

# Technical Test Battery (TTB2)

## Reliability: South Africans, isiZulu

### Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Technical Test Battery (TTB2) battery in the period up to June 2015, via GeneSys for Windows. Since not all the respondents completed all the subtests, biographical information is reported separately for the three tests.

### Mechanical Reasoning Test: Biographical Composition

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
M	513	513	74,56395	74,5640
F	174	687	25,29070	99,8547
U	1	688	0,14535	100,0000
Missing	0	688	0,00000	100,0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Tertiary	97	97	14,09884	14,0988
< Matric	260	357	37,79070	51,8895
Grade 12	241	598	35,02907	86,9186
Post Graduate	1	599	0,14535	87,0640
Missing	89	688	12,93605	100,0000

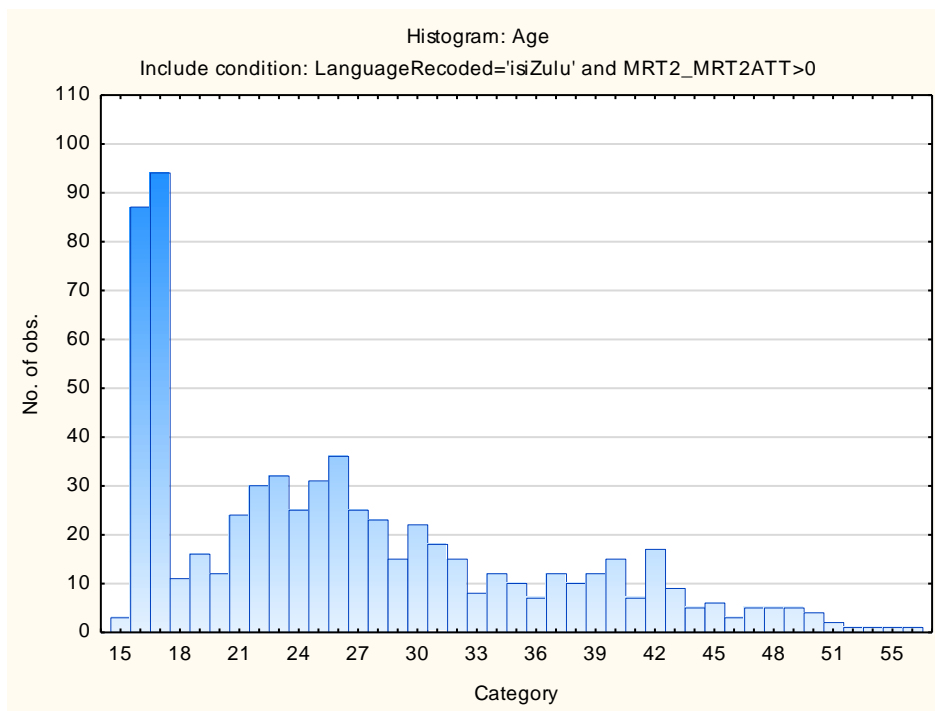
It should be noted that the largest number of respondents had not completed matric.

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	688	688	100,0000	100,0000
Missing	0	688	0,0000	100,0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	688	688	100,0000	100,0000
Missing	0	688	0,0000	100,0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	684	684	99,41860	99,4186
Asian	3	687	0,43605	99,8547
Missing	1	688	0,14535	100,0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26,38552	9,404800	15,00000	59,00000	677	11



## Spatial Reasoning Test: Biographical Composition

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
M	394	394	92,92453	92,9245
F	30	424	7,07547	100,0000
Missing	0	424	0,00000	100,0000

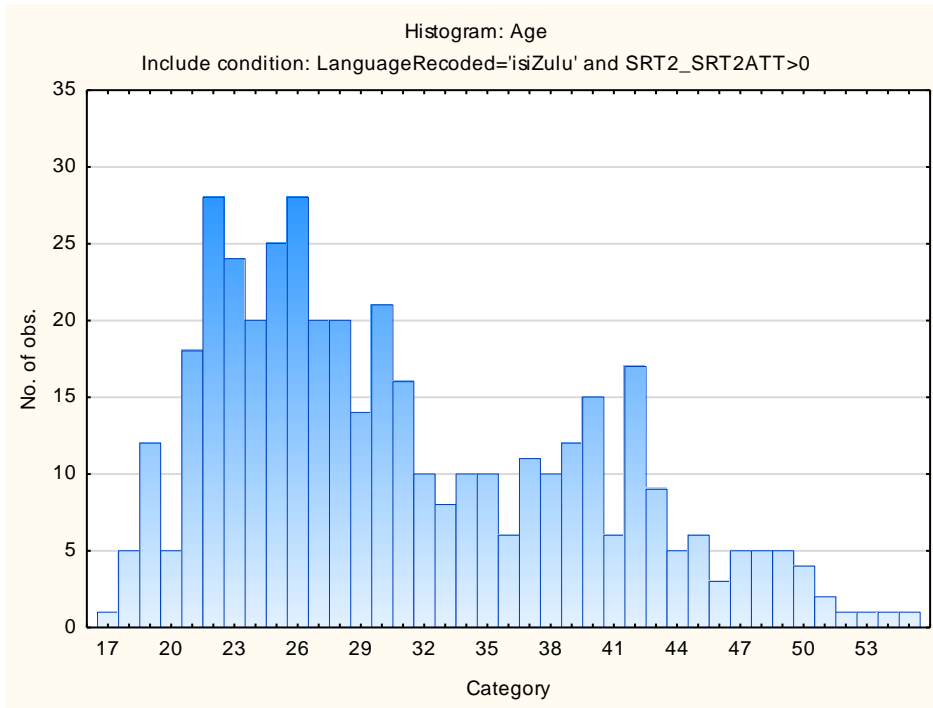
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Tertiary	94	94	22,16981	22,1698
< Matric	57	151	13,44340	35,6132
Grade 12	197	348	46,46226	82,0755
Missing	76	424	17,92453	100,0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	424	424	100,0000	100,0000
Missing	0	424	0,0000	100,0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	424	424	100,0000	100,0000
Missing	0	424	0,0000	100,0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	421	421	99,29245	99,2925
Asian	3	424	0,70755	100,0000
Missing	0	424	0,00000	100,0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30,96905	8,597135	17,00000	59,00000	420	4



