An Illuminative Exploration of Criminality and Violence in Bipolar Disorder

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The precise nature of the relationship between severe mental illness and violence has continued to elude researchers for decades. Mental illnesses specifically with features of psychosis—often characterized as hallucinations or delusions—tend to foster strong associations with violence among the public, regardless of whether or not it is accurate. Bipolar disorder often gets tangled into notions of extreme aggression and impulsivity, as well as an inability to control violent inclinations. This may be due to the inflated coverage by the mass media on violent crimes committed by those with histories of psychiatric care. In reality, it is likely that other external variables influence the correlation between bipolar disorder and violence. For example, trait impulsivity, comorbid substance use disorder, genetic influences, and early involvement in juvenile detention systems are just a few of the variables thought to affect the association. Social influences especially highlight the necessity of strong treatment programs for all patients, both in prison and in the community. Furthermore, an increased effort for transparency regarding true correlations between mental illness and violence in the media is certainly a step in the right direction.

Background

Public perception of mental illness often views severe forms—especially those involving psychosis—as maintaining a relationship with violent behavior, but the specifics of this association remain unclear. This belief transcends cultures and has been relatively stable for the past five millennia (Monahan, 1992). A 2013 national survey found that 46% of Americans perceive those who suffer from a severe mental illness (SMI) to be more dangerous than those unaffected (Barry, McGinty, Vernick, & Webster, 2013). Data from a 2006 survey estimated 60% of Americans believe people diagnosed with schizophrenia are likely to commit violent acts against their peers, while 32% feel similarly toward those with major depression (Elbogen, Van Dorn, Swanson, Swartz, & Monahan, 2006). Perception of such an intimate association may be driven by media coverage of violent events, such as mass shootings or assaults. Because many draw personal conclusions about the mentally ill through the lens of mass media,

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substantial reporting of an act of violence committed by someone diagnosed with an SMI may misguide public impression to overestimate the link, and thus stereotype the population as a whole (Klin & Lemish, 2008).

When asked to read a news story about a man with mental illness who supposedly committed a mass shooting, levels of dangerousness and desired social distance were found to be significantly higher for the SMI population in general, compared to a control group (McGinty, Webster, & Barry, 2013). Regardless of the true correlation, public opinions toward mental illness are critical to public policy and can significantly alter laws regarding their rights and liberties, as people often support regulations that align with preexisting perceptions (Swanson, McGinty, Fazel, & Mays, 2015). Furthermore, increased stigma may deter individuals with an SMI from seeking necessary treatments for fear of confirming stereotypes. This would be counterproductive, as one meta-analysis found that outpatients in treatment possess the lowest rates of violence across the SMI population (Choe, Teplin, & Abram, 2008). Therefore, it is important to properly educate the public about the association of SMI and violence using empirical data so as to promote fair and informed evaluations of those with mental illness.

Research driven to understand the true relationship between SMI and violence has received significant attention in recent years (Peterson, Skeem, Kennealy, Bray, & Zvonkovic, 2014; Sariaslan., Larsson, & Fazel, 2015; Volavka, 2013). Increased comprehension of the complexities surrounding mental health has led researchers to focus on individual diagnoses of psychological disorders, such as schizophrenia or bipolar disorder. Furthermore, recent research has suggested that the relationship between mental illness and criminality is likely not unidirectional and could include a multitude of other factors that influence its strength and generalizability. This review will examine bipolar disorder specifically in its link to violent crime, as well as how various symptoms—such as trait impulsivity—and extraneous variables—including substance use and juvenile offense records—may muddy the relationship.

