



Differences in Self-Report Among ADHD/LD, Concussion and Typical Samples

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INTRODUCTION

- Attention-deficit/hyperactivity disorder (ADHD), learning disorder (LD), and history of concussion are frequently present in college students (Nelson et al., 2017).
- These conditions may negatively impact executive functioning (EF) and attention (Belén et al., 2020; Hume et al., 2017).
- This research will further evaluate whether college students with ADHD/LD or a history of concussion report more difficulties with attention and/or EF relative to healthy controls.

METHODS/PARTICIPANTS

- College undergraduates ($N = 253$, $M(SD)_{age} = 18.90(1.08)$, $M(SD)_{GPA} = 3.33(.41)$) completed two self-report measures of ADHD and EF: the Connors Adult ADHD Rating Scale (CAARS) and Barkley's Deficits in Executive Function Scale (BDEFS).
- A one-way ANOVA analyzed mean BDEFS and CAARS subscale score differences among three groups of students: (1) healthy controls ($n = 172$), (2) ADHD/LD ($n = 26$), and (3) concussion ($n = 52$).
- Tukey's post hoc analyses were run to further identify group differences.

RESULTS

CAARS Subscales	df	Mean Squares	F	Sig.
Inattention/Memory	2, 197	630.44	6.579	.002
Hyperactivity/Restlessness	2, 197	676.635	7.884	.001
Impulsivity/Emotional Ability	2, 197	424.434	5.074	.007
Problems with Self-Concept	2, 197	7.901	0.072	.930
DSM-IV Inattentive Symptoms	2, 197	845.066	6.135	.003
DSM-IV Hyperactive/Impulsive	2, 197	1090.084	10.986	.000
DSM-IV ADHD Symptoms Total T-score	2, 197	1251.641	9.571	.000
ADHD Index T-score	2, 197	488.233	4.849	.009

Table 1. ANOVA Results for CAARS subscales

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BDEFS Subscale	df	Mean Square	F	Sig.
Self-Management	2, 194	1739.632	10.673	.000
Self-Organization	2, 194	1439.365	6.487	.002
Self-Restraint	2, 194	663.528	7.396	.002
Self-Motivation	2, 193	521.187	10.353	.000
Self-Regulation of Emotion	2, 197	350.724	6.061	.003

Table 2. ANOVA Results for BDEFS subscales

CAARS Subscale Mean T-Scores

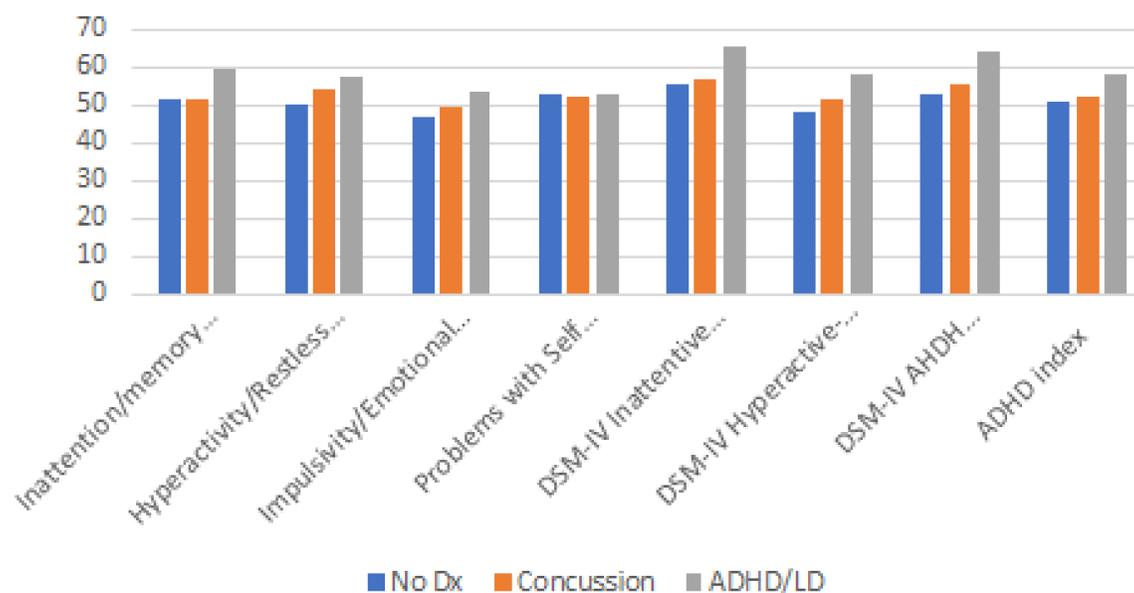


Figure 1. Mean differences among ADHD/LD, Concussion, and typical on CAARS subscales

