

WAIS-IV performance of working-age Polish people in UK: The highs and lows

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Study Aims:

Investigate how adults, who have English as an additional language, perform on measures of cognitive function, when tested *in English*

- Tests were administered in English and unmodified:
 - WAIS-IV, an 'industry standard' battery of tests.
 - Individually administered set of tests for adults aged 16-90 years.
 - We used the 10 'core' subtests assessing key domains:
 - verbal comprehension, perceptual reasoning, working memory, processing speed
- Compared scores to norms, and data for UK primary English speakers;
- looking for differences in test scores, and items/content.

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UK Polish Community

Polish Migration

- EU A8 accession movement in 2004
- by 2017, estimated to be c1m Polish nationals in the UK
- Polish are the UK's largest overseas-born community
 - just overtaking the Indian-born population
- Culturally, a traditional western European society
 - though with a communist and post-communist history
 - 87% Roman catholic religion, socially conservative
 - English is the most spoken additional language (c20%)

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Sample 1

Polish

- N=100, post-A8 migrant, age 18-45 years
- Primary speakers of Polish, in and around London UK
- Recruited using English-language adverts in UK Polish media
- Recruited and tested by Polish-born psychology assistant (Jack Dybczak)
- Screened for psychiatric/neurological history
- Balanced sampling frame: age, sex, SES (1-5) and years in education

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Sample 2

Matched UK sample

- N=100
- sub-sample taken from participants in the WAIS-IV UK validation study data (Pearson UK)
- individually matched to each Polish participant for sex, age and years of education - as far as possible

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Participant Demographics

	Polish	UK-matched	eta
Sex (N)	F=50, M=50	F=50, M=50	--
Age in years (M,SD)	30.5 (7.70)	31.3 (8.34)	.047
Education years (M,SD)	15.2 (2.24)	14.7 (3.31)	.089

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Age-scaled scores 1

WAIS Subtest	Polish M (SD)	UK M(SD)	eta
Vocabulary	6.14 (2.53)	10.28 (3.10)	.593
Similarities	8.26 (3.30)	9.21 (2.38)	.164
Information	11.54 (3.00)	11.05 (2.98)	.082
Digit Span	7.74 (2.14)	10.29 (2.89)	.450
Forward	6.67 (2.32)	9.96 (3.02)	.523
Backward	8.94 (2.10)	10.53 (2.86)	.303
Sequencing	8.92 (2.80)	10.16 (2.41)	.232
Arithmetic	9.23 (2.50)	11.06 (3.12)	.309

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Age-scaled scores 2

WAIS Subtest	Polish M (SD)	UK M(SD)	eta
Matrix Reasoning	9.35 (2.62)	10.68 (2.91)	.235
Visual Puzzles	11.42 (2.50)	11.40 (3.24)	.003
Block Design	10.68 (2.35)	11.23 (2.92)	.104
Coding	10.05 (2.33)	10.40 (3.03)	.065
Symbol Search	11.20 (2.81)	10.05 (2.93)	.197

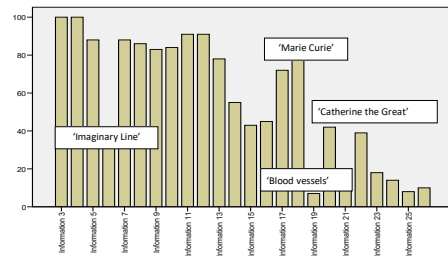
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Indexes

WAIS Index	Polish M (SD)	UK M(SD)	eta
Verbal Comprehension	92.2 (14.25)	101.0 (14.07)	.298
Perceptual Reasoning	102.5 (11.32)	106.1 (14.81)	.136
Working Memory	91.4 (10.90)	103.7 (14.84)	.429
Processing Speed	103.3 (12.05)	101.2 (14.29)	.080

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Information Items



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Summary

- Polish participants were mainly disadvantaged on verbal tasks:
 - Vocabulary
 - less so Similarities, not Information
 - also Digit Span Forward,
 - less so Digits Backward and Digit Sequencing
 - this affected scores in domain of *Working Memory*.
- Item content affected the *Information* subtest:
 - performance was poorer when word-finding was required,
 - performance was better with greater cultural familiarity.

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Summary

- WAIS-IV performance is affected by having English AL.
- A verbal disadvantage also impacted other domains.
- Disadvantage was not greatest on 'harder' or more complex tasks.
- Cultural differences may confer an advantage on some tasks.
- Matrix reasoning test formats may not be culture-fair.

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