Measurement Invariance in the Brief Assessment of Cognition in Schizophrenia (BACS)

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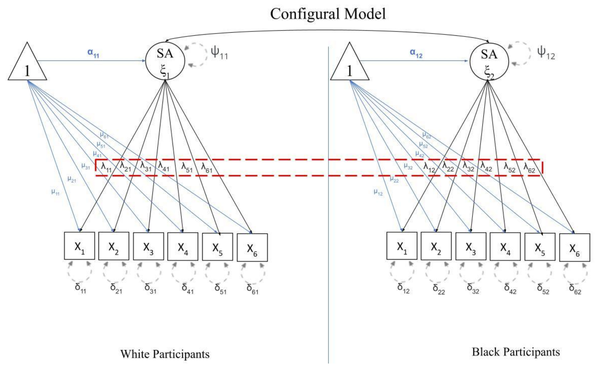
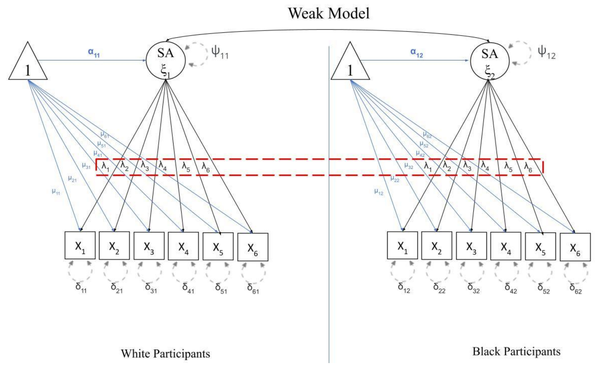
Background

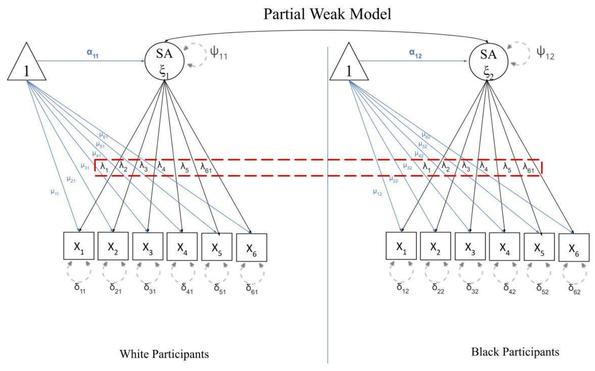
- The BACS is widely used to assess cognition in schizophrenia spectrum disorders (SSD)
- Norms were developed using a sample of 85% white and 15% black participants
- Validation of the BACS across cultures have yielded mixed results
- Measurement invariance can be used to assess item consistency across groups
- A lack of item consistency can misrepresent cognitive abilities in different groups
- The present study examined the measurement invariance of six BACS subtests in a black and white sample

Methods

- Participants were black (n=429) and white (n=475) individuals diagnosed with SSD from the Bipolar Schizophrenia Network on Intermediate Phenotypes consortium
- Measurement invariance involves applying models of increasingly restrictive factorial invariance to see how well they fit







Model	χ^2	df	p-value	CFI	SRMR	RMSEA	RMSEA 95% CI	AIC
Configural	37.35	18	.0047	.983	0.060	.049	[.026, .071]	15509.73
Partial Weak Model	49.15	23	0.0012	.977	0.043	.050	[.031 .070]	15514.76
Weak Model	60.80	24	p<0.001	.967	0.060	.058	[.040, .077]	15527.00

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Results

- Baseline configural invariance (CFI=.983) was achieved. The CFI of the weak model (CFI=.967) exceeded the cut off difference suggesting subtests do not achieve weak invariance
- Partial invariance tests revealed that the Token Motor subtest (TM) was not equivalent across groups, leading to a 5-subtest partial weak invariance model

Discussion

- With the exception of the TM, findings suggest that subtests function similarly across these two racial groups
- The TM has both the lowest internal consistency and factor loadings on the BACS. TM has recently been removed from the BACS composite score calculation
- Future research should examine the utility of the TM across clinical and cultural groups