



Abstract

Introduction: This study explored the relationship between traumatic brain injury (TBI), aggression, and crime.

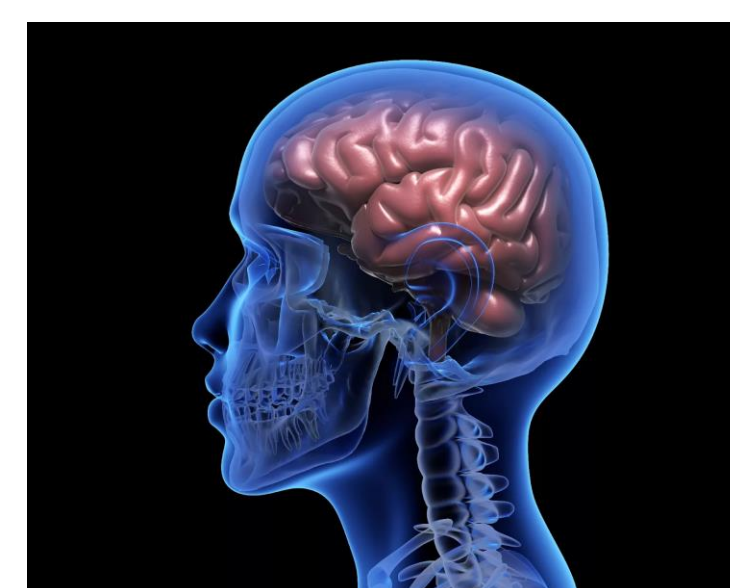
Methods: The Ohio State University TBI Identification Method (OSU TBI-ID), the Disinhibition scale of the Triarchic Psychopathy Measure (TriPM), and a recidivism outcome measure were administered to participants from a correctional facility.

Results: The correlation between aggression and recidivism was significant with a small effect size. No other relationships were found.

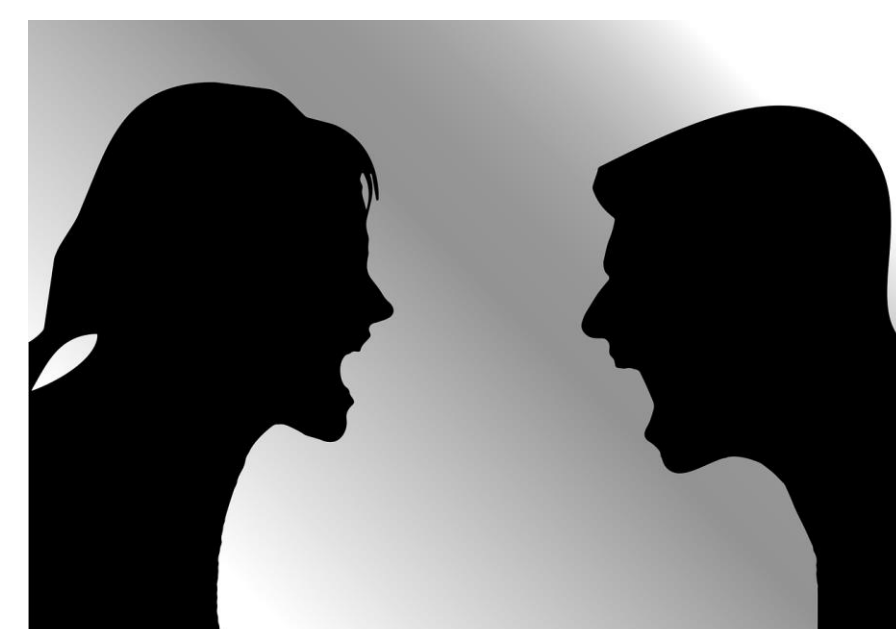
Discussion: More research is needed to see if TBI plays a significant role in the development of aggression, and therefore may be linked to crime.

