality traits that may be risk factors for engaging in criminal behavior. Serotonergic pathway is involved in brain development and dysfunction in this system is thought to increase aggressiveness and impulsivity. Associations have been found between a number of genes involved in this pathway and antisocial behaviors, namely impulsivity, aggression and attention deficit hyperactivity disorder.<sup>3</sup>

The dopaminergic and adrenergic pathways are also known to be associated with impulsivity and hostility.<sup>4</sup>

Dopa decarboxylase is involved in serotonergic and dopaminergic pathways and monoamine oxidase A is involved in the serotonergic, dopaminergic and nor adrenergic pathways.<sup>5</sup>

Some researchers have begun to address this problem by studying multiple genes for their involvement in the associated disorders. Tryptophan hydroxylase TPH1 genotype was found to be associated with higher levels of impulsive aggression.<sup>6</sup> Evans et al<sup>7</sup> identified an association between the serotonin receptor 2C gene HTR2C and impulsivity in males. A serotonin transporter known as solute carrier family 6, member 4 (SLC6A4) and the role of Dopamine receptor 4 DRD4 and 3DRD3 in violent offenders has been studied by Manor et al.<sup>8</sup> There has been a great debate among researchers regarding the outcomes of twin, adoption, and family studies supporting the notion of genetic basis to criminal behavior. Candidate genes are specific genes that are thought to contribute to an increased risk of engaging in antisocial behavior.<sup>9</sup>

Aggressiveness and impulsivity have been the most researched traits assessed by personality questionnaires.<sup>3</sup> It was also noted that though there is a strong genetic role, the influence of environment is even stronger. An individual's risk of developing these disorders or displaying these traits is not determined simply by their genotype, environmental influences such as parenting style and socioeconomic status. Peer groups also play a role.

Sometimes, the violent behaviors are attributed to an impulsive and momentary episode for some reason or no reason at all. Historically, the Icelandic sagas describe 'berserks' which are frequently depicted as having had antisocial character traits; often as bullies who evince, by way of autosuggestion, an enormous and uncontrollable rage, slaughtering and killing. It could be explained as a kind of dissociative reaction.<sup>10</sup>

Discussing about the environmental influences, poverty, education, parenting practices, family structure, poor communication, weak bonds, more children, abuse and neglect have all found to be associated with criminal behaviour.<sup>11</sup> Accordingly individuals with low arousal levels and those who seek stimulus for low arousal are at risk of developing aggressive and violent behavior.

A review of literature reveals three types of batterers common across current typology research—a low, moderate, and high risk offender. Most male offenders do not escalate over time from low to high levels of risk.<sup>12</sup> A study<sup>13</sup> among homicide offenders found that 20% had psychotic illness, and 54% (n=2005) had personality disorder as principal or secondary diagnosis. Psychopathy has been discussed widely in the context of criminality especially in terms of its

characteristic callous and unemotional personality profile. In a study<sup>14</sup> it was evident that a personality-based approach remained successful in clarifying the conceptual boundaries of psychopathy and delineating a group of antisocial individuals with distinct profile of offending and clear neurocognitive markers indicating problems in processing distress in others and punishment directed to oneself, these markers are also present in children with psychopathic tendencies, suggesting that psychopathy may be a developmental disorder. The neurocognitive profile relates to the callous and unemotional personality traits at the core of psychopathy and may index particular vulnerability to persistent antisocial conduct. Preliminary twin studies suggest that personality traits at the core of psychopathy are much more highly heritable than other personality traits but so far no molecular genetic studies are conducted on psychopathy. Brambilla<sup>15</sup> describes on the basis of anatomical MRI study on borderline personality disorder patients, that there were increased putamen volumes, difference in left and right hippocampal volumes. Early traumatic experiences may play a role in hippocampal atrophy whereas substance use disorders may contribute to putamen enlargement. According to Joyal<sup>16</sup>, significant majority of homicides were considered as the consequence of psychotic symptoms, they mostly involve someone who knew the offender and usually occurred in private residence.

According to Kiehl<sup>17</sup> organic findings on fMRI of criminal psychopaths indicated their failure to show the appropriate neural differentiation between abstract and concrete stimuli in the right anterior temporal gyrus and surrounding cortex which is consistent with other studies. These support the theory that psychopaths are associated with right hemisphere abnormalities for processing conceptual abstract material.

Walter<sup>18</sup> describes that the psychopathy concept is substantially limited with respect to its ability to describe and clarify general criminal behavior but that it may still have value as a partial explanation for certain types of non-criminal predatory behavior. Some medicines for example a widely debated antidepressant lead to violent crime under its influence.<sup>19</sup>

According to Mills<sup>20</sup> advances in risk prediction will be found in part in the development of dynamic actuarial instruments that will measure both static/historical and changeable risk factors. The dynamic risk factors can be re-evaluated on ongoing basis, and it is proposed that the level of change in dynamic factors necessary to represent a significant change in overall risk will be an interactive function with static risk factors.

Over the past quarter century, Canadian researchers, clinical practitioners, and policy specialists have made notable contributions to the broad field of violence risk

assessment and management.<sup>21</sup>

Violence risk assessment constitutes a major concern in forensic psychiatry, psychology and related fields. Numerous instruments like the Hare Psychopathy Check list (PCL-R) and the Violence Risk Appraisal Guide (VRAG) have been developed in the aim of improving precision in the prediction of violence.<sup>22</sup>

Violent acts are sometimes committed by people who do not normally appear violent or aggressive. This simple observation and others have led some to speculate about a relationship between dissociation and violence. Dissociation predicts violence in a wide range of population and may be crucial to an understanding of violent behaviour.<sup>23</sup> Recommendations for clinical applications include the routine screening of offenders for dissociative disorders and adequate consideration of dissociation and dissociative disorders in the development and implementation of violence treatment and preventive programs.

There is a concern that identification of genetic susceptibility to criminality may lead to proposals for genetic screening of the population for susceptibility to criminal behavior.<sup>24</sup>

All these explanations are helpful in providing a scientific insight into the etiological factors for violence leading even upto commission of homicide but the question remains for the precautionary step or protecting the community. Aforementioned idea of genetic screening though appears to be fairy-tale idea but if implemented will open areas for wider debates, ethical issues and social complications. It may not be an idea for developing world at this point in time. However, observation of personality trait-manifestations, childhood conduct disorders and mental illnesses are important and can be practical if awareness is raised through media and general education, improvement of social adversities through government and non-governmental organizations and televising/ broadcasting of information related to various symptomatology for the education of masses for identification and prediction of violent acts. Such individuals can then be brought for assessment and necessary treatment. This will definitely bring down the prevalence and incidence of crimes in a given society to a significant extent.

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