



Investigating the Mediating Influence of Deviant Peers on the Association between Mild Traumatic Brain Injury and Delinquency

Brandon F. McCormick¹, M.A., Eric J. Connolly², PhD, David V. Nelson², PhD

¹University of Alabama, ²Sam Houston State University



Background

- Mild Traumatic Brain Injury (mTBI) or concussion is a growing public health concern
- mTBI is a highly prevalent injury amongst children and adolescents
- A growing body of literature has identified an association between mTBI and a range of externalizing behaviors such as impulsivity and aggression
- mTBI has also been linked to youth delinquency
- However few studies exist demonstrating mediating mechanisms between mTBI and delinquency
- One potential mediator is peer deviance
- It is postulated that post-mTBI externalizing behaviors lead to increased association with deviant peers, thus increasing the likelihood of delinquent behaviors

Participants

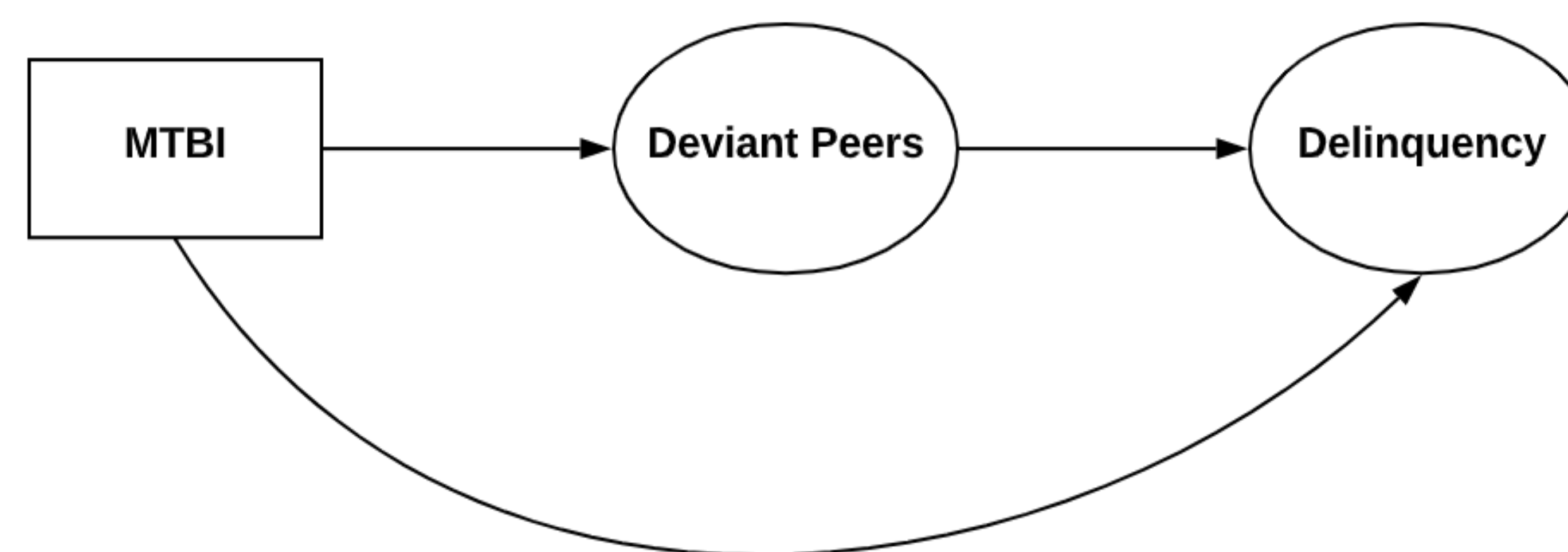
	Mean/%	SD/n	Min	Max	N
Age	10.84	2.70	6	18	1,741
Sex					1,741
Male	48.90%	851	-	-	-
Female	51.12%	890	-	-	-
Race					1,741
African American	30.84%	537	-	-	-
Hispanic	40.49%	705	-	-	-
Caucasian	13.78%	240	-	-	-
Multiple/Other	14.87%	259	-	-	-

