

participated. EAs completed on-line training to deliver the interventions to assigned students at their respective schools (3x/week, 40-60 minutes/session, 8 weeks, 14 hours in total). We gathered baseline child and EA demographic data, completed pre-intervention EA interviews, and conducted regular fidelity checks throughout the interventions. Implementation data included paper-pencil tracking forms, computerized game analytic data, and online communications.

Results: Using a mixed methods approach we evaluated the following implementation outcomes: fidelity, feasibility, acceptability, and barriers. Overall, no meaningful between-group differences were found in EA or child demographics, except for total number of years worked as an EA ($M = 17.18$ for AA and 9.15 for DI; $t(22) = -4.34$, $p < .01$) and EA gender ($\chi^2(1) = 6.11$, $p < .05$). For both groups, EA age was significantly associated with the number of sessions played [DI ($r = .847$, $p < .01$), AA ($r = .986$, $p < .05$)]. EAs who knew their student better completed longer sessions [DI ($r = .646$), AA ($r = .973$)], all $ps < .05$. The number of years worked as an EA was negatively associated with the total intervention hours for both groups. Qualitative interview data indicated that most EAs found DI valuable and feasible to deliver in their classrooms, whereas more implementation challenges were identified with AA. Barriers common to both groups included technical difficulties (e.g., game access, internet firewalls), environmental barriers (e.g., distractions in surroundings, time of the year), child factors (e.g., lack of motivation, attentional difficulties, frustration), and game-specific factors (e.g., difficulty level progression). Barriers specific to DI included greater challenges in motivating children as a function of difficulty level progression. Furthermore, given the comprehensive nature of training required for delivery, EAs needed a longer time to complete the training for DI. Nevertheless, many EAs in the DI group found the training helpful, with a potential to generalize to other children in the classroom.

Conclusions: The availability of affordable, accessible, and effective cognitive intervention is important for children with NDDs. We found that delivery of a novel cognitive intervention by EAs was feasible and acceptable, with similarities and differences in implementation facilitators/barriers between the cognitive and commercialized academic intervention. Recommendations regarding strategies for successful school-based implementation of

neurocognitive intervention will be elaborated on in the poster.

Categories: Cognitive Intervention/Rehabilitation

Keyword 1: cognitive rehabilitation

Keyword 2: attention

Keyword 3: executive functions

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91 Athletic Status Predicts Neurocognitive Dispersion in College Students

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Objective: Studies have reported that athletic conditioning or training may have neuropsychological benefits for adult athletes, including enhanced processing speed, executive function, and working memory and attention. However, others have reported that these benefits may be attenuated by an athlete's level of exposure to repetitive, subconcussive head impacts, such as heading the ball in soccer. Neurocognitive dispersion, or intraindividual variability (IIV), has become an increasingly popular tool to assess neuropsychological performance in various clinical populations. Less dispersion is typically associated with more consistent and better overall performance (i.e., fewer lapses of reaction time and accuracy). However, few studies have utilized these measures in healthy young adults. The objective of this study was to determine if athletes and non-athletes exhibited different levels of neurocognitive dispersion on a battery of neuropsychological tasks. It was hypothesized that athletes would exhibit less neurocognitive dispersion compared to non-athletes, despite their exposure to repetitive subconcussive head impacts.

Participants and Methods: Division 1 varsity and club team university athletes ($n = 74$, $Mage = 19.93$, female = 55%), and non-athlete undergraduate students ($N = 154$, $Mage = 20.12$, female = 69%) completed a neuropsychological battery consisting of 13 cognitive tests. Outcomes for each test were converted to standard scores and combined for

overall neuropsychological performance. Two measures of IIV, intraindividual standard deviation (ISD) and maximum discrepancy (MD), were calculated across all 13 cognitive tests for each participant. Intraindividual standard deviation was calculated by taking the standard deviation of the mean performance across each task for each participant. Maximum discrepancy was calculated by subtracted the lowest standard score from the highest standard score per participant across all 13 cognitive tests.

Results: Controlling for the impact of premorbid functioning, depressive symptoms, and gender, an analysis of covariance (ANCOVA) found significantly less ISD in athletes ($M = 11.28$, $SD = 2.76$) compared to non-athletes ($M = 12.56$, $SD = 3.61$) across all 13 neuropsychological tasks ($\eta^2 = 0.04$, $p = .004$). Similarly, significantly lower MD scores were found in athletes ($M = 40.25$, $SD = 11.14$) compared to non-athletes ($M = 44.69$, $SD = 14.07$) across all 13 neuropsychological tasks ($\eta^2 = 0.03$, $p = .008$). Post-hoc analyses revealed no significant differences when athletes were divided into contact and non-contact athletes.

Conclusions: Similar to prior findings that aerobic exercise may enhance cognitive performance, both contact and non-contact college athletes exhibited less neurocognitive dispersion (as measured by ISD and MD) compared to non-athlete college students. However, no significant differences were found between non-contact athletes and contact athletes (soccer players) who were exposed to repetitive subconcussive heading events. These findings suggest that athletic performance in college-aged athletes may lead to more consistent and therefore overall better neuropsychological performance despite exposure to repetitive subconcussive head impacts.

Categories: Other

Keyword 1: sports-related neuropsychology

Keyword 2: neuropsychological assessment

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92 To know or not to know: A case of CADASIL highlighting the ethical dilemmas of genetic testing among families carrying a highly heritable neurological condition

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Objective: Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL) is a hereditary form of cerebral small vessel disease leading to early cerebrovascular changes. These changes result from mutations in the NOTCH3 gene that cause progressive accumulations of granular osmiophilic material (GOM) deposits, thickening arterial walls and reducing or restricting blood flow in the brain. The clinical presentation of CADASIL is characterized by migraines with aura, early and recurrent strokes, progressive cognitive impairment, and psychiatric disturbances. CADASIL is rare but frequently underrecognized or misdiagnosed. A genetic condition with a 50% risk of inheritance from an affected parent, the gold standard for diagnosis is genetic testing to determine the presence of mutations in the NOTCH3 gene. This presentation aims to familiarize neuropsychologists with the condition of CADASIL through a unique case study highlighting important psychological, social, and ethical considerations raised by genetic testing.

Participants and Methods: This case study presents a 67-year-old, right-handed, married female diagnosed with CADASIL who was referred for neuropsychological evaluation of cognitive function and low mood concerns following multiple ischemic events.

Results: Results revealed severe cognitive deficits in domains of attention, learning, and memory. Her superior verbal abilities and executive function remained largely intact. Assessment of mood revealed elevations in symptoms of depression and anxiety. The patient was aware of CADASIL in her father, paternal aunt, and younger brother, but elected to forego any genetic testing to confirm whether she had the condition until she experienced a stroke at age 61. She has two adult children who have also elected to forego testing and currently remain asymptomatic. Cognitive profile, mood disturbances, and patient perspectives on refraining from pre-symptomatic genetic testing for CADASIL diagnosis will be discussed.

Conclusions: Aspects of this case are consistent with a small body of literature evidencing distinct psychological, emotional, and social challenges among families carrying genetic risk of CADASIL. While providing an