

Technical Test Battery (TTB2)

Reliability: South Africans, isiXhosa Speakers, Updated 2016

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	165	165	57,29167	57,2917
F	123	288	42,70833	100,0000
Missing	0	288	0,00000	100,0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Tertiary	35	35	12,15278	12,1528
< Matric	125	160	43,40278	55,5556
Grade 12	110	270	38,19444	93,7500
Missing	18	288	6,25000	100,0000

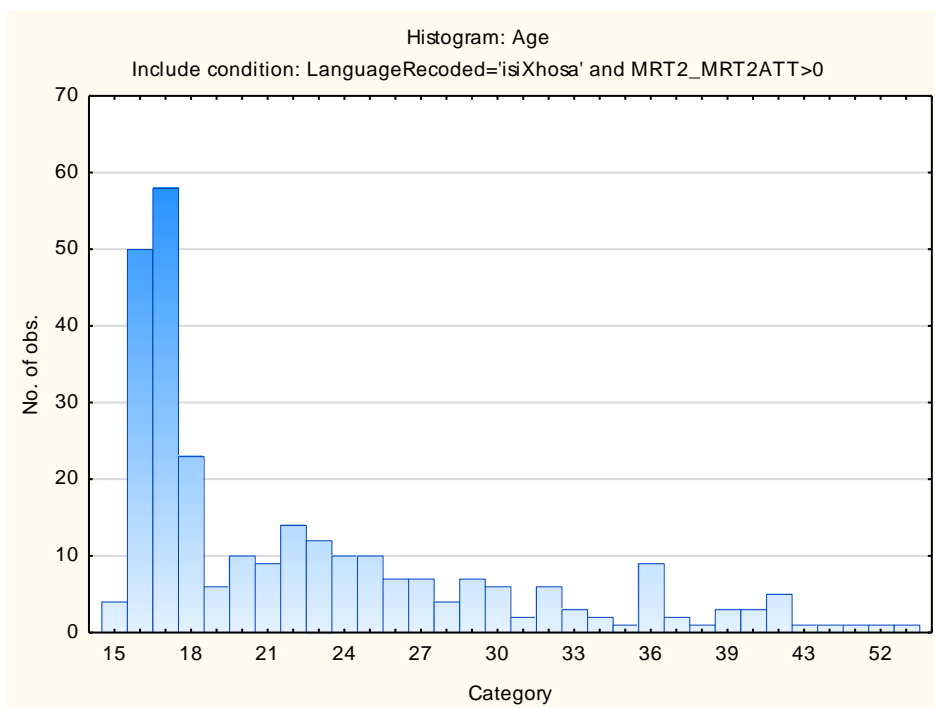
It should be noted that the largest number of respondents had not completed matric.

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	288	288	100,0000	100,0000
Missing	0	288	0,0000	100,0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	288	288	100,0000	100,0000
Missing	0	288	0,0000	100,0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	284	284	98,61111	98,61111
Coloured	4	288	1,38889	100,0000
Missing	0	288	0,00000	100,0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	22,52688	7,726798	15,00000	53,00000	279	9



Spatial Reasoning Test: Biographical Composition

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
M	198	198	72,52747	72,5275
F	75	273	27,47253	100,0000
Missing	0	273	0,00000	100,0000