Risk Factors Associated with Criminality

Bipolar disorder is characterized by the presence of mania, which often coexists with bouts of depression ranging in severity. The DSM-5 characterizes a manic episode as "a distinct period of abnormally and persistently elevated, expansive, or irritable mood and abnormally and persistently increased activity or energy, lasting at least one week and present most of the day, nearly every day" (American Psychiatric Association, 2013). In addition to mania, and often during manic episodes, some severely afflicted bipolar disorder patients may experience episodes of psychosis—a cluster of symptoms such as delusions or hallucinations—as well. A meta-analysis that calculated the central tendencies from 166 independent data sets found that, when compared to control individuals without a mental disorder, those struggling with psychosis are associated with a 49% to 68% increase in risk of violence (Douglas, Guy, & Hart, 2009). Although this number may seem substantial, it is shown to possess an intermediate relationship with violence—compared to risk factors that possess much more inflated correlations, such as antisocial personality disorder or early-onset criminal behavior (Douglas et al., 2009). It may be most notable that the strength of the association between psychosis and violence is contingent on the specificity of the psychosis measured, whether it be through diagnosis of a psychotic disorder or general experience of psychotic-like symptoms. In general, researchers have found that positive symptoms (added affairs or sensations that are usually not present) were significantly more strongly related to violence than were negative symptoms (absent or diminished sensations normally present; Douglas et al., 2009). This is implicative in the study of the relationship between bipolar disorder and violence because an estimated 58% of those diagnosed with bipolar disorder experience at least one psychotic episode throughout their lifetime—episodes of which are most commonly endured during bouts of mania and include positive symptoms (Goodwin & Jamison, 1990; Perala et al., 2007).

Certain research has focused on analyzing the presence of overlapping symptoms in disorders with a possible positive correlation to violence as a route to potentially explaining the relationship. Extensive interviews and record reviews of 143 offenders with a mental illness show that 62% of crimes committed by persons with bipolar disorder could be linked directly to symptoms (Peterson et al., 2014). Thus, data collected looks for potential characteristics commonly present in these disorders that could affect an inclination toward aggression. In bipolar disorder specifically, the nature of the three distinguishing psychological states—mania, depression, and euthymia (when neither symptoms of mania nor depression are present)—must be critically observed. Presence, or absence, of these debilitating symptoms can have direct implications on one's constitutional rights, as this data may be used in violence risk assessments when determining whether or not they should be involuntarily committed on the basis of perceived potential risk (Douglas et al., 2009).

The Impulsivity Trait

Although it may be easier to pinpoint dysfunctional symptoms of depression, it is possible that symptoms present during episodes of mania can be debilitating to what would be recognized as normal social performance as well. Some data suggest that negative emotions often result in more systematic processing presented problems (Gruber, Mauss, & Tamir, 2011); a study involving four experiments found that people in a negative

mood tend to produce more compelling and reasoned arguments than those in a positive mood (Forgas, 2007), whereas a manic state—labeled a "happiness overdrive"—may result in "deleterious outcomes, such as risk-taking behaviors and neglect of threats" (Gruber et al., 2011, p. 224). This network of symptoms also closely aligns with the trait of impulsivity, which could possibly weave the diagnosis of bipolar disorder with the presence of criminal behavior. A nationally representative sample of 43,093 U.S. adults—13% of whom meet criteria for experiencing a manic episode—have produced strong analyses demonstrating an elevated likelihood of legal involvement among those with certain symptoms. These include "increased self-esteem or grandiosity, increased libido, excessive engagement in pleasurable activities with a high risk of painful consequences . . . and having both social or occupational impairment" (Christopher, McCabe, & Fisher, 2012, p. 33). Although the impulsivity trait is not strictly mentioned, it can be inferred that many of these symptoms would be characterized similarly.

As with most co-occurrences, the presence of the impulsivity trait alone cannot provide a comprehensive answer, but can build an enlightening foundation. It is certainly possible that heightened impulsivity can impact other factors (individual or social) to ultimately shape criminal behavior as well (Swann et al., 2011). This may be true for violence toward others or oneself (Najt, Perez, Sanches, Peluso, Glahn, & Soares, 2007). Thus, trait impulsivity, defined in its impaired response inhibition, "may be necessary but not sufficient for increasing risk for criminal behavior" (Swann et al., 2011, p. 179). In this way, this trait commonly associated with bipolar disorder could act as somewhat of a gateway to later criminality. However, it would be presumptuous to recognize it as a direct cause. The nature of the relationship between aggression and each of the three specific states of bipolar disorder continues to be actively discussed among researchers today. Systematic analyses suggest a potentially inflated association between impulsivity and violence in people suffering from psychotic symptoms, but empirical evidence is mostly lacking and the conclusions are murky (Bjørkly, 2013). Thus the question remains, what factors contribute to the disparity between impulsive, violent individuals and impulsive, non-violent individuals?

