

Introduction

Prior research has demonstrated a positive relationship between sport-related concussion (SRC) history and increased depressive symptoms in retired National Football League (NFL) athletes. In this study, we aimed to determine whether somatic symptom endorsement influences the relationship between SRC history and self-reported depressive symptoms in retired NFL athletes.

Methods

Prior to this study, forty-three former NFL athletes prospectively completed multiple interviews and self-report inventories of depression (BDI-II) and somatic symptoms (PHQ-15). The current study was a retrospective analysis of the previously collected cross-sectional data. A moderation analysis examined the influence of somatic symptom endorsement on the relationship between SRC history and self-reported depressive symptom severity.

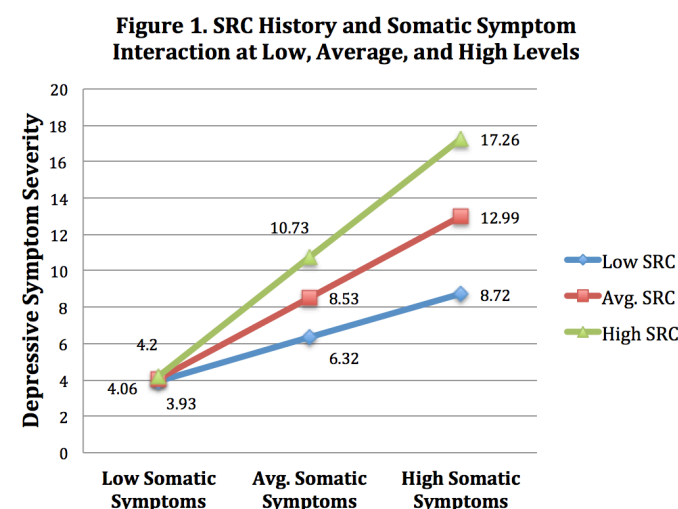
Results

Among 43 retired NFL athletes, average BDI-II score was 9.26 (8.95), and average PHQ-15 score was 5.35 (3.58). SRC history ($b=0.28$) and somatic symptom scores ($b=0.53$) accounted for a significant amount of depressive symptomatology, $R^2 = 0.47$, $F(2,40)$, $p < 0.001$. The interaction of SRC history and somatic symptom endorsement explained a significant increase of variance in depressive symptom severity, $\Delta R^2 = 0.05$, $F(1,39) = 5.05$, $p = 0.03$. SRC history was not significantly associated with depressive symptom severity at low levels of somatic symptom endorsement (1SD below mean), $p = 0.90$. The relationship between SRC history and depression symptom severity was significant at mean (PHQ-15 = 5) and high (1 SD above mean) levels of somatic symptoms, $p = 0.03$ and $p = 0.01$, respectively (Figure 1).

Conclusions

In this cohort, the relationship between SRC history and self-reported depressive symptoms was significantly moderated by somatic symptom endorsement. The effect of somatic symptoms on depressive symptoms was nearly twice that of SRC history. These results suggest that the relationship between SRC and depression is complex, nuanced, and largely affected by somatic symptoms.

Figure 1. SRC History and Somatic Symptom Interaction at Low, Average, and High Levels



Conditional relationship of SRC history and depressive symptom severity based on degree of somatic-symptom reporting. Levels of SRC history and somatic symptom reporting defined as: low = 1 SD below the sample means; average = mean; high = 1 SD above the mean.

References

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