



Distributors of Psytech International

Assessment Instrument and Software

Clerical Test Battery (CTB2)

**South African User Guide and
Research Reference**

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Clerical Test Battery (CTB2)

Introduction

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This guide is for users and potential users of the Clerical Test Battery (CTB2).

It should be used in conjunction with the Technical Manual for the CTB2 published by Psytech International.

This guide does not replace the Technical Manual, but it is intended to provide the additional information on the CTB2 that South African users need.

This user guide will be updated regularly as new research evidence becomes available.

Psytech manuals and user guides are distributed on CD at a nominal cost, and electronically – at no charge - via the company's web site, and it is incumbent on the user to ensure that they download the updated versions regularly. Printed copies of the latest versions of the user guides can also be purchased from the company if users prefer not to download the document themselves.

Structure of this manual

The manual is divided into the following sections:

- **Introduction**
 - This section covers the background to the questionnaire, administration instructions and general advice on its use in South Africa.
- **Norms**
 - This section contains descriptions of the various norm groups available for the various subtests of the Clerical Test Battery – the composition of the norm groups, basic statistics on CTB2 subtests and stanine tables.
- **Reliability**
 - This section contains reports on the reliability studies done on the Clerical Test Battery in South Africa – the composition of the groups, reliability coefficients and Standard Error of Measurement where suitable data exists.
- **Validity**
 - This section contains reports on the validation studies done on the Clerical Test Battery in South Africa
- **Differential item functioning**
 - This section reports on the differential item functioning for the tests in the Clerical Test Battery.

Studies will be added to the various sections as they are completed. The date when it was last updated appears on every study.

Every section has its own table of contents and introductory section.

Classification status of the Clerical Test Battery

The CTB2 was submitted to the Psychometrics Committee of the Health Professions Council of South Africa in April 2001. The process of evaluation and classification is a lengthy one. Feedback reports received from the test reviewers indicate that the CTB2 meets the requirements for classification as a psychological test and a classification certificate was issued in December 2003. The test battery is currently on the list of classified tests.

Conditions of use and professional responsibilities

The CTB2 must be used under the control of a registered Psychologist, Psychometrist (Independent Practice), or Registered Counsellor.

Purchasing Clerical Test Battery materials and scoring services

When purchasing test materials or scoring services relating to the CTB2, the signature and registration number of a Psychologist, Psychometrist (Independent Practice) or Registered Counsellor is required.

Constructing of test batteries

Only a Psychologist, Psychometrist (Independent Practice) or a Registered Counsellor may decide which tests or questionnaires to use for a particular purpose. Psychometrists registered for supervised practice or other role players such as HR Practitioners or line managers may not act independently of the psychology registered professional, and may not overrule their decisions in this regard.

Administration of the Clerical Test Battery

- The tests may be administered by a Psychologist, Psychometrist (Supervised Practice), Psychometrist (Independent Practice), Registered Counsellor or Psychotechnician.
- Psychometrists (Supervised Practice) have to be supervised by a Psychologist.

Scoring of the Clerical Test Battery

The CTB2 may be scored by

- A Psychologist,
- A Psychometrist (Independent Practice),
- A Psychometrist (Supervised Practice),
- A Registered Counsellor, or
- A Psychotechnician.

The scoring of the CTB2 is always done by computer. The act of scoring is pure data capture and no interpretation is involved.

Detailed instructions for scoring the CTB2 by computer can be found on the GeneSys Online platform, under tutorials. There are videos and downloadable PDFs. Special training in the use of the software is available and we strongly recommend attending this.

Reporting on the Clerical Test Battery

The choice of which computerised report to use should be made by:

- A Psychologist, Psychometrist (Independent Practice) or a Registered Counsellor.

Psychometrists (Supervised Practice) and Psychotechnicians should consult with a Psychologist about the most suitable report to use.

The choice of which norm group to use should be made by:

- A Psychologist, Psychometrist (Independent Practice) or a Registered Counsellor.

Psychometrists (Supervised Practice) and Psychotechnicians should consult with a Psychologist about the most suitable norm group to use.

Feedback on Clerical Test Battery reports

Feedback on CTB2 reports may be done by Psychologists, Psychometrists (Independent Practice) or Registered Counsellors. Psychometrists registered for supervised practice and Psychotechnicians may give feedback on the CTB2 within clearly circumscribed guidelines laid down by a Psychologist, and provided proper supervision, with regular consultation, is maintained.

What the Clerical Test Battery measures

The Clerical Test Battery consists of 6 subtests that can be administered separately or together.

Verbal Reasoning (CTB2V)

Measures basic vocabulary, verbal fluency and the ability to reason using words.

This test is appropriate for all jobs that require a degree of verbal ability, such as sales and administrative positions or clerical jobs.

Numerical Ability (CTB2N)

Measures the ability to use numbers efficiently in clerical and administrative contexts.

This test assesses the ability to perform typical clerical tasks like calculating travelling expenses, working out the unit price of goods and so forth.

Clerical Checking (CTB2C)

This test assesses the ability to check verbal and numerical information (names, addresses, code numbers, telephone numbers, etc).

It is a classic test of speed and precision, which assesses the ability to process data quickly and accurately.

Spelling (CTB2S)

This test provides a measure of a candidate's ability to spell accurately.

For detailed information about the constructs measured by the CTB2, please consult the technical manual. The technical manual gives an overview of the theoretical basis for the constructs, as well as a more in-depth discussion regarding the development rationale and the relationship of the CTB2 to other measures of ability.

Administration options for the Clerical Test Battery

The subtests of the Clerical Test Battery can be administered separately or together, and may be combined with other measures, such as measures of personality, learning potential or abstract reasoning, to form a customised battery. The table below should help with the planning of a test battery:

Test	Time Limit	Pencil and Paper administration available	Computerised administration available
Verbal reasoning	8 minutes	Yes	Yes
Numerical ability	8 minutes	Yes	Yes
Clerical checking	5 minutes	Yes	Yes
Spelling	6 minutes	Yes	Yes

Respondents for whom the Clerical Test Battery is suitable

Level of Education

The CTB2 is intended for respondents with an educational level of Grade 12. One must be sensitive to the fact that educational standards have differed considerably in South Africa. People from impoverished backgrounds are not likely to have had an education of the same standard as people from privileged backgrounds. The Psychology professional in charge of the assessment should evaluate the situation with care, taking into account the intended respondent's background, fluency in English and so forth.

It is also possible that a person who has not had formal education up to Grade 12 level, may in fact have acquired sufficient fluency in English, numerical and clerical skills to complete the CTB2 to good effect. Every situation must be evaluated on its merits.

Proficiency in English

It may be necessary to test for proficiency in English. Some standardised measures of English language skills are available, and users could avail themselves of these. It is not recommended that persons with functional English levels below grade 10 should be required to complete the ClericalCTB2.

Considering the socio-economic history of South Africa, it is reasonable to suppose that there are many people who should not be tested with group-administered structured tests, because they have not had sufficient exposure to formal testing situations or their language proficiency is inadequate. The Psychology professional should be realistic about this.

A history of the Clerical Test Battery in South Africa

The Clerical Test Battery was introduced in South Africa in 1995. Initially its use was very limited. Companies that have introduced it generally collected their own norms on the groups they wanted to assess. As data becomes available, the use of the CTB2 is increasing.

The effect of affirmative action recruitment and selection practices on test statistics

Many employers in South Africa are adopting affirmative action recruitment and selection practices. Because most of the data available to Psytech SA come from recruitment projects, this has an effect on the reported test statistics.

A very common strategy when recruiting candidates for affirmative action positions, is as follows:

- Seriously consider every applicant from a formerly disadvantaged background who may possibly meet the requirements of the position.
- Only consider applicants from formerly advantaged backgrounds once a quota of formerly disadvantaged individuals has been met, or when the supply of suitable disadvantaged applicants has been exhausted.

Assessing candidates with psychometric tests incurs a cost for the employer, and employers usually try to minimise costs. Thus testing occurs fairly late in the selection process. Frequently candidates are evaluated on application forms, CVs and interviews before they are tested. Often this means that the candidates from formerly advantaged backgrounds, who are tested, have been more rigorously pre-screened than the candidates from formerly disadvantaged backgrounds. This serves to aggravate the reported group differences on the tests, and can make a test appear more biased than it otherwise would be.

Users are advised to bear this in mind when evaluating the reported figures in this manual. Test users are also welcome to approach Psytech SA when large recruitment projects are being undertaken, so that the project can be planned in such a way as to render less distorted information about the tests. If necessary and justifiable in the interest of research, Psytech SA is willing to subsidise such projects.

Some cautionary notes:

- No subtest of the CTB2 should be used on its own as a selection instrument. The tests should always form part of an assessment battery that includes other measures, and preferably some non-test information as well.
- It is strongly recommended that a validation/integration interview should follow any assessment by means of tests or questionnaires. The interviewer should use this opportunity to put the test results into perspective relative to the respondent's background and the purpose of the assessment.

- Users should pay attention to the reliability and validity data available relating to the population group on which they intend to use the questionnaire.
- Users should use norm groups that are appropriate for the test person being assessed, also bearing in mind the demands of the situation for which the person is being assessed.
- Bearing in mind that the CTB2 tests are all very short, users should bear in mind that they are not in-depth measures, and they should therefore not be interpreted in isolation.
- The CTB2 renders subscores for Verbal and Numerical material as well as for the total test. The subscales for Verbal and Numerical are too short to be reliable. Users are advised not to use these subscores in isolation for selection or screening purposes.

Computer-assisted reports

Psytech tests and questionnaires are all supported by computer-assisted reports. Some of the tests have a range of computer-assisted reports, allowing instant interpretation of the test results from a variety of perspectives. For the CTB2, a standard report and a feedback report are available, either as a battery or individually for each subtest. In addition, a results summary spreadsheet is available to generate which is particularly useful as a summarised version of the individual candidates scores, or scores of a group of candidates that have completed the CTB2. Computerised reports can also be created for specific batteries of measures, integrating the results of ability tests with personality and perhaps interests.

How do the computer-generated reports work?

The reports represent an expert system, drawing on numerous built-in relationships between patterns of scores and human behaviour. It would normally take a user many years of experience to gain the knowledge and insight that are contained in this reporting system.

What are the advantages of computer-generated reports?

Computer-generated reports ensure that the complete pattern of scores is interpreted every time. No score or combination of scores is overlooked. Everyone is treated in exactly the same way, irrespective of whether the person interpreting the results is having an 'off day' or is pressed for time. This helps to ensure fairness and consistency. Moreover, computer-generated reports save a lot of time, freeing the professional up to add value in the interview, integration of results from other sources and feedback processes.

Are computer-assisted reports open to abuse?

Like any powerful tool, computer-assisted reports can be misused. They should not be used to substitute for professional expertise, but rather to supplement and support it.

One must remember that these reports are generic-the standard reports do not know anything about the requirements of the positions that the respondent may have applied for. They are also completely unaware of the respondent's background and personal circumstances. They can usually not stand on their own, but must be used as one source of information in the assessment process, and be integrated with other information. This integration and interpretation is highly skilled professional work, and it should not be left to persons who have not had the required training.

In some situations, handing out unaltered computer-generated reports to respondents or line managers without any counselling or explanation, could be considered abuse of these reports. We recommend that the technical appendix in a report, which gives a graphic summary of raw scores and profiles, not be given to untrained persons.

What about competency-based reports?

You need not be limited to the reports supplied with the GeneSys online platform. Special reports can be written for clients based on their own competency models, or based on the results of validation studies. Psytech SA undertakes to do these as consulting projects, and the cost is dependent on the length and complexity of the report that the client requires.

Instructions for administering the CTB2

All three tests in the CTB2 can be administered on computer.

For instructions on how to operate the platform for test administration, please refer to the GeneSys Online platform, under tutorials via <https://eu.genesysonline.net/>. There are videos and downloadable PDFs. Special training in the use of the software is available, which is strongly recommend. Do not attempt to use computer software for test administration if you are not completely comfortable with how the online platform works. Familiarise yourself with the process of setting up a testing session with the software, creating the data record and entering the respondent's biographical information into the system, or assisting the respondent in doing so themselves.

CLERICAL TEST BATTERY (CTB2) ADMINISTRATION INSTRUCTIONS

If this is the first or only questionnaire being administered give an introduction as per or similar to the example script provided.

Continue by using the instructions **EXACTLY** as given. Say:

"From now on, please do not talk among yourselves, but ask me if anything is not clear. We shall be doing four tests, verbal, numerical, clerical checking and spelling; each test takes 8, 8, 5 and 6 minutes respectively. During the test I shall be checking to make sure that you are not making any accidental mistakes when filling in the answer sheet. I will not be checking your responses to see if you are answering correctly or not."

WARNING: It is most important that answer sheets do not go astray. They should be counted out at the beginning of the test and counted in again at the end.

Distribute the answer sheets

Then ask:

"Has everyone got two sharp pencils, an eraser, some rough paper and an answer sheet?"

Rectify any omissions, then say:

"Print your surname, first name and title clearly on the line provided, followed by your age and sex. Please insert today's date which is [] on the 'Comments' line."

Walk round the room to check that the instructions are being followed.

WARNING: It is vitally important that test booklets do not go astray. They should be counted out at the beginning of the session and counted in again at the end.

Distribute the booklets with the instruction:

"Please do not open the booklet until instructed."

PLEASE TURN TO NEXT PAGE

Remembering to read slowly and clearly, go to the front of the group and say:

"Please open the booklet at Page 2 and follow the instructions for this test as I read them aloud." (Pause to allow booklets to be opened).

This test is designed to assess your understanding of words and relationships between words. Each question has six possible answers. One and only one is correct in each case. Mark your answer by filling in the number box on your answer sheet that corresponds to your choice. You now have a chance to complete the four example questions on Page 3 in order to make sure that you understand the test. There is a section on the left hand side of your answer sheet marked 'Example'. (Indicate section) Please attempt the example questions now."

While the candidates are doing the examples, walk around the room to check that everyone is clear about how to fill in the answer sheet. Make sure that no-one is looking at the actual test items during the example session. When all have finished (allow a maximum of two minutes) give the answers as follows:

"The answer to Example 1 is number 2, sick means the same as ill.

The answer to Example 2 is number 3, you drive a car and fly an aeroplane.

The answer to Example 3 is number 6, as this describes negative behaviour and all the others describe positive behaviour.

The answer to Example 4 is number 5, dark means the opposite of light. Is everyone clear about the examples?"

Then say:

"Time is short so when you begin the timed test work as quickly and as accurately as you can.

If you want to change an answer, fully erase your first choice, and fill in your new choice of answer.

There are a total of 35 questions and you have 8 minutes in which to attempt them.

*If you reach the **'End of Test'** before time is called you may review your answers if you wish.*

If you have any questions please ask now, as you will not be able to ask questions once the test has started."

PLEASE TURN TO NEXT PAGE

Then say very clearly:

"Is everyone clear about how to do this test?"

Deal with any questions, appropriately, then, starting stop-watch or setting a count-down timer on the word **BEGIN**, say:

"Please turn over the page and begin"

Answer only questions relating to procedure at this stage, but enter in the Administrator's Test Record any other problems that occur. Walk around the room at appropriate intervals to check for potential problems.

At the end of the 8 minutes, say:

"Stop now please and turn to Page 11"

You should intervene if candidates continue after this point.

Then say:

"We are now ready to start the next test. Has everyone still got two sharpened pencils, an eraser, some unused rough paper?"

If not, rectify, then say:

"The next test follows on the same answer sheet, please locate the section now." (Indicate section)

Check for understanding, and then remembering to read slowly and clearly, go to the front of the group and say:

"Please turn to Page 12 of the booklet and follow the instructions for this test as I read them aloud." (Pause to allow page to be found)."

This test is designed to assess your ability to work with numbers. Each question has six possible answers. One and only one is correct in each case. Mark your answer by filling in the number box on your answer sheet that corresponds to your choice. You now have a chance to complete the two example questions on Page 13 in order to make sure that you understand the test. There is a section on the left hand side of your answer sheet marked 'Example'. (Indicate section)

Please attempt the example questions now."

PLEASE TURN TO NEXT PAGE

While the candidates are doing the examples, walk around the room to check that everyone is clear about how to fill in the answer sheet. Make sure that no-one is looking at the actual test items during the example session. When all have finished (allow a maximum of two minutes) give the answers as follows:

"The answer to Example 1 is number 5, the total cost is R39.00.

The answer to Example 2 is number 3, R20.00 discounted by 10% is R18.00.

Is everyone clear about the examples?"

Then say:

"Time is short so when you begin the timed test work as quickly and as accurately as you can.

If you want to change an answer, fully erase your first choice, and fill in your new choice of answer.

There are a total of 20 questions and you have 8 minutes in which to attempt them.

If you reach the 'End of Test' before time is called you may review your answers to the numerical test if you wish, but do not go back to the verbal test.

If you have any questions please ask now, as you will not be able to ask questions once the test has started."

Then say very clearly:

"Is everyone clear about how to do this test?"

Deal with any questions, appropriately, then, starting stop-watch or setting a count-down timer on the word **BEGIN**, say:

"Please turn over the page and begin"

Answer only questions relating to procedure at this stage, but enter in the Administrator's Test Record any other problems that occur. Walk around the room at appropriate intervals to check for potential problems.

PLEASE TURN TO NEXT PAGE

At the end of the 8 minutes, say:

"Stop now please and turn to Page 21"

You should intervene if candidates continue after this point.

Then say:

"We are now ready to start the next test. Has everyone still got two sharpened pencils, an eraser, and some unused rough paper?"

If not, rectify, and then say:

"The next test follows on the same answer sheet, please locate the section now." (Indicate section)

Check for understanding, and then remembering to read slowly and clearly, go to the front of the group and say:

"Please turn to Page 22 of the booklet and follow the instructions for this test as I read them aloud." (Pause to allow page to be found)."

This is a test of your ability to perceive details in words and numbers quickly and to recognise likenesses and differences rapidly. In this test you will be presented with one correct item made up of words and / or numbers and a choice of four alternatives, only one of which has been transcribed correctly. Your task is to select the numbered alternative which is an exact match to the correct item. Now look at Example 1 on the next page. The only possible answer is 2 as this is an exact match to the item. You now have a chance to complete the next three example questions on page 23 in order to make sure that you understand the test. There is a section on the left hand side of your answer sheet marked 'Example'. (Indicate section) Please attempt the example questions now."

While the candidates are doing the examples, walk around the room to check that everyone is clear about how to fill in the answer sheet. Make sure that no-one is looking at the actual test items during the example session. When all have finished (allow a maximum of two minutes) give the answers as follows:

"The answer to Example 2 is number 4, as this is an exact match to the item.

"The answer to Example 3 is number 3, as this is an exact match to the item.

"The answer to Example 4 is number 2, as this is an exact match to the item.

Is everyone clear about the example?"

PLEASE TURN TO NEXT PAGE

Then say:

"Time is short so when you begin the timed test work as quickly and as accurately as you can.

If you want to change an answer, fully erase your first choice, and fill in your new choice of answer.

There are a total of 52 questions and you have 5 minutes in which to attempt them.

*If you reach the **'End of Test'** before time is called you may review your answers to the clerical checking test if you wish, but do not go back to the verbal or numerical tests.*

If you have any questions please ask now, as you will not be able to ask questions once the test has started."

Then say very clearly:

"Is everyone clear about how to do this test?"

Deal with any questions, appropriately, then, starting stop-watch or setting a count-down timer on the word **BEGIN**, say:

"Please turn over the page and begin"

Answer only questions relating to procedure at this stage, but enter in the Administrator's Test Record any other problems which occur. Walk around the room at appropriate intervals to check for potential problems.

At the end of the 5 minutes, say:

"Stop now please and turn to Page 33"

You should intervene if candidates continue after this point.

Then say:

"We are now ready to start the next test. Has everyone still got two sharpened pencils, an eraser, and some unused rough paper?"

PLEASE TURN TO NEXT PAGE

If not, rectify, and then say:

"The next test follows on the same answer sheet, please locate the section now." (Indicate section)

Check for understanding, and then remembering to read slowly and clearly, go to the front of the group and say:

"Please turn to Page 34 of the booklet and follow the instructions for this test as I read them aloud." (Pause to allow page to be found)."

This is a test of general spelling ability. Each question has six possible answers. One and only one is correct in each case. Mark your answer, by filling in the appropriate box that corresponds to your choice, on your answer sheet. You now have a chance to complete the two example questions on page 35 in order to make sure that you understand the test. There is a section on the left hand side of your answer sheet marked 'Example'. (Indicate section) Please attempt the example questions now."

While the candidates are doing the examples, walk around the room to check that everyone is clear about how to fill in the answer sheet. Make sure that no-one is looking at the actual test items during the example session. When all have finished (allow a maximum of two minutes) give the answers as follows:

"The answer to Example 1 is number 1, as this is the correct spelling.

"The answer to Example 2 is number 4, as this is the correct spelling.

Is everyone clear about the example?"

Then say:

"Time is short so when you begin the timed test work as quickly and as accurately as you can.

If you want to change an answer, fully erase your first choice, and fill in your new choice of answer.

There are a total of 24 questions and you have 6 minutes in which to attempt them.

*If you reach the '**End of Test**' before time is called you may review your answers to the spelling test if you wish, but do not go back to the verbal, numerical or clerical checking tests.*

If you have any questions please ask now, as you will not be able to ask questions once the test has started."

PLEASE TURN TO NEXT PAGE

Then say very clearly:

"Is everyone clear about how to do this test?"

Deal with any questions, appropriately, then, starting stop-watch or setting a count-down timer on the word **BEGIN**, say:

"Please turn over the page and begin"

Answer only questions relating to procedure at this stage, but enter in the Administrator's Test Record any other problems that occur. Walk around the room at appropriate intervals to check for potential problems.

At the end of the 6 minutes, say:

"Stop now please and close your Booklet"

You should intervene if candidates continue after this point.

COLLECT THE ANSWER SHEETS AND THE TEST BOOKLETS, ENSURING THAT ALL MATERIALS ARE RETURNED (COUNT BOOKLETS AND ANSWER SHEETS)

Then say:

"Thank you for completing the Clerical Test Battery"

Clerical Test Battery (CTB2)

Norms Introduction

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South African Norms available for the Clerical Test Battery (CTB2)

Different types of norms available

There are two kinds of norms available for Psytech tests. Many of the norm groups are based on means and standard deviations obtained through research. These means and standard deviations are used by the GeneSys reporting software to calculate standard scores. In the case of the CTB2, stanines are used.

Users of the test do not need to look up raw scores to find the corresponding standard scores, because the software does it for them. For this manual, however, stanine tables have been specially calculated from means and standard deviations to facilitate comparison between norm groups, so that users can more easily choose which norm group is most suitable for a given situation. This allows users to make a more informed choice rather than simply relying on automatic choices made by the online platform.

The second type of norm is a frequency norm. In this case, more information is stored internally, and it is possible to add additional cases to the norm group as more data are collected. The GeneSys online system is able to create tables of standard scores for frequency norms. The tables of standard scores are provided for interest and information, which would assist when comparing one norm group with another. For the purpose of generating a report, the online system does the calculations internally, and doesn't refer to any tables.

Biographical data

The GeneSys online platform offers the facility to collect comprehensive biographical information on respondents. Unfortunately, test users very seldom collect these data. Having this information incomplete poses a serious concern for us as Psytech SA obtains most of its information from clients who use the assessments.

Users are advised to make an effort to capture full biographical information on the respondents. This will help to enable them to adhere to best practice and compliance with legal requirements.

SA Norms and international norms

The GeneSys online platform contains international norms on all Psytech tests, besides the South African norms that have been collected by Psytech South Africa.

Unless you have a very good reason to do otherwise, we recommend the use of South African norms rather than international norms. The South Africa norms are clearly marked with 'SA' in the heading. All other norms that do not include 'South Africa' or 'SA' in the heading are international norms. If you are assessing a person for placement overseas and you have a suitable international norm available, you could consider using the international norm in conjunction with a South African norm.

Outdated or unsuitable norms are subject to removal from the GeneSys online platform, but would still be reflected in the South African User Guide as it serves as a repository of all research that has been done to date.

User-developed norms

The GeneSys online platform offers users the facility to generate their own norms on the data they have collected - these are frequency norms. These norms will only appear on your online account and will not be available to other online accounts. Users must ensure that the data included in these in-house norms are “clean” – that they contain no dummy cases resulting from experimenting with the software, duplicates or other data that could interfere with the interpretation of the results. Psytech SA offers assistance in the creation of in-house norms for users who need it. If the norm group was generated on your own computer and not shared with Psytech SA, it will not appear in the documentation.

The norms we recommend and have calculated are based on standard deviations and means and are only added to the online system after they have done through an elaborate process of cleaning the data by removing duplicates, dummy and test cases and other data to make sure that users are using norms that were calculated on uncontaminated data (as far as is possible).

Choose the comparison group with care. Bear in mind factors such as race, language, level of education and level of proficiency in English.

List of norm tables

Norm group	Subtests	Number
Outbound call centre selling insurance	Verbal Reasoning Numerical Ability Spelling Clerical Checking	N1
Outbound call centre applicants and incumbents (selling insurance)	Verbal Reasoning Numerical Ability Clerical Checking Spelling	N2
SA Administrative and retail	Verbal Reasoning Numerical Ability Clerical Checking Spelling	N3
SA General Population	Verbal Reasoning Numerical Ability Clerical Checking Spelling	N4
Clerical applicants to SA Police	Verbal Reasoning Spelling	N5
SA Retail applicants combined group	Clerical Checking Numerical Ability	N6
Black SA Retail applicants	Clerical Checking Numerical Ability	N7
SA Asian retail applicants	Clerical Checking Numerical ability	N8
SA Coloured retail applicants	Clerical Checking Numerical ability	N9
SA Police applicants	Clerical Checking	N10
SA Black police applicants	Clerical Checking	N11
SA White police applicants	Clerical Checking	N12
SA Asian police applicants	Clerical Checking	N13
SA Coloured police applicants	Clerical Checking	N14
SA General Population 2012	Verbal Reasoning Numerical Ability Spelling Clerical Checking	N15
SA African 2012	Verbal Reasoning Numerical Ability Spelling Clerical Checking	N16
SA European 2012	Verbal Reasoning Numerical Ability Spelling Clerical Checking	N17
SA Asian 2012	Verbal Reasoning Numerical Ability Spelling Clerical Checking	N18
SA Coloured 2012	Verbal Reasoning Numerical Ability	N19

	Spelling Clerical Checking	
SA English 2012	Verbal Reasoning Numerical Ability Spelling Clerical Checking	N20
SA Afrikaans 2012	Verbal Reasoning Numerical Ability Spelling Clerical Checking	N21
SA Indigenous 2012	Verbal Reasoning Numerical Ability Spelling Clerical Checking	N22

CTB2 Norm group: Outbound call centre (selling insurance)

184 applicants to outbound call centre sales positions at a South African insurance company.

Minimum educational level grade 12

Data collected in 2001

Sample composition

Race was coded according to respondents' names.

Category	Frequency table: RACE			
	Count	Cumulative Count	Percent	Cumulative Percent
Whites/coloureds	99	99	53.80435	53.8043
Blacks	66	165	35.86957	89.6739
Asians	11	176	5.97826	95.6522
Missing	8	184	4.34783	100.0000

Category	Frequency table: GENDER			
	Count	Cumulative Count	Percent	Cumulative Percent
Unknown	8	8	4.34783	4.3478
Male	68	76	36.95652	41.3043
Female	108	184	58.69565	100.0000
Missing	0	184	0.00000	100.0000

Variable	Descriptive Statistics AGE				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
AGE	184	25.81522	0.00	43.00000	6.754767

Basic statistics on Clerical Test Battery subtests

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
VERBAL REASONING	184	16.20109	3.000000	31.00000	5.849459
NUMERICAL ABILITY	184	7.10326	0.000000	20.00000	3.561358
CLERICAL CHECKING VERBAL	184	9.71196	1.000000	25.00000	3.238881
CLERICAL CHECKING NUMERICAL	184	10.05435	0.000000	22.00000	3.088367
CLERICAL CHECKING TOTAL	184	19.97826	1.000000	48.00000	6.075982
SPELLING	181	14.62431	0.000000	24.00000	4.570712

Stanines

	1	2	3	4	5	6	7	8	9
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	0-5	6-8	9-11	12-14	15-17	18-20	21-23	24-26	27-35
Numerical Ability	0-0	1-2	3-4	5-6	7-7	8-9	10-11	12-13	14-20
Checking Verbal	0-4	5-5	6-7	8-8	9-10	11-12	13-13	14-15	16-26
Checking Numerical	0-4	5-6	7-7	8-9	10-10	11-12	13-13	14-15	16-26
Checking Total	0-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-52
Spelling	0-6	7-8	9-11	12-13	14-15	16-18	19-20	21-22	23-24

CTB2 Norm group: Outbound call centre applicants and incumbents (selling insurance)

Applicants and incumbents to a call centre operator firm in Gauteng. Data collected in 2001. Minimum qualification grade 12.

Sample composition

Race was coded according to respondents' names.
The minimum educational qualification was grade 12.

Category	Frequency table: RACE			
	Count	Cumulative Count	Percent	Cumulative Percent
Whites/coloureds	74	74	38.14433	38.1443
Asians	38	112	19.58763	57.7320
Blacks	80	192	41.23711	98.9691
Missing	2	194	1.03093	100.0000

Category	Frequency table: GENDER			
	Count	Cumulative Count	Percent	Cumulative Percent
Female	95	95	48.96907	48.9691
Male	96	191	49.48454	98.4536
Unknown	3	194	1.54639	100.0000
Missing	0	194	0.00000	100.0000

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
AGE	25.97917	7.175408	0.00	57.00000	192	2

Basic statistics on Clerical Test Battery subtests

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
VERBAL REASONING	194	20.18041	6.000000	33.00000	5.43386
NUMERICAL ABILITY	194	12.12371	0.000000	20.00000	5.00416
CLERICAL CHECKING VERBAL	194	20.70619	3.000000	26.00000	5.35683
CLERICAL CHECKING NUMERICAL	194	21.37629	3.000000	26.00000	5.27755
CLERICAL CHECKING TOTAL	194	42.17526	5.000000	52.00000	10.41174
SPELLING	193	14.52850	0.000000	24.00000	5.11335

Stanines

	1 S9 1	2 S9 2	3 S9 3	4 S9 4	5 S9 5	6 S9 6	7 S9 7	8 S9 8	9 S9 9
Verbal Reasoning	0-10	11-13	14-16	17-18	19-21	22-24	25-26	27-29	30-35
Numerical Ability	0-3	4-5	6-8	9-10	11-13	14-15	16-18	19-20	
Checking Verbal	0-11	12-14	15-16	17-19	20-22	23-24	25-26		
Checking Numerical	0-12	13-14	15-17	18-20	21-22	23-25	26-26		
Checking Total	0-23	24-29	30-34	35-39	40-44	45-49	50-52		
Spelling	0-5	6-8	9-10	11-13	14-15	16-18	19-20	21-23	24-24

Please note that the respondents in this group did particularly well on the clerical test, rendering the distribution skewed. They may have been pre-selected for this ability, and users are advised to bear this in mind when considering the use of this norm group.