Genetic Predispositions

It is possible that cortical abnormalities—in structure or in function—may contribute to increased violent and/or criminal behavior. Significant dysfunction in the frontal lobe is associated with impulsive forms of aggression (Brower & Price, 2001). Furthermore, dysfunction in the frontal and prefrontal cortex has been incriminated as a pathophysiological trademark of bipolar disorder. Thus, it is reasonable to infer this specific neurological pathway contributes to the distinction of impulsive violence. Recent analyses have shown frontal lobe reactivity to be notably reduced and often difficult to activate (Kameyama, Fukuda, Yamagishi, Sato, Uehara, Ito, Suto, & Mikuni, 2006). Bipolar disorder patients have also been found to exhibit significantly reduced neuronal activity in the dorsolateral prefrontal cortex—associated with executive functioning, including inhibition (Rajkowska, Halaris, & Selemon, 2001). It is the lack of inhibition associated with a dysfunctional prefrontal cortex that may result in increased impulsive aggression.

There is substantial evidence that those diagnosed with bipolar disorder are more likely to commit acts of violence when in a manic versus depressed state (Christopher, McCabe, & Fisher, 2012; Feldmann, 2001; Volavka, 2013). Data collected from psychiatric hospitals specializing in bipolar disorder has shown that manic individuals who exhibited aggressive behavior within two weeks before admission had substantially increased rates of violence during their first three days of hospitalization (Feldmann, 2001). These results emphasize the nature of recurrence, as well as the present inability for a number of psychiatric hospitals to successfully deter violence. Thus, although not all patients suffering from mania demonstrate violence, it may maintain a repetitive nature among those who do. In a longitudinal study comparing 79,211 inmates over the span of six years, bipolar disorder patients were 3.3 times more likely than inmates who lacked a psychiatric disorder to experience multiple incarcerations, which was defined by at least four imprisonments (Fovet et al., 2014). Despite this overwhelming evidence, one must be wary of perceived aggression in prison, for unexpected and random acts of mania may be misinterpreted as intentional threats of violence.

Other studies may have a different story to tell. A number of longitudinal studies regarding the relationship between bipolar disorder and violent crime show "no differences in rates of violent crime by clinical subgroups (manic vs. depressive or psychotic vs. nonpsychotic)" (Fazel, Lichtenstein, Frisell, Grann, Goodwin, & Langstrom, 2010, p. 931). It should also be noted that violent behavior and impulsivity are often not purely present in mania, for it often transcends into and remains elevated in states of euthymia and depression as well, occasionally leaving patients feeling aggressive or suicidal (Daff & Thomas, 2014; Volavka, 2013). Yet the question remains whether violence is elevated *due* to bipolar disorder, or dependent on one or more variable(s) that is characteristic of the individual manic, depressive, or euthymic state. Research that explores variances in aggressive inclinations as well as actual pursuit of these tendencies within the three states may shed light on the matter.

It is evident that the association between definitive subgroups of bipolar disorder and violent behavior is not yet fully understood in research, for there are also numerous factors (including severity of episodes and individuality of mood transitions) that could be disturbing published results. Broadly, its divergence from disorders with similar symptoms may be il-

lustrious toward understanding what specifically drives certain personality traits toward violence. When examining various relationships with the criminal justice system against different disorders, it is possible that "the characteristics of social inhibition, detachment and suspiciousness captured in the other personality disorders…may reduce the likelihood of a respondent participating in risky social situations which may explain their lower risk of legal involvement" (McCabe, Christopher, Pinals, & Fisher, 2013, p. 371). This further establishes the theory of impulsivity's close connection to both violence and bipolar disorder.

Substance Use and Other Comorbid Relationships

As the research on bipolar disorder and violence grows, researchers have begun to consider the potential effects of comorbidities on this relationship, namely substance use disorder. Categorizing violent behavior as a contact sexual offence (e.g. rape) or personal violent offence (e.g. armed robbery), the odds of being charged with a violent offense for people with bipolar disorder alone are at least twice as high when compared to those without bipolar disorder. This rate is significantly increased (up to three times higher) for those with a substance abuse comorbidity (Daff & Thomas, 2014). It is important to be reminded of the potential effects of stigma here as well—simply because one is convicted of a crime does not mean they are guilty. In other words, it is certainly possible that these rates are inflated due to discrimination against the mentally ill.