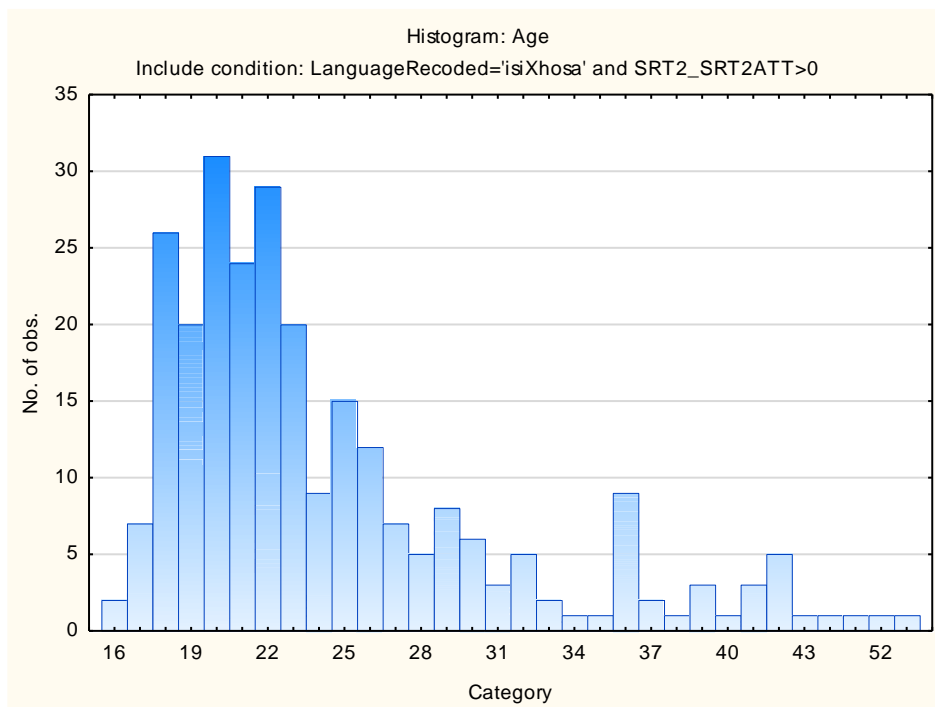
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Tertiary	52	52	19,04762	19,0476
< Matric	16	68	5,86081	24,9084
Grade 12	185	253	67,76557	92,6740
Missing	20	273	7,32601	100,0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	273	273	100,0000	100,0000
Missing	0	273	0,0000	100,0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	273	273	100,0000	100,0000
Missing	0	273	0,0000	100,0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	267	267	97,80220	97,8022
Coloured	5	272	1,83150	99,6337
Missing	1	273	0,36630	100,0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	24,50000	6,883124	16,00000	53,00000	262	11



Visual Acuity Test: Biographical Composition

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
M	6	6	85,71429	85,7143
F	1	7	14,28571	100,0000
Missing	0	7	0,00000	100,0000

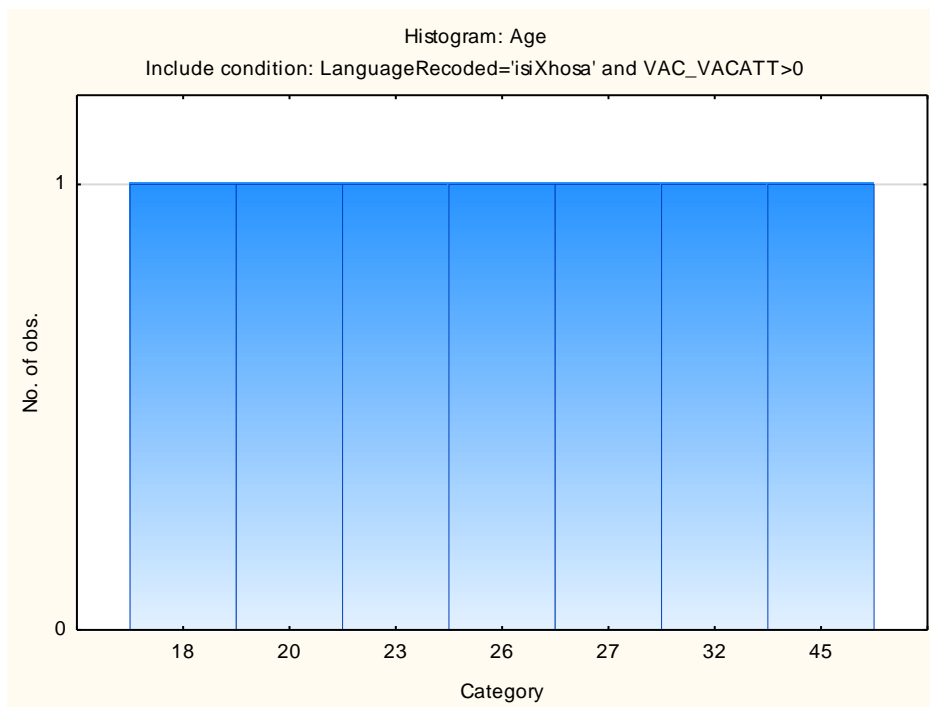
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Tertiary	3	3	42,85714	42,8571
Grade 12	4	7	57,14286	100,0000
Missing	0	7	0,00000	100,0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	7	7	100,0000	100,0000
Missing	0	7	0,0000	100,0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	7	7	100,0000	100,0000
Missing	0	7	0,0000	100,0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	7	7	100,0000	100,0000
Missing	0	7	0,0000	100,0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27,28571	9,086882	18,00000	45,00000	7	0



Cronbach Coefficient Alpha for Technical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Mechanical Reasoning Test	0,59
Spatial Reasoning Test	0,57

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	2,80356825	4,378438	0,59
Spatial Reasoning Test	2,30588195	3,516437	0,57