CTB2 Norm group: SA Administrative and retail

Applicants and incumbents in the SA Retail clothing industry.
Data were collected during 2001

Sample composition

Race was coded according to respondents' names. Whites and coloureds were coded WC.

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
WC	77	77	59.68992	59.6899
A	14	91	10.85271	70.5426
B	34	125	26.35659	96.8992
Missing	4	129	3.10078	100.0000

Category	Frequency table: SEX			
	Count	Cumulative Count	Percent	Cumulative Percent
Male	39	39	30.23256	30.2326
Female	89	128	68.99225	99.2248
Unknown	1	129	0.77519	100.0000
Missing	0	129	0.00000	100.0000

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
AGE	31.48837	7.097663	20.00000	56.00000	129	0

Descriptive statistics on Clerical Test Battery subtests

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Verbal Reasoning	14.73913	6.181590	0.00000	32.00000	115	14
Numerical Ability	7.01739	4.223956	0.00000	20.00000	115	14
Clerical Checking Verbal	11.18261	3.191498	5.00000	23.00000	115	14
Clerical Checking Numerical	10.12174	3.514750	3.00000	23.00000	115	14
Clerical Checking Total	21.30435	6.370400	10.00000	46.00000	115	14
Spelling	16.15278	3.668134	7.00000	24.00000	72	57

Stanines

	1 S9 1	2 S9 2	3 S9 3	4 S9 4	5 S9 5	6 S9 6	7 S9 7	8 S9 8	9 S9 9
Verbal Reasoning	0-3	4-7	8-10	11-13	14-16	17-19	20-22	23-25	26-35
Numerical Ability	0--1	0-1	2-3	4-5	6-8	9-10	11-12	13-14	15-20
Checking Verbal	0-5	6-7	8-8	9-10	11-11	12-13	14-15	16-16	17-26
Checking Numerical	0-3	4-5	6-7	8-9	10-11	12-12	13-14	15-16	17-26
Checking Total	0-10	11-13	14-16	17-19	20-22	23-26	27-29	30-32	33-52
Spelling	0-9	10-11	12-13	14-15	16-17	18-18	19-20	21-22	23-24

CTB2 Norm group: SA General Population

These norms were calculated in 2002 from data submitted by various clients of Psytech South Africa prior to the release of GeneSys 3. The data would have been scored on GeneSys 2. Clients had been advised to use the test on respondents with a minimum educational level of grade 12.

Detailed biographical information is not available for this sample.

Basic statistics on Clerical Test Battery subtests

Subtest	Sample Size	Mean	SD
Verbal Reasoning	817	17.00	6.47
Numerical Ability	829	6.08	5.91
Checking Verbal	409	11.95	3.90
Checking Numerical	409	11.84	3.67
Checking Total	409	23.63	7.36
Spelling	409	16.03	6.18

Stanines

	1	2	3	4	5	6	7	8	9
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	0-5	6-8	9-12	13-15	16-18	19-21	22-25	26-28	29-35
Numerical Ability	0--1	0-0	1-1	2-4	5-7	8-10	11-13	14-16	17-20
Checking Verbal	0-5	6-7	8-9	10-10	11-12	13-14	15-16	17-18	19-26
Checking Numerical	0-5	6-7	8-9	10-10	11-12	13-14	15-16	17-18	19-26
Checking Total	0-10	11-14	15-18	19-21	22-25	26-29	30-32	33-36	37-52
Spelling	0-5	6-8	9-11	12-14	15-17	18-20	21-23	24-24	

CRTB2 Norm group: Clerical applicants to SA Police

Clerical Applicants to the South African Police tested during 2001. All Applicants had at least a grade 12 education.

Sample composition

Frequency table: GENDER				
Category	Count	Cumulative Count	Percent	Cumulative Percent
F	507	507	64.42186	64.4219
M	275	782	34.94282	99.3647
Missing	5	787	0.63532	100.0000

Frequency table: RACE				
Category	Count	Cumulative Count	Percent	Cumulative Percent
W	23	23	2.92249	2.9225
B	733	756	93.13850	96.0610
C	26	782	3.30368	99.3647
A	1	783	0.12706	99.4917
Missing	4	787	0.50826	100.0000

Frequency table: LANGUAGE				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	2	2	0.25413	0.2541
Afrikaans	48	50	6.09911	6.3532
isiXhosa	18	68	2.28717	8.6404
isiZulu	48	116	6.09911	14.7395
Sesotho	37	153	4.70140	19.4409
Setswana	165	318	20.96569	40.4066
Siswati	14	332	1.77891	42.1855
Xitsonga	85	417	10.80051	52.9860
Tshivenda	45	462	5.71792	58.7039
isiNdebele	60	522	7.62389	66.3278
Sepedi	263	785	33.41804	99.7459
Missing	2	787	0.25413	100.0000

Descriptive statistics on Clerical Test Battery subtests

Subtest	Sample Size	Mean	SD
Verbal Reasoning	733	9.77	3.48
Spelling	733	13.49	3.92

Stanines

	1 S9_1	2 S9_2	3 S9_3	4 S9_4	5 S9_5	6 S9_6	7 S9_7	8 S9_8	9 S9_9
Verbal Reasoning	0-3	4-5	6-7	8-8	9-10	11-12	13-14	15-15	16-35
Spelling	0-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-24

Descriptive Statistics: AGE					
Variable	Valid N	Mean	Minimum	Maximum	Std.Dev.
AGE	774	26.05426	2.000000	100.0000	5.674176

CTB2 Norm group: SA Retail applicants combined group

Applicants to a variety of positions, including temporary and casual workers, at a major South African clothing retail group. Data was collected in 2002. This norm group contains information from Kwazulu-Natal and the Western Cape.

Sample composition

Where race information was not collected, race information was coded by name. In the absence of specific information, Whites and Coloureds were coded WC.

Frequency table: Race				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Coloured:	479	479	19.72005	19.7200
European:	52	531	2.14080	21.8608
Asian	506	1037	20.83162	42.6925
African	1263	2300	51.99671	94.6892
Unknown	1	2301	0.04117	94.7303
WC	49	2350	2.01729	96.7476
Missing	79	2429	3.25237	100.0000

Frequency table: Sex				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	746	746	30.71223	30.7122
F	1680	2426	69.16427	99.8765
Unknown	3	2429	0.12351	100.0000
Missing	0	2429	0.00000	100.0000

Frequency table: Education				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	527	527	21.69617	21.6962
University diploma:	80	607	3.29354	24.9897
University entrance matri:	108	715	4.44627	29.4360
Technikon:	10	725	0.41169	29.8477
Degree	30	755	1.23508	31.0828
Post Graduate:	40	795	1.64677	32.7295
Grade 10 or 11:	50	845	2.05846	34.7880
Missing	1584	2429	65.21202	100.0000

Frequency table: First Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	325	325	13.37999	13.3800
isiZulu	325	650	13.37999	26.7600
isiXhosa:	14	664	0.57637	27.3364
Swazi	1	665	0.04117	27.3775
Sesotho	5	670	0.20585	27.5834
Setswana:	2	672	0.08234	27.6657
siSwati	1	673	0.04117	27.7069
Other	2	675	0.08234	27.7892
Xitsonga:	2	677	0.08234	27.8716
Afrikaans:	6	683	0.24702	28.1186
Missing	1746	2429	71.88143	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	25.89349	6.756780	14.00000	60.00000	2413	16

Descriptive statistics on CTB2 Subtests: total group

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Checking Numerical	9.31988	3.081034	0.00	26.00000	2429	0
Checking Verbal	8.42939	3.231024	0.00	24.00000	2429	0
Checking Total	17.74928	6.000491	0.00	49.00000	2429	0
Numerical Ability	5.15404	2.934275	0.00	20.00000	2428	1

Stanines

	1	2	3	4	5	6	7	8	9
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Numerical Ability	0-0	1-1	2-2	3-4	5-5	6-7	8-8	9-10	11-20
Checking Verbal	0-2	3-4	5-6	7-7	8-9	10-10	11-12	13-14	15-26
Checking Numerical	0-3	4-5	6-7	8-8	9-10	11-11	12-13	14-14	15-26
Checking Total	0-1	2-6	7-10	11-15	16-19	20-24	25-28	29-33	34-52

CTB2 Norm group: SA Black Retail applicants

Black applicants to a variety of positions, including temporary and casual workers, at a major South African clothing retail group. Data was collected in 2002. This norm group contains information from Kwazulu-Natal and the Western Cape.

Sample composition

Frequency table: Sex				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	394	394	31.19557	31.1956
F	866	1260	68.56690	99.7625
U	3	1263	0.23753	100.0000
Missing	0	1263	0.00000	100.0000

Frequency table: Education				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	223	223	17.65637	17.6564
University diploma:	39	262	3.08789	20.7443
University entrance matri:	56	318	4.43389	25.1781
Technikon:	6	324	0.47506	25.6532
Degree	19	343	1.50435	27.1576
Post Graduate:	29	372	2.29612	29.4537
Grade 10 or 11:	12	384	0.95012	30.4038
Missing	879	1263	69.59620	100.0000

Frequency table: First Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	6	6	0.47506	0.4751
isiZulu	325	331	25.73238	26.2074
isiXhosa:	14	345	1.10847	27.3159
Swazi	1	346	0.07918	27.3951
Sesotho	5	351	0.39588	27.7910
Setswana:	2	353	0.15835	27.9493
siSwati	1	354	0.07918	28.0285
Xitsonga:	2	356	0.15835	28.1869
Missing	907	1263	71.81314	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.29689	5.761193	16.00000	60.00000	1253	10

Descriptive Statistics on CTB2 Subtests

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Checking numerical	1263	8.77356	0.00	24.00000	3.041868
Checking Verbal	1263	7.76089	0.00	22.00000	3.204319
Checking Total	1263	16.53444	0.00	45.00000	5.891669
Numerical Ability	1263	4.24782	0.00	19.00000	2.357076

Stanines

	1	2	3	4	5	6	7	8	9
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Checking Numerical	0-3	4-4	5-6	7-8	9-9	10-11	12-12	13-14	15-26
Checking Verbal	0-2	3-3	4-5	6-6	7-8	9-10	11-11	12-13	14-26
Checking Total	0-6	7-9	10-12	13-15	16-18	19-20	21-23	24-26	27-52
Numerical Ability	0-0	1-1	2-2	3-3	4-4	5-6	7-7	8-8	9-20

CTB2 Norm group: SA Asian retail applicants

Asian applicants to a variety of positions, including temporary and casual workers, at a major South African clothing retail group. Data was collected in 2002. This norm group contains information from Kwazulu-Natal and the Western Cape.

Sample composition

Frequency table: Sex				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	163	163	32.21344	32.2134
F	343	506	67.78656	100.0000
Missing	0	506	0.00000	100.0000

Frequency table: Education				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	149	149	29.44664	29.4466
University diploma:	33	182	6.52174	35.9684
University entrance matri:	46	228	9.09091	45.0593
Technikon:	3	231	0.59289	45.6522
Degree	10	241	1.97628	47.6285
Post Graduate:	10	251	1.97628	49.6047
Grade 10 or 11:	8	259	1.58103	51.1858
Missing	247	506	48.81423	100.0000

Frequency table: First Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	262	262	51.77866	51.7787
Other	2	264	0.39526	52.1739
Missing	242	506	47.82609	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	25.14343	6.976961	16.00000	51.00000	502	4

Descriptive statistics on CTB2 subtests

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Checking numerical	10.58300	3.226442	0.00000	26.00000	506	0
Checking verbal	9.98419	3.200827	1.00000	24.00000	506	0
Checking total	20.56719	6.173436	1.00000	49.00000	506	0
Numerical ability	7.10079	3.245670	1.00000	20.00000	506	0

Stanines

	1	2	3	4	5	6	7	8	9
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Checking Numerical	0-4	5-6	7-8	9-9	10-11	12-13	14-14	15-16	17-26
Checking Verbal	0-4	5-5	6-7	8-9	10-10	11-12	13-13	14-15	16-26
Checking Total	0-9	10-12	13-15	16-19	20-22	23-25	26-28	29-31	32-52
Numerical Ability	0-1	2-3	4-4	5-6	7-7	8-9	10-11	12-12	13-20

CTB2 Norm group: SA Coloured retail applicants

Coloured applicants to a variety of positions, including temporary and casual workers, at a major South African clothing retail group. Data was collected in 2002. This norm group contains information from Kwazulu-Natal and the Western Cape.

Sample composition

Frequency table: Sex				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	135	135	28.18372	28.1837
F	344	479	71.81628	100.0000
Missing	0	479	0.00000	100.0000

Frequency table: Education				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	138	138	28.81002	28.8100
University diploma:	6	144	1.25261	30.0626
University entrance matri:	6	150	1.25261	31.3152
Degree	1	151	0.20877	31.5240
Grade 10 or 11:	29	180	6.05428	37.5783
Missing	299	479	62.42171	100.0000

Frequency table: First Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	44	44	9.18580	9.1858
Afrikaans:	5	49	1.04384	10.2296
Missing	430	479	89.77035	100.0000

Descriptive Statistics						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	24.75732	7.442280	14.00000	58.00000	478	1

Descriptive statistics on CTB2 subtests

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Checking numerical	9.17745	2.630652	0.00	24.00000	479	0
Checking verbal	8.29228	2.689310	0.00	23.00000	479	0
Checking total	17.46973	4.988965	0.00	47.00000	479	0
Numerical ability	5.02510	2.521895	0.00	20.00000	478	1

Stanines

	1	2	3	4	5	6	7	8	9
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Checking Numerical	0-4	5-5	6-7	8-8	9-9	10-11	12-12	13-13	14-26
Checking Verbal	0-3	4-4	5-6	7-7	8-8	9-10	11-11	12-12	13-26
Checking Total	0-8	9-11	12-13	14-16	17-18	19-21	22-23	24-26	27-52
Numerical Ability	0-0	1-1	2-3	4-4	5-5	6-6	7-8	9-9	10-20

Norm Group 10: SA Police applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Frequency table: Gender				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	23013	23013	71.31391	71.3139
F	6391	29404	19.80477	91.1187
Error	2	29406	0.00620	91.1249
Missing	2864	32270	8.87512	100.0000

Frequency table: Race				
Category	Count	Cumulative Count	Percent	Cumulative Percent
B	25717	25717	79.69321	79.6932
W	1460	27177	4.52433	84.2175
C	1058	28235	3.27859	87.4961
A	913	29148	2.82925	90.3254
Missing	3122	32270	9.67462	100.0000

Frequency table: Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	4556	4556	14.11838	14.1184
isiNdebele:	636	5192	1.97087	16.0892
Setswana:	3841	9033	11.90270	27.9919
Error	206	9239	0.63836	28.6303
Zulu	5738	14977	17.78122	46.4115
Tshivenda:	1932	16909	5.98698	52.3985
Xitsonga:	2496	19405	7.73474	60.1333
Sesotho	2662	22067	8.24915	68.3824
Afrikaans:	2332	24399	7.22653	75.6089
Xhosa	3620	28019	11.21785	86.8268
Siswati	1000	29019	3.09885	89.9256
Other	9	29028	0.02789	89.9535
English	1241	30269	3.84568	93.7992
Missing	2001	32270	6.20081	100.0000

Frequency table: Qualification				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	19769	19769	61.26123	61.2612
Gr12 Exemption:	2774	22543	8.59622	69.8575
3 yr deg/dip:	2842	25385	8.80694	78.6644
<Grade12:	128	25513	0.39665	79.0610
1-2yr Diploma:	2538	28051	7.86489	86.9259
Error	1945	29996	6.02727	92.9532
Postgraduate:	273	30269	0.84599	93.7992
Missing	2001	32270	6.20081	100.0000

Variable	Descriptive Statistics AGE					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	25.45025	7.657817	0.00	108.0000	29148	3122

Descriptive statistics on CTB2 subtests

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Checking verbal	30269	7.79950	0.00	25.00000	3.003259
Checking numerical	30269	8.90948	0.00	25.00000	2.858023
Checking total	30269	16.70898	0.00	50.00000	5.358797

Stanines

	1	2	3	4	5	6	7	8	9
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Checking Verbal	0-2	3-4	5-5	6-7	8-8	9-10	11-11	12-13	14-26
Checking Numerical	0-3	4-5	6-6	7-8	9-9	10-11	12-12	13-13	14-26
Checking Total	0-7	8-10	11-12	13-15	16-18	19-20	21-23	24-26	27-52

CTB2 Norm group: SA Black police applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Category	Frequency table:			
	Count	Cumulative Count	Percent	Cumulative Percent
M	20073	20073	78.05343	78.0534
F	5396	25469	20.98223	99.0357
Error	2	25471	0.00778	99.0434
Missing	246	25717	0.95657	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	4385	4385	17.05098	17.0510
isiNdebele:	586	4971	2.27865	19.3296
Setswana:	3589	8560	13.95575	33.2854
Error	130	8690	0.50550	33.7909
Zulu	5571	14261	21.66271	55.4536
Tshivenda:	1892	16153	7.35700	62.8106
Xitsonga:	2416	18569	9.39456	72.2052
Sesotho	2569	21138	9.98950	82.1947
Afrikaans:	37	21175	0.14387	82.3385
Xhosa	3513	24688	13.66022	95.9988
Siswati	973	25661	3.78349	99.7822
Other	6	25667	0.02333	99.8056
English	50	25717	0.19442	100.0000
Missing	0	25717	0.00000	100.0000

Category	Frequency table: Qualification			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	16832	16832	65.45087	65.4509
Gr12 Exemption:	2332	19164	9.06793	74.5188
3 yr deg/dip:	2750	21914	10.69332	85.2121
<Grade12:	104	22018	0.40440	85.6165
1-2yr Diploma:	2327	24345	9.04849	94.6650
Error	1114	25459	4.33176	98.9968
Postgraduate:	258	25717	1.00323	100.0000
Missing	0	25717	0.00000	100.0000

Variable	Descriptive Statistics AGE					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.02221	7.371958	0.00	108.0000	25034	683

Basic statistics on CTB2 subtests

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Checking Verbal	25717	7.75713	0.00	25.00000	2.996829
Checking Numerical	25717	8.89031	0.00	25.00000	2.830005
Checking Total	25717	16.64743	0.00	50.00000	5.305529

Stanines

	1	2	3	4	5	6	7	8
	S9 1	S9 2	S9 3	S9 4	S9 5	S9 6	S9 7	S9 8
Checking Verbal	0-2	3-4	5-5	6-7	8-8	9-10	11-11	12-13
Checking Numerical	0-3	4-5	6-6	7-8	9-9	10-11	12-12	13-13
Checking Total	0-7	8-10	11-12	13-15	16-17	18-20	21-23	24-25

CTB2 Norm group: SA White police applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Frequency table: Gender				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	1018	1018	69.72603	69.7260
F	432	1450	29.58904	99.3151
Missing	10	1460	0.68493	100.0000

Frequency table: Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	1	1	0.06849	0.0685
Error	8	9	0.54795	0.6164
Zulu	2	11	0.13699	0.7534
Afrikaans:	1334	1345	91.36986	92.1233
Siswati	1	1346	0.06849	92.1918
Other	1	1347	0.06849	92.2603
English	113	1460	7.73973	100.0000
Missing	0	1460	0.00000	100.0000

Frequency table: Qualification				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	1190	1190	81.50685	81.5068
Gr12 Exemption:	134	1324	9.17808	90.6849
3 yr deg/dip:	14	1338	0.95890	91.6438
<Grade12:	13	1351	0.89041	92.5342
1-2yr Diploma:	58	1409	3.97260	96.5068
Error	46	1455	3.15068	99.6575
Postgraduate:	5	1460	0.34247	100.0000
Missing	0	1460	0.00000	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	22.25775	6.173112	1.000000	106.0000	1451	9

Basic statistics on CTB2 subtests

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Checking Verbal	1460	8.77534	0.00	22.00000	2.522322
Checking Numerical	1460	9.94521	0.00	21.00000	2.351500
Checking Total	1460	18.72055	0.00	43.00000	4.416772

Stanines

	1	2	3	4	5	6	7	8	9
	S9 1	S9 2	S9 3	S9 4	S9 5	S9 6	S9 7	S9 8	S9 9
Checking Verbal	0-4	5-5	6-6	7-8	9-9	10-10	11-11	12-13	14-26
Checking Numerical	0-5	6-7	8-8	9-9	10-10	11-11	12-12	13-14	15-26
Checking Total	0-10	11-13	14-15	16-17	18-19	20-22	23-24	25-26	27-52

CTB2 Norm group: SA Asian police applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Frequency table: Gender				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	705	705	77.21796	77.2180
F	202	907	22.12486	99.3428
Missing	6	913	0.65717	100.0000

Frequency table: Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Error	3	3	0.32859	0.3286
Afrikaans:	1	4	0.10953	0.4381
Other	2	6	0.21906	0.6572
English	907	913	99.34283	100.0000
Missing	0	913	0.00000	100.0000

Frequency table: Qualification				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	589	589	64.51260	64.5126
Gr12 Exemption:	189	778	20.70099	85.2136
3 yr deg/dip:	20	798	2.19058	87.4042
<Grade12:	3	801	0.32859	87.7327
1-2yr Diploma:	77	878	8.43373	96.1665
Error	31	909	3.39540	99.5619
Postgraduate:	4	913	0.43812	100.0000
Missing	0	913	0.00000	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	23.54576	5.248657	1.000000	101.0000	907	6

Descriptive statistics on CTB2 subtests

Descriptive Statistics					
Variable	Valid N	Mean	Minimum	Maximum	Std.Dev.
Checking verbal	913	8.94414	1.000000	21.00000	2.439656
Checking numerical	913	9.55093	0.000000	21.00000	2.438696
Checking total	913	18.49507	2.000000	41.00000	4.440176

Stanines

	1 S9 1	2 S9 2	3 S9 3	4 S9 4	5 S9 5	6 S9 6	7 S9 7	8 S9 8	9 S9 9
Checking Verbal	0-4	5-5	6-7	8-8	9-9	10-10	11-11	12-13	14-26
Checking Numerical	0-5	6-6	7-7	8-8	9-10	11-11	12-12	13-13	14-26
Checking Total	0-10	11-12	13-15	16-17	18-19	20-21	22-24	25-26	27-52

CTB2 Reliability: SA Coloured police applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Frequency table: Gender				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	786	786	74.29112	74.2911
F	255	1041	24.10208	98.3932
Missing	17	1058	1.60681	100.0000

Frequency table: Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	5	5	0.47259	0.4726
Setswana:	8	13	0.75614	1.2287
Error	13	26	1.22873	2.4575
Zulu	7	33	0.66163	3.1191
Xitsonga:	1	34	0.09452	3.2136
Sesotho	4	38	0.37807	3.5917
Afrikaans:	856	894	80.90737	84.4991
Siswati	5	899	0.47259	84.9716
English	159	1058	15.02836	100.0000
Missing	0	1058	0.00000	100.0000

Frequency table: Qualification				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	843	843	79.67864	79.6786
Gr12 Exemption:	73	916	6.89981	86.5784
3 yr deg/dip:	22	938	2.07940	88.6578
<Grade12:	7	945	0.66163	89.3195
1-2yr Diploma:	46	991	4.34783	93.6673
Error	64	1055	6.04915	99.7164
Postgraduate:	3	1058	0.28355	100.0000
Missing	0	1058	0.00000	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	24.24688	6.114418	0.00	101.0000	1041	17

Descriptive statistics on CTB2 scales

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Checking Verbal	1058	8.34783	0.000000	25.00000	2.635541
Checking Numerical	1058	9.25614	1.000000	25.00000	2.558231
Checking Total	1058	17.60397	1.000000	50.00000	4.721683

Stanines

	1	2	3	4	5	6	7	8	9
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Checking Verbal	0-3	4-5	6-6	7-7	8-9	10-10	11-11	12-12	13-26
Checking Numerical	0-4	5-6	7-7	8-8	9-9	10-11	12-12	13-13	14-26
Checking Total	0-9	10-11	12-14	15-16	17-18	19-21	22-23	24-25	26-52

Clerical test battery norm group: South African general population, updated 2012

Sample composition

The sample consisted of South Africans who were assessed on the Clerical Test Battery by Psytech SA and its collaborators in the period leading up to January 2012. Not all respondents completed the entire battery, therefore biographical particulars are reported separately for the different subtests.

Biographical composition of the sample: Verbal Reasoning Test (VR2)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	4057	4057	59.00233	59.0023
M	2745	6802	39.92147	98.9238
U	74	6876	1.07621	100.0000
Missing	0	6876	0.00000	100.0000

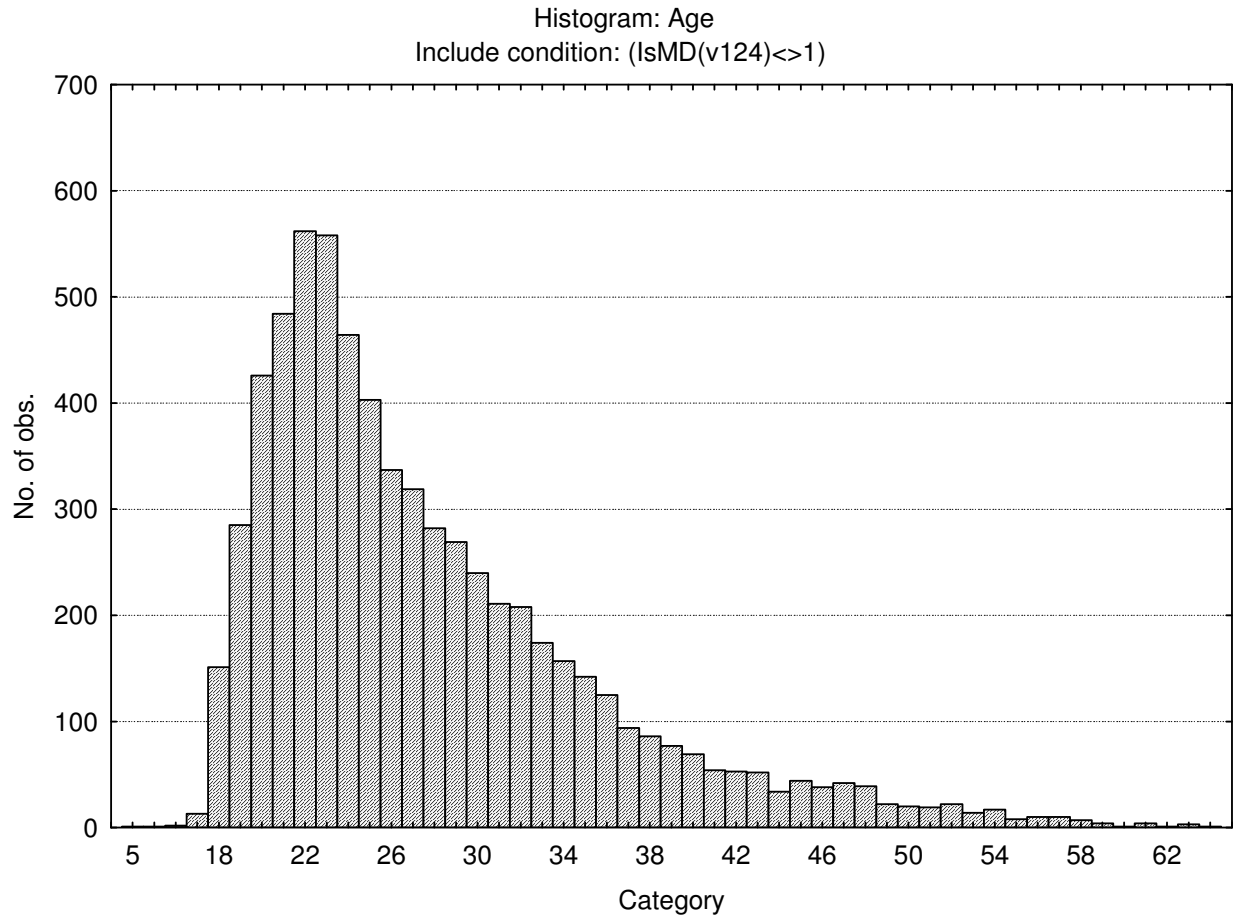
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	2872	2872	41.76847	41.7685
Under Gr 12	238	3110	3.46131	45.2298
Degree	319	3429	4.63933	49.8691
Certificate	115	3544	1.67248	51.5416
Post Graduate	49	3593	0.71262	52.2542
Technikon	494	4087	7.18441	59.4386
Diploma	297	4384	4.31937	63.7580
Missing	2492	6876	36.24200	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	782	782	11.37289	11.3729
Afrikaans	731	1513	10.63118	22.0041
isiXhosa	360	1873	5.23560	27.2397
siSwati	88	1961	1.27981	28.5195
Sesotho	348	2309	5.06108	33.5806
Setswana	405	2714	5.89005	39.4706
Sepedi	163	2877	2.37056	41.8412
Xitsonga	80	2957	1.16347	43.0047
Tshivenda	51	3008	0.74171	43.7464
English	1427	4435	20.75334	64.4997
isiNdebele	34	4469	0.49447	64.9942
Missing	2407	6876	35.00582	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	2311	2311	33.60966	33.6097
English	1427	3738	20.75334	54.3630
Afrikaans	731	4469	10.63118	64.9942
Missing	2407	6876	35.00582	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	831	831	12.08551	12.0855
European	633	1464	9.20593	21.2914
Asian	615	2079	8.94415	30.2356
African	2491	4570	36.22746	66.4631
Missing	2306	6876	33.53694	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.70551	7.857333	5.000000	99.00000	6659	217



Biographical composition of the sample: Numerical Ability Test (NA2)

Category	Frequency table: sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	29888	29888	66.56274	66.5627
M	14850	44738	33.07202	99.6348
U	164	44902	0.36524	100.0000
Missing	0	44902	0.00000	100.0000

