analysis, we collapse across both MS groups who are, and who are not, treated with metformin. The current objective is to evaluate the relationship between subjective (i.e., perceived empathy), objective social cognition and information processing speed (IPS) in PwMS and co-morbid diabetes.

Participants and Methods: Preliminary data on 15 PwMS are included. Participants completed a demographic questionnaire, a cognitive assessment battery, an objective social cognition assessment and self-report questionnaires. These questionnaires assessed subjective social cognition, fatigue, mood, and disability level.

Results: Preliminary results showed that IPS was positively correlated with the affective empathy domain of social cognition, $r = .53$, $p = .04$. Additionally, IPS was positively correlated with objective social cognition, $r = .71$, $p = 003$. Follow-up regression analyses demonstrated that IPS predicted objective social cognition, $R^2 = .71$, $SE = 3.04$, $F(1,13) = 13.36$, $p = .003$ and subjective social cognition, $R^2 = .53$, $SE = 5.39$, $F(1,13) = 4.97$, $p = .04$. However, subjective and objective measures of social cognition were not correlated, $p > .05$ and remained uncorrelated when IPS was controlled for, $p > .05$.

Conclusions: A majority of the variance in social perception is explained by IPS, suggesting that how quickly one can think may be a fundamental cognitive process to allow optimal functioning in social situations. While the reason for the relationship between IPS and subjective social cognition is perhaps less apparent, it may reflect a more global cognitive compromise that impacts both cognitive and social processes. This lends support to the Relative Consequence Model that suggests IPS deficits are a fundamental cognitive deficit underlying other more complex cognitive processes. The lack of correlation between subjective perception of empathy and objective social cognition requires further exploration and could potentially be related to some individuals with MS having a diminished ability to judge their own social proficiency. Further analyses with a larger sample will be conducted to assess group differences in social cognitive outcomes and MgII levels between metformin and non-metformin groups. If PwMS who take metformin have better social cognition compared to PwMS who do not take metformin, MgII levels can be used as a biomarker to guide metformin treatment with the goal of improving social cognition.

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89 The Neuropsychology of Complex Homelessness

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Objective: Although the cognitive profiles of people experiencing homelessness have been described in the literature, the neuropsychological profile of people experiencing complex homelessness has not been delineated. Complex homelessness is homelessness that continues despite the provision of bricks and mortar solutions. People experiencing complex homelessness often have an array of physical health, mental health, substance use, neurodevelopmental and neurocognitive disorders. The present study aimed to delineate the neuropsychological profile of people experiencing complex homelessness and explore the utility of neuropsychological assessment in supporting this population.

Participants and Methods: 19 people experiencing complex homelessness in Sydney, Australia, were consecutively referred by specialist homelessness services for neuropsychological assessment. They underwent comprehensive assessment of intelligence, memory and executive functioning and completed questionnaires to screen for the presence of ADHD, PTSD, depression, anxiety and stress. A range of performance validity measures were included. Referrers were asked to complete questionnaires on history of childhood trauma, psychological functioning, drug and alcohol use, functional cognitive abilities, homelessness factors, personality, risk of cognitive impairment and adaptive functioning

and to note existing or suspected mental health, neurodevelopmental and neurocognitive disorders. Referrers also completed a post-assessment pathways questionnaires to identify whether the neuropsychological assessment facilitated referral pathways (e.g., for government housing or financial assistance). Clinicians completed a post-assessment diagnosis survey, which was compared to the pre-assessment known or suspected diagnoses. Finally, referrers were asked to complete a satisfaction questionnaire regarding the neuropsychological assessment.

Results: Mean (SD) WAIS-IV indexes were VCI = 81.1 (14.5), PRI = 86.1 (10.9), WMI = 80.5 (13.0), PSI = 81.6 (10.2). Mean WMS-IV Flexible (LMVR) indexes were AMI = 68.3 (19.6), VMI = 77.1 (19.3), IMI = 72.7 (17.2), and DMI = 70.5 (17.6). The majority of participants showed unusual differences between WAIS-IV and TOPF-predicted WAIS-IV scores and between WAIS-IV General Ability and WMS-IV Flexible (LMVR) scores. Demographically corrected scores on tests of executive functioning were mostly one or more standard deviations below the mean. The majority of participants screened positive on screening measures of executive dysfunction, PTSD and ADHD and had elevated self-reported psychological distress scores. At least one new diagnosis was made for nine (47%) participants, established diagnoses were confirmed for two (11%) participants, diagnoses were supported for 15 (79%) participants, tentative diagnoses were made for 16 (84%) participants, and five (26%) participants had at least one diagnosis disconfirmed/unsupported. Referrers indicated that the majority of post-assessment pathways were more accessible following the neuropsychological assessment and that they were very satisfied with the neuropsychological assessments overall.

Conclusions: This is one of the first studies to delineate the neuropsychological profile of people experiencing complex homelessness using robust psychometric approaches, including performance validity tests. This population experiences a high burden of cognitive impairment and associated substance use, neurodevelopmental and mental health comorbidities. Neuropsychological assessment makes referral pathways more accessible and is valued by referrers of people experiencing complex homelessness.

Categories: Other
Keyword 1: assessment

Keyword 2: psychometrics
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90 Association Between Sedentary-To-Light Physical Activity Time Ratio and Cognitive Function in Bariatric Surgery Candidates

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Objective: Class III obesity is associated with increased risk for cognitive impairment. Though hypothesized to be partially attributable to sedentary time (ST), past research examining the association between ST and cognitive function has produced mixed findings. One possible explanation is that studies do not typically account for the highly correlated and almost inverse relationship between ST and light intensity physical activity (LPA), such that ST displaces time engaging in LPA. Therefore, we aimed to evaluate whether: (1) higher ST-to-LPA time ratio associates with poorer performance across multiple cognitive domains in patients with Class III obesity seeking bariatric surgery; and (2) the associations differ by sex.

Participants and Methods: Participants (N = 121, 21-65 years of age, BMI ≥ 40 kg/m^2) scheduled for either Roux-en-Y Gastric Bypass (RYGB) or Sleeve Gastrectomy (SG) completed the NIH Toolbox, a computerized neuropsychological assessment battery and wore a waist-mounted ActiGraph monitor during waking hours for 7 days to measure minutes/day spent in ST, LPA, and moderate-to-vigorous physical activity (MVPA). A ratio of time spent in ST-to-LPA was calculated by dividing the percentage of daily wear time spent in sedentary