Furthermore, comorbidity between bipolar I disorder and substance misuse is high: approximately 60% according to the National Comorbidity Survey Replication (Fazel et al., 2010). Individuals diagnosed with this comorbidity are also believed to be "highly prone to adverse consequences, including more suicide attempts, medication noncompliance, and shorter remissions…and some psychosocial difficulties such as legal problems, unemployment or precarious marital status, compared to bipolar patients without [substance use disorder]" (Jaworski, Dubertret, Ades, & Gorwood, 2011, p. 132). Despite the lack of clarity in the relationship, it is an association so strong that it should be examined in depth.

Although the overwhelming majority of those with a mental illness are not dangerous, the rate of violence increases dramatically (from about 33% to 50%) when mental illness is coupled with substance use (Fazel et al., 2010; Feldmann, 2001). These results conclude that the elevated risk for aggression is predominantly confined to bipolar disorder patients who also suffer from substance use disorder. Unfortunately, the relationship is not always so readily recognized in the resulting data. Researchers Swann et al. (2011) observe in their longitudinal study that individuals with bipolar disorder and prior convictions demonstrated higher likelihoods of comorbid substance use disorders and suicide attempts, and experienced primarily manic—rather than depressive—episodes. Although there was a desire to explain criminality and bipolar disorder through the lens of substance misuse, this presence may prove to further complicate the relationship, as the directionality between the three variables—bipolar disorder diagnosis, substance use disorder diagnosis, and criminal activity—becomes exceptionally murkier.

Data from Daff and Thomas (2014) supported the opposing belief that those diagnosed with bipolar disorder continue to exhibit increased probabilities of committing a crime whether or not a substance use disorder is present, although they do not specify a detailed rate. In this conclusion, the presence of substance use along with the diagnosis of bipolar disorder significantly increases propensity toward violence, thus outlining quite a clear relationship. On the other side, patients with bipolar disorder who do not possess a history of substance abuse have an increased risk for violent crime when compared to the general population (Fazel et al., 2010). However, in a longitudinal study comprised of over three thousand individuals with bipolar disorder and their full siblings, risk for violent crime remains significantly elevated (Fazel et al., 2010). This finding is significant because it brings attention to the contribution of genetic or early environmental factors, rather than the direct diagnosis of bipolar disorder. As with trait impulsivity, sibling research too presents the possibility of a shadowed variable contributing to both defining bipolar disorder symptoms and violent inclinations, yet to be unmasked. Evidently, the relationship between bipolar disorder and criminal activity is far from linear, especially when adding third, fourth, or even fifth variables such as the comorbid diagnosis of substance use disorder. It is important from these data to recognize the significant role substance use can play in the relationship.

Triggers to Violent Behavior

With the desire to provide a sense of directionality, researchers have also sought out the presence of potential triggers to the onset of criminal behavior in those with bipolar disorder. Data from 1.8 million Swedish participants have shown bipolar disorder to be a moderately strong predictor of convicted violent behavior (r=0.23) (Sariaslan et al., 2015). Although schizophrenia maintains a closer interaction (67%), 51% of the interaction between bipolar disorder and violent crime can still be attributed to "additive genetic influences that were shared between the psychotic disorders (i.e. bipolar disorder) substance misuse, and violent crime" (Sariaslan et al., 2015, p. 1254). Simply put, it is possible to develop a causal relationship with a specific genetic or early environmental factor on these three variables (bipolar diagnosis, substance misuse inclination, and criminality) with relative confidence. This illuminates a new perspective, bringing forth the possibility of underlying genetic links that

could be made between these three variables, thus concentrating the explanation. This perspective relies on the significance of "triggers," or characteristics that exert a direct influence on the outcome—in this case, criminal behavior. The evidential "support for the existence of disorder-specific genetic effects linking bipolar disorder to increased violence risk" suggests that this heightened vulnerability "could largely be attributed to the same genetic factors that simultaneously increased their liabilities to substance misuse and to be diagnosed with the psychotic disorders in the first place" (Sariaslan et al., 2015, p. 1254). The findings in the aforementioned study appear to be strong, as biological factors often unique to bipolar disorder were able to account for around one-fifth of the increased violence risk (Sariaslan et al., 2015). A study monitoring violence specifically with respect to self-harm has found a genetic variant of the serotonin transporter gene that may predispose individuals to suicidal behavior (Bellivier et al., 2000). Thus, the presence of a separate, unexamined phenotype that contributes to interpersonal violence is feasible as well. However, research has yet to explore this.