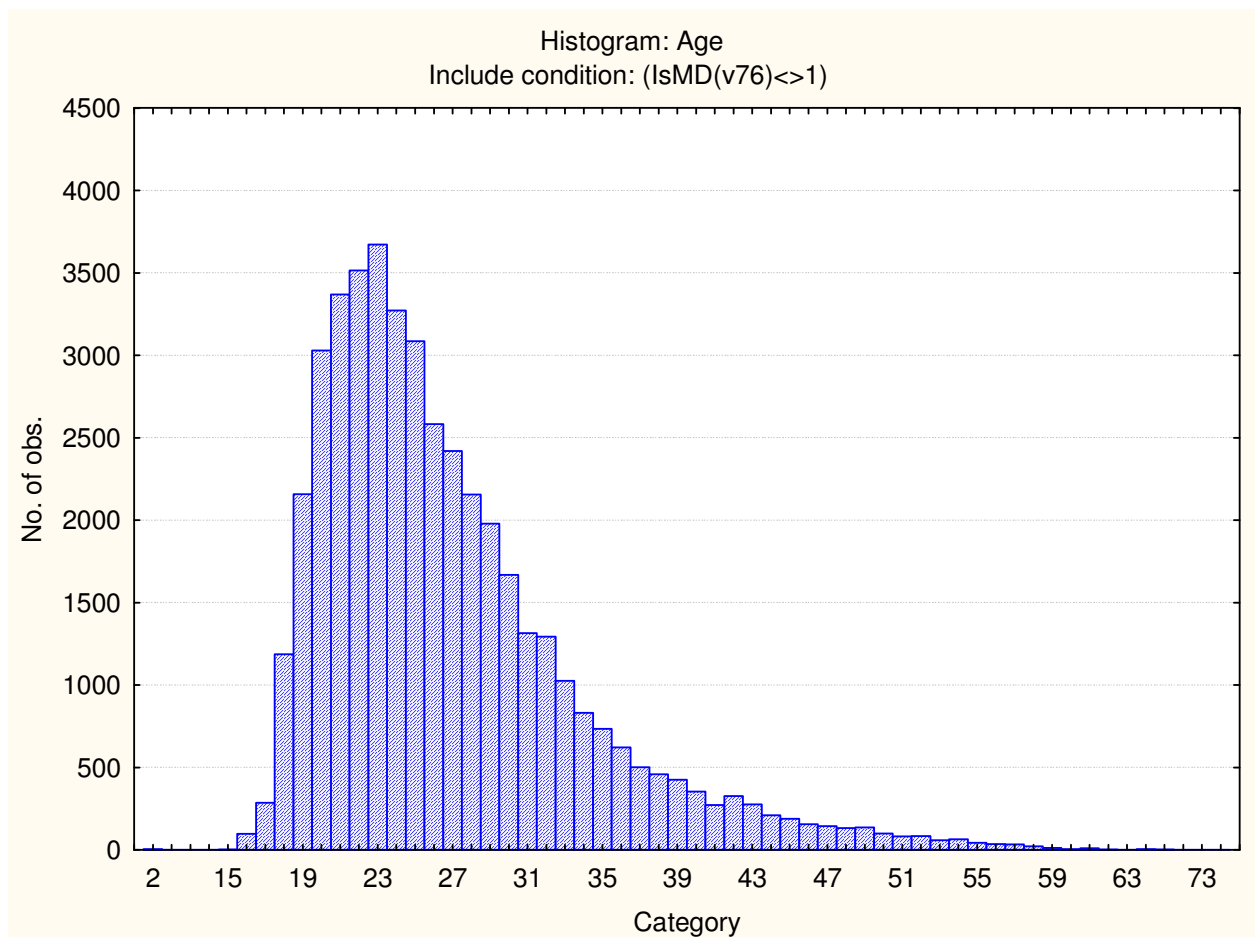
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	20649	20649	45.98682	45.9868
Under Gr 12	2757	23406	6.14004	52.1269
Degree	1435	24841	3.19585	55.3227
Certificate	2039	26880	4.54100	59.8637
Post Graduate	431	27311	0.95987	60.8236
Technikon	1313	28624	2.92415	63.7477
Diploma	3368	31992	7.50078	71.2485
Missing	12910	44902	28.75150	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	6380	6380	14.20872	14.2087
Afrikaans	3718	10098	8.28025	22.4890
isiXhosa	3490	13588	7.77248	30.2615
siSwati	540	14128	1.20262	31.4641
Sesotho	2629	16757	5.85497	37.3191
Setswana	3619	20376	8.05977	45.3788
Sepedi	2483	22859	5.52982	50.9086
Xitsonga	733	23592	1.63244	52.5411
Tshivenda	583	24175	1.29838	53.8395
English	7408	31583	16.49815	70.3376
isiNdebele	307	31890	0.68371	71.0213
Missing	13012	44902	28.97866	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	20764	20764	46.24293	46.2429
English	7408	28172	16.49815	62.7411
Afrikaans	3718	31890	8.28025	71.0213
Missing	13012	44902	28.97866	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6811	6811	15.16859	15.1686
European	1717	8528	3.82388	18.9925
Asian	3059	11587	6.81261	25.8051
African	21824	33411	48.60363	74.4087
Missing	11491	44902	25.59129	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.75128	7.027092	2.000000	99.00000	44488	414



Biographical composition of the sample: Spelling test (SP2)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	1251	1251	61.56496	61.5650
M	727	1978	35.77756	97.3425
U	54	2032	2.65748	100.0000
Missing	0	2032	0.00000	100.0000

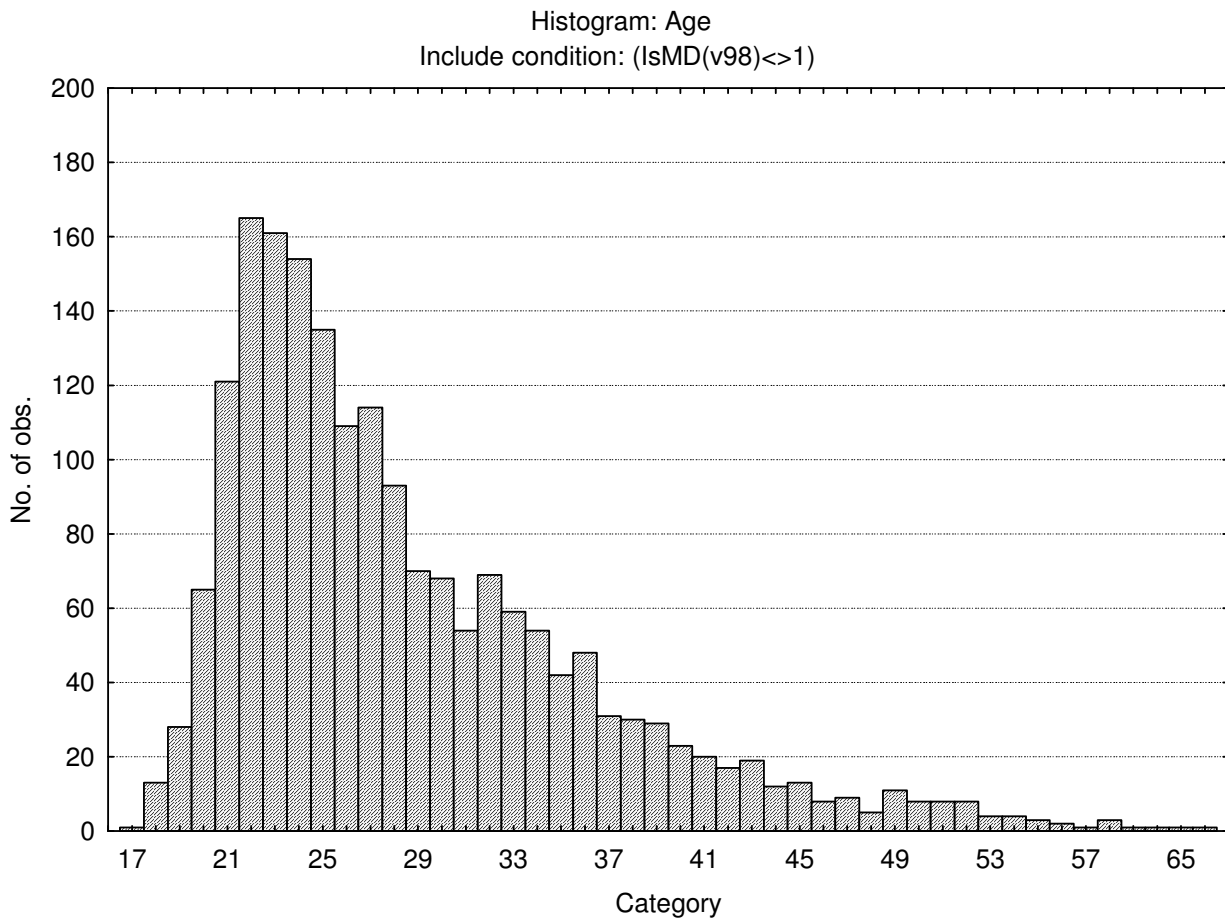
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	409	409	20.12795	20.1280
Under Gr 12	46	455	2.26378	22.3917
Degree	143	598	7.03740	29.4291
Certificate	13	611	0.63976	30.0689
Post Graduate	26	637	1.27953	31.3484
Technikon	86	723	4.23228	35.5807
Diploma	234	957	11.51575	47.0965
Missing	1075	2032	52.90354	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	176	176	8.66142	8.6614
Afrikaans	132	308	6.49606	15.1575
isiXhosa	92	400	4.52756	19.6850
siSwati	7	407	0.34449	20.0295
Sesotho	118	525	5.80709	25.8366
Setswana	126	651	6.20079	32.0374
Sepedi	41	692	2.01772	34.0551
Xitsonga	26	718	1.27953	35.3346
Tshivenda	25	743	1.23031	36.5650
English	194	937	9.54724	46.1122
isiNdebele	8	945	0.39370	46.5059
Missing	1087	2032	53.49409	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	619	619	30.46260	30.4626
English	194	813	9.54724	40.0098
Afrikaans	132	945	6.49606	46.5059
Missing	1087	2032	53.49409	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	122	122	6.00394	6.0039
European	116	238	5.70866	11.7126
Asian	55	293	2.70669	14.4193
African	684	977	33.66142	48.0807
Missing	1055	2032	51.91929	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	28.65224	7.770257	17.00000	99.00000	1895	137



Biographical composition of the sample: Clerical Checking test (CC2)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	31754	31754	65.59795	65.5980
M	16483	48237	34.05086	99.6488
U	170	48407	0.35119	100.0000
Missing	0	48407	0.00000	100.0000

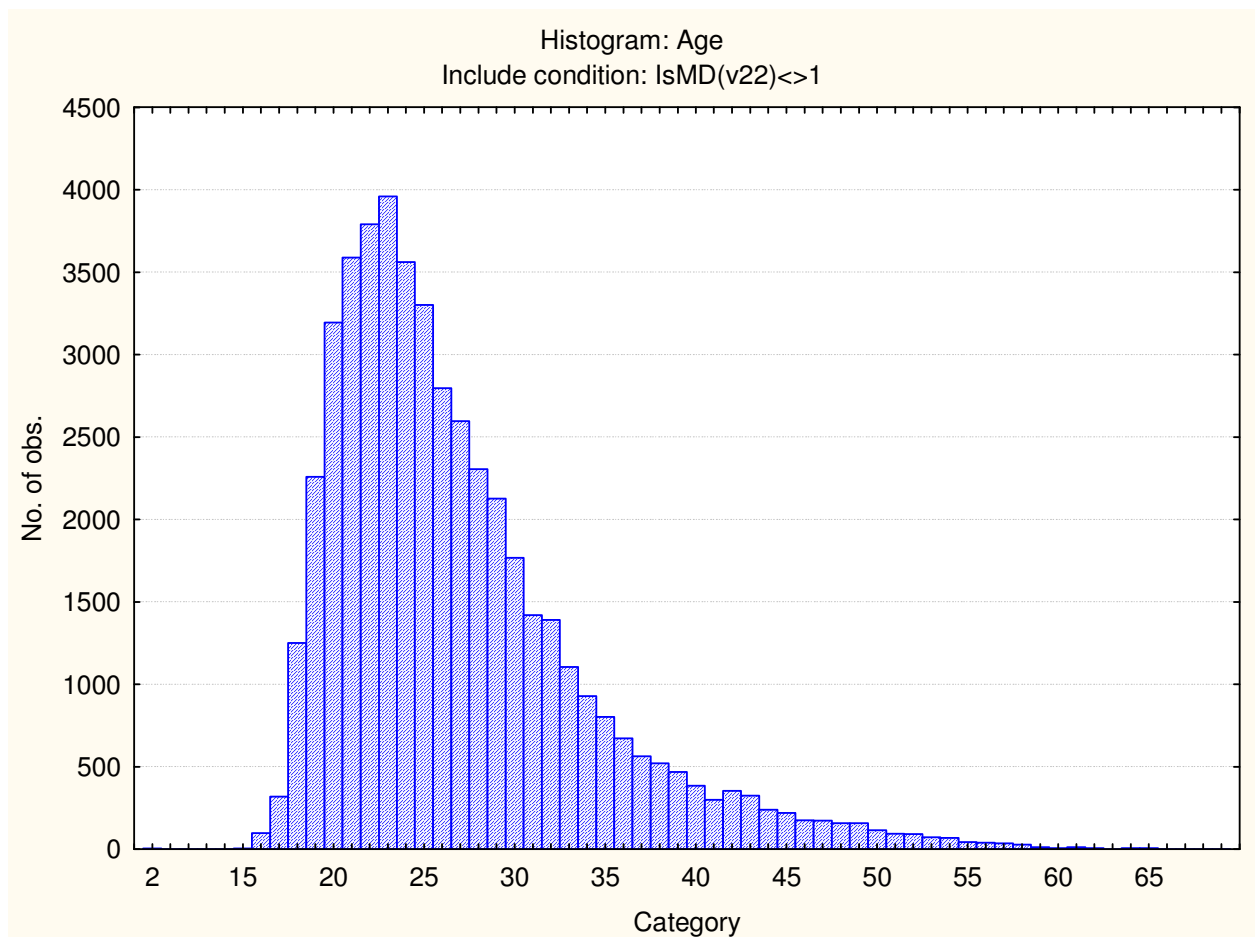
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	21710	21710	44.84889	44.8489
Under Gr 12	3014	24724	6.22637	51.0753
Degree	1635	26359	3.37761	54.4529
Certificate	2118	28477	4.37540	58.8283
Post Graduate	482	28959	0.99572	59.8240
Technikon	1585	30544	3.27432	63.0983
Diploma	3779	34323	7.80672	70.9050
Missing	14084	48407	29.09497	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	7010	7010	14.48138	14.4814
Afrikaans	4133	11143	8.53802	23.0194
isiXhosa	3802	14945	7.85424	30.8736
siSwati	562	15507	1.16099	32.0346
Sesotho	2862	18369	5.91237	37.9470
Setswana	3884	22253	8.02363	45.9706
Sepedi	2571	24824	5.31122	51.2818
Xitsonga	771	25595	1.59274	52.8746
Tshivenda	619	26214	1.27874	54.1533
English	7891	34105	16.30136	70.4547
isiNdebele	326	34431	0.67346	71.1281
Missing	13976	48407	28.87186	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	22407	22407	46.28876	46.2888
English	7891	30298	16.30136	62.5901
Afrikaans	4133	34431	8.53802	71.1281
Missing	13976	48407	28.87186	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	7233	7233	14.94205	14.9421
European	1918	9151	3.96224	18.9043
Asian	3306	12457	6.82959	25.7339
African	23532	35989	48.61280	74.3467
Missing	12418	48407	25.65331	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.86123	7.121651	2.000000	99.00000	47956	451

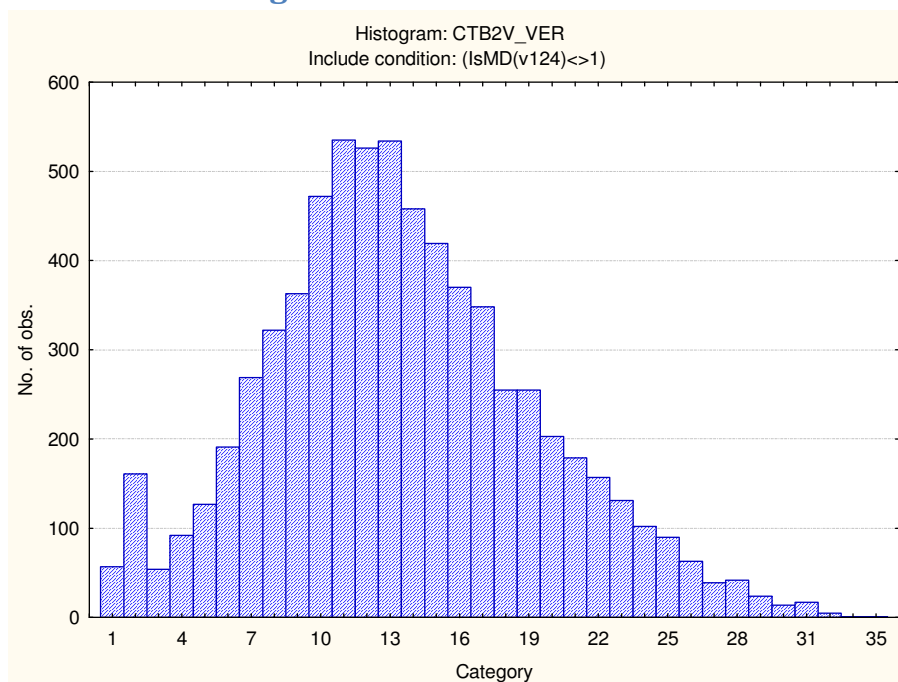


Descriptive statistics on Clerical Test Battery subtests

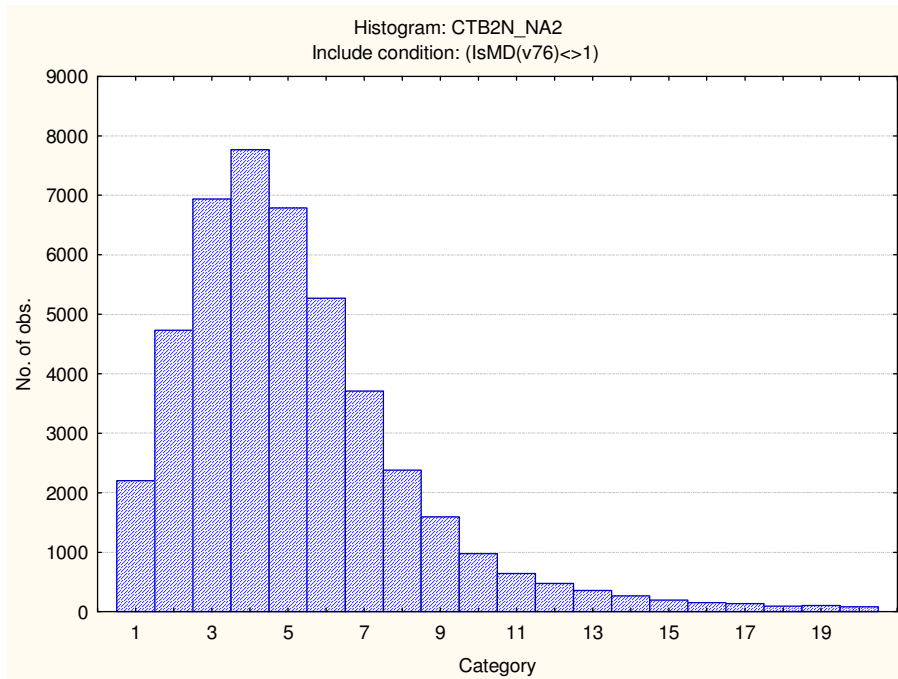
Scale	Mean	Standard deviation	Minimum score	Maximum score	N
Verbal Reasoning	13.52036	5.807834	1.000000	35.00000	6876
Numerical Ability	5.185493	3.020055	1.000000	20.00000	44902
Clerical Checking Numerical	9.47945	3.271751	1.000000	26.00000	48337
Clerical Checking Verbal	8.52368	3.354513	1.000000	26.00000	48289
Clerical Checking Total	17.96864	6.340469	1.000000	52.00000	48407
Spelling	12.47539	5.634125	1.000000	24.00000	2032

Frequency distributions

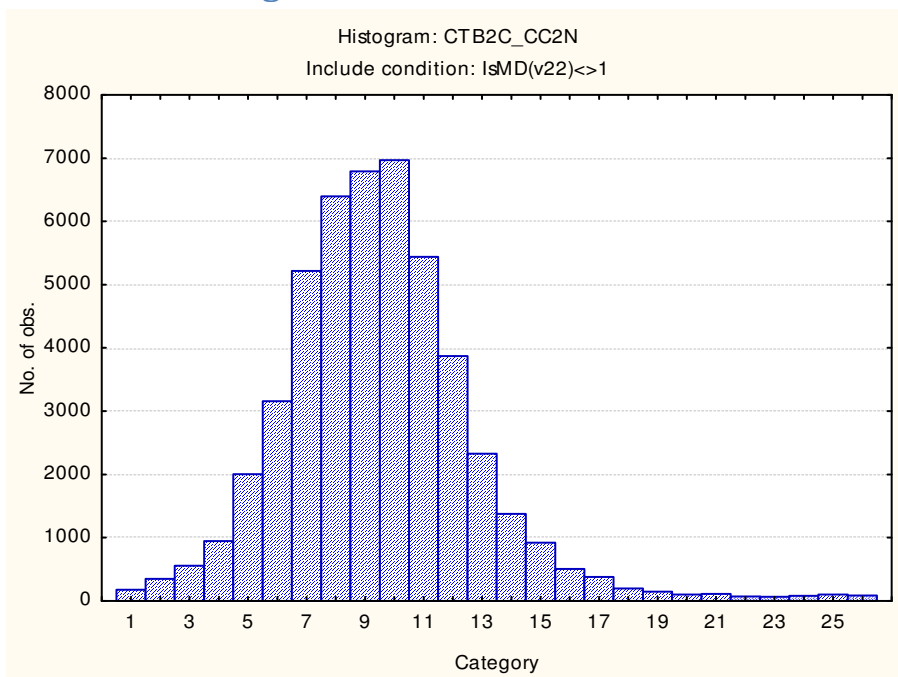
Verbal Reasoning



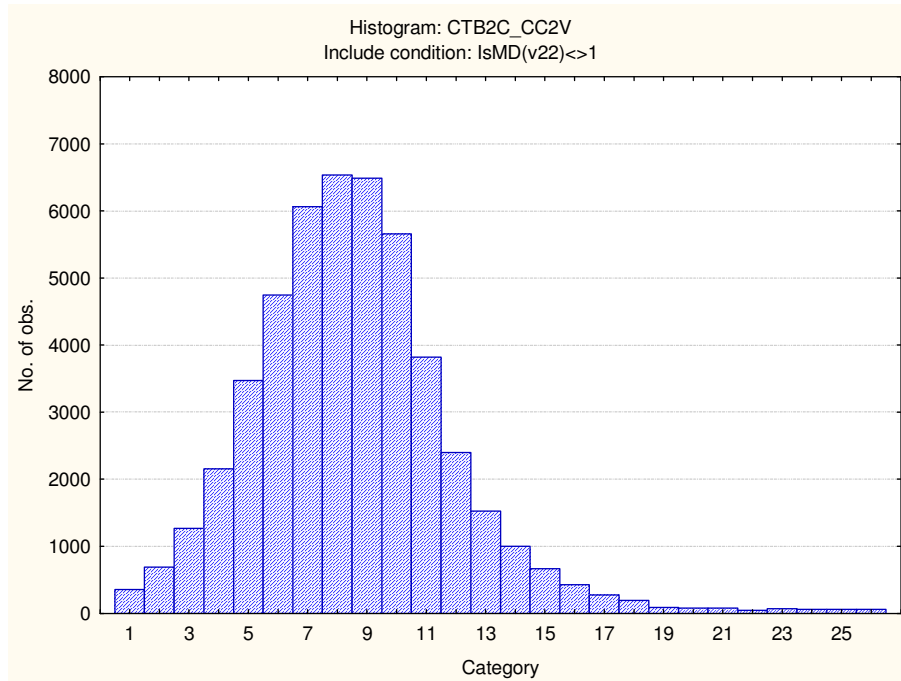
Numerical Ability



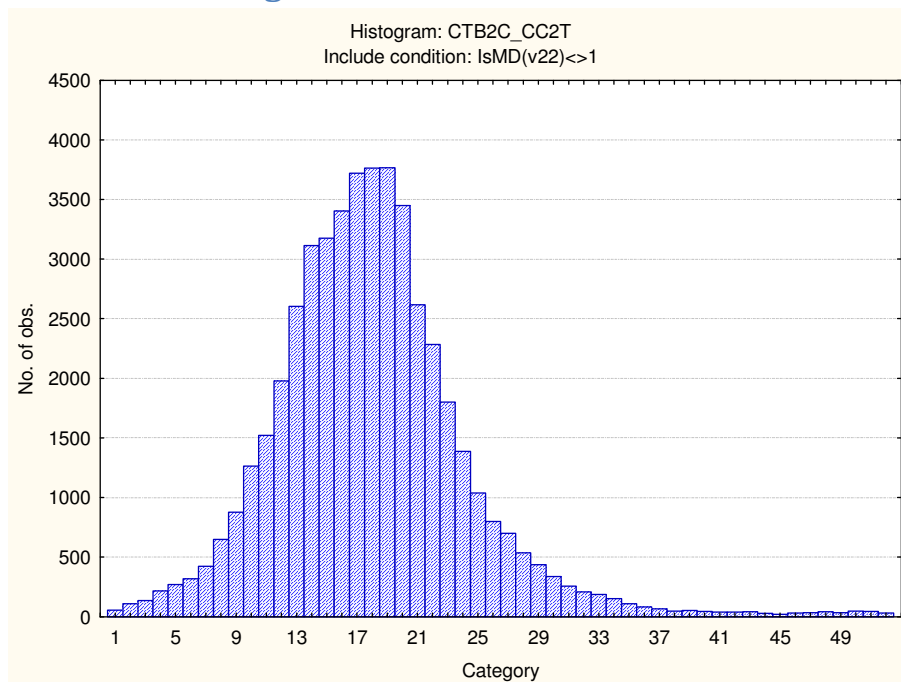
Clerical Checking Numerical



Clerical Checking Verbal



Clerical Checking Total score



Spelling

Stanine table

	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
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CTB2 norm group 15
SA General population updated 2012

Verbal Reasoning	1-3	4-6	7-9	10-12	13-14	15-17	18-20	21-23	24-35
Numerical Ability	1-0	1-1	2-2	3-4	5-5	6-7	8-8	9-10	11-20
Clerical Checking - Numerical	1-3	4-5	6-7	8-8	9-10	11-11	12-13	14-15	16-26
Clerical Checking - Verbal	1-2	3-4	5-6	7-7	8-9	10-11	12-12	13-14	15-26
Clerical Checking - Total	1-6	7-10	11-13	14-16	17-19	20-22	23-25	26-29	30-52
Spelling	1-2	3-5	6-8	9-11	12-13	14-16	17-19	20-22	23-24

Clerical Test Battery norm group: South Africans of African race, updated 2012

Composition of the sample

The sample consisted of South Africans who declared their race to be African, tested in the period up to February 2012 by Psytech SA and collaborators. Not all respondents completed the entire Clerical Test Battery, therefore the biographical composition of the sample is reported separately for the different subtests of the Clerical Test Battery.

