

that patients would not experience sedative effects while testing. To examine convergent validity, we examined correlations between overall performance on *NeuroScreen* and the MCCB, as well as tests that measured the same neurocognitive domains. To examine criterion validity, an ROC curve was computed to examine the sensitivity and specificity of *NeuroScreen* to detect NCI as defined by the MCCB.

Results: There was a large correlation between overall performance on *NeuroScreen* and the MCCB battery of tests, $r(110) = .65$, $p < .001$. Correlations of various strengths were found among tests measuring the same neurocognitive domains in each battery: executive functioning [$r(110) = .56$, $p < .001$], processing speed [$r(110) = .44$, $p < .001$], working memory [$r(110) = .29$, $p < .01$], and verbal learning [$r(110) = .22$, $p < .01$]. ROC analysis of the ability of *NeuroScreen* to detect MCCB defined NCI showed an area under curve of .798 and optimal sensitivity and specificity of 83% and 60%, respectively.

Conclusions: Overall test performance between the *NeuroScreen* and MCCB test batteries was similar in this sample of Ugandans with and without a psychotic disorder, with the strongest correlations in tests of executive functioning and processing speed. ROC analysis provided criterion validity evidence of *NeuroScreen* to detect MCCB defined NCI. These results provide support for use of *NeuroScreen* to assess neurocognitive functioning among patients with psychotic disorders in Uganda, however more work needs to be done to determine how well it can be implemented in this setting. Future directions include assessing cultural acceptability of *NeuroScreen* and generating normative data from a larger population of Ugandan test-takers.

Categories: Schizophrenia/Psychosis

Keyword 1: neuropsychological assessment

Keyword 2: validity (performance or symptom)

Correspondence: Nana Asiedu, New York State Psychiatric Institute, Columbia University, Nana.asiedu@nyspi.columbia.edu

72 Investigating Handedness and Cognitive Functions in People with Severe Mental Disorders

Rune Raudeberg¹, Åsa Hammar^{1,2,3}, Marco Hirnstein^{1,4}, Charles E. Gaudet^{5,6}, Grant L. Iverson^{5,6}

¹University of Bergen, Bergen, Norway.

²University of Lund, Lund, Sweden. ³Haukeland University Hospital, Bergen, Norway.

⁴NORMENT Norwegian Centre for Mental Disorders Research, Bergen, Norway. ⁵Harvard Medical School, Boston, Massachusetts, USA.

⁶Spaulding Rehabilitation Hospital, Charlestown, Massachusetts, USA

Objective: Our objective is to investigate whether handedness is associated with performance on verbal and visual neuropsychological tests in people with severe mental disorders. A recent study, applying a continuous scale of hand preference, reports that handedness is not associated with test performance in people with schizophrenia disorders. Conversely, in a recent large meta-analysis where handedness was applied as a dichotomous variable, right-handers had better performance in spatial ability (but not verbal ability) compared to left-handers, irrespective of gender or health status. We hypothesize that a dichotomous classification of handedness will reveal an advantage of right-handedness on tests of visuospatial functions—but not verbal functions—in people with severe mental disorders. We expect that gender will not be associated with the neuropsychological test results.

Participants and Methods: Data from a sample of 385 patients with severe mental disorders, mainly within the schizophrenia spectrum, were analyzed. All participants had Norwegian as their first language. Their mean age was 24.8 years ($SD=6.2$) and 153 (39.7%) were women. Handedness was evaluated by observation of preferred hand in writing and drawing during neuropsychological assessment. Chi-square tests were used to compare proportions of cases with reported frequencies of handedness in the general population and comparable clinical samples. Raw scores on Semantic Fluency and Line Orientation from the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) were analyzed using Mann-Whitney U tests, and possible effects of gender with two-way ANOVA. Frequencies of low scores were analyzed using frequency analyses.

