

# Brain injury and crime in youth: literature review article review sample

[Law](#), [Criminal Justice](#)



Traumatic brain injury (TBI) was associated with various behaviors, including violence, impaired emotional regulation, and aggression, which are associated with criminal behavior. It is estimated that TBI affects 8.5 percent of the population, but the highest prevalence of TBI, which can be up to 60 percent, is recorded among prisoners (Williams, 2012). Because TBI is associated with elevating risk factors for offending behaviors, and because it mainly occurs during early stages of life, it is important to investigate clinical implications of treating TBI to reduce criminal behaviors that may be associated with previous brain injuries.

## **Literature Review**

TBI is a form of acquired brain injury that occurs predominantly in young people when they experience physical trauma. Because the brain is developing during childhood, adolescence, and early adulthood, an injury to the brain can affect several areas and impair their functions permanently. For example, an injury to the frontal lobes, which usually do not develop before people reach the age 20, could impair impulse control and temperance development (Williams, 2012). Consequently, young adults who may have suffered TBI previously could remain immature and continue displaying antisocial behavior throughout adulthood.

The prevalence of TBI in offenders varies significantly in different reports. A study on 2820 forensic patients in Brazil found that 4.7 percent of them had a medical history of TBI while another study reported that all of the inmates sentenced to death in the US had been diagnosed with TBI (as cited in Farrer & Hedges, 2011). However, it is important to note that inmates were the sample most studies used, so it was not clear how the findings translated

into the general population.

In a meta-analysis by Farrer and Hedges (2011), 26 studies on the lifetime prevalence of TBI in inmates were analyzed. The aim was to improve and characterize the association between TBI and offender behavior, so the studies on incarcerated samples were used to generalize the findings and estimate the lifetime prevalence of TBI in the general population. The results of the study suggested that TBI prevalence is significantly higher in the incarcerated population than in the general population (Farrer & Hedges, 2011).

A study on young adults by Kenny and Lennings (2007) confirmed that prevalence rates are higher among offenders and that TBI can be associated with higher tendencies to commit violent crimes. Other factors were also linked to violent crimes, so Kenny and Lennings (2007) reported that alcohol abuse and cultural background as important predictors of the relationship between TBI and criminal behavior. However, it should be noted that the research was conducted in the context of Australian youth, so the cultural and linguistic diversity, which accounted for a significant part of violent offending, cannot be generalized to other countries.

The most common causes of TBI in young offenders were fights, sport injuries, and other accidents (Kenny & Lennings, 2007). Although the self-reported design of the study is listed as a limitation, using a structured questionnaire and the assumption that there would be no reason to withhold information regarding head injury, it is possible to conclude that there is a significant association between TBI and violent criminal behavior. However, the sequencing and causality in that relationship cannot be determined by

this study, so it remains unclear whether the young offenders received head injuries because of violent behavior or engaged in violent behavior because of head injuries.

## **Discussion**

The findings of various studies are consistent. While the study by the Young Offender Institution in England found that 60 percent of the young participants in custody reported experiencing some form of head injury (Williams, 2012), similar results were obtained from other studies in the US and Europe (Farrer & Hedges, 2011). That suggests that TBI may account for the majority of violent criminal offenses.

When comparing the TBI prevalence results reported by studies on young offenders (Williams, 2012) and the reported prevalence of TBI among incarcerated adults (Farrer & Hedges, 2011), the results are similar and both groups show between 50 and 70 percent prevalence of TBI. The occurrence of TBI is reported mainly during childhood, adolescence, or young adulthood, so it is possible that the same population displays recurring criminal behavior because head injuries often have lasting impact on developmental mechanisms and behavioral patterns. Therefore, brain injuries at a young age may predict violent behavior in both youth and adulthood.

Injuries to the frontal areas of the brain were the most common types of trauma linked to severe aggressive and violent behavior. While all types of TBI were associated as predispositions to criminal behavior, a study on Vietnam War veterans showed that those with lesions on other parts of the brain had lower tendencies in resorting to violence than those with frontal

lobe injuries (Williams, 2012). Other impairments associated with frontal lobe trauma included the reduced ability to empathize with others and immature reasoning (Kenny & Lennings, 2007).

Overall, while less than 10 percent of the general population experienced a TBI at some point in life, prevalence rates of TBI in criminal offenders can range between 50 and 80 percent. The injuries may range from mild and severe, so it is possible to conclude that all severity levels of TBI can be correlated with criminal behavior. However, causality and sequencing are not yet established in the relationship between TBI and violent behavior.

## **Clinical Implications**

The findings that have associated TBI with potential criminal behavior and incarceration can be implemented in various healthcare practices. First, it is important to consider how the findings affect follow-up treatment planning in patients with TBI. Severity does not need to be taken in account because both mild and severe cases have been associated with violent behavior.

While TBI is not always associated with criminal behavior or incarceration, preventive measures need to be taken, and an assessment should determine whether the patient needs to engage in cognitive-behavioral therapy or anger management sessions after suffering head injuries. It would also be beneficial to determine which frequency of treatments should be implemented. Because TBI has lasting effects, physicians should also consider long-term maintenance treatments in their planning.

Second, treatments for various disorders, such as conduct disorders and attention problems identified at a young age, should be reconsidered if they

are affected by TBI. When psychological disorders are comorbid, therapists should focus on the primary disorder to provide a successful treatment. For example, if a patient suffers from substance abuse, but depression is diagnosed as the primary disorder, treating depression should alleviate substance abuse issues while treating substance abuse cannot alleviate depression. If TBI is identified as the cause of antisocial behaviors and various disorders, neuro-rehabilitation may be offered to patients.

Finally, besides clinical implications, offender profilers may find these studies useful in creating improved profiling models in terms of reliability. Because of the high prevalence of TBI in violent offenders, it cannot be used for individual differentiation, but it is possible to include the assumption that violent offenders will most likely have TBI, which can help investigators prioritize their suspects.

## **Conclusion**

Several points regarding the association between TBI and criminal behavior still require further clarification. Although it is evident that TBI can lead to chronic aggression and induce criminal behavior, several confounding factors remain unclear. Future research should aim to investigate whether samples from the general population that are diagnosed with TBI, but not involved in criminal offenses, also engage in violent behavior. The results should be compared to determine which variables could account for the differences between the two groups.

It is also important to investigate how other external variables, such as social influences or economic status, influence criminal behavior in addition to TBI.

By investigating the relationship between TBI and other criminal behavior risk factors, it could be possible to elucidate why some offenders engage in violent crimes, even though they are not diagnosed with TBI.

Another suggestion is that reverse causation may impair the conclusions made about TBI being associated with imprisonment (Farrer & Hedges, 2011). With that in mind, future research needs to classify TBI cases to determine whether the aggressive and impulsive behaviors, such as starting fights, may create situations in which TBI occurs rather than establishing TBI as the cause of those behaviors. Longitudinal studies will be required to analyze how behavioral patterns change upon receiving head injuries or how they may lead to head injuries. Once the causality and sequencing of TBI and violent behavior is determined, it will be possible to propose different prevention strategies for young offenders.

## References

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