Composition of the sample: Verbal Reasoning Test (VR2)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	1423	1423	57.12565	57.1257
M	1061	2484	42.59334	99.7190
U	7	2491	0.28101	100.0000
Missing	0	2491	0.00000	100.0000

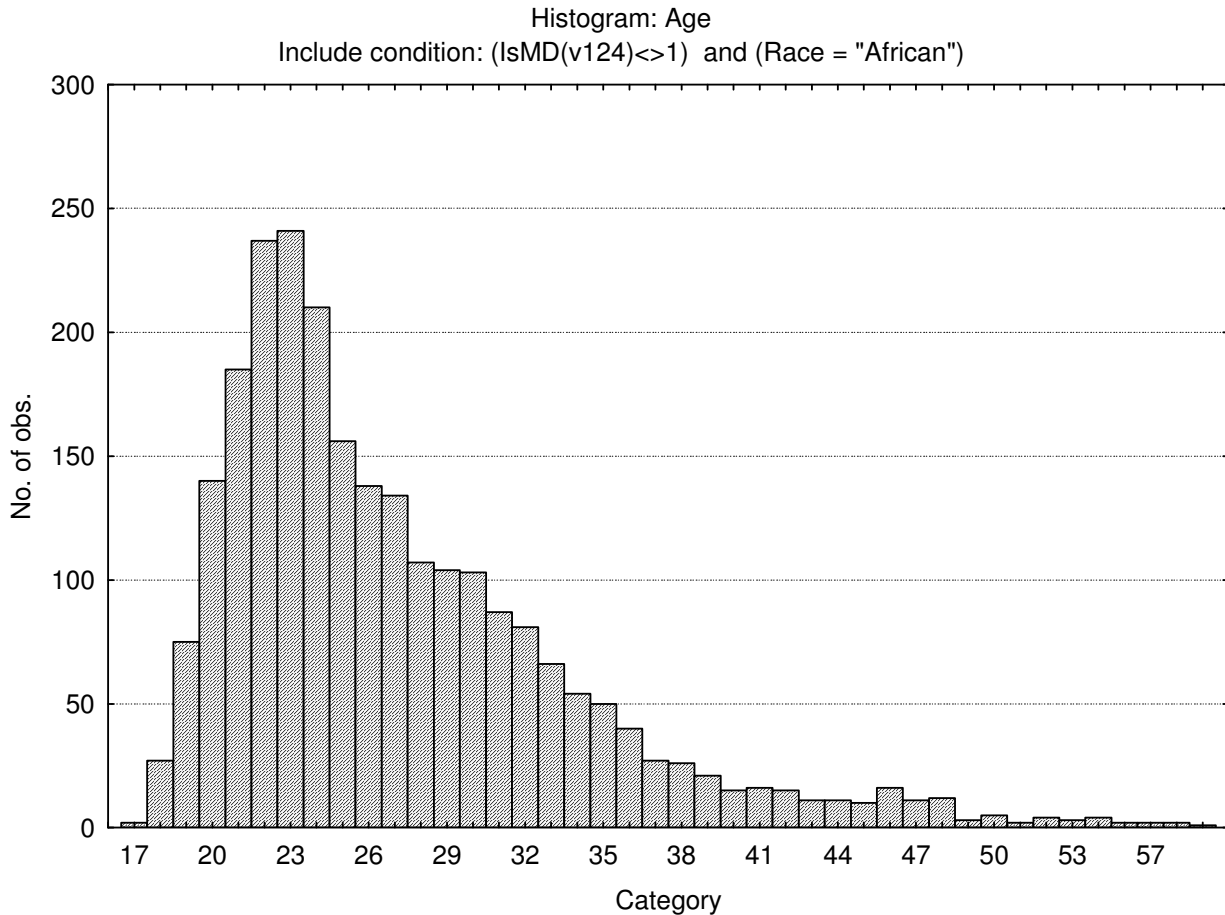
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1344	1344	53.95424	53.9542
Under Gr 12	101	1445	4.05460	58.0088
Degree	182	1627	7.30630	65.3151
Certificate	94	1721	3.77358	69.0887
Post Graduate	27	1748	1.08390	70.1726
Technikon	378	2126	15.17463	85.3473
Diploma	211	2337	8.47049	93.8177
Missing	154	2491	6.18226	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	772	772	30.99157	30.9916
Afrikaans	22	794	0.88318	31.8747
isiXhosa	352	1146	14.13087	46.0056
siSwati	87	1233	3.49257	49.4982
Sesotho	342	1575	13.72943	63.2276
Setswana	403	1978	16.17824	79.4059
Sepedi	155	2133	6.22240	85.6283
Xitsonga	80	2213	3.21156	88.8398
Tshivenda	51	2264	2.04737	90.8872
English	84	2348	3.37214	94.2593

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiNdebele	33	2381	1.32477	95.5841
Missing	110	2491	4.41590	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	2275	2275	91.32878	91.3288
English	84	2359	3.37214	94.7009
Afrikaans	22	2381	0.88318	95.5841
Missing	110	2491	4.41590	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.09406	6.737598	17.00000	61.00000	2456	35



Composition of the sample: Numerical Ability Test

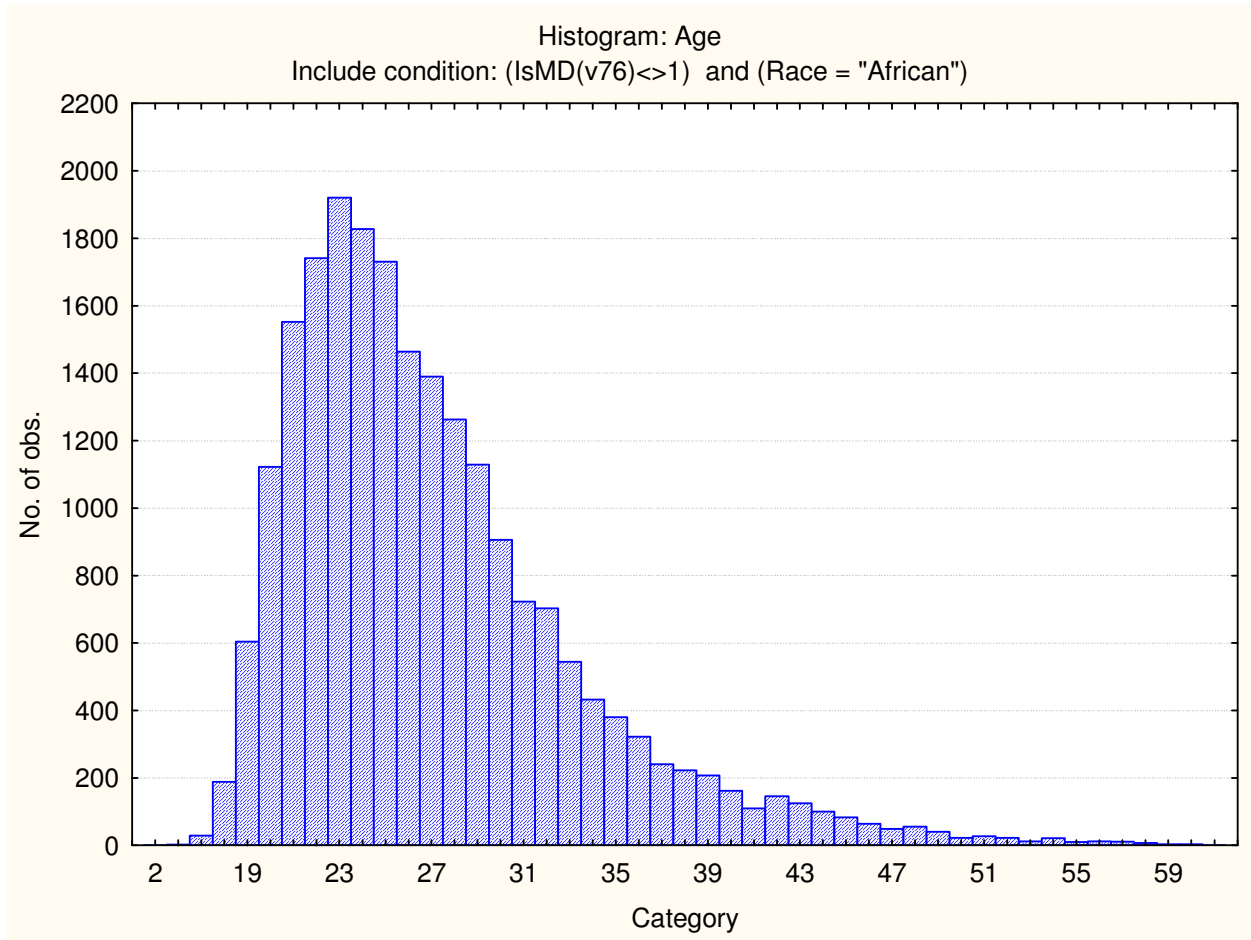
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	14233	14233	65.21719	65.2172
M	7563	21796	34.65451	99.8717
U	28	21824	0.12830	100.0000
Missing	0	21824	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	12715	12715	58.26155	58.2615
Under Gr 12	1321	14036	6.05297	64.3145
Degree	1106	15142	5.06782	69.3823
Certificate	1722	16864	7.89040	77.2727
Post Graduate	313	17177	1.43420	78.7069
Technikon	1076	18253	4.93035	83.6373
Diploma	2674	20927	12.25257	95.8898
Missing	897	21824	4.11015	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	6320	6320	28.95894	28.9589
Afrikaans	146	6466	0.66899	29.6279
isiXhosa	3425	9891	15.69373	45.3217
siSwati	535	10426	2.45143	47.7731
Sesotho	2617	13043	11.99139	59.7645
Setswana	3598	16641	16.48644	76.2509
Sepedi	2439	19080	11.17577	87.4267
Xitsonga	732	19812	3.35411	90.7808
Tshivenda	580	20392	2.65762	93.4384
English	320	20712	1.46628	94.9047
isiNdebele	303	21015	1.38838	96.2931
Missing	809	21824	3.70693	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	20549	20549	94.15781	94.1578
English	320	20869	1.46628	95.6241
Afrikaans	146	21015	0.66899	96.2931
Missing	809	21824	3.70693	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.03023	6.238588	2.000000	62.00000	21733	91



Sample composition: Clerical Checking Test

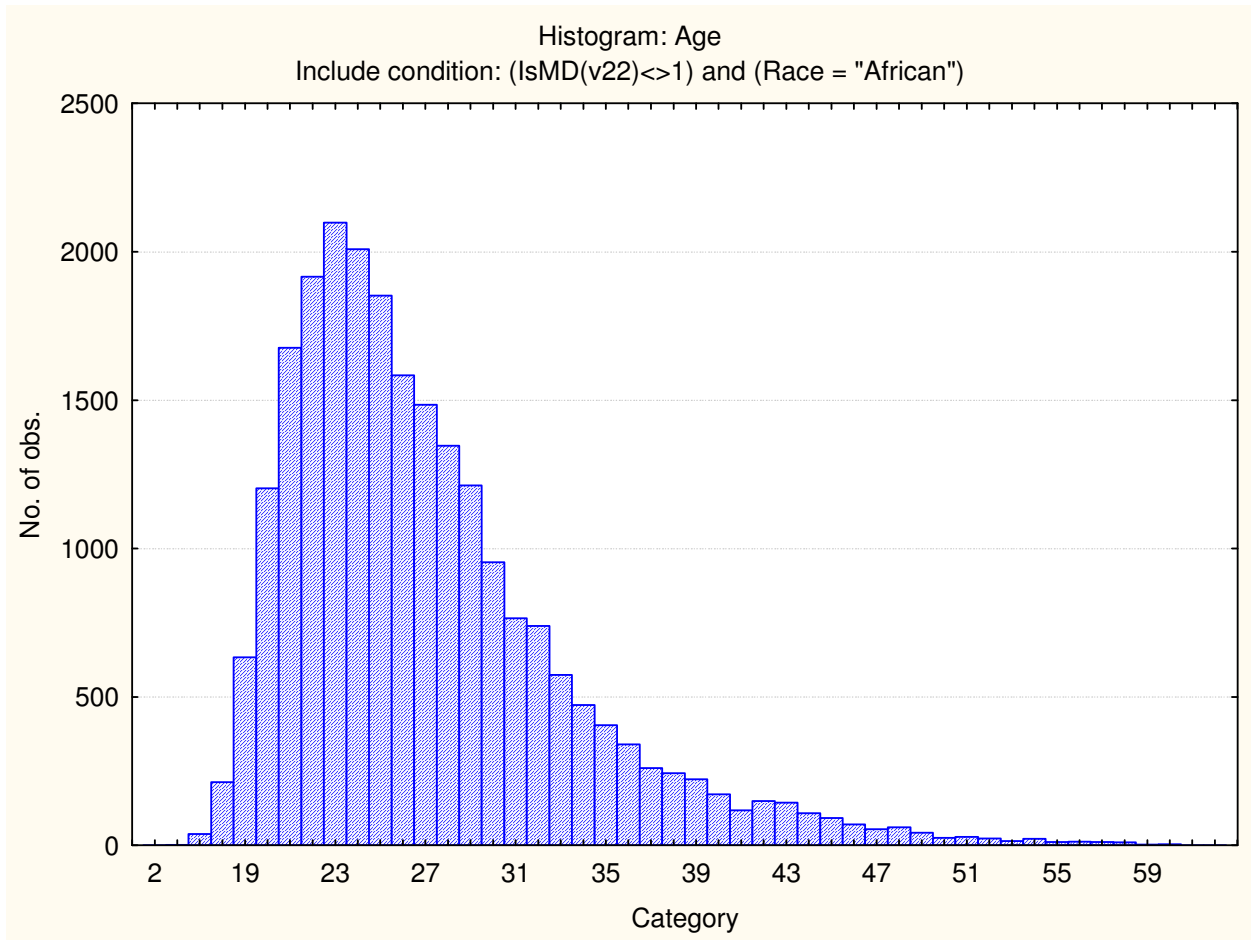
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	15224	15224	64.69488	64.6949
M	8278	23502	35.17763	99.8725
U	30	23532	0.12749	100.0000
Missing	0	23532	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	13342	13342	56.69726	56.6973
Under Gr 12	1421	14763	6.03859	62.7358
Degree	1268	16031	5.38841	68.1243
Certificate	1787	17818	7.59391	75.7182
Post Graduate	351	18169	1.49159	77.2098
Technikon	1264	19433	5.37141	82.5812
Diploma	3020	22453	12.83359	95.4148
Missing	1079	23532	4.58525	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	6946	6946	29.51725	29.5173
Afrikaans	163	7109	0.69267	30.2099
isiXhosa	3724	10833	15.82526	46.0352
siSwati	557	11390	2.36699	48.4022
Sesotho	2849	14239	12.10692	60.5091
Setswana	3859	18098	16.39895	76.9080
Sepedi	2526	20624	10.73432	87.6424
Xitsonga	770	21394	3.27214	90.9145
Tshivenda	616	22010	2.61771	93.5322
English	348	22358	1.47884	95.0110
isiNdebele	321	22679	1.36410	96.3751
Missing	853	23532	3.62485	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	22168	22168	94.20364	94.2036
English	348	22516	1.47884	95.6825
Afrikaans	163	22679	0.69267	96.3751
Missing	853	23532	3.62485	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.01314	6.266124	2.000000	65.00000	23432	100



Sample composition: Spelling test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	385	385	56.28655	56.2865
M	299	684	43.71345	100.0000
Missing	0	684	0.00000	100.0000

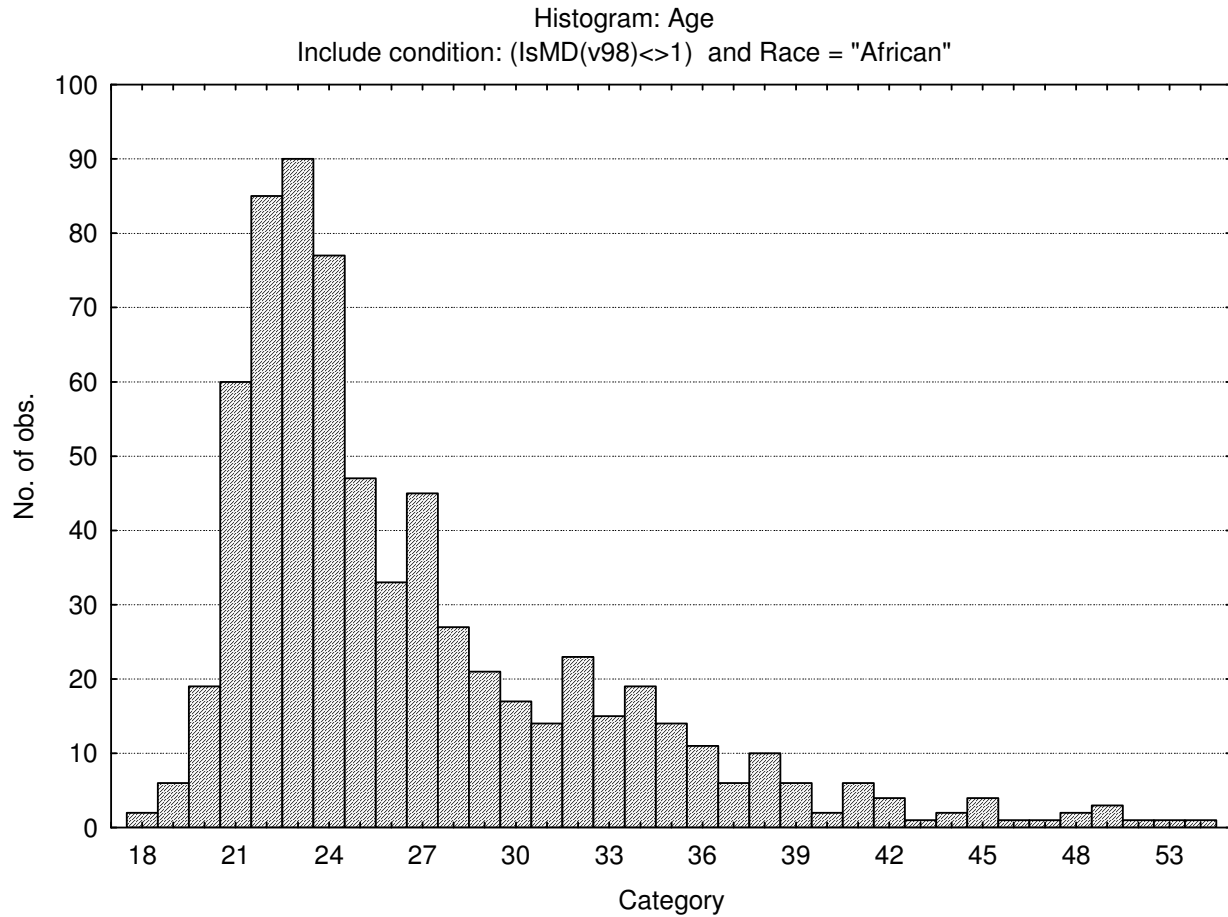
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	196	196	28.65497	28.6550
Under Gr 12	22	218	3.21637	31.8713
Degree	120	338	17.54386	49.4152
Certificate	9	347	1.31579	50.7310
Post Graduate	23	370	3.36257	54.0936
Technikon	71	441	10.38012	64.4737
Diploma	205	646	29.97076	94.4444
Missing	38	684	5.55556	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	174	174	25.43860	25.4386
Afrikaans	9	183	1.31579	26.7544
isiXhosa	88	271	12.86550	39.6199
siSwati	7	278	1.02339	40.6433
Sesotho	117	395	17.10526	57.7485
Setswana	126	521	18.42105	76.1696
Sepedi	38	559	5.55556	81.7251
Xitsonga	26	585	3.80117	85.5263
Tshivenda	25	610	3.65497	89.1813
English	23	633	3.36257	92.5439
isiNdebele	8	641	1.16959	93.7135
Missing	43	684	6.28655	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	609	609	89.03509	89.0351
English	23	632	3.36257	92.3977
Afrikaans	9	641	1.31579	93.7135
Missing	43	684	6.28655	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	684	684	100.0000	100.0000
Missing	0	684	0.0000	100.0000

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.68491	6.080922	18.00000	56.00000	676	8

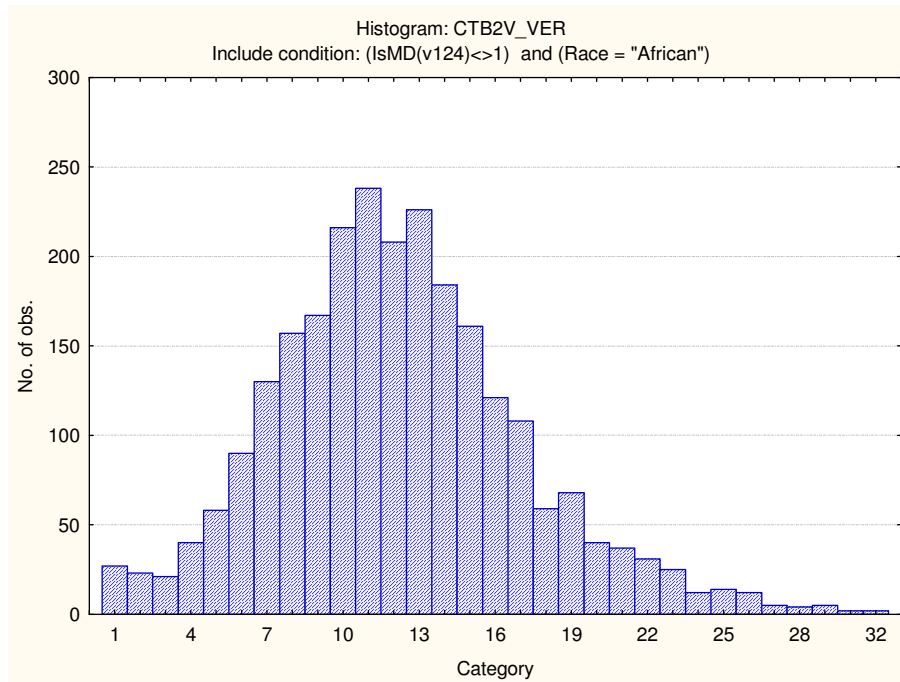


Descriptive statistics on Clerical Test Battery subtests

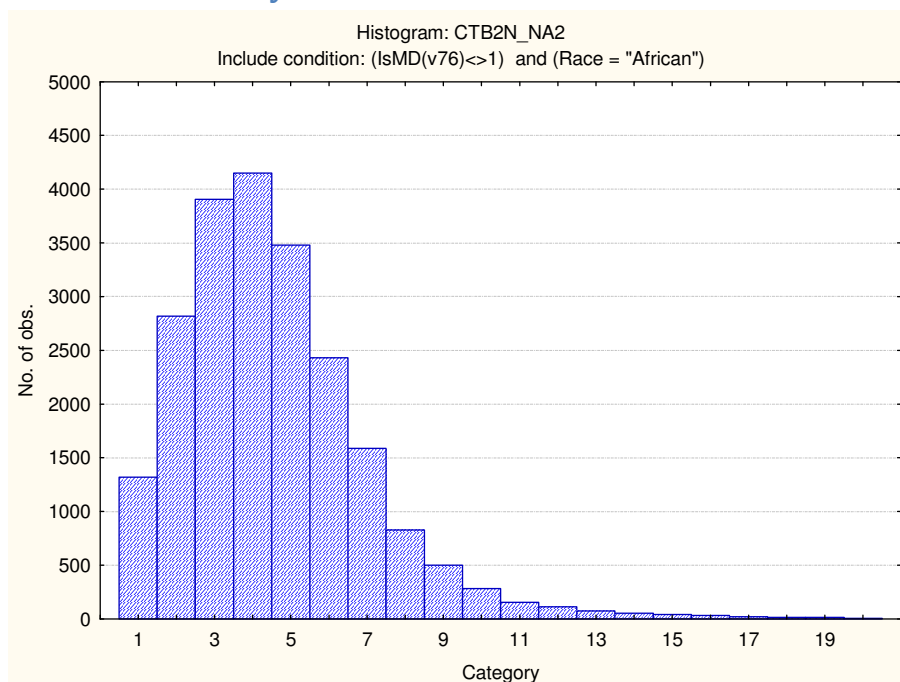
Scale	Mean	Standard deviation	Minimum score	Maximum score	N
Verbal Reasoning	12.21357	4.902109	1.000000	32.00000	2491
Numerical Ability	27.03023	6.238588	2.000000	62.00000	21733
Clerical Checking Numerical	9.26015	3.179128	1.000000	26.00000	23498
Clerical Checking Verbal	8.18020	3.262907	1.000000	26.00000	23468
Clerical Checking Total	17.40473	6.118541	1.000000	52.00000	23532
Spelling	14.50439	4.208509	2.000000	24.00000	684

Frequency distributions

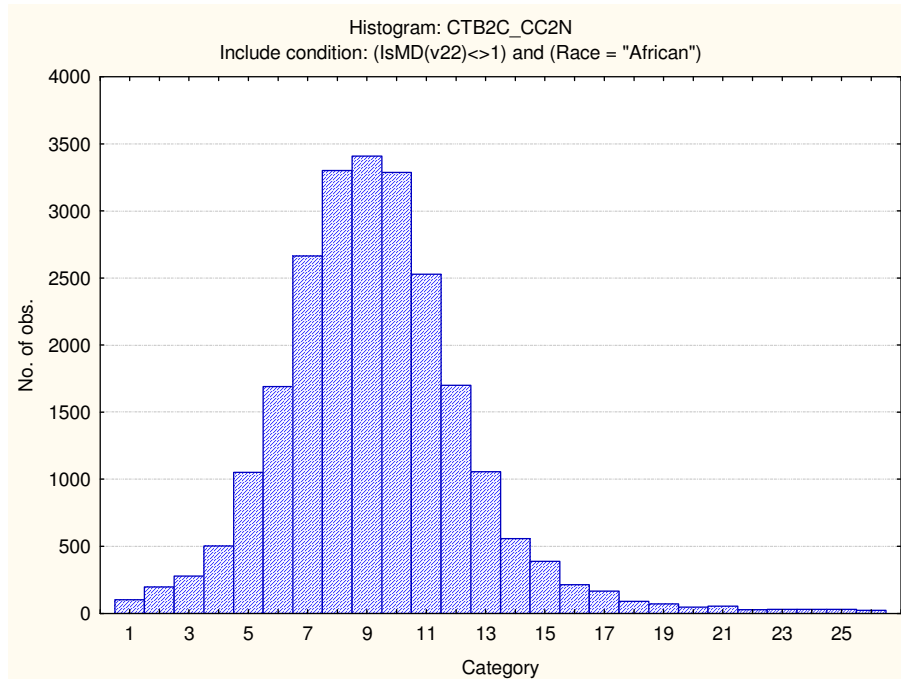
Verbal Reasoning



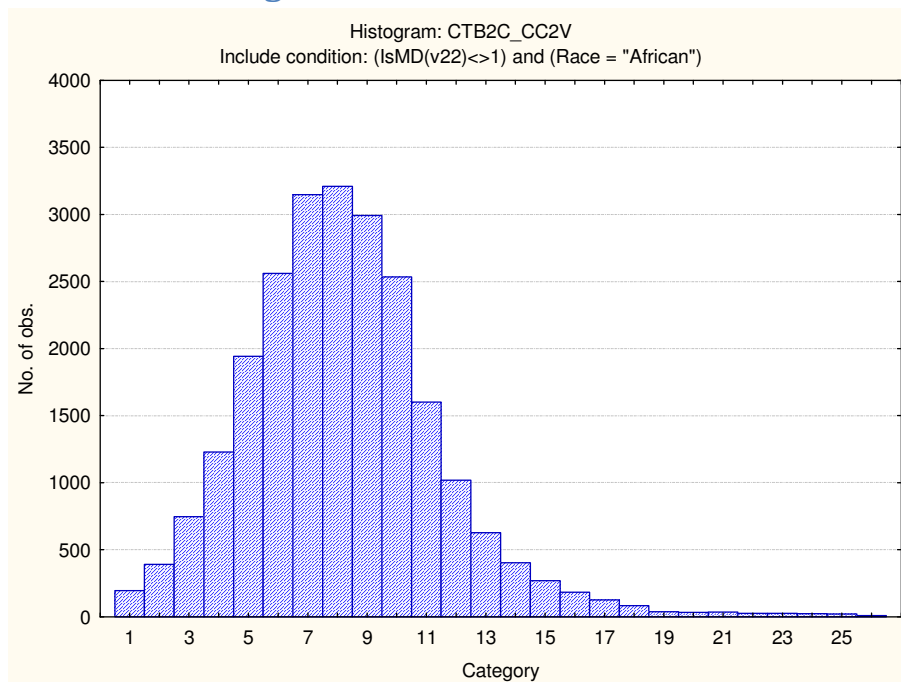
Numerical Ability



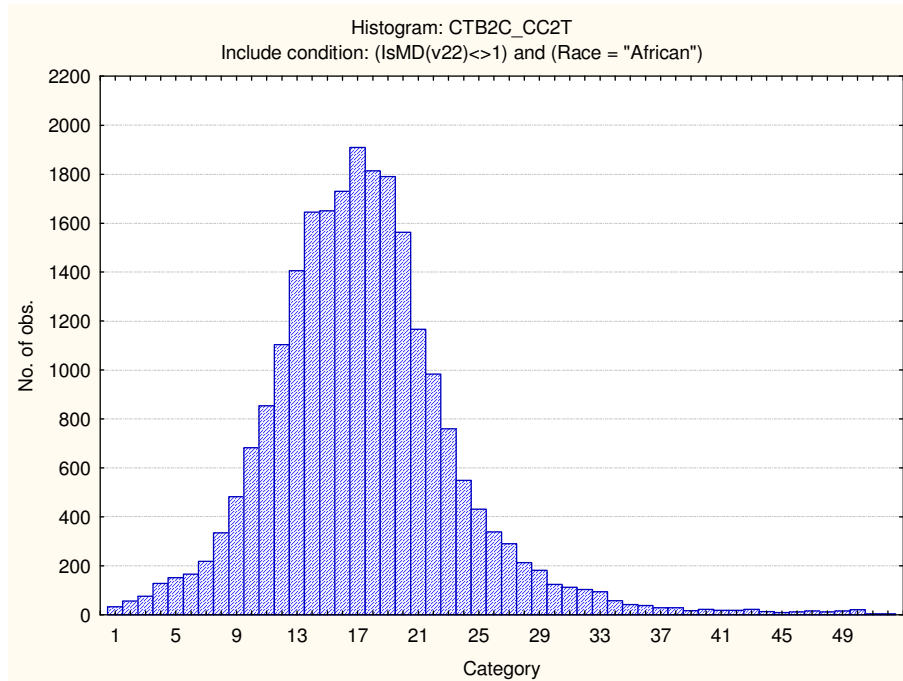
Clerical Checking Numerical



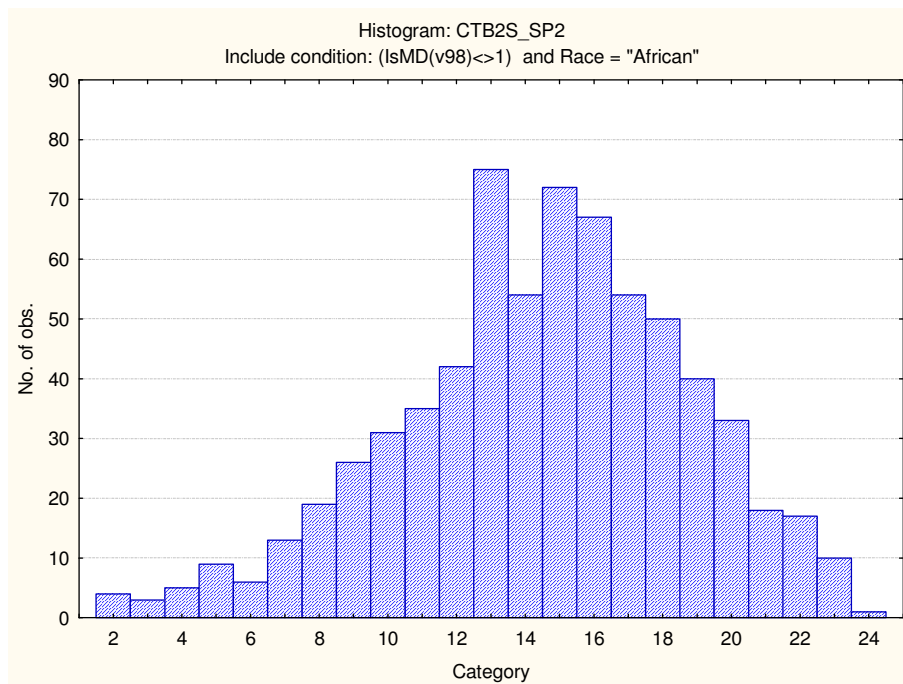
Clerical Checking Verbal



Clerical Checking Total Score



Spelling



Stanine table

	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-3	4-6	7-8	9-10	11-13	14-15	16-18	19-20	21-32
Numerical Ability	2-16	17-19	20-22	23-25	26-28	29-31	32-34	35-37	38-62
Clerical Checking - Numerical	1-3	4-5	6-6	7-8	9-10	11-11	12-13	14-14	15-26
Clerical Checking - Verbal	1-2	3-4	5-5	6-7	8-8	9-10	11-12	13-13	14-26
Clerical Checking - Total	1-6	7-9	10-12	13-15	16-18	19-21	22-25	26-28	29-52
Spelling	2-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22-24

Clerical Test Battery Norm Group: South Africans, race European, updated 2012

Composition of the sample

The sample consisted of South Africans who were tested on the Clerical Test Battery in the period leading up to February 2012, and who gave their race as European or White. Not all respondents completed the entire Clerical Test Battery, therefore the biographical composition of the sample is reported separately for the different subtests.

