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Acute and Long-term Effects of Aerobic Exercise on Repetitive Behaviours and Task Performance for Adults with Autism Spectrum Disorder and an Intellectual Disability

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Title of Research Project: The Effects of Aerobic Exercise on Repetitive Behaviours and Task Performance for Adults with Autism Spectrum Disorder and an Intellectual Disability

Background and Objective: Repetitive behaviours (RB) are one of the main characteristics of Autism Spectrum Disorder (ASD). RB are related to a decrease in adaptive functioning for people with ASD and 31% of people with ASD are diagnosed with an Intellectual Disability (ID). The purpose of this study was to assess the effects of aerobic exercise on RB expression immediately after a single session and over the course of several sessions, and its ability to improve task performance for adults with ASD and ID.

Methods: Six case studies were conducted, where participants exercised on a stationary bike twice a week for eight weeks. Video observations and the Jebsen Hand Function Test (JHFT) were conducted immediately pre- and post-exercise. The Repetitive Behaviour Scale-Revised (RBS-R) was administered to a support worker, parent, or guardian pre- and post-intervention.

Results: The changes that occurred in RB from the video observations were specific for each individual. Further analysis suggested an interaction between certain RB (i.e., *pacing* and *body rocking*), and that some RB are positive expressions and do not need to be reduced. The JHFT indicated that, for most participants, RB may not influence performance on short-duration tasks. Due to the variable results, the RBS-R was not a reliable measure of changes in RB severity for this study.

Conclusion: The case studies conducted provided important information on each participant, their RB, and their progress throughout the program. Future research would benefit from identifying and reducing specific RB that are deemed maladaptive rather than attempting to decrease all RB.