It is possible there are still other triggers that alter the likelihood of criminality in cases of bipolar disorder. Certain sociocultural-based hindrances were shown to be significantly present in patients that exhibit frequent episodes of both violence and severe mania, either simultaneously or asynchronously. Risk factors associated with criminality include unemployment and membership of a minority race (Blumstein, 1982). A longitudinal analysis using data from the National Epidemiologic Survey on Alcohol and Related Conditions found that patients in a manic episode experienced a particularly elevated risk if they were unemployed, non-white, and possessed a juvenile detention record (McCabe et al., 2013). Further results show that "legal problems were particularly elevated among those who lacked health insurance while experiencing both social and occupational impairment" (McCabe et al., 2013, p. 367). These findings allude to the consequence of some people's inability to treat their manic symptoms; because certain patients are unable to receive necessary treatment, their internal drive to curb the most impairing symptoms manifests into external aggressive or criminal activity.

An analysis involving a sample of 29,692 Swedish citizens with bipolar disorder or other disorders with a nature of psychosis elaborates on this hypothesis, through a detailed examination of exposure to violent triggers (i.e. witnessing criminal acts being committed, parental bereavement, self-harm, and substance intoxication) across a fifteen-year period. Using national patient archives and arrest records, the researchers surveyed data for legal involvement within the weeks following the triggers. Slightly unexpected results were found, for patients with schizophrenia experienced a fully dissipated association in the second and third weeks following exposure to violence in terms of their risk of violent offending, after a nearly 13-fold boost in the first week; almost identical data was found with bipolar disorder (Sariaslan, Lichenstein, & Larsson, 2016). In other words, immediate reactions to traumatic events seem to have a stronger impact on those who have schizophrenia or bipolar disorder to commit acts of violence, but eventually reduce in impact to a level similar to others not diagnosed with either of these disorders.

The considerable initial risk elevation should be noted, as it aligns with many of the aforementioned findings. However, these data imply that mental illness—such as bipolar disorder—may simply act as a modulator, opening the door to violent or criminal behavior, but the physical act itself is only triggered by the onset of some other exposure variable. In some cases, these violence triggers do not need to be immediate predecessors to have an effect on later violence; certain triggers in childhood, if long lasting and severe enough—such as involvement in the juvenile detention system—may be among the leading predictors of criminal involvement for bipolar I disorder patients (McCabe et al., 2013). In fact, an analysis of 617 bipolar disorder patients found juvenile detention to be the *only* childhood predictor of criminality that aligned specifically with their manic state. This finding calls attention to the impact an early relationship with the justice system can have on later criminal involvement. It would be rash to overlook the myriad of factors that result in one's juvenile detention sentence—broken homes, neighborhood or gang-related conflicts, among others—yet the ubiquity of mental illness in American juvenile detention systems certainly alludes to the necessity of proper treatment and rehabilitation programs early in life (Fazel, Doll, & Längström, 2008). Considering juvenile detention remains a strong predictor of violence during a manic episode, the teaching of symptom management in this population may prove to be very beneficial.

Efforts to Decrease Risk for Violence

The most rewarding endeavors in reducing crime should rely on building a strong relationship between psychiatric and psychotherapeutic care within prison and external psychiatric services for the public, as well as an increase in access to such care within the juvenile detention system (Fovet et al., 2014; McCabe et al., 2013). Although many researchers have come to these conclusions, few go into detail about how this realignment might be achieved. Because the nation's current criminal punishment system is concretized in notions of retribution and incapacitation, this 'realignment' toward rehabilitation—especially for the mentally ill—may demand a fundamental restructuring of our incarceration methods. Although it is difficult to speculate exactly how this may be achieved, redefining the purpose of the prison system in a way that stresses rehabilitation over punishment, as well as education on effective coping strategies for detrimental thoughts or habits, would likely build promising first steps.

The belief that mental health services should provide a more comprehensive treatment for patients of all positions in society is commonly agreed upon across researchers that specialize in the study of bipolar disorders. It must be noted that a general revision in care may not only benefit the specific patient, but overall public health as well (Sariaslan et al., 2015). The integration of research on genetic and environmental factors, as well as the effects of short- and long-term triggers are able to guide a potential route to improved treatment. However, researchers have yet to evaluate the gain from these additions empirically. Violence in these disorders is so commonly studied because one person's social misconduct might impact an entire community, yet the relationship continues to be one of the most complex in the field.