Composition of the sample: Verbal Reasoning Test

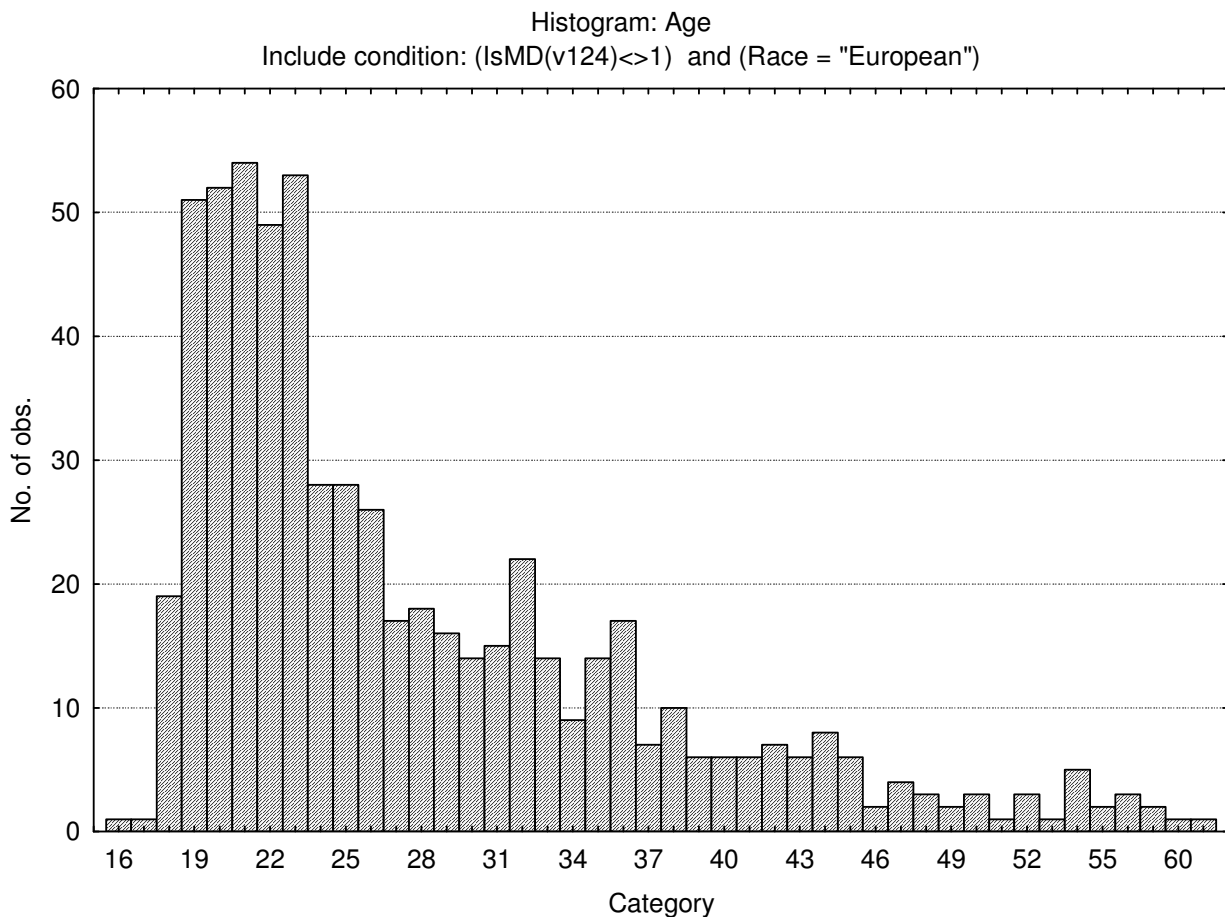
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	353	353	55.76619	55.7662
M	276	629	43.60190	99.3681
U	4	633	0.63191	100.0000
Missing	0	633	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	419	419	66.19273	66.1927
Under Gr 12	44	463	6.95103	73.1438
Degree	43	506	6.79305	79.9368
Certificate	9	515	1.42180	81.3586
Post Graduate	11	526	1.73776	83.0964
Technikon	29	555	4.58136	87.6777
Diploma	27	582	4.26540	91.9431
Missing	51	633	8.05687	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	281	281	44.39179	44.3918
isiXhosa	2	283	0.31596	44.7077
Sesotho	1	284	0.15798	44.8657
Sepedi	1	285	0.15798	45.0237
English	337	622	53.23855	98.2622
Missing	11	633	1.73776	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	4	4	0.63191	0.6319
English	337	341	53.23855	53.8705
Afrikaans	281	622	44.39179	98.2622
Missing	11	633	1.73776	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.74225	9.028212	16.00000	65.00000	613	20



Composition of the sample: Numerical Ability Test

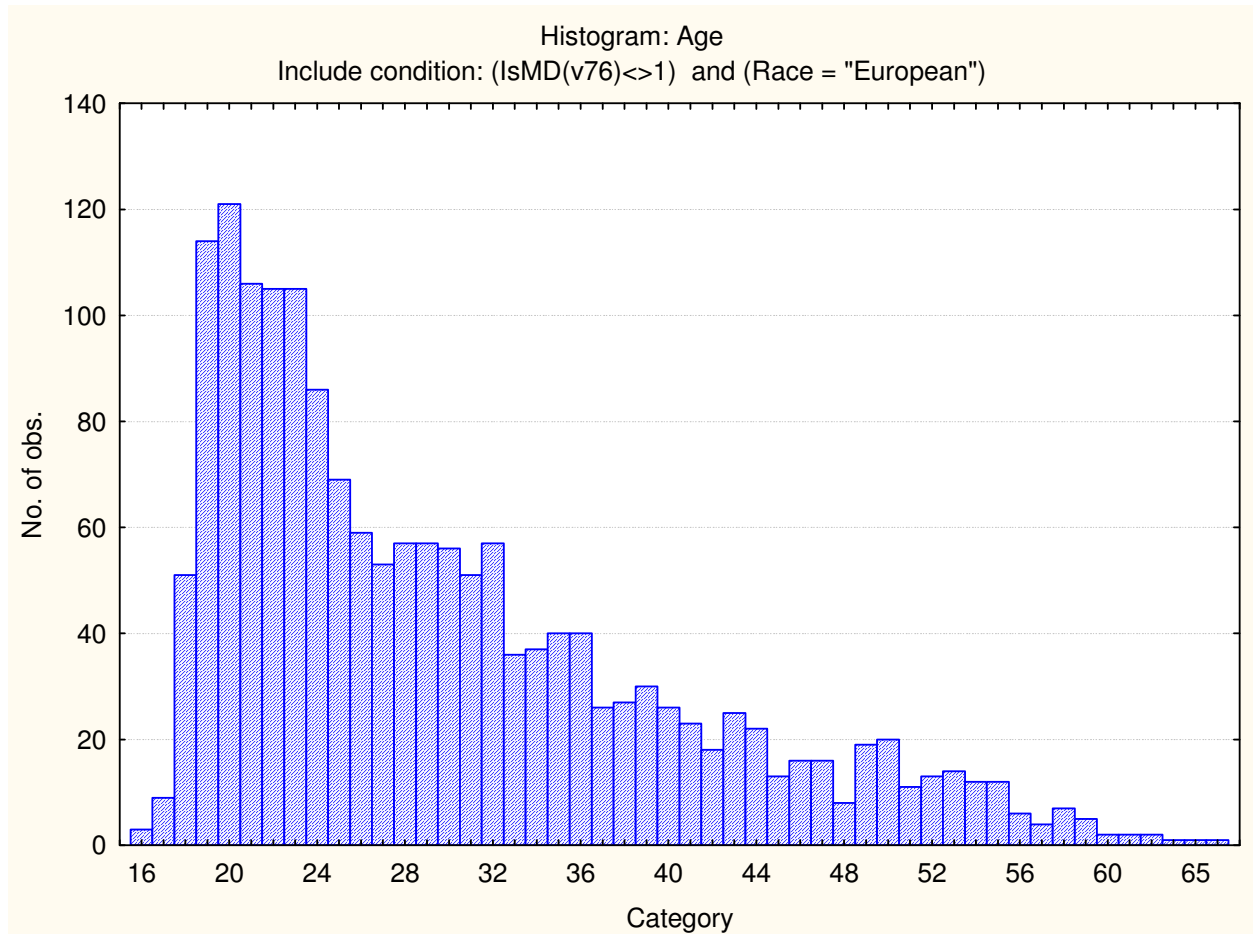
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	1163	1163	67.73442	67.7344
M	548	1711	31.91613	99.6506
U	6	1717	0.34945	100.0000
Missing	0	1717	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1091	1091	63.54106	63.5411
Under Gr 12	226	1317	13.16249	76.7036
Degree	79	1396	4.60105	81.3046
Certificate	56	1452	3.26150	84.5661
Post Graduate	25	1477	1.45603	86.0221
Technikon	41	1518	2.38789	88.4100
Diploma	111	1629	6.46476	94.8748
Missing	88	1717	5.12522	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	890	890	51.83460	51.8346
isiXhosa	5	895	0.29121	52.1258
Sesotho	1	896	0.05824	52.1840
Sepedi	9	905	0.52417	52.7082
English	742	1647	43.21491	95.9231
isiNdebele	1	1648	0.05824	95.9814
Missing	69	1717	4.01864	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	16	16	0.93186	0.9319
English	742	758	43.21491	44.1468
Afrikaans	890	1648	51.83460	95.9814
Missing	69	1717	4.01864	100.0000

Variable	Descriptive Statistics : Age					N	No.cases Missing
	Mean	Std.Dev	Minimum	Maximum			
Age	29.79811	10.21207	16.00000	73.00000		1694	23



Composition of the sample: Clerical Checking Test

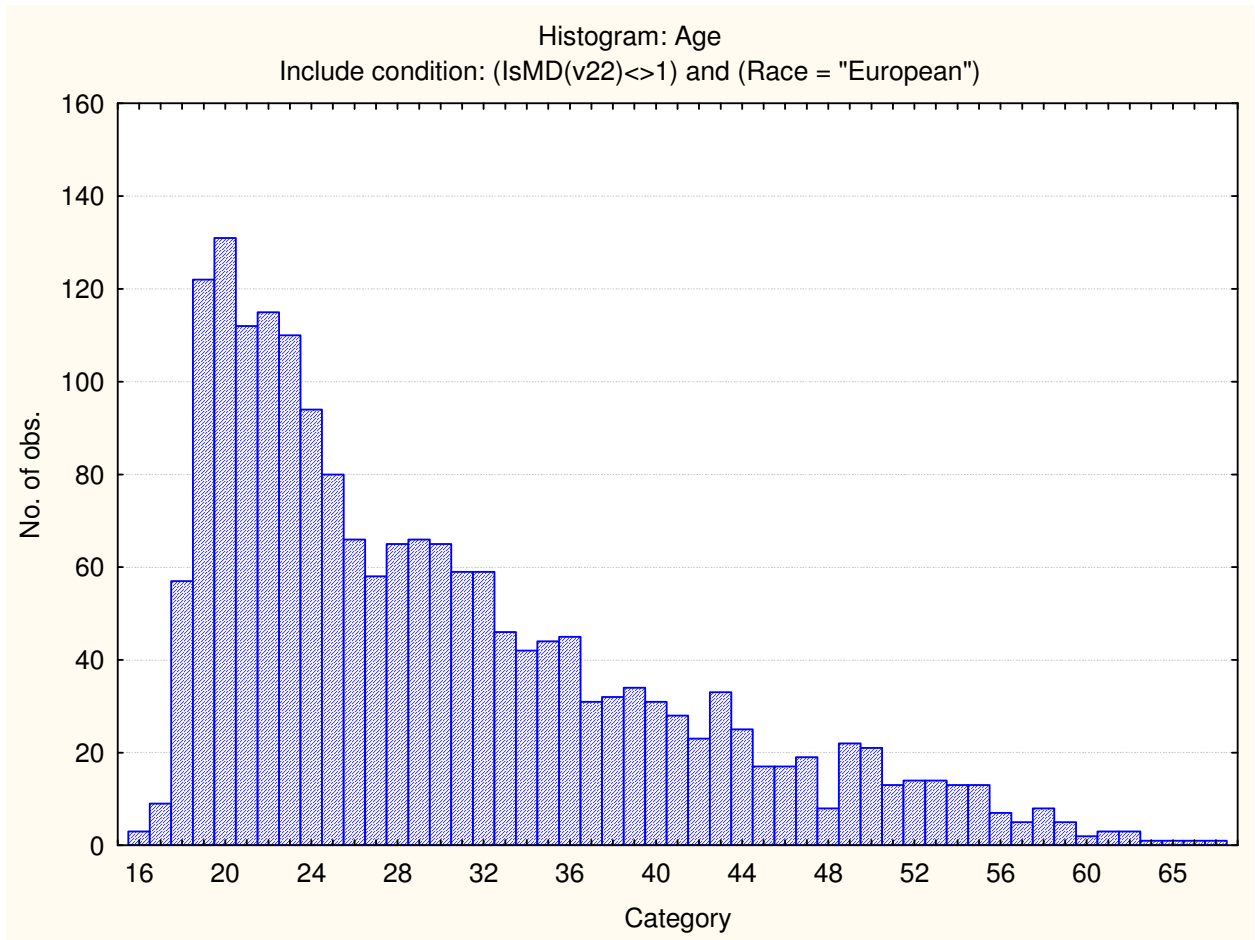
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	1235	1235	64.38999	64.3900
M	676	1911	35.24505	99.6350
U	7	1918	0.36496	100.0000
Missing	0	1918	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1182	1182	61.62669	61.6267
Under Gr 12	239	1421	12.46090	74.0876
Degree	91	1512	4.74453	78.8321
Certificate	57	1569	2.97185	81.8040
Post Graduate	35	1604	1.82482	83.6288
Technikon	72	1676	3.75391	87.3827
Diploma	123	1799	6.41293	93.7956
Missing	119	1918	6.20438	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	1022	1022	53.28467	53.2847
isiXhosa	7	1029	0.36496	53.6496
Sesotho	1	1030	0.05214	53.7018
Sepedi	9	1039	0.46924	54.1710
English	806	1845	42.02294	96.1940
isiNdebele	1	1846	0.05214	96.2461
Missing	72	1918	3.75391	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	18	18	0.93848	0.9385
English	806	824	42.02294	42.9614
Afrikaans	1022	1846	53.28467	96.2461
Missing	72	1918	3.75391	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.04807	10.24016	16.00000	73.00000	1893	25



Composition of the sample: Spelling test

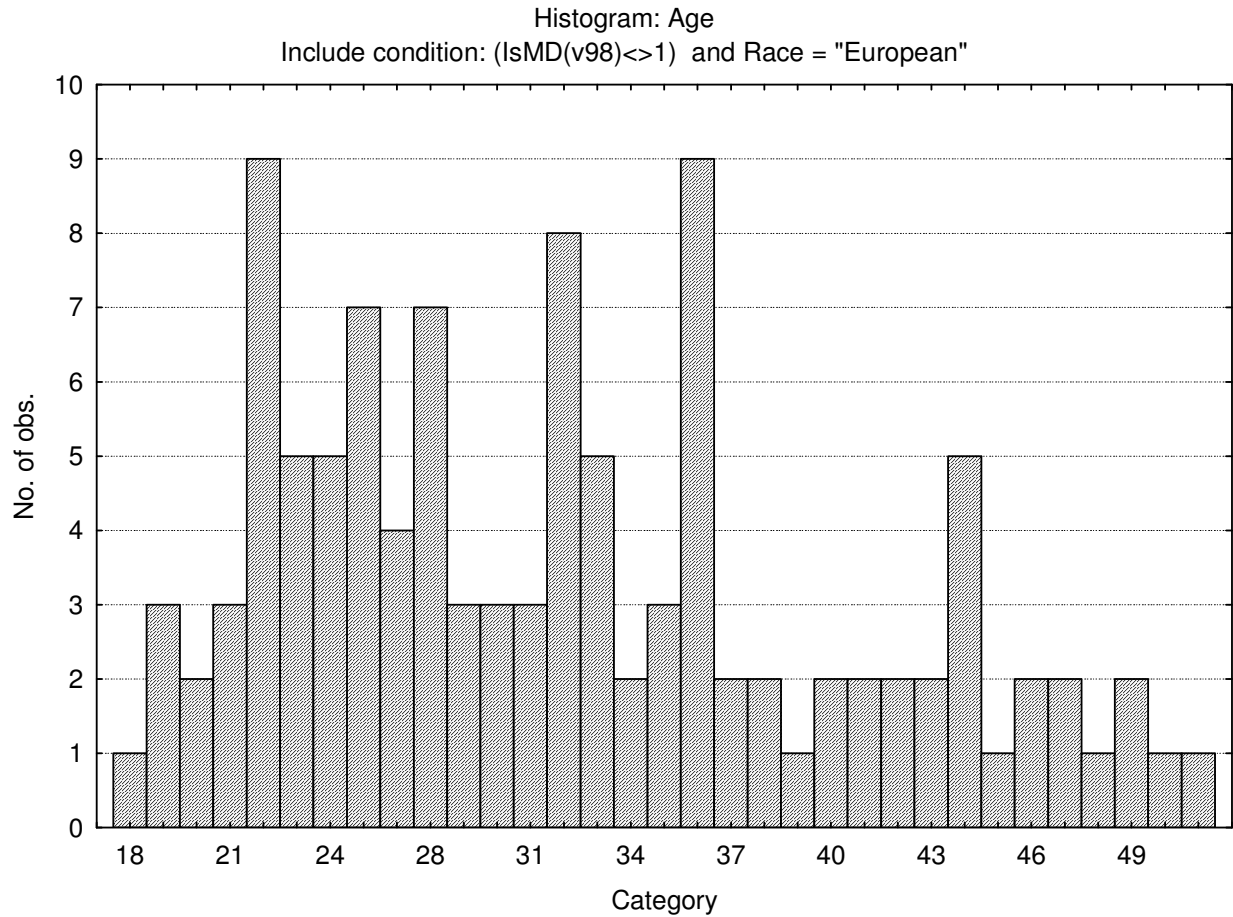
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	70	70	60.34483	60.3448
M	44	114	37.93103	98.2759
U	2	116	1.72414	100.0000
Missing	0	116	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	70	70	60.34483	60.3448
Under Gr 12	11	81	9.48276	69.8276
Degree	7	88	6.03448	75.8621
Certificate	4	92	3.44828	79.3103
Post Graduate	1	93	0.86207	80.1724
Technikon	5	98	4.31034	84.4828
Diploma	12	110	10.34483	94.8276
Missing	6	116	5.17241	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	61	61	52.58621	52.5862
Sesotho	1	62	0.86207	53.4483
English	50	112	43.10345	96.5517
Missing	4	116	3.44828	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1	1	0.86207	0.8621
English	50	51	43.10345	43.9655
Afrikaans	61	112	52.58621	96.5517
Missing	4	116	3.44828	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.85455	8.687053	18.00000	58.00000	110	6

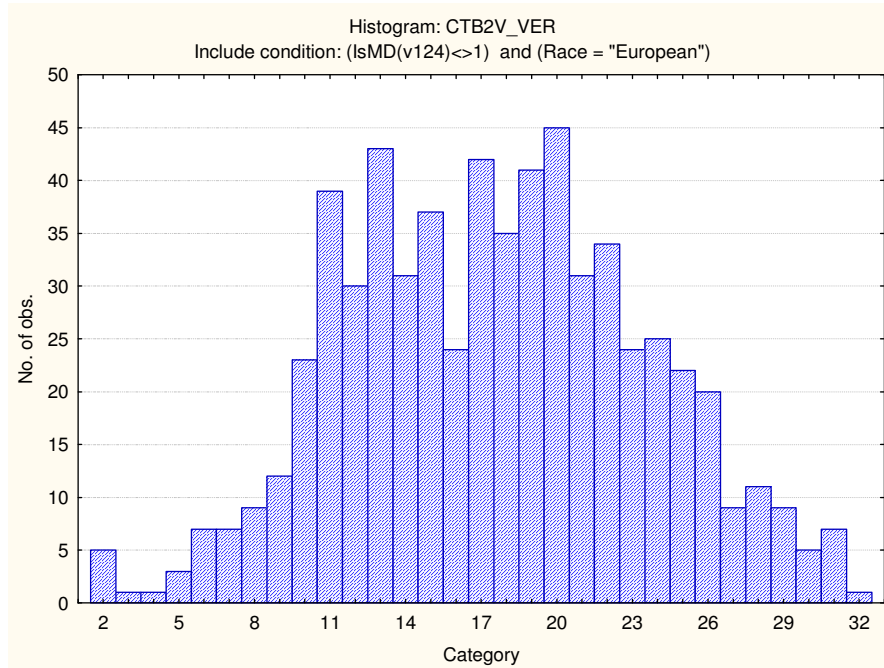


Descriptive statistics on Clerical Test Battery subtests

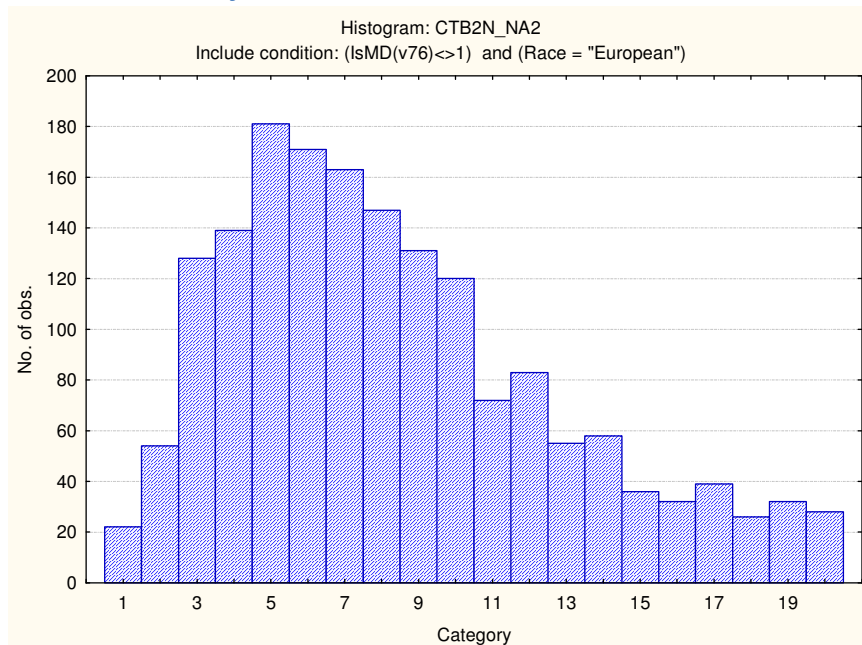
Scale	Mean	Standard deviation	Minimum score	Maximum score	N
Verbal Reasoning	17.54976	5.930863	2.000000	32.00000	633
Numerical Ability	8.365172	4.465488	1.000000	20.00000	1717
Clerical Checking Numerical	11.13347	4.014309	1.000000	26.00000	1918
Clerical Checking Verbal	10.33612	4.138058	1.000000	26.00000	1916
Clerical Checking Total	21.45881	7.946950	1.000000	52.00000	1918
Spelling	12.84483	5.139114	1.000000	24.00000	116

Frequency distributions

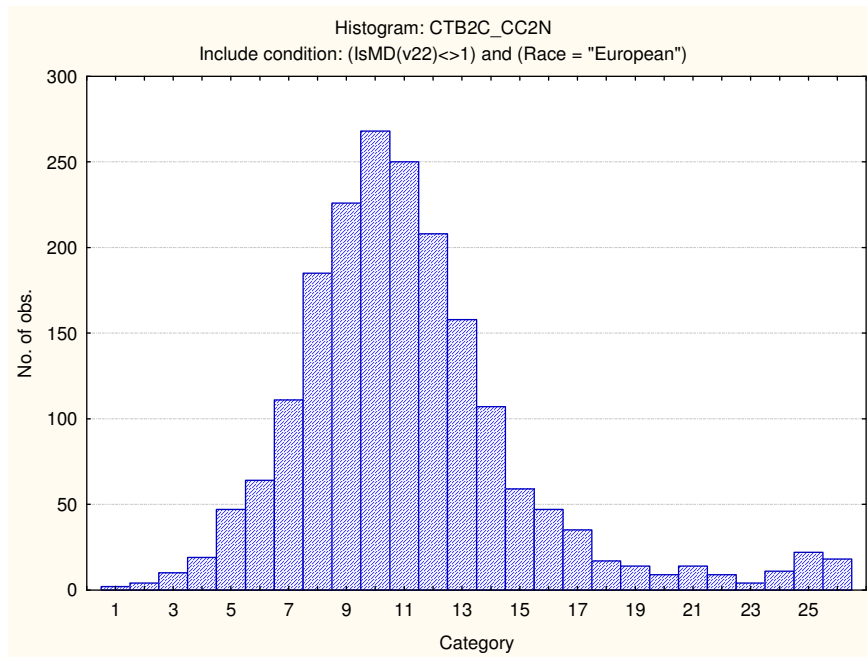
Verbal Reasoning Test



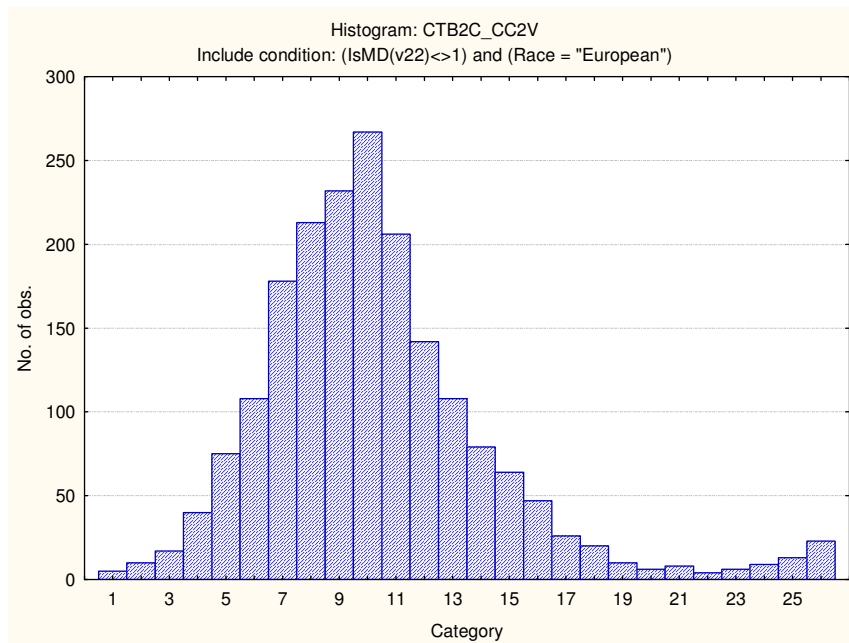
Numerical Ability test



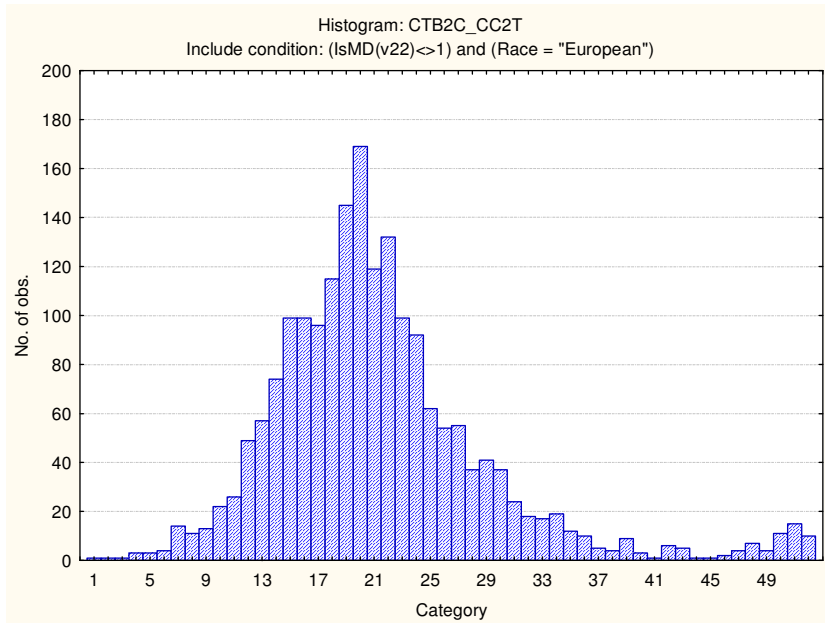
Clerical Checking: Numerical



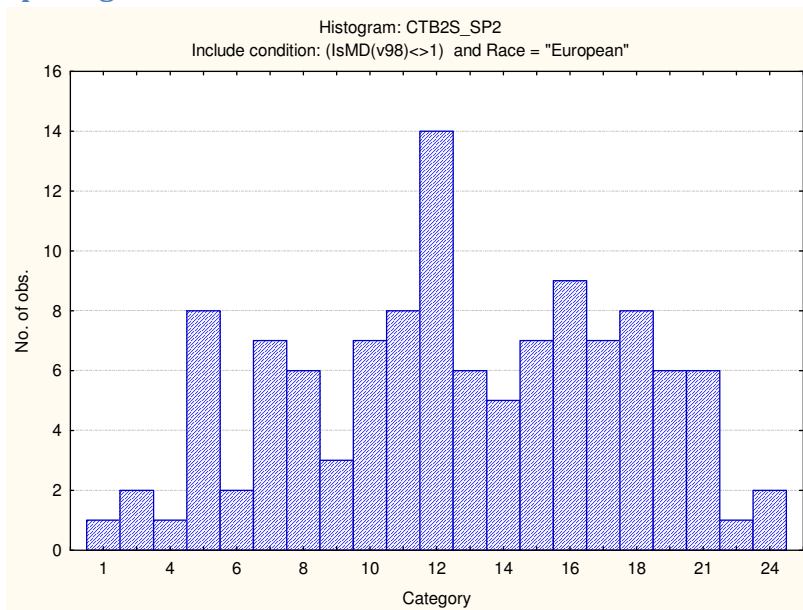
Clerical Checking: Verbal



Clerical Checking: Total score



Spelling test



Stanine table

	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	2-7	8-10	11-13	14-16	17-19	20-21	22-24	25-27	28-32
Numerical Ability	1-0	1-2	3-5	6-7	8-9	10-11	12-13	14-16	17-20
Clerical Checking - Numerical	1-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-26
Clerical Checking - Verbal	1-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-26
Clerical Checking - Total	1-7	8-11	12-15	16-19	20-23	24-27	28-31	32-35	36-52
Spelling	1-3	4-6	7-8	9-11	12-14	15-16	17-19	20-21	22-24

Clerical Test Battery Norm Group: South Africans, race Asian, updated 2012

Composition of the sample

The sample consisted of South Africans who gave their race as Asian or Indian, tested by Psytech SA and collaborators in the period leading up to February 2012. Not all respondents completed the entire Clerical Test Battery, therefore biographical particulars are reported separately for the different subtests of the Clerical Test Battery.