## Visual Acuity Test: Biographical Composition

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
M	23	23	88,46154	88,4615
F	3	26	11,53846	100,0000
Missing	0	26	0,00000	100,0000

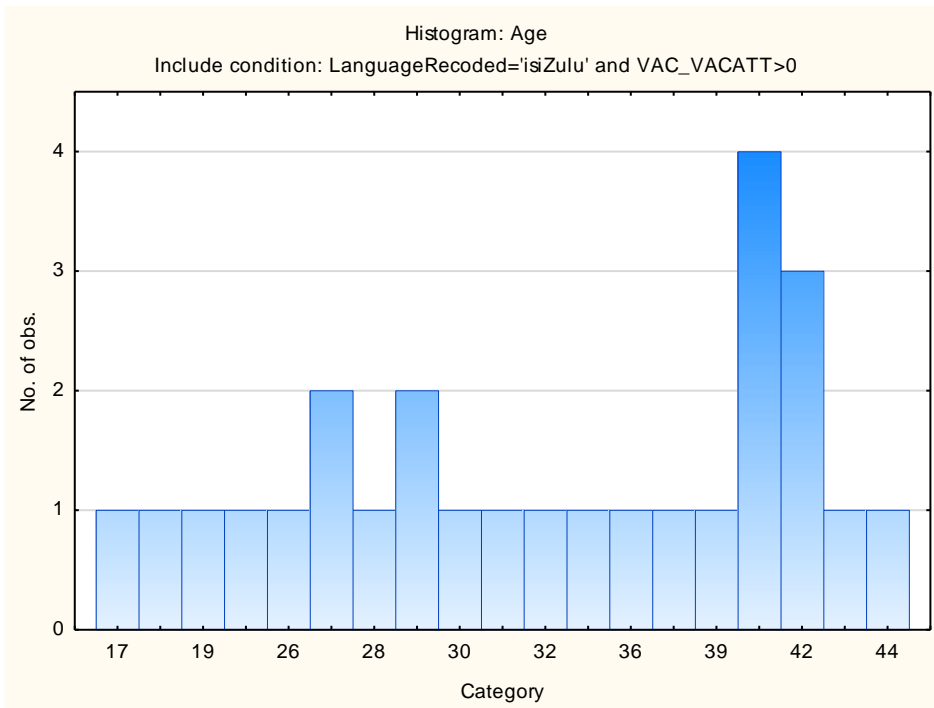
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Tertiary	10	10	38,46154	38,4615
Grade 12	15	25	57,69231	96,1538
Missing	1	26	3,84615	100,0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	26	26	100,0000	100,0000
Missing	0	26	0,0000	100,0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	26	26	100,0000	100,0000
Missing	0	26	0,0000	100,0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	26	26	100,0000	100,0000
Missing	0	26	0,0000	100,0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	32,76923	8,406225	17,00000	44,00000	26	0



## Cronbach Coefficient Alpha for Technical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Mechanical Reasoning Test	0,64
Spatial Reasoning Test	0,65

Results of lower than 0.75 are possibly related to respondents guessing the answers to items which they may not know, or a lack of exposure to the type of item content - which could be related to educational background. Results should therefore be interpreted with caution. Do not rely on these tests in isolation, but to consider the results as part of a holistic assessment, which incorporates additional sources of information. It should be remembered with the TTB2, that these tests have a knowledge component, they are not purely ability assessments. Therefore it is recommended that they should be used together with at least an Abstract Reasoning test. They do not substitute for general reasoning ability. School results should also be considered.

There was insufficient data to report on reliability for the VAC.

## Standard Error of Measurement

Subtest	SEM	SD	Reliability
Mechanical Reasoning Test	2,6852694	4,475449	0,64
Spatial Reasoning Test	2,28720614	3,866084	0,65