Researchers seem to recognize that improvements need to be made, but the technicalities of *how* to decrease risk for violent behavior have yet to be elaborated. Dozens of longitudinal studies have been conducted over the past few decades—a number mentioned here—that have commenced the search to design strategies that can combat the pervasiveness of both violence risk and mental illness (if not the illness, certainly the negative stigma toward the mentally ill). Researchers have recommended mental health outpatient centers to carefully assess both risk of perpetration and victimization in their patients, as exhaustive detection methods can have a powerful impact on subsequent treatment programs (Choe et al., 2008; Teplin, McClelland, Abram, & Weiner, 2005). Once again, a treatment program that synthesizes therapy as well as medication and case administration not only helps the patient to receive care in a single, stable environment, but also significantly decreases subsequent violent behavior (O'Keefe, Potenza, & Mueser, 1997; Swanson, Swartz, Wagner, Burns, Borum, & Hiday, 2000). Yet proper mental health treatment continues to be unattainable for a number of the severely affected, due to financial, locational, linguistic, and stigma-based reasons (Choe et al., 2008). In fact, a study from the Center for Behavioral Health Statistics and Quality (2017) found that over 35% of Americans diagnosed with a severe mental illness were not receiving regular treatment as of 2016. An analysis of over 9000 participants diagnosed with bipolar disorder even found the average time spent between the believed onset of illness and actual treatment for bipolar disorder patients to be 5.8 years (Dagani et al., 2016). During this time, symptoms may irreparably worsen, and those experiencing a severely manic episode may have not yet learned methods to curb their impulsive inclinations, violent or otherwise. Furthermore, it is important for data measuring the true relationships between violence and severe mental illness to be transparent to the public, as it becomes evident that the correlation is hardly what popular opinion believes it to be. A more empirically aligned understanding of this relationship would certainly help to mitigate severe mental illness stigma as well as lay the foundation for rewarding treatment programs on both the inside and outside of correctional facilities. However, policy outcomes rely heavily on public perception.

Three factors have been recognized to individually increase risk of detrimental consequences relating to both intrinsic and extrinsic acts of harm: "if the first two patient episodes for bipolar disorder required admission, a history of attempted suicide, and a history of diagnosed alcohol/drug disorder" (Webb, Lichenstein, Larsson, Geddes, & Fazel, 2014, p. 809). Although many conclusions, including this one and the multitude mentioned above, have found numerous overlapping external variables, explanations, and triggers present, directionality and third-variable problems relentlessly persist in what can still only be recognized as a correlational relationship. It is likely that the nature of some of these unique findings will continue to be studied as an even stronger grasp of how these variables coexist might be necessary for a more effective treatment.

As mentioned above, a directionality problem exists within the stigma of the association as well. Because of this, people may too assume the cause of violence in the convicted to be rooted in a severe mental illness—especially one holding the stereotype of uncontrollable bouts of impulsive mania. To hopefully dispel the misplaced condemnation of all aggressive or criminal behavior on the presence of a not-yet-diagnosed manic episode, it should be noted that while bipolar disorder does not inevitably incline one to violence, neither does violent behavior necessarily allude to bipolar disorder. Observing risk factors for violence and the coexisting presence of psychotic symptoms, 18.5% of a total 45,333 individuals were convicted of at least one violent criminal offense, while only 0.4% were diagnosed with bipolar disorder (Witt, van Dorn, & Fazel, 2013). In a much grander picture, the presence of a potential mental illness should certainly not be assumed simply when violent behavior is recognized. Not only does this misconstruction perpetuate the SMI stigma in society, but it can also hinder those who work to lessen violent inclinations in select SMI patients for which it is required. And because the mass media is now near effortless to access, it becomes increasingly vital to reflect these valuable research findings as accurately as possible.

All too often, reports of a violent crime penetrate news stations when the perpetrator has received psychiatric care. Headlines comprise embellished accounts of their deep struggle with mental illness, and viewers cannot help but draw inflated conclusions about its subsequent role in the crimes committed; appraisals which can devastate the individual, their families, and even the surrounding community. Violent crime reduction is a perpetual aim for which countless societies continue to strive, and improving our ability to break down the most influential agents and pinpoint the triggers—whether genetic, social, or psychological—can have a monumental impact on how we not only understand violent crime but how we combat it as well.

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