Composition of the sample: Verbal Reasoning

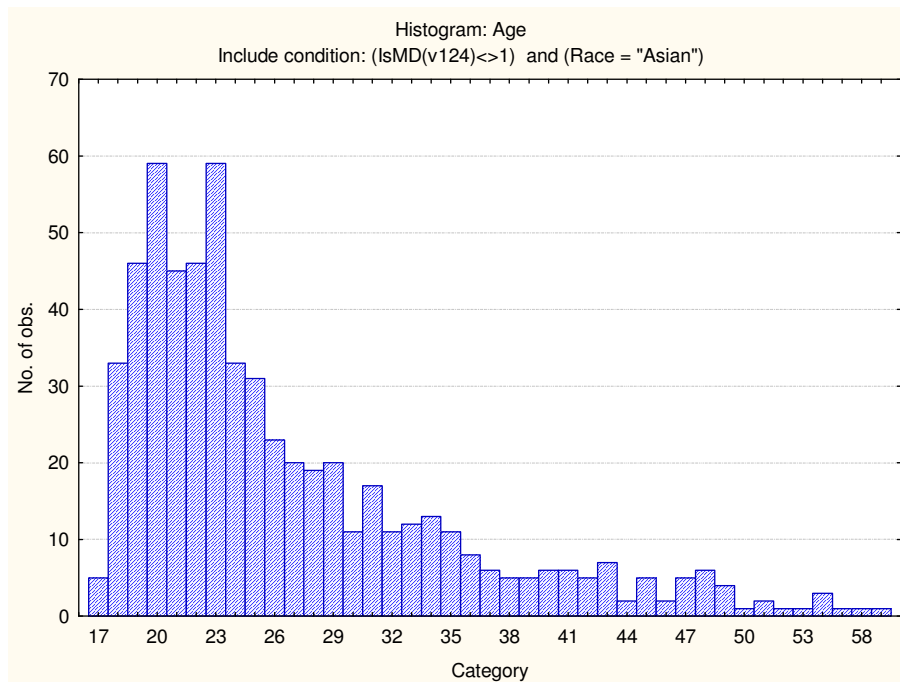
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	358	358	58.21138	58.2114
M	254	612	41.30081	99.5122
U	3	615	0.48780	100.0000
Missing	0	615	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	423	423	68.78049	68.7805
Under Gr 12	21	444	3.41463	72.1951
Degree	57	501	9.26829	81.4634
Certificate	3	504	0.48780	81.9512
Post Graduate	10	514	1.62602	83.5772
Technikon	32	546	5.20325	88.7805
Diploma	30	576	4.87805	93.6585
Missing	39	615	6.34146	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	5	5	0.81301	0.8130
Afrikaans	2	7	0.32520	1.1382
isiXhosa	1	8	0.16260	1.3008
Sesotho	2	10	0.32520	1.6260
Setswana	2	12	0.32520	1.9512
Sepedi	4	16	0.65041	2.6016
English	581	597	94.47154	97.0732
Missing	18	615	2.92683	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	14	14	2.27642	2.2764
English	581	595	94.47154	96.7480
Afrikaans	2	597	0.32520	97.0732
Missing	18	615	2.92683	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.65494	8.326085	17.00000	61.00000	597	18



Composition of the sample: Numerical Ability Test

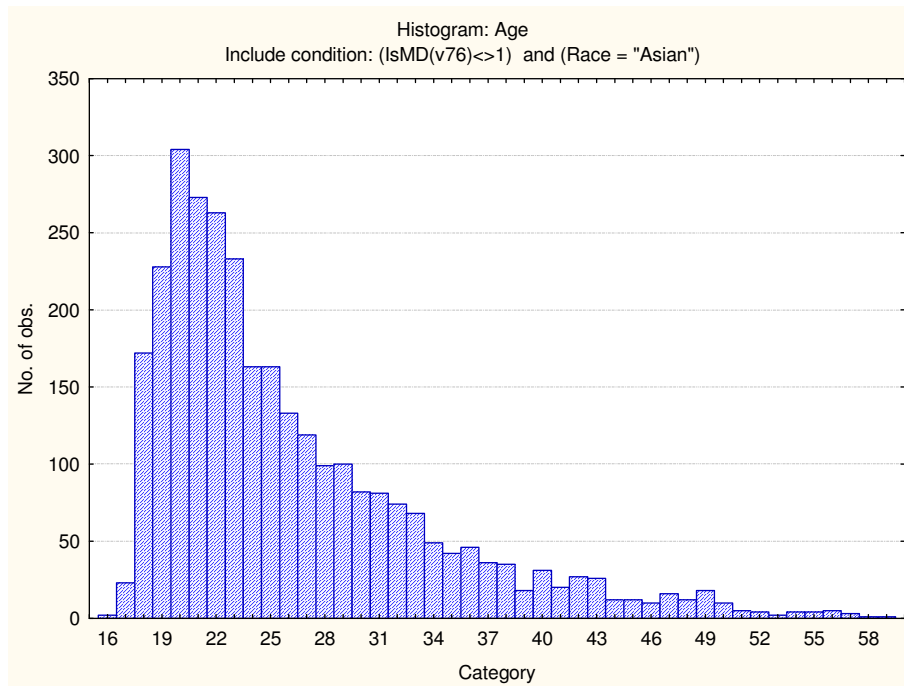
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	1984	1984	64.85780	64.8578
M	1072	3056	35.04413	99.9019
U	3	3059	0.09807	100.0000
Missing	0	3059	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	2167	2167	70.84014	70.8401
Under Gr 12	151	2318	4.93625	75.7764
Degree	146	2464	4.77280	80.5492
Certificate	32	2496	1.04609	81.5953
Post Graduate	57	2553	1.86335	83.4586
Technikon	108	2661	3.53057	86.9892
Diploma	319	2980	10.42824	97.4175
Missing	79	3059	2.58254	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	35	35	1.14416	1.1442
Afrikaans	8	43	0.26152	1.4057
isiXhosa	8	51	0.26152	1.6672
siSwati	2	53	0.06538	1.7326
Sesotho	5	58	0.16345	1.8960
Setswana	8	66	0.26152	2.1576
Sepedi	16	82	0.52305	2.6806
Xitsonga	1	83	0.03269	2.7133
English	2766	2849	90.42171	93.1350
isiNdebele	1	2850	0.03269	93.1677
Missing	209	3059	6.83230	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	76	76	2.48447	2.4845
English	2766	2842	90.42171	92.9062
Afrikaans	8	2850	0.26152	93.1677
Missing	209	3059	6.83230	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.08221	7.541662	16.00000	61.00000	3029	30



Composition of the sample: Clerical Checking Test

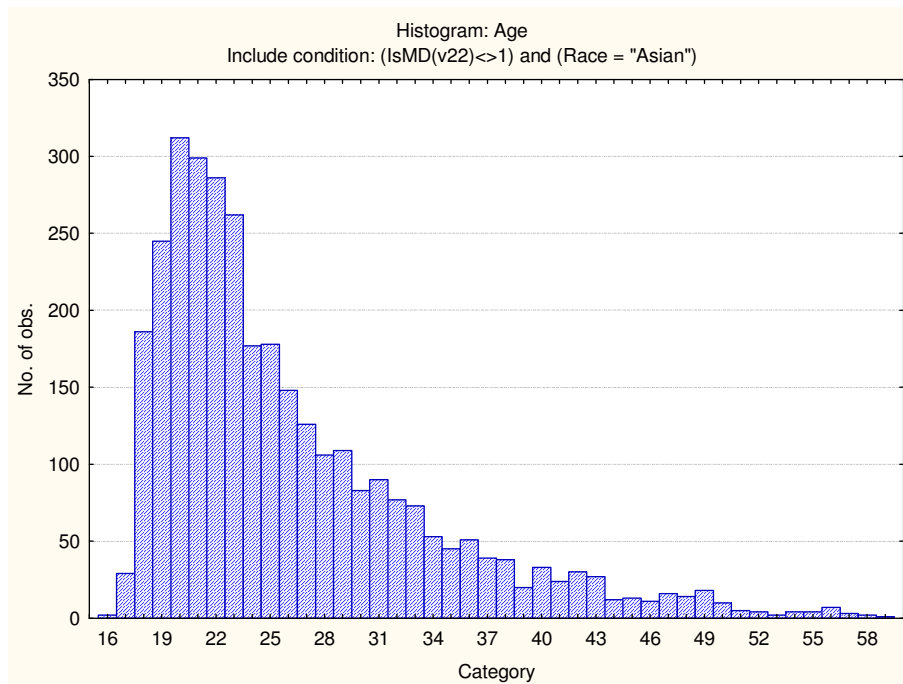
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2156	2156	65.21476	65.2148
M	1147	3303	34.69449	99.9093
U	3	3306	0.09074	100.0000
Missing	0	3306	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	2335	2335	70.62916	70.6292
Under Gr 12	164	2499	4.96068	75.5898
Degree	156	2655	4.71869	80.3085
Certificate	37	2692	1.11918	81.4277
Post Graduate	58	2750	1.75439	83.1821
Technikon	119	2869	3.59952	86.7816
Diploma	351	3220	10.61706	97.3987
Missing	86	3306	2.60133	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	36	36	1.08893	1.0889
Afrikaans	8	44	0.24198	1.3309
isiXhosa	10	54	0.30248	1.6334
siSwati	2	56	0.06050	1.6939
Sesotho	5	61	0.15124	1.8451
Setswana	8	69	0.24198	2.0871
Sepedi	17	86	0.51422	2.6013
Xitsonga	1	87	0.03025	2.6316
English	3000	3087	90.74410	93.3757
isiNdebele	2	3089	0.06050	93.4362
Missing	217	3306	6.56382	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	81	81	2.45009	2.4501
English	3000	3081	90.74410	93.1942
Afrikaans	8	3089	0.24198	93.4362
Missing	217	3306	6.56382	100.0000

Variable	Descriptive Statistics: Age					N	No.cases Missing
	Mean	Std.Dev	Minimum	Maximum			
Age	26.07514	7.534857	16.00000	61.00000		3274	32



Composition of the sample: Spelling Test

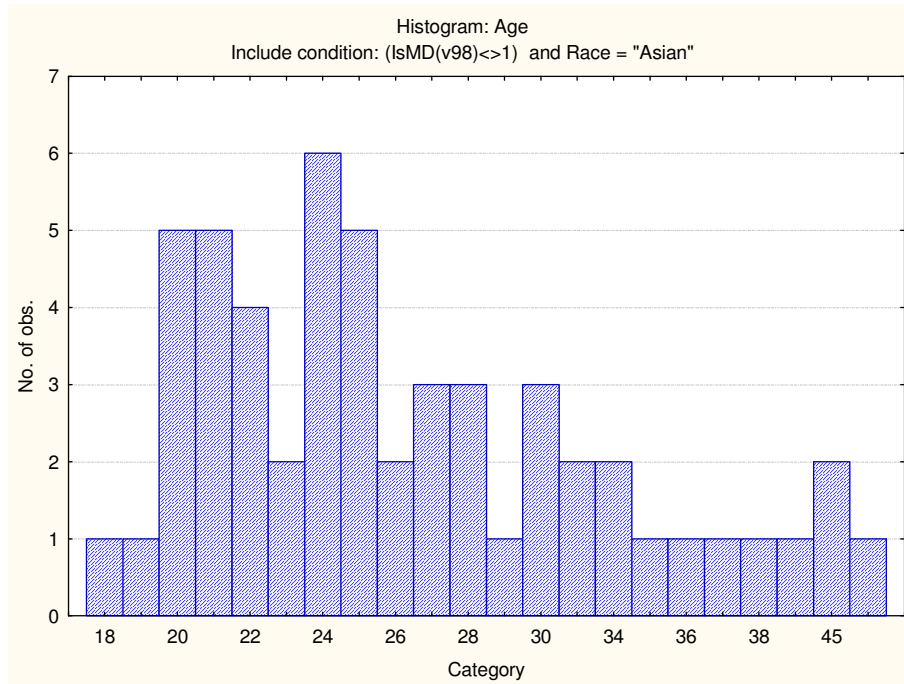
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	31	31	56.36364	56.3636
M	24	55	43.63636	100.0000
Missing	0	55	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	36	36	65.45455	65.4545
Under Gr 12	1	37	1.81818	67.2727
Degree	4	41	7.27273	74.5455
Post Graduate	2	43	3.63636	78.1818
Technikon	3	46	5.45455	83.6364
Diploma	5	51	9.09091	92.7273
Missing	4	55	7.27273	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	53	53	96.36364	96.3636
Missing	2	55	3.63636	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	53	53	96.36364	96.3636
Missing	2	55	3.63636	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.28302	7.432717	18.00000	52.00000	53	2

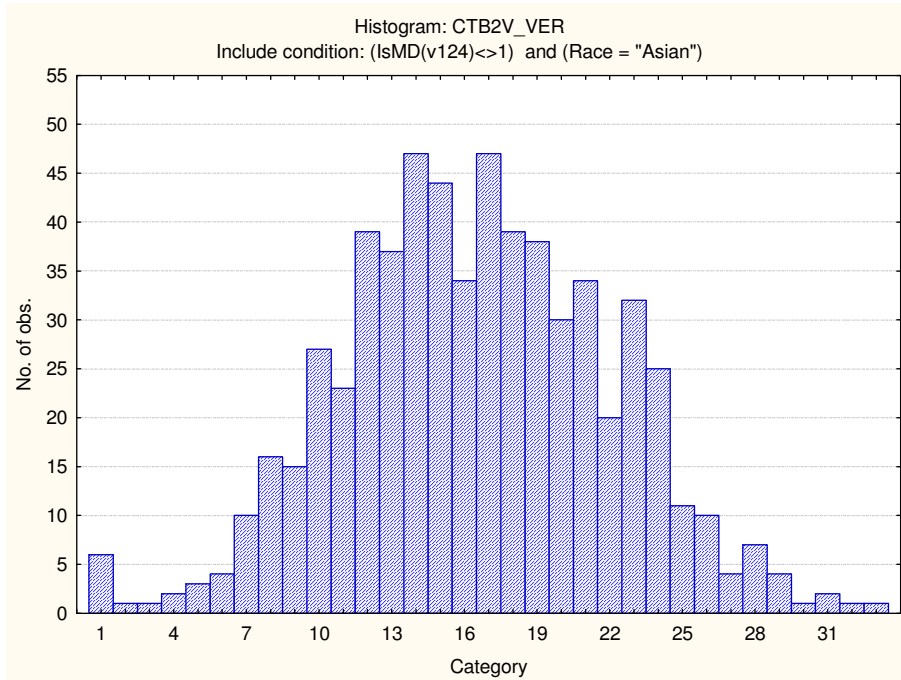


Descriptive statistics on Clerical Test Battery subtests

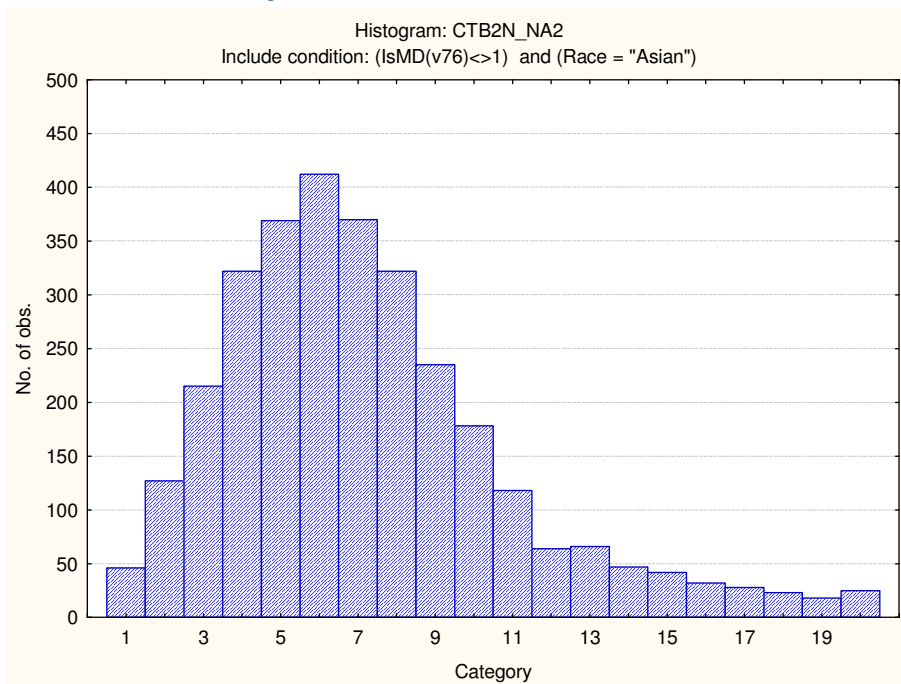
Scale	Mean	Standard deviation	Minimum score	Maximum score	N
Verbal Reasoning	16.50569	5.557184	1.000000	34.00000	615
Numerical Ability	7.213795	3.689563	1.000000	20.00000	3059
Clerical Checking Numerical	10.26370	3.379281	1.000000	26.00000	3303
Clerical Checking Verbal	9.61382	3.400675	1.000000	26.00000	3299
Clerical Checking Total	19.84785	6.570425	1.000000	52.00000	3306
Spelling	15.85455	4.904337	4.000000	22.00000	55

Frequency distributions

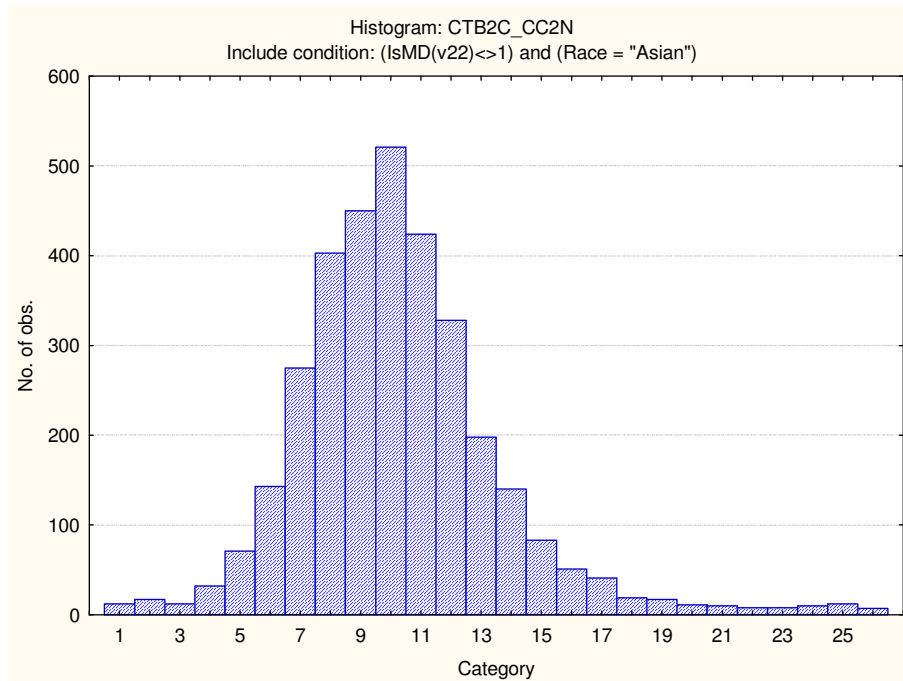
Verbal Reasoning



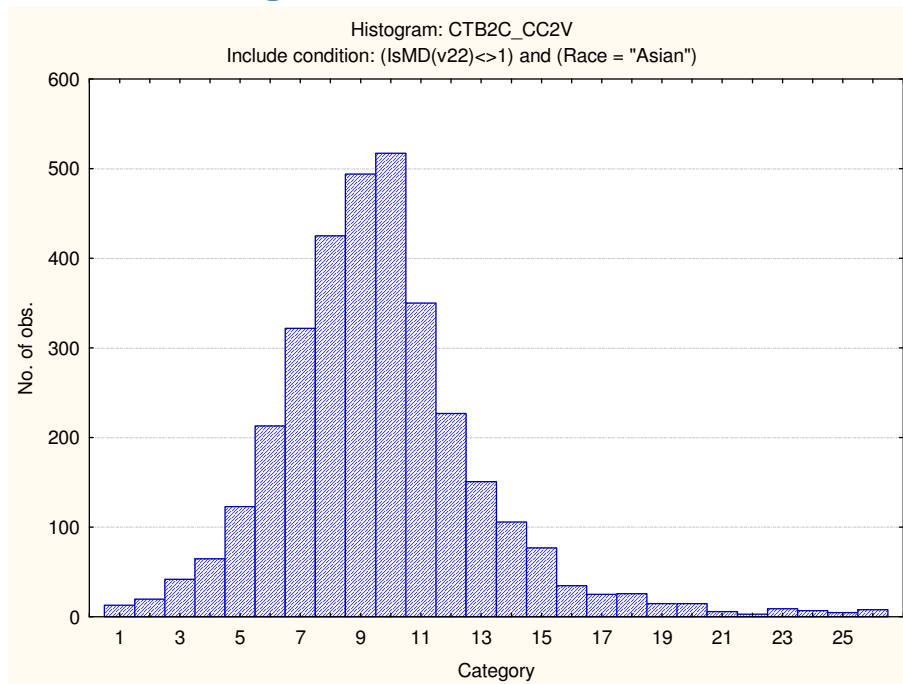
Numerical Ability



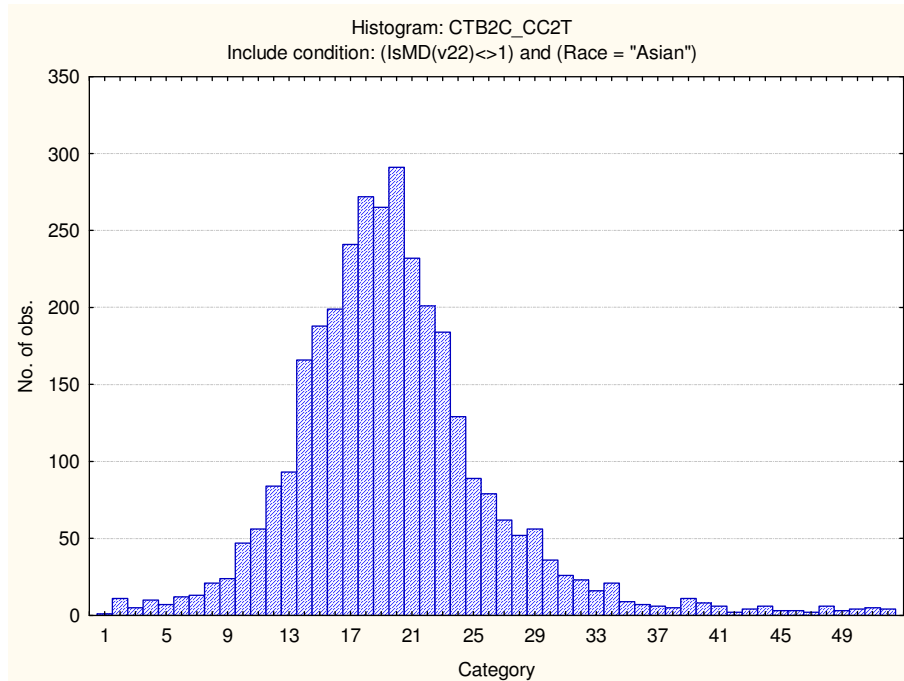
Clerical Checking Numerical



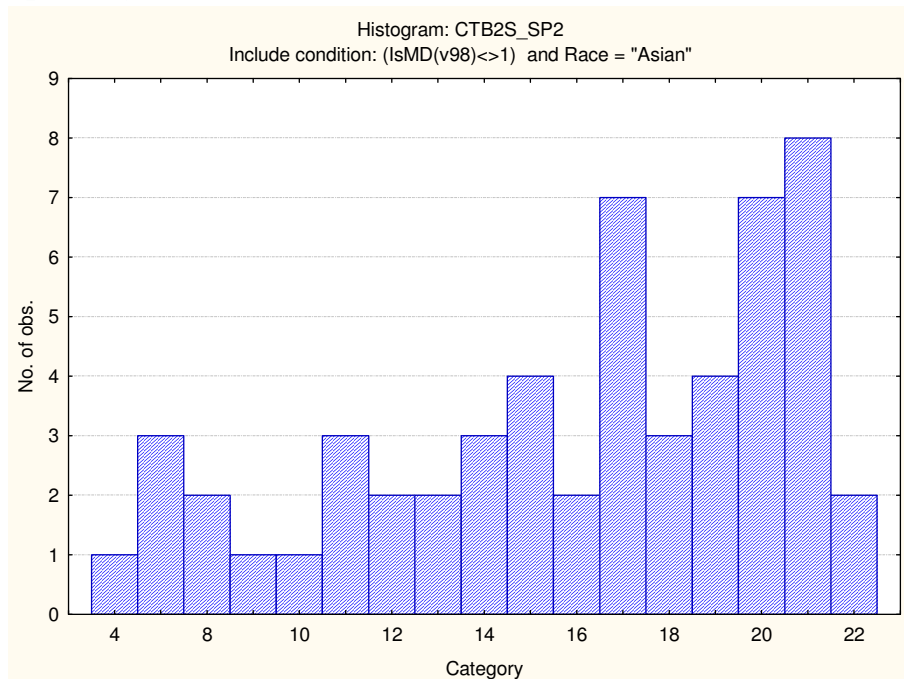
Clerical Checking Verbal



Clerical Checking Total Score



Spelling



Stanine table

	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-6	7-9	10-12	13-15	16-17	18-20	21-23	24-26	27-34
Numerical Ability	1-0	1-2	3-4	5-6	7-8	9-9	10-11	12-13	14-20
Clerical Checking - Numerical	1-4	5-6	7-7	8-9	10-11	12-12	13-14	15-16	17-26
Clerical Checking - Verbal	1-3	4-5	6-7	8-8	9-10	11-12	13-13	14-15	16-26
Clerical Checking - Total	1-8	9-11	12-14	15-18	19-21	22-24	25-28	29-31	32-52
Spelling	4-7	8-9	10-12	13-14	15-17	18-19	20-21	22-22	

Clerical Test Battery Norm group: South Africans, race Coloured, updated 2012

Composition of the sample

The sample consisted of South Africans, who gave their race as Coloured, tested by Psytech South Africa and collaborators in the period leading up to February 2012. Not all the respondents completed the entire Clerical Test Battery, therefore the biographical particulars are reported separately for the different subtests.

Composition of the sample: Verbal Reasoning Test

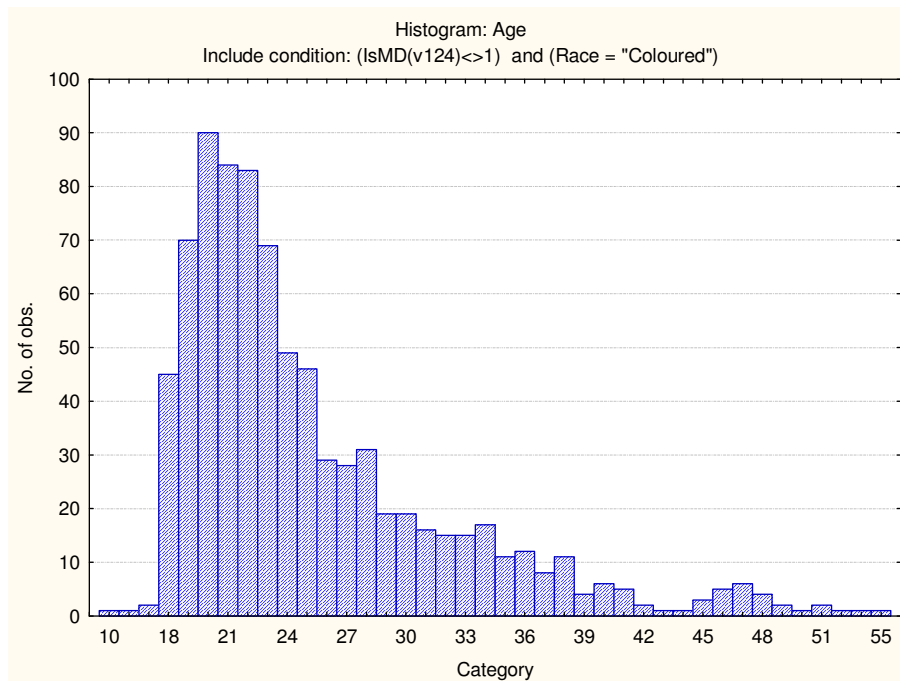
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	512	512	61.61252	61.6125
M	317	829	38.14681	99.7593
U	2	831	0.24067	100.0000
Missing	0	831	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	625	625	75.21059	75.2106
Under Gr 12	62	687	7.46089	82.6715
Degree	28	715	3.36943	86.0409
Certificate	9	724	1.08303	87.1239
Technikon	51	775	6.13718	93.2611
Diploma	26	801	3.12876	96.3899
Missing	30	831	3.61011	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	5	5	0.60168	0.6017
Afrikaans	401	406	48.25511	48.8568
isiXhosa	2	408	0.24067	49.0975
siSwati	1	409	0.12034	49.2178
Sepedi	2	411	0.24067	49.4585
English	397	808	47.77377	97.2323
Missing	23	831	2.76775	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	10	10	1.20337	1.2034
English	397	407	47.77377	48.9771
Afrikaans	401	808	48.25511	97.2323
Missing	23	831	2.76775	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	25.24877	6.902342	10.00000	55.00000	816	15



Sample composition: Numerical Ability Test

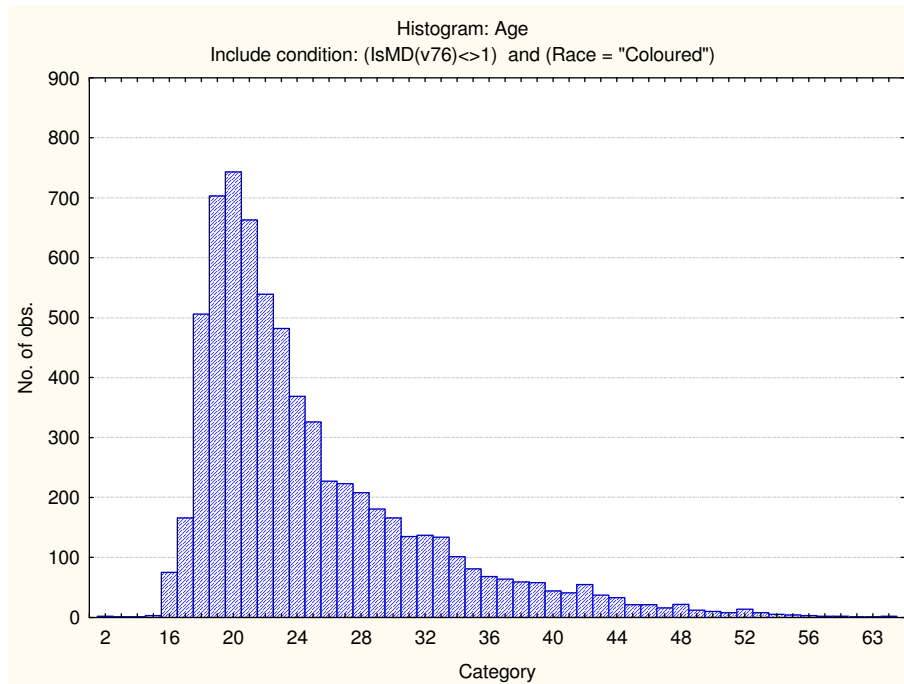
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	4766	4766	69.97504	69.9750
M	2039	6805	29.93687	99.9119
U	6	6811	0.08809	100.0000
Missing	0	6811	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	4586	4586	67.33226	67.3323
Under Gr 12	1031	5617	15.13728	82.4695
Degree	93	5710	1.36544	83.8350
Certificate	228	5938	3.34753	87.1825
Post Graduate	34	5972	0.49919	87.6817
Technikon	81	6053	1.18925	88.8709
Diploma	256	6309	3.75863	92.6296
Missing	502	6811	7.37043	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	19	19	0.27896	0.2790
Afrikaans	2644	2663	38.81956	39.0985
isiXhosa	47	2710	0.69006	39.7886
siSwati	2	2712	0.02936	39.8179
Sesotho	4	2716	0.05873	39.8767
Setswana	10	2726	0.14682	40.0235
Sepedi	18	2744	0.26428	40.2878
Tshivenda	2	2746	0.02936	40.3171
English	3518	6264	51.65174	91.9689
isiNdebele	1	6265	0.01468	91.9836
Missing	546	6811	8.01644	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	103	103	1.51226	1.5123
English	3518	3621	51.65174	53.1640
Afrikaans	2644	6265	38.81956	91.9836
Missing	546	6811	8.01644	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	24.78992	7.109184	2.000000	64.00000	6783	28