Results: Overall prevalence of left-handers was 10.4% compared to 10.6% in the general population ($\chi^2=.018$, $p=.893$). Observed

prevalence for women was 9.2% compared to expected prevalence of 9.5% ($\chi^2=.026$, $p=.873$) and for men 10.7% and 11.6%, respectively ($\chi^2=.039$, $p=.844$). There was a significant difference in Line Orientation scores ($Md_{right-handers}=18$, $Md_{left-handers}=17$; $U=5268.0$, $p=.013$) but not Semantic Fluency scores ($Md_{right-handers}=17$, $Md_{left-handers}=18.5$; $U=7568.5$, $p=.315$). Right-handed men had higher scores on Line Orientation but there was no handedness by gender interaction ($F(1)=1.69$, $p=.194$). For Semantic Fluency, left-handed men had higher scores and a gender by handedness interaction was found ($F(1)=7.21$, $p=.008$). Using scores corresponding to <5th percentile, 15% of left-handers and 8% of right-handers had scores <5th percentile on Line Orientation, as opposed to 15% and 14% on Semantic Fluency.

Conclusions: Right-handers had significantly better performance on a test measuring visuospatial function, irrespective of gender. Left-handers had about twice the number of scores in the impaired range (i.e., <5th percentile) compared to right-handers. Left-handed men had better performance on a test of verbal functions, which was unexpected. A recent study reported no right-hand associated advantage on visuospatial tests in people with schizophrenia disorders when measuring handedness on a continuous scale. This suggests that the classification of handedness as either a dichotomous or as a continuous variable is important in studies of handedness and cognitive functions.

Categories: Schizophrenia/Psychosis

Keyword 1: schizophrenia

Keyword 2: laterality

Keyword 3: visuospatial functions

Correspondence: Rune Raudeberg, Ph.D. Department of Biological and Medical Psychology, University of Bergen, Bergen, Norway rune.raudeberg@uib.no

73 Identification of 24-Month Cognitive Trajectories Among Clinical High Risk for Psychosis (CHR-P) Using Latent Class Mixture Modeling

Ryan M Guest¹, Jean Addington², Carrie E Bearden³, Kristin S Cadenhead⁴, Barbara A Cornblatt⁵, Daniel H Mathalon^{6,7}, Diana O Perkins⁸, Ming T Tsuang⁴, Scott W Woods^{9,10},

Tyrone D Cannon⁹, Matcheri S Keshavan¹¹, William S Stone¹¹, Elaine F Walker¹

¹Department of Psychology, Emory University, Atlanta, GA, USA. ²Department of Psychiatry, University of Calgary, Calgary, Canada.

³Department of Psychiatry and Biobehavioral Sciences and Psychology, University of California Los Angeles, Los Angeles, CA, USA.

⁴Department of Psychiatry, University of California San Diego, San Diego, CA, USA.

⁵Department of Psychiatry, Zucker Hillside Hospital, Glen Oaks, NY, USA. ⁶Department of Psychiatry, University of California San

Francisco, San Francisco, CA, USA. ⁷San Francisco Veterans Affairs Medical Center, San

Francisco, CA, USA. ⁸Department of Psychiatry, University of North Carolina, Chapel Hill, NC,

USA. ⁹Department of Psychology, Yale University, New Haven, CT, USA. ¹⁰Department

of Psychiatry, Yale University, New Haven, CT, USA. ¹¹Department of Psychiatry, Beth Israel

Deaconess Medical Center at Harvard Medical School, Boston, MA, USA

Objective: Cohort studies demonstrate that people who later develop schizophrenia, on average, present with mild cognitive deficits in childhood and endure a decline in adolescence and adulthood. Yet, tremendous heterogeneity exists during the course of psychotic disorders, including the prodromal period. Individuals identified to be in this period (known as CHR-P) are at heightened risk for developing psychosis (~35%) and begin to exhibit cognitive deficits. Cognitive impairments in CHR-P (as a singular group) appear to be relatively stable or ameliorate over time. A sizeable proportion has been described to decline on measures related to processing speed or verbal learning. The purpose of this analysis is to use data-driven approaches to identify latent subgroups among CHR-P based on cognitive trajectories. This will yield a clearer understanding of the timing and presentation of both general and domain-specific deficits.

Participants and Methods: Participants included 684 young people at CHR-P (ages 12-35) from the second cohort of the North American Prodromal Longitudinal Study. Performance on the MATRICS Consensus Cognitive Battery (MCCB) and the Wechsler Abbreviated Scale of Intelligence (WASI-I) was assessed at baseline, 12-, and 24-months. Tested MCCB domains include verbal learning,