Tukey's Post Hoc analyses found significant differences between the following groups:

- The ADHD/LD group reported more symptoms of inattention and memory ($p = .001$), hyperactivity and restlessness ($p = .001$), impulsivity and emotional ability ($p = .006$), inattentive symptoms ($p = .002$), hyperactivity and impulsiveness ($p = .000$), ADHD symptoms total T-score ($p = .000$), and ADHD index T-score ($p = .006$) than the no diagnosis group
- The ADHD/LD group reported more symptoms of inattention and memory ($p = .007$), inattentive symptoms ($p = .015$), hyperactivity and impulsiveness ($p = .031$), ADHD symptoms total T-score ($p = .010$), and ADHD index T-score ($p = .060$) than the concussion group
- The concussion group reported more symptoms of hyperactivity and restlessness ($p = .041$) than the no diagnosis group

BDEFS Subscale Mean T-Scores

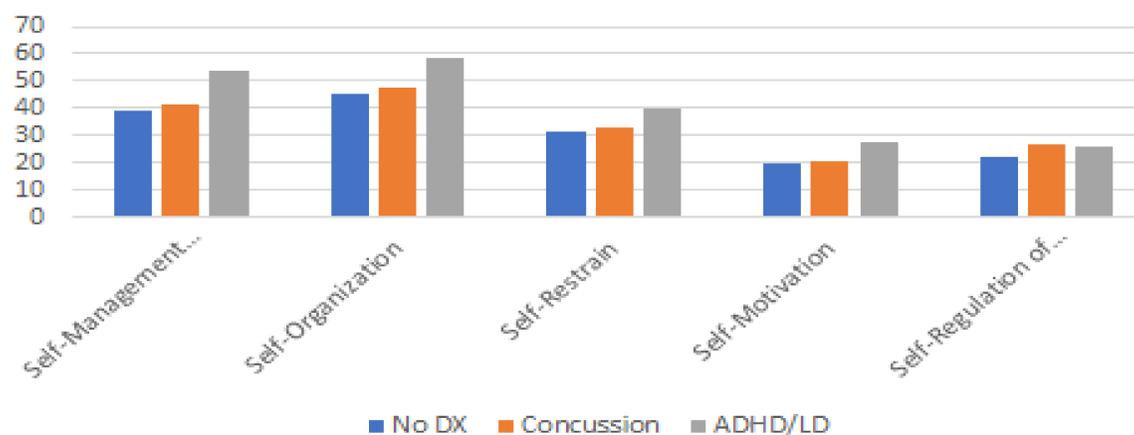


Figure 2. Mean differences among ADHD/LD, concussion, and typical on BDEFS subscales

Tukey's Post Hoc analyses found significant differences between:

- The ADHD/LD group reported more complications in self-management of time ($p = .000$), self-organization ($p = .001$), self-restraint ($p = .000$), self-motivation ($p = .000$), and total executive functioning ($p = .003$) than the no diagnosis group
- The ADHD/LD group reported more complications in self-management of time ($p = .001$), self-organization ($p = .034$), self-restraint ($p = 0.013$), and self-motivation ($p = .001$) subscales than the concussion group
- The concussion group reported more complications in self-regulation of emotion ($p = .005$) than the no diagnosis group

DISCUSSION

- This research investigated how students with ADHD, LD, and/or a history of concussion describe their executive and attentional skills.
- In general, individuals with ADHD/LD described their EF and attentional abilities as being below healthy controls.
- Healthy controls and students who reported sustaining a concussion in the past reported similar attentional and EF abilities.
- Students with ADHD/LD reported more significant challenges relative to students who sustained a remote concussion.
- Students with ADHD/LD or history of concussion did not differ from those with no diagnosis in terms of self-concept.
- This research highlights that a history of concussion does not significantly impact college student's self-report of neurocognitive functioning, but current diagnoses of ADHD and/or LD is associated with increased self-report of challenges.

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