Sample composition: Clerical Checking Test

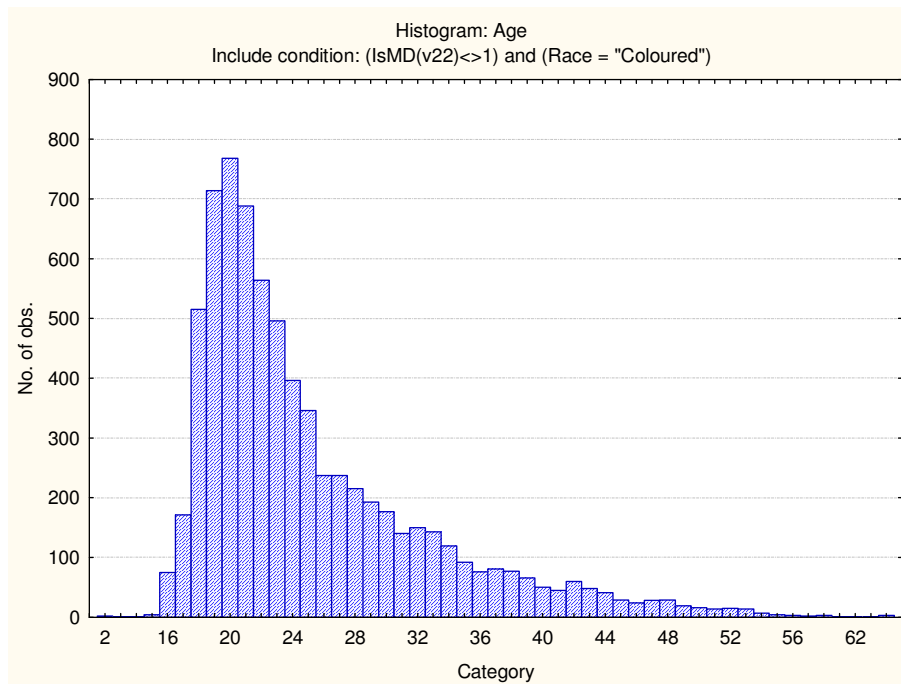
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	4892	4892	67.63445	67.6345
M	2335	7227	32.28259	99.9170
U	6	7233	0.08295	100.0000
Missing	0	7233	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	4753	4753	65.71271	65.7127
Under Gr 12	1161	5914	16.05143	81.7641
Degree	104	6018	1.43785	83.2020
Certificate	236	6254	3.26282	86.4648
Post Graduate	36	6290	0.49772	86.9625
Technikon	122	6412	1.68671	88.6492
Diploma	275	6687	3.80202	92.4513
Missing	546	7233	7.54873	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	19	19	0.26268	0.2627
Afrikaans	2903	2922	40.13549	40.3982
isiXhosa	49	2971	0.67745	41.0756
siSwati	2	2973	0.02765	41.1033
Sesotho	5	2978	0.06913	41.1724
Setswana	10	2988	0.13826	41.3107
Sepedi	18	3006	0.24886	41.5595
Tshivenda	2	3008	0.02765	41.5872
English	3668	6676	50.71201	92.2992
isiNdebele	1	6677	0.01383	92.3130
Missing	556	7233	7.68699	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	106	106	1.46551	1.4655
English	3668	3774	50.71201	52.1775
Afrikaans	2903	6677	40.13549	92.3130
Missing	556	7233	7.68699	100.0000

Variable	Descriptive Statistics					N	No.cases Missing
	Mean	Std.Dev	Minimum	Maximum			
Age	25.19150	7.501860	2.000000	64.00000		7201	32



Sample composition: Spelling test

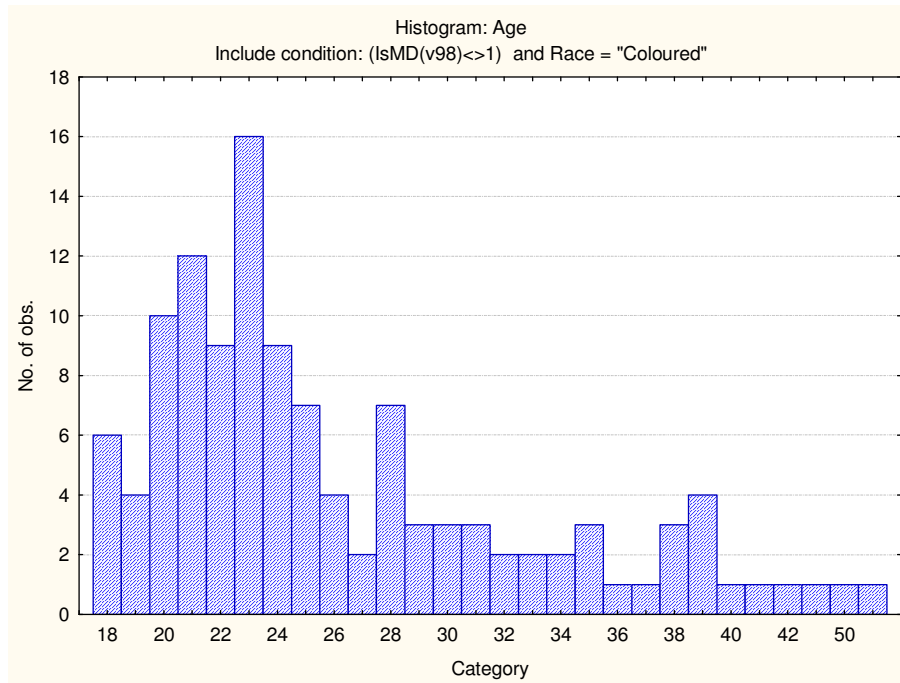
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	71	71	58.19672	58.1967
M	51	122	41.80328	100.0000
Missing	0	122	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	81	81	66.39344	66.3934
Under Gr 12	9	90	7.37705	73.7705
Degree	10	100	8.19672	81.9672
Technikon	6	106	4.91803	86.8852
Diploma	11	117	9.01639	95.9016
Missing	5	122	4.09836	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	51	51	41.80328	41.8033
Sepedi	2	53	1.63934	43.4426
English	61	114	50.00000	93.4426
Missing	8	122	6.55738	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	2	2	1.63934	1.6393
English	61	63	50.00000	51.6393
Afrikaans	51	114	41.80328	93.4426
Missing	8	122	6.55738	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.33613	7.086963	18.00000	51.00000	119	3

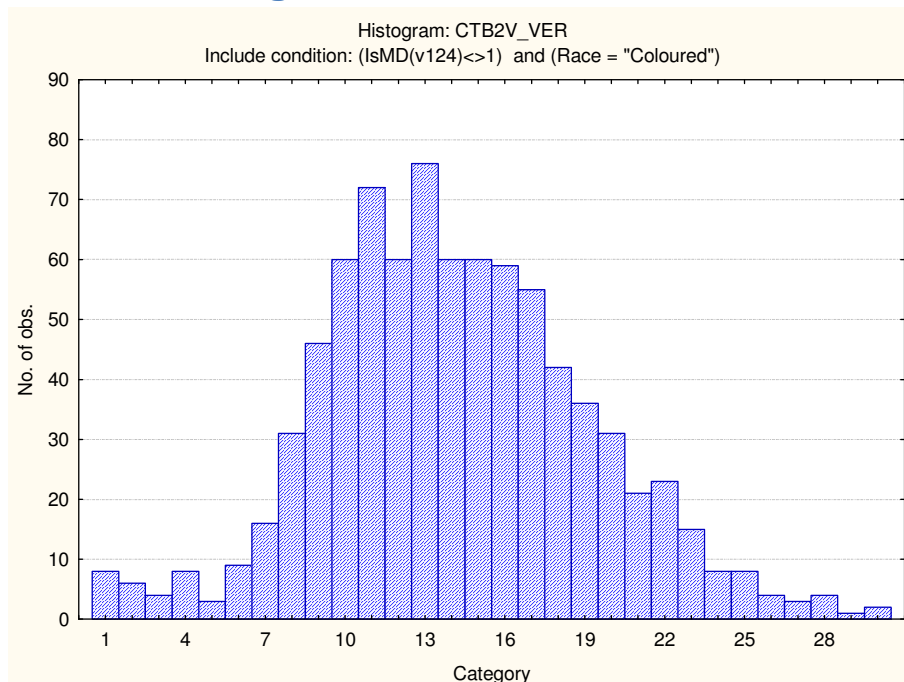


Descriptive statistics on Clerical Test Battery subtests

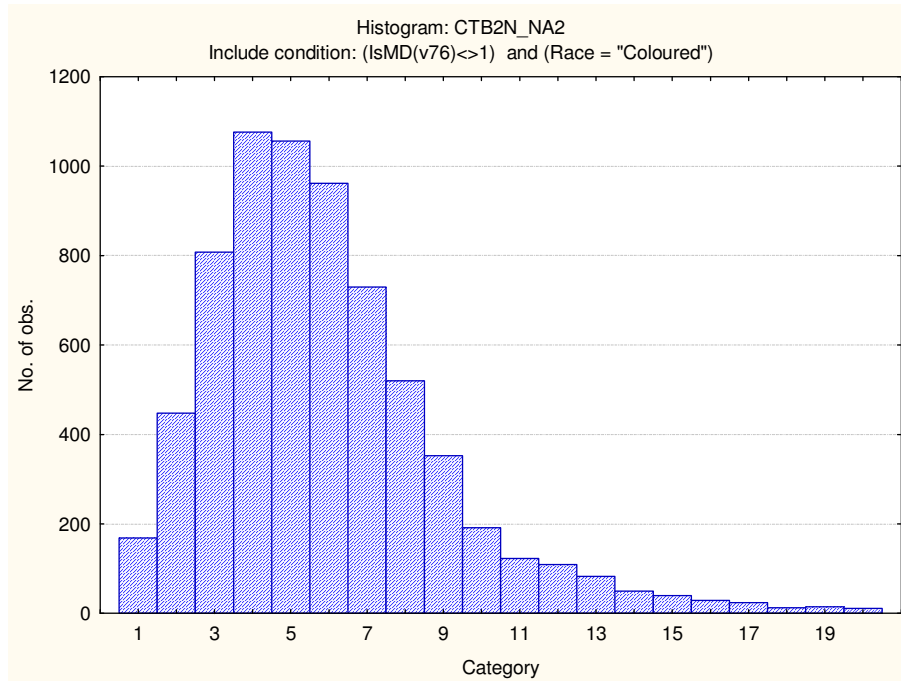
Scale	Mean	Standard deviation	Minimum score	Maximum score	N
Verbal Reasoning	14.14681	5.011083	1.000000	30.00000	831
Numerical Ability	5.852738	3.036955	1.000000	20.00000	6811
Clerical Checking Numerical	9.74879	2.967280	1.000000	26.00000	7221
Clerical Checking Verbal	8.83499	3.040392	1.000000	26.00000	7224
Clerical Checking Total	18.55662	5.729391	1.000000	52.00000	7233
Spelling	26.33613	7.086963	18.00000	51.00000	119

Frequency distributions

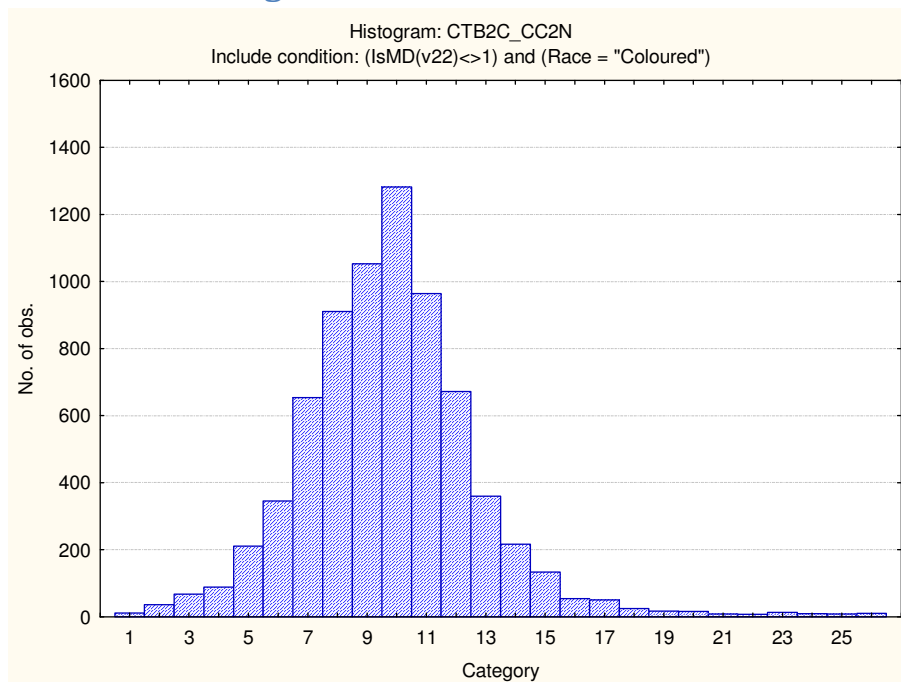
Verbal Reasoning



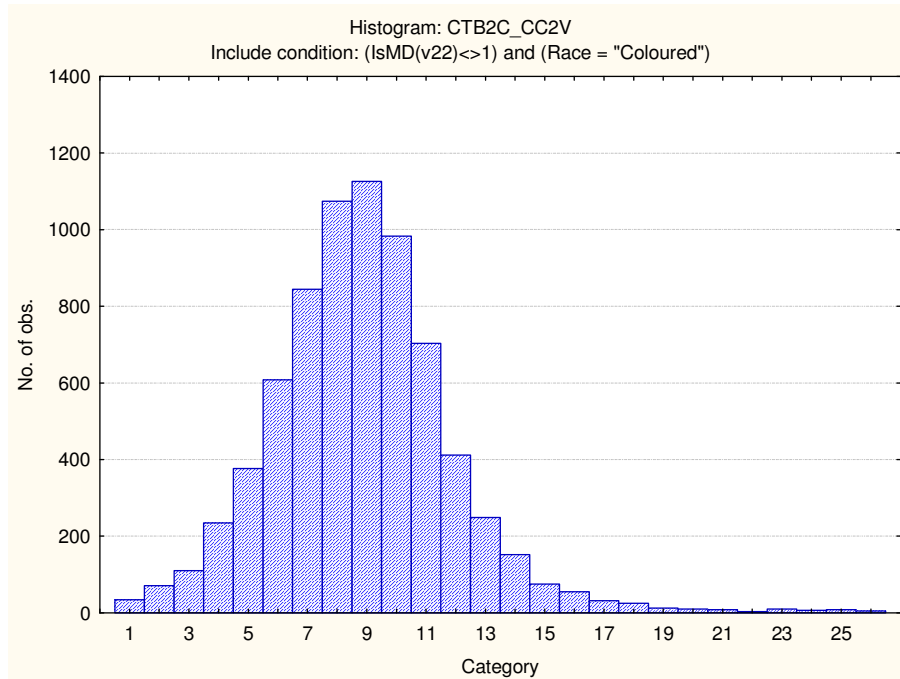
Numerical Ability



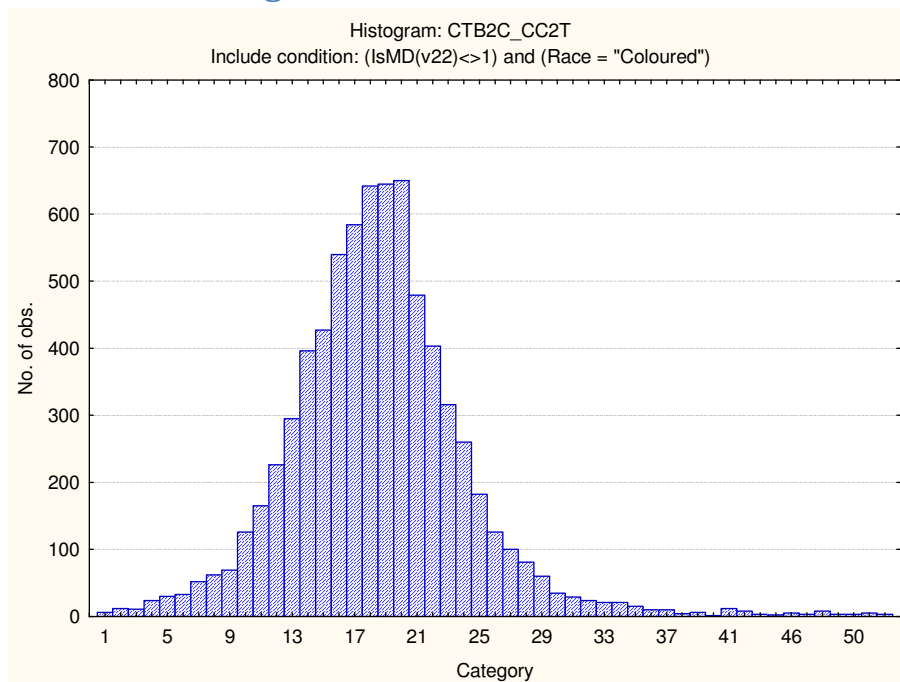
Clerical Checking Numerical



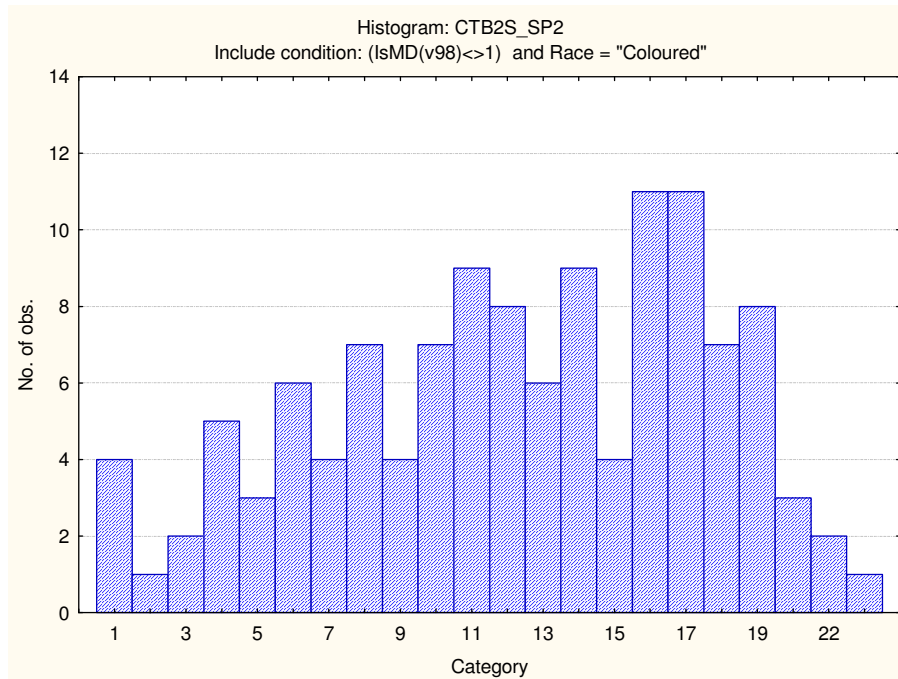
Clerical Checking Verbal



Clerical Checking Total



Spelling



Stanine table

	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-5	6-7	8-10	11-12	13-15	16-17	18-20	21-22	23-30
Numerical Ability	1-0	1-2	3-3	4-5	6-6	7-8	9-9	10-11	12-20
Clerical Checking - Numerical	1-4	5-6	7-7	8-9	10-10	11-11	12-13	14-14	15-26
Clerical Checking - Verbal	1-3	4-5	6-6	7-8	9-9	10-11	12-12	13-14	15-26
Clerical Checking - Total	1-8	9-11	12-14	15-17	18-19	20-22	23-25	26-28	29-52
Spelling	18-17	18-18	19-21	22-24	25-28	29-31	32-35	36-38	39-51

Clerical Test Battery Norm Group: SA English speakers, updated 2012

Composition of the sample

The sample consisted of South Africans who declared their home language to be English, tested on the Clerical Test Battery by Psytech South African and collaborators during the period leading up to February 2012. Not all respondents completed the entire Clerical Test Battery, therefore the biographical particulars are reported separately for the different subtests.

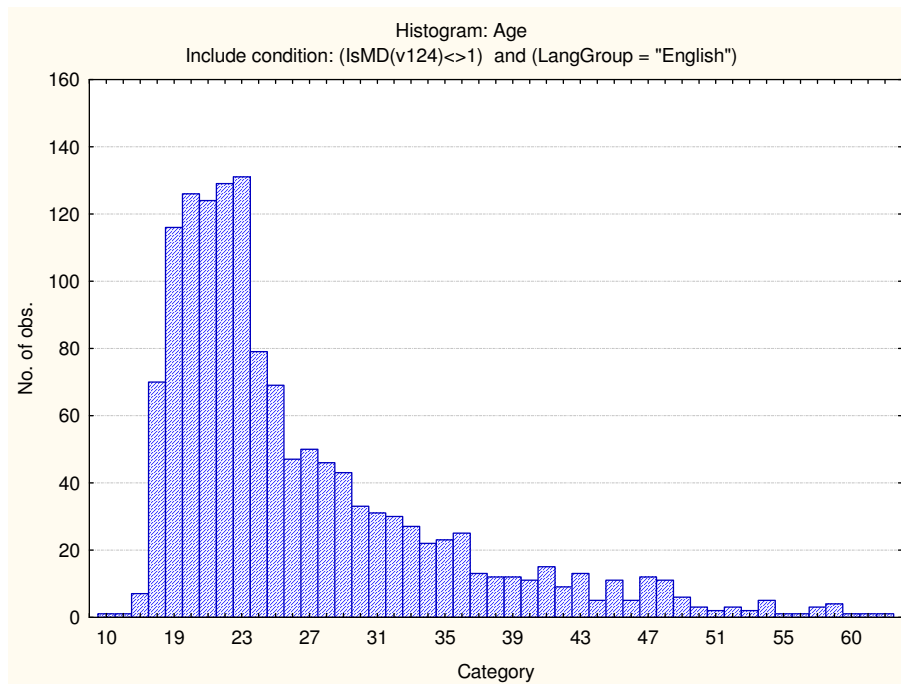
Composition of the sample: Verbal Reasoning Test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	842	842	59.00491	59.0049
M	577	1419	40.43448	99.4394
U	8	1427	0.56062	100.0000
Missing	0	1427	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	998	998	69.93693	69.9369
Under Gr 12	80	1078	5.60617	75.5431
Degree	113	1191	7.91871	83.4618
Certificate	7	1198	0.49054	83.9523
Post Graduate	19	1217	1.33146	85.2838
Technikon	78	1295	5.46601	90.7498
Diploma	57	1352	3.99439	94.7442
Missing	75	1427	5.25578	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	397	397	27.82060	27.8206
European	337	734	23.61598	51.4366
Asian	581	1315	40.71479	92.1514
African	84	1399	5.88648	98.0378
Missing	28	1427	1.96216	100.0000

Variable	Descriptive Statistics: Age					N	No.cases Missing
	Mean	Std.Dev	Minimum	Maximum			
Age	26.42170	8.199063	10.00000	65.00000		1392	35



Composition of the sample: Numerical Ability Test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	842	842	59.00491	59.0049
M	577	1419	40.43448	99.4394
U	8	1427	0.56062	100.0000
Missing	0	1427	0.00000	100.0000

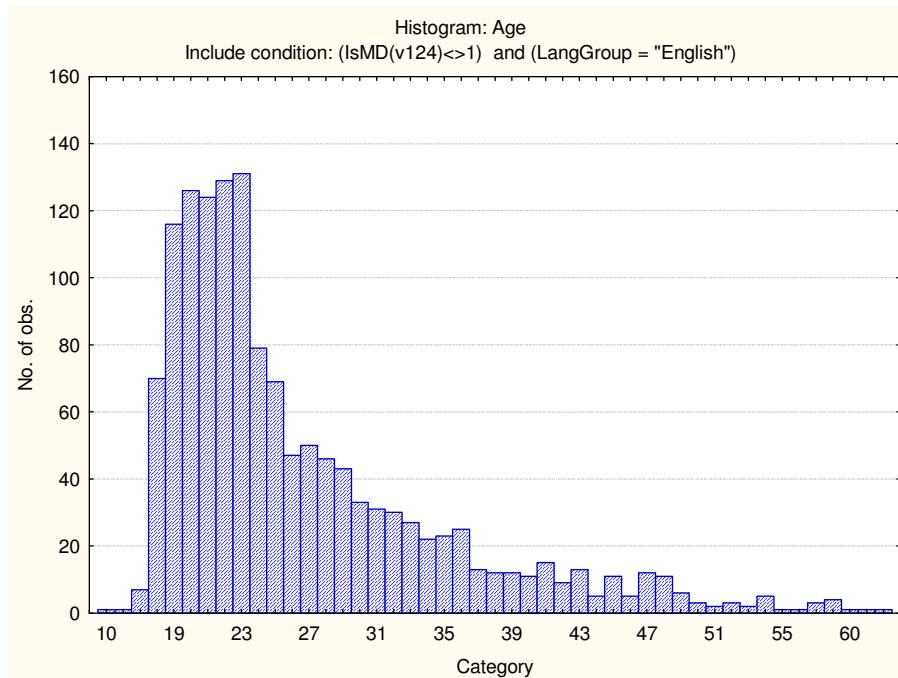
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	998	998	69.93693	69.9369
Under Gr 12	80	1078	5.60617	75.5431
Degree	113	1191	7.91871	83.4618
Certificate	7	1198	0.49054	83.9523
Post Graduate	19	1217	1.33146	85.2838
Technikon	78	1295	5.46601	90.7498
Diploma	57	1352	3.99439	94.7442
Missing	75	1427	5.25578	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	1427	1427	100.0000	100.0000
Missing	0	1427	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	1427	1427	100.0000	100.0000
Missing	0	1427	0.0000	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	397	397	27.82060	27.8206
European	337	734	23.61598	51.4366
Asian	581	1315	40.71479	92.1514
African	84	1399	5.88648	98.0378
Missing	28	1427	1.96216	100.0000

Variable	Descriptive Statistics : Age					N	No.cases Missing
	Mean	Std.Dev	Minimum	Maximum			
Age	26.42170	8.199063	10.00000	65.00000		1392	35



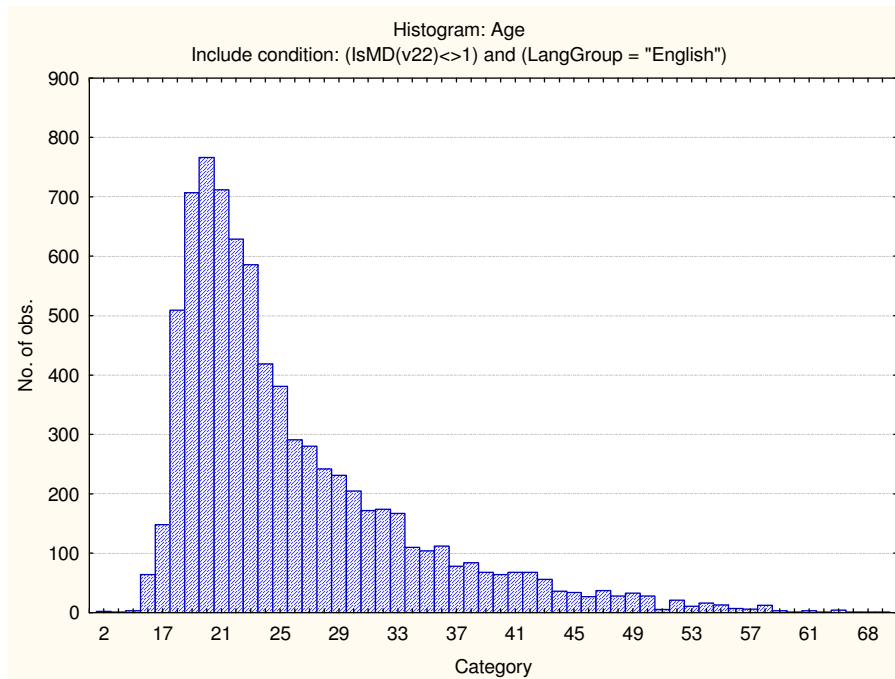
Composition of the sample: Clerical Checking Test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	5218	5218	66.12597	66.1260
M	2658	7876	33.68394	99.8099
U	15	7891	0.19009	100.0000
Missing	0	7891	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	5464	5464	69.24344	69.2434
Under Gr 12	811	6275	10.27753	79.5210
Degree	297	6572	3.76378	83.2848
Certificate	171	6743	2.16703	85.4518
Post Graduate	107	6850	1.35598	86.8078
Technikon	197	7047	2.49652	89.3043
Diploma	597	7644	7.56558	96.8699
Missing	247	7891	3.13015	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	3668	3668	46.48334	46.4833
European	806	4474	10.21417	56.6975
Asian	3000	7474	38.01800	94.7155
African	348	7822	4.41009	99.1256
Missing	69	7891	0.87441	100.0000

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	25.74943	7.896414	2.000000	73.00000	7830	61