Measures

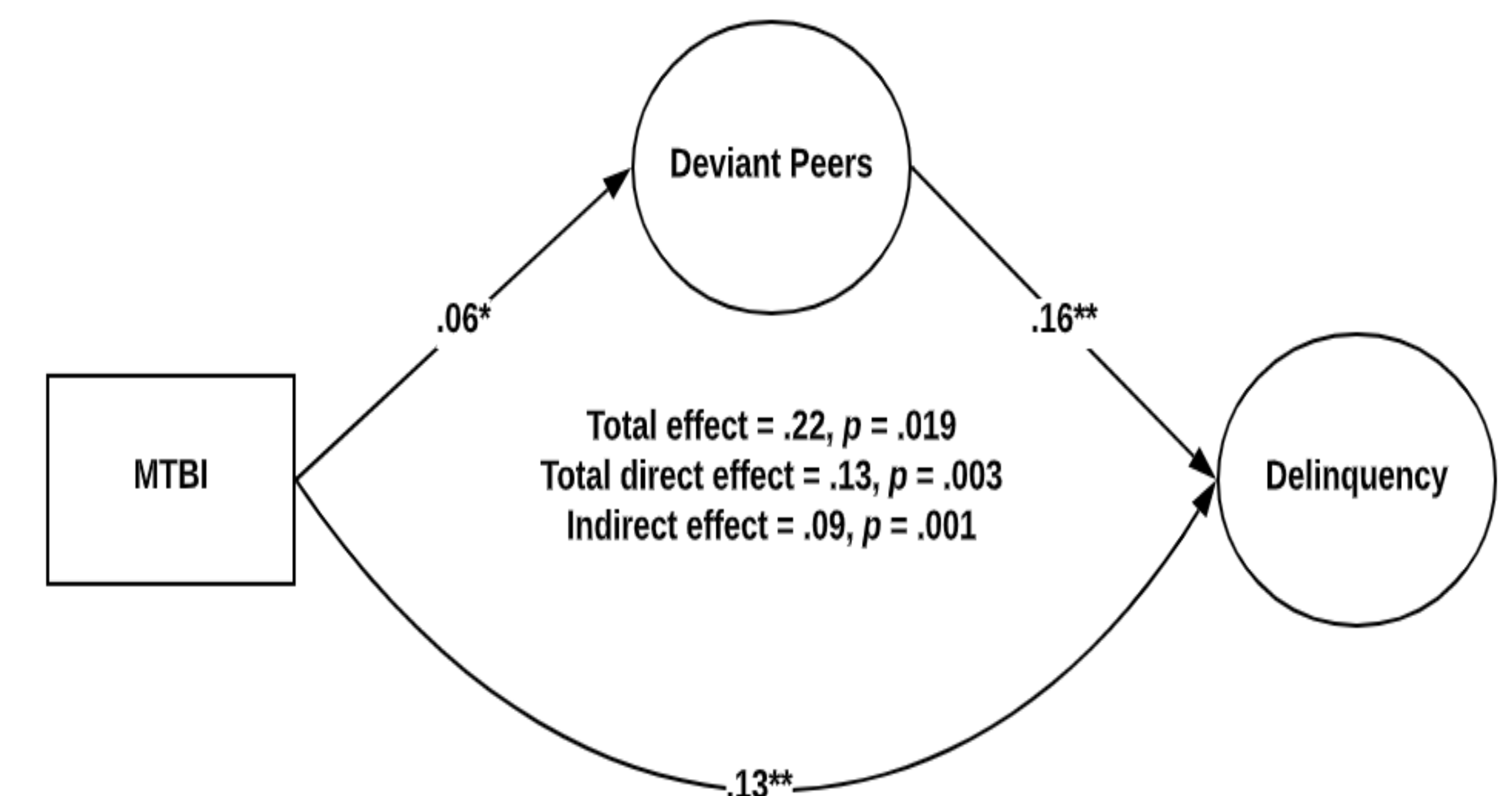
- Mild Traumatic Brain Injury (Parent Report)
 - < 30 minutes loss of consciousness and/or sought medical attention
- Delinquency (Parent Report)
 - 8 items on violent and non-violent delinquent behaviors
- Peer Deviance (Youth Report)
 - 8 items on delinquent behaviors engaged in by peers
- Covariates (Parent Report)
 - Victimization, Parent-Child Conflict, Neighborhood SES, Age, Race, and Sex

Analysis

- Structural Equation Modeling using Mplus version 8
- Step 1: Confirmatory Factor Analysis
- Step 2. Unconditional model with no covariates
- Step 3. Conditional model with covariates
- Step 4. Mediation model with covariates



Results for Mediation Model



- The model reveals a significant mediating effect of deviant peers on the relationship between mTBI and delinquency
- It also indicates mTBI continues to exert a statistically significant direct effect on delinquency even after estimating the indirect pathway via deviant peers
- Deviant peers account for 41% of the variance of the effect of mTBI on delinquency

Discussion and Implications

- The results confirm our hypothesis of the mediating effect of deviant peers on the relationship between youth delinquency and mild traumatic brain injury
- Important implications for service providers and parents who should be aware of the long-term behavioral impacts of youth mTBI
- Approximately 60% of the variance in the relationship between mTBI and youth delinquency remains unexplained
 - Future research should seek to further explain the relationship between these variables

Results for Confirmatory Factor Analysis