Introduction

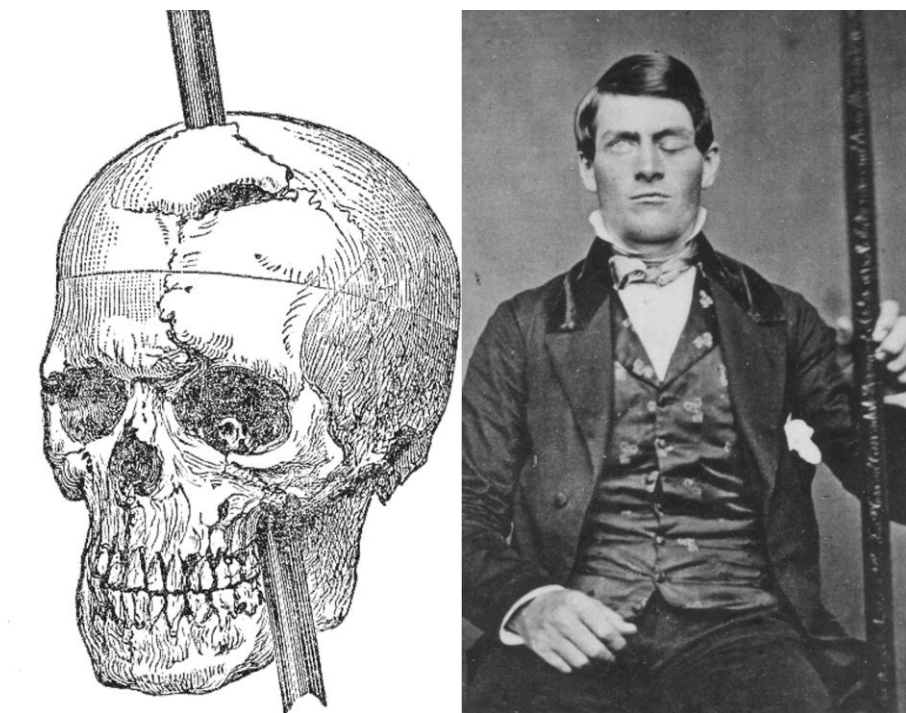
- TBI: blow, hit, or jolt to the head that can alter brain function (CDC, 2019)



- Symptoms: headache, nausea, dizziness and irritability (NINDS, 2015)
- Amygdala, ventromedial frontal, and orbitofrontal areas are associated with impulsivity and aggression (Bufkin & Luttrell, 2005)



- Damage to frontal lobe exacerbates recidivism (Lane et al., 2017; Bufkin & Luttrell, 2005; Grafman et al., 1996)



- Moderate and severe TBI are associated with disinhibition and impulsivity (Roebuck-Spencer & Sherer, 2011)
- Those with TBI are more likely to reoffend compared to those without a TBI (Ray & Richardson, 2017)
- Prominent case of Phineas Gage: injury to frontal cortex increased aggression (Bufkin & Luttrell, 2005)
- Compared to community samples with TBI, young delinquents with TBI are at a higher risk of offending (Farrer et al., 2013)

Methodology

Sample

95 men from a private correctional facility

Measures

OSU TBI-ID

Measures lifetime TBI exposure

Disinhibition scale from the TriPM

Measures traits like aggression and impulsivity

Recidivism

Any new criminal charges ~2 years after release

Procedure

- An archival dataset was created from the original data files
- The statistical analyses were conducted

Results

Statistical Analyses

Point biserial correlation tests, a Pearson correlation test, and a partial correlation test were utilized ($p \leq 0.0125$ was considered significant)

Hypotheses/Results

H1: TBI severity positively correlated with aggression
Not supported ($r = 0.106, p = 0.221, r^2 = 0.01$)

H2: Aggression positively correlated with recidivism
Not supported ($r = 0.072, p = 0.298, r^2 = 0.005$)

H3: TBI severity positively correlated with recidivism
Supported, but small ($r = 0.324, p = 0.001, r^2 = 0.11$)

H4: TBI severity positively correlated with recidivism, controlling for aggression
Not supported ($r_{pb} = 0.032, p = 0.410$)

Discussion

Significance

One out of the four hypotheses were supported.

A significant relationship was found between aggression and recidivism.

Results are surprising because of existing support for TBI having an influence on both aggression and crime.

Previous literature indicates:

TBI impacts juvenile delinquents (Farrer et al., 2013).

TBI is associated with aggressive behavior post-injury (Dyer et al., 2006).

Young and less educated males are especially more likely to re-offend post-TBI (Elbogen et al., 2015).

Limitations

- Sample size may not have been large enough
 - Sample may have been biased
- Each measure for the three variables may have not been used accurately

Future Directions

- TBI should be considered in future research.
- A larger and more representative sample size will strengthen the power of the design.
- Using specific or different measures may contribute to significant results.

Conclusion

This study has contributed to existing literature:

- It analyzed TBI in relation to aggression & recidivism
- It indicated that there is a link between aggression and recidivism, which was not specifically explored in this way in previous studies.

TBI, aggression, and criminal behavior should continue to be explored.

References

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