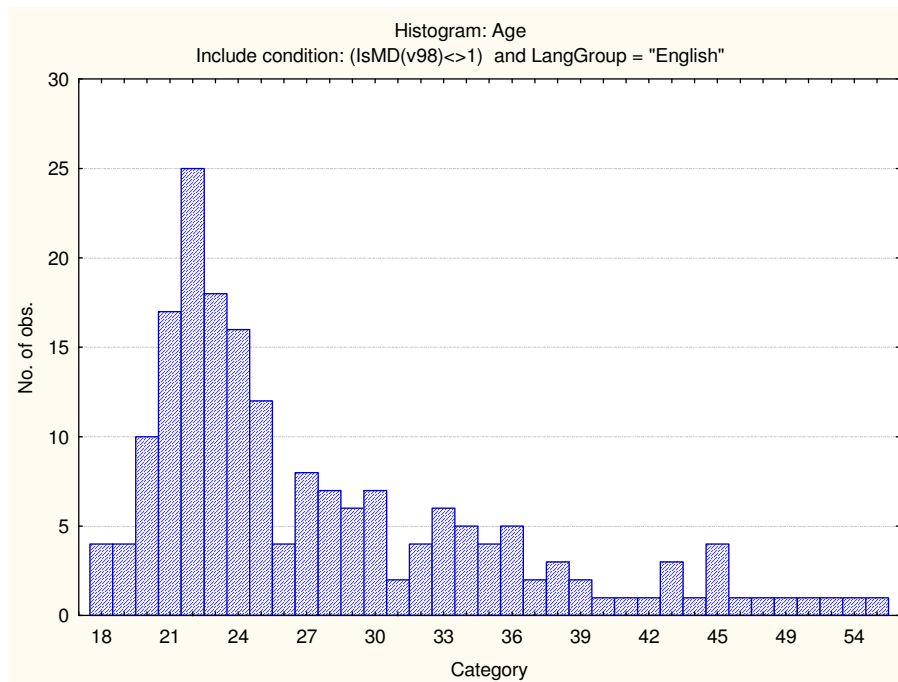
Composition of the sample: Spelling test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	117	117	60.30928	60.3093
M	75	192	38.65979	98.9691
U	2	194	1.03093	100.0000
Missing	0	194	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	106	106	54.63918	54.6392
Under Gr 12	12	118	6.18557	60.8247
Degree	21	139	10.82474	71.6495
Certificate	2	141	1.03093	72.6804
Post Graduate	4	145	2.06186	74.7423
Technikon	14	159	7.21649	81.9588
Diploma	22	181	11.34021	93.2990
Missing	13	194	6.70103	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	61	61	31.44330	31.4433
European	50	111	25.77320	57.2165
Asian	53	164	27.31959	84.5361
African	23	187	11.85567	96.3918
Missing	7	194	3.60825	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.67725	7.994450	18.00000	58.00000	189	5

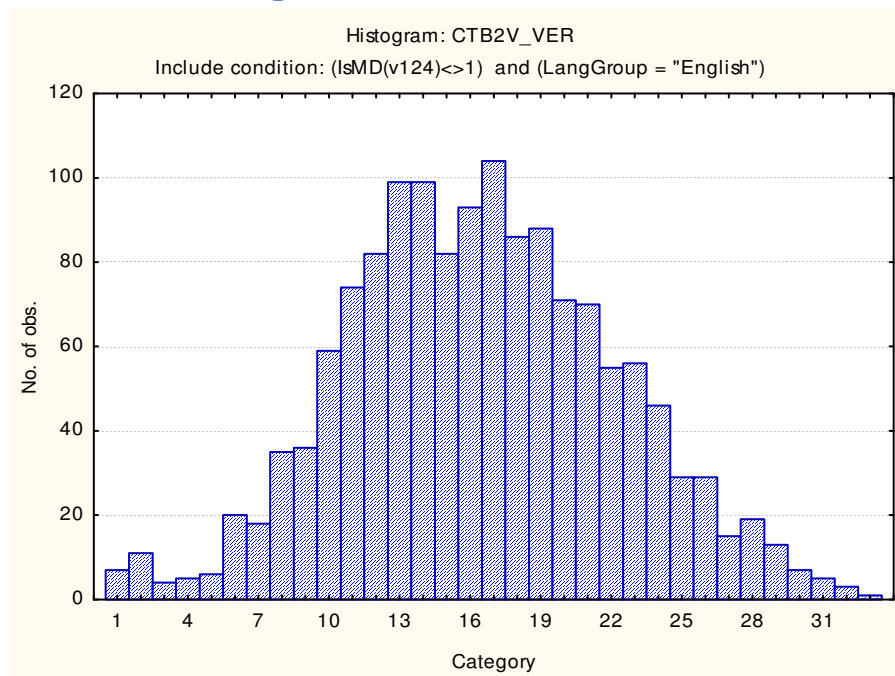


Descriptive statistics on Clerical Test Battery subtests

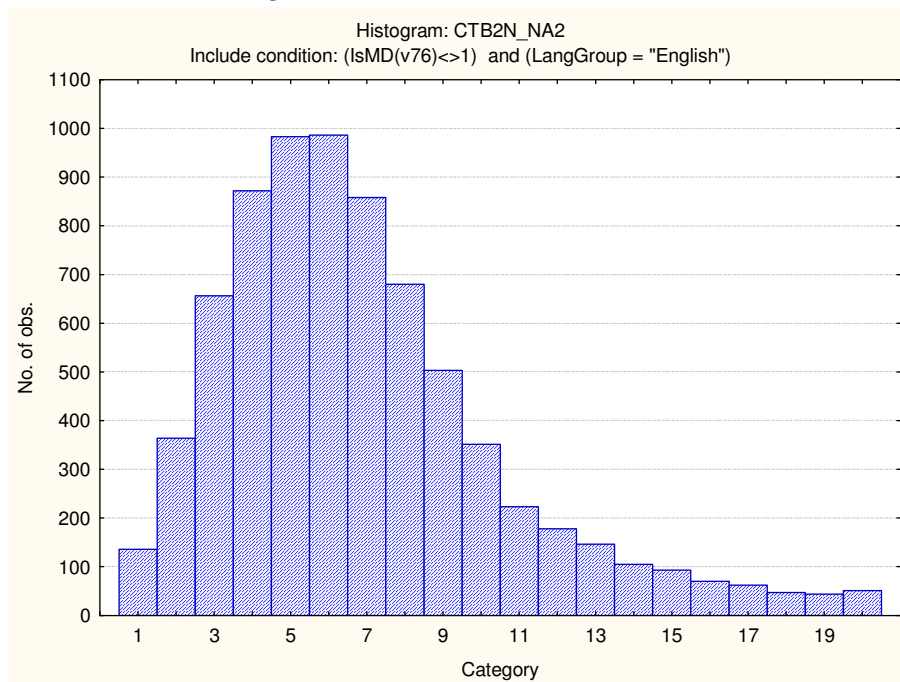
Scale	Mean	Standard deviation	Minimum score	Maximum score	N
Verbal Reasoning	16.45971	5.743979	1.000000	34.00000	1427
Numerical Ability	6.865821	3.671737	1.000000	20.00000	7408
Clerical Checking Numerical	10.31080	3.396502	1.000000	26.00000	7883
Clerical Checking Verbal	9.59962	3.443261	1.000000	26.00000	7880
Clerical Checking Total	19.88658	6.611868	1.000000	52.00000	7891
Spelling	14.76804	5.215840	1.000000	24.00000	194

Frequency distributions

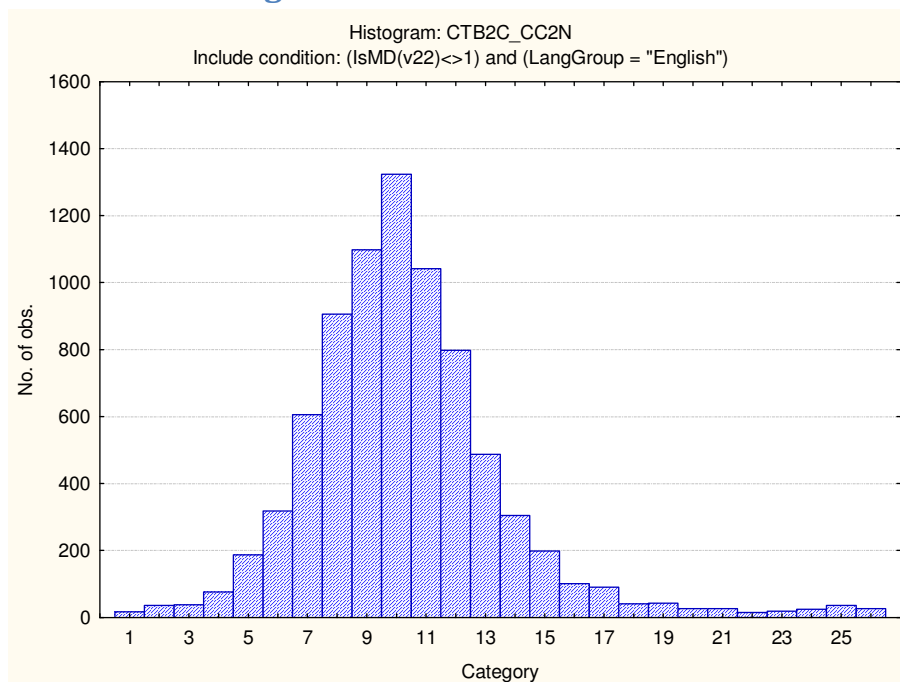
Verbal Reasoning



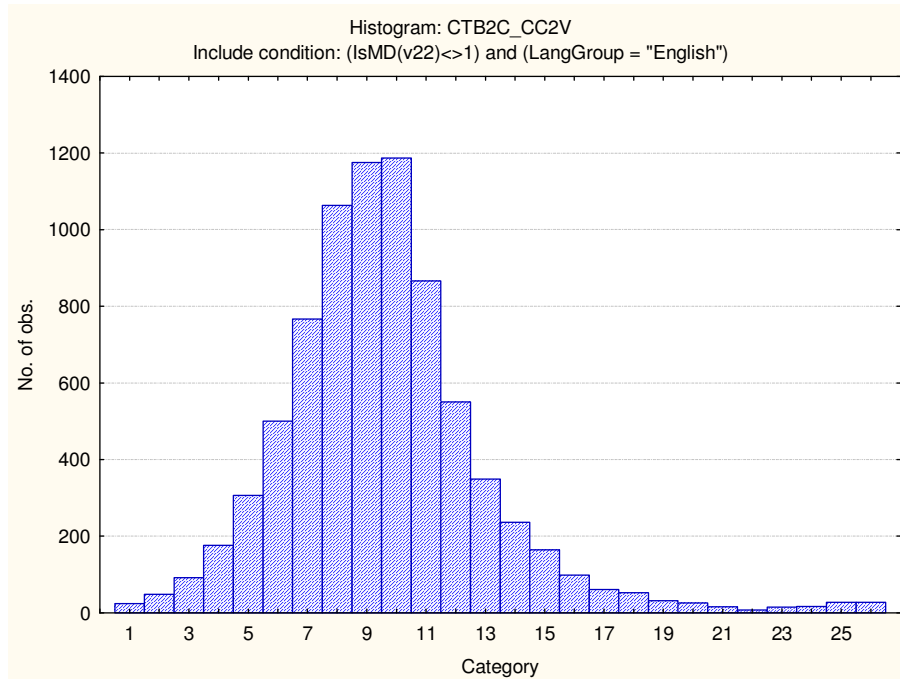
Numerical Ability



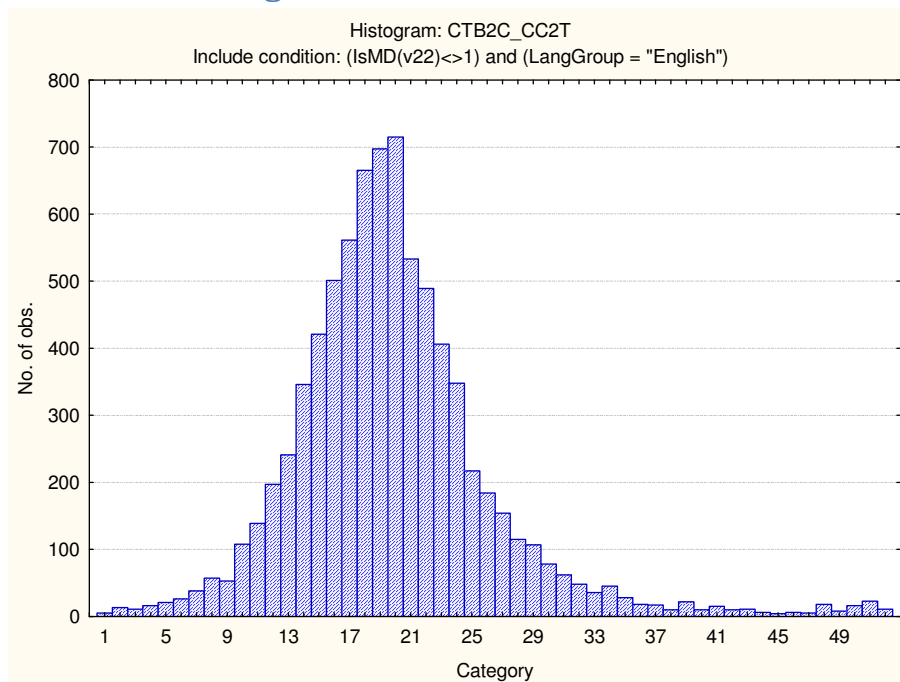
Clerical Checking Numerical



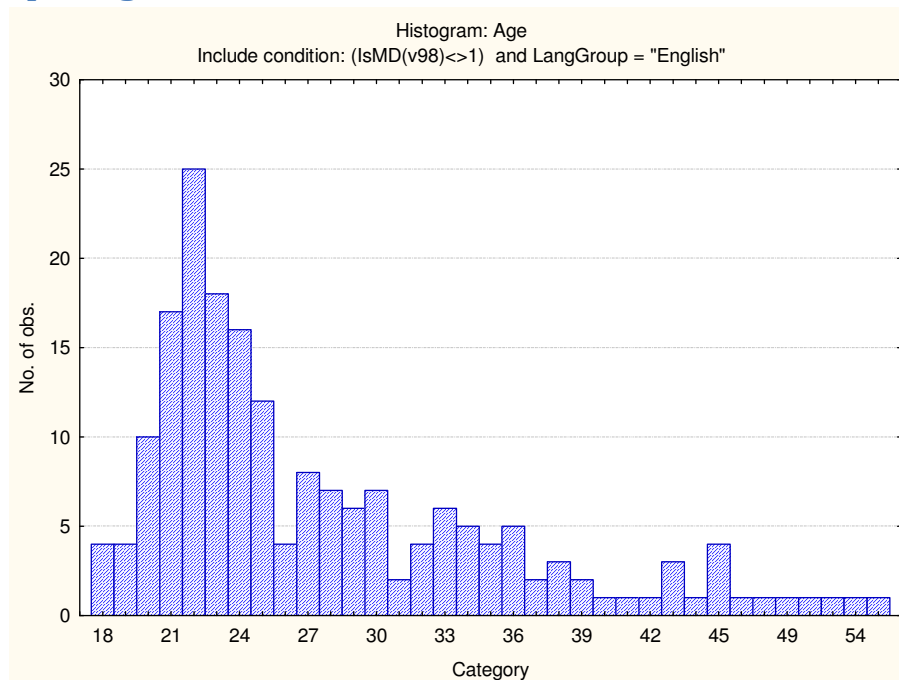
Clerical Checking Verbal



Clerical Checking Total



Spelling



Stanine table

	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-6	7-9	10-12	13-15	16-17	18-20	21-23	24-26	27-34
Numerical Ability	1-0	1-2	3-4	5-5	6-7	8-9	10-11	12-13	14-20
Clerical Checking - Numerical	1-4	5-6	7-7	8-9	10-11	12-12	13-14	15-16	17-26
Clerical Checking - Verbal	1-3	4-5	6-7	8-8	9-10	11-12	13-13	14-15	16-26
Clerical Checking - Total	1-8	9-11	12-14	15-18	19-21	22-24	25-28	29-31	32-52
Spelling	1-5	6-8	9-10	11-13	14-16	17-18	19-21	22-23	24-24

Clerical Test Battery Norm Group: South African Afrikaans speakers, updated 2012

Composition of the sample

The sample consisted of South Africans who declared their home language to be Afrikaans, tested by Psytech South Africa and collaborators in the period leading up to February 2012. Not all respondents completed the entire Clerical Test Battery, therefore the biographical particulars are reported separately for the different subtests.

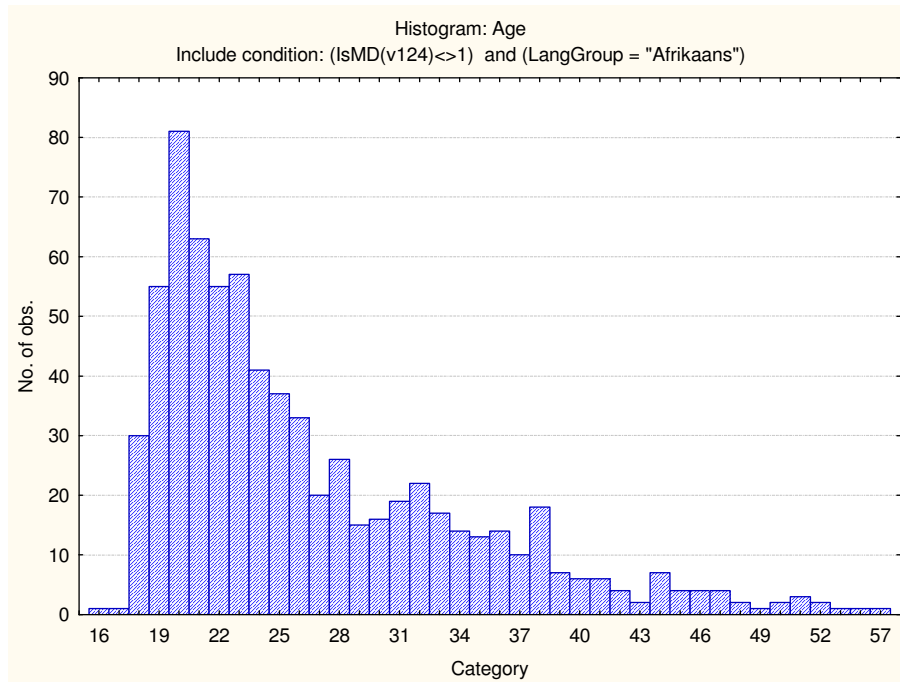
Composition of the sample: Verbal Reasoning Test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	432	432	59.09713	59.0971
M	297	729	40.62927	99.7264
U	2	731	0.27360	100.0000
Missing	0	731	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	521	521	71.27223	71.2722
Under Gr 12	54	575	7.38714	78.6594
Degree	20	595	2.73598	81.3953
Certificate	17	612	2.32558	83.7209
Post Graduate	3	615	0.41040	84.1313
Technikon	51	666	6.97674	91.1081
Diploma	26	692	3.55677	94.6648
Missing	39	731	5.33516	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	401	401	54.85636	54.8564
European	281	682	38.44049	93.2969
Asian	2	684	0.27360	93.5705
African	22	706	3.00958	96.5800
Missing	25	731	3.41997	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.45594	7.609827	16.00000	57.00000	715	16



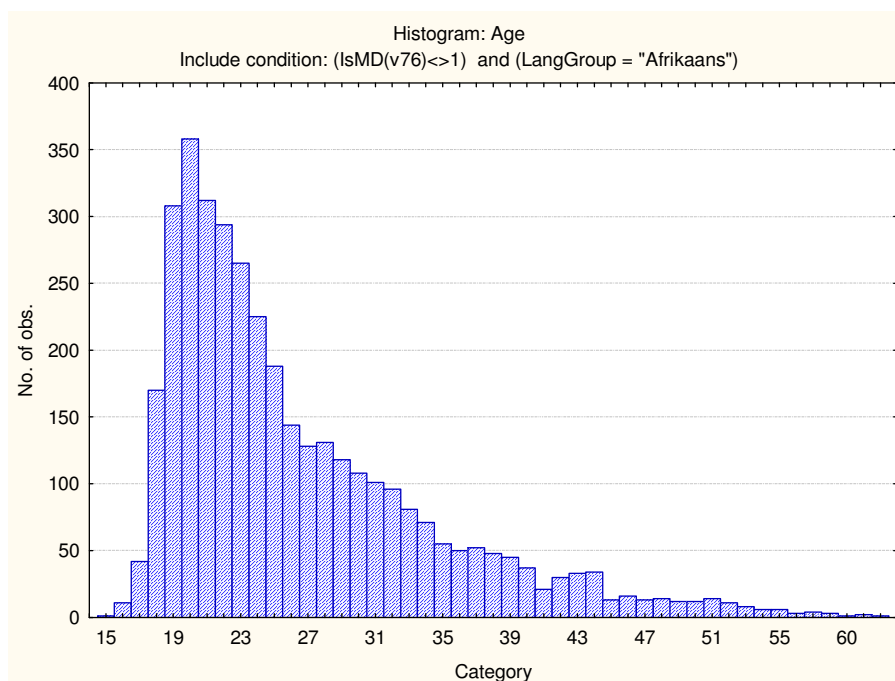
Composition of the sample: Numerical Ability Test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2637	2637	70.92523	70.9252
M	1078	3715	28.99408	99.9193
U	3	3718	0.08069	100.0000
Missing	0	3718	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	2543	2543	68.39699	68.3970
Under Gr 12	584	3127	15.70737	84.1044
Degree	56	3183	1.50619	85.6105
Certificate	160	3343	4.30339	89.9139
Post Graduate	18	3361	0.48413	90.3981
Technikon	74	3435	1.99032	92.3884
Diploma	147	3582	3.95374	96.3421
Missing	136	3718	3.65788	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2644	2644	71.11350	71.1135
European	890	3534	23.93760	95.0511
Asian	8	3542	0.21517	95.2663
African	146	3688	3.92684	99.1931
Missing	30	3718	0.80689	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.44183	7.898399	15.00000	63.00000	3696	22



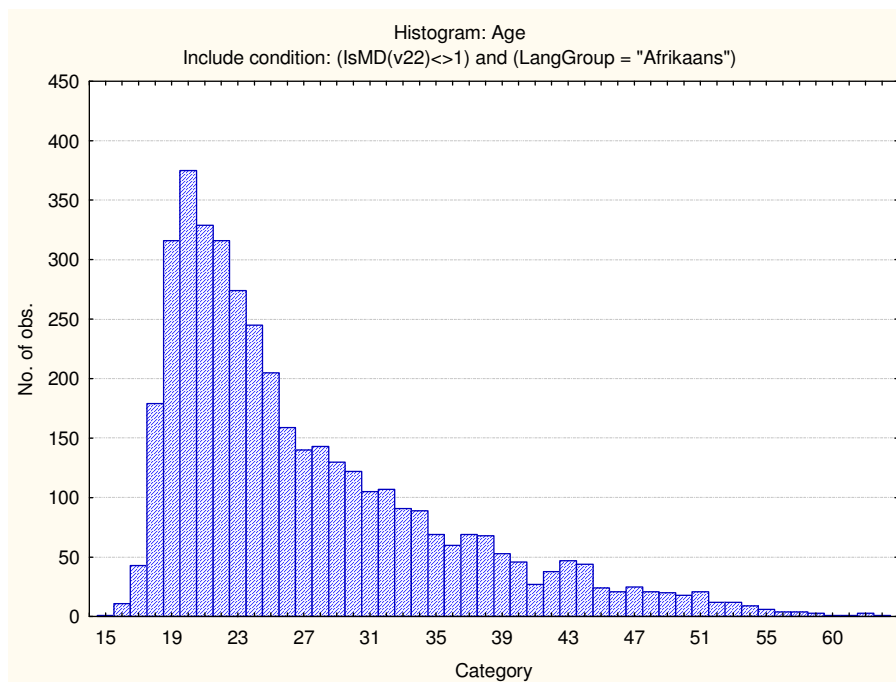
Composition of the sample: Clerical Checking Test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2721	2721	65.83595	65.8360
M	1408	4129	34.06726	99.9032
U	4	4133	0.09678	100.0000
Missing	0	4133	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	2699	2699	65.30365	65.3037
Under Gr 12	710	3409	17.17880	82.4825
Degree	63	3472	1.52432	84.0068
Certificate	162	3634	3.91967	87.9264
Post Graduate	25	3659	0.60489	88.5313
Technikon	127	3786	3.07283	91.6042
Diploma	157	3943	3.79869	95.4029
Missing	190	4133	4.59714	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2903	2903	70.23954	70.2395
European	1022	3925	24.72780	94.9673
Asian	8	3933	0.19356	95.1609
African	163	4096	3.94387	99.1048
Missing	37	4133	0.89523	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.12515	8.376923	15.00000	63.00000	4107	26



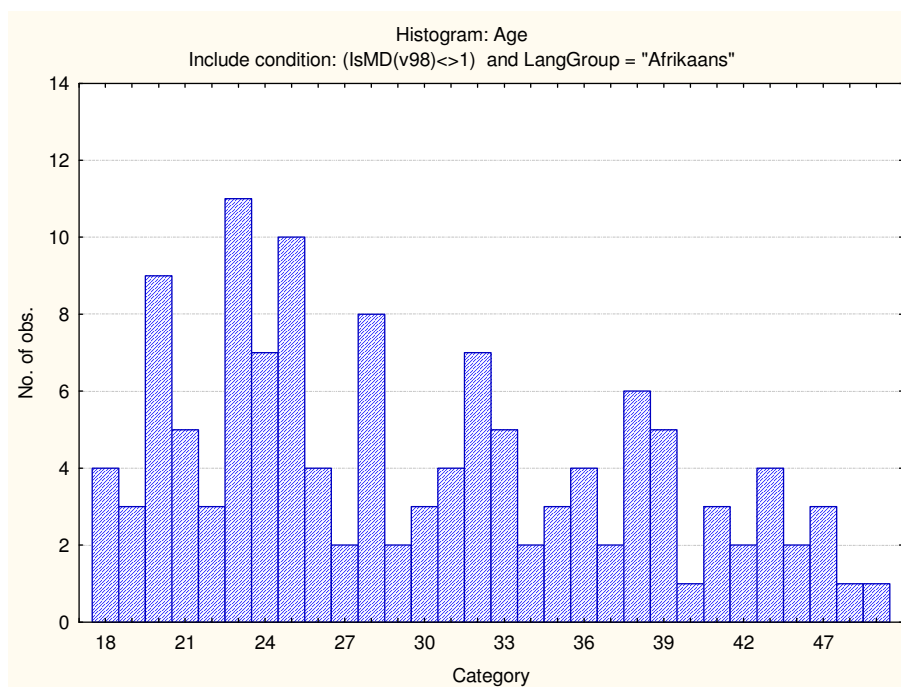
Composition of the sample: Spelling Test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	80	80	60.60606	60.6061
M	52	132	39.39394	100.0000
Missing	0	132	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	97	97	73.48485	73.4848
Under Gr 12	10	107	7.57576	81.0606
Degree	5	112	3.78788	84.8485
Certificate	2	114	1.51515	86.3636
Technikon	8	122	6.06061	92.4242
Diploma	8	130	6.06061	98.4848
Missing	2	132	1.51515	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	51	51	38.63636	38.6364
European	61	112	46.21212	84.8485
African	9	121	6.81818	91.6667
Missing	11	132	8.33333	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.88095	8.275851	18.00000	51.00000	126	6

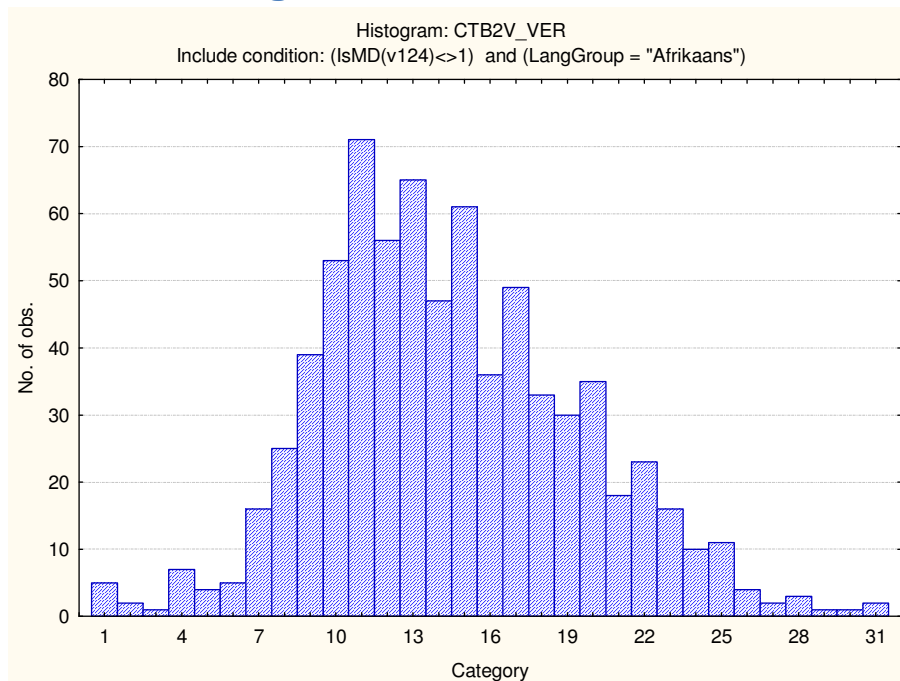


Descriptive statistics on Clerical Test Battery subtests

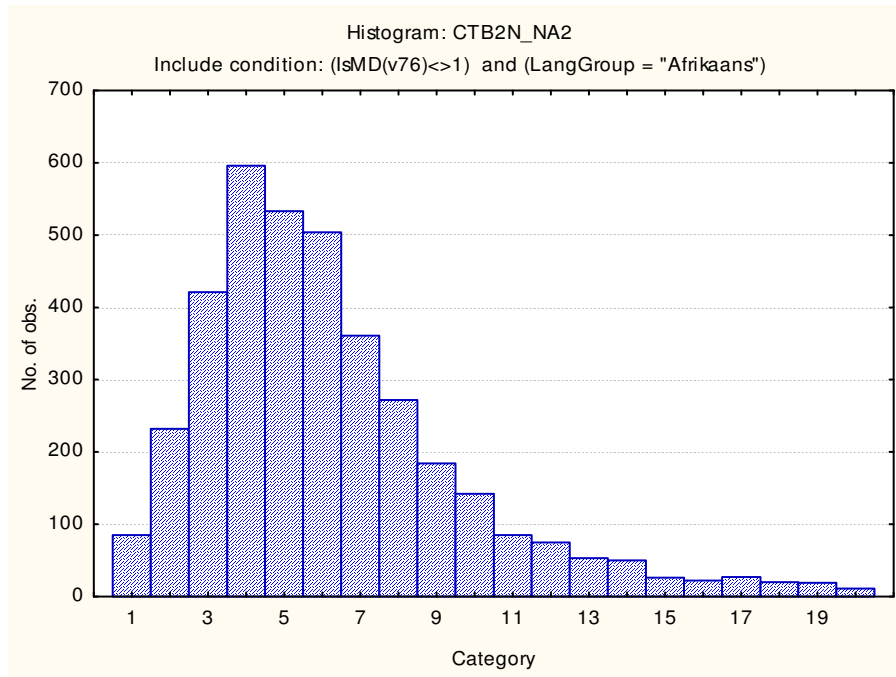
Scale	Mean	Standard deviation	Minimum score	Maximum score	N
Verbal Reasoning	14.44186	5.049926	1.000000	31.00000	731
Numerical Ability	6.194190	3.449228	1.000000	20.00000	3718
Clerical Checking Numerical	9.85372	3.225971	1.000000	26.00000	4129
Clerical Checking Verbal	8.79433	3.303646	1.000000	26.00000	4128
Clerical Checking Total	18.62787	6.252970	1.000000	52.00000	4133
Spelling	11.40909	4.568319	1.000000	24.00000	132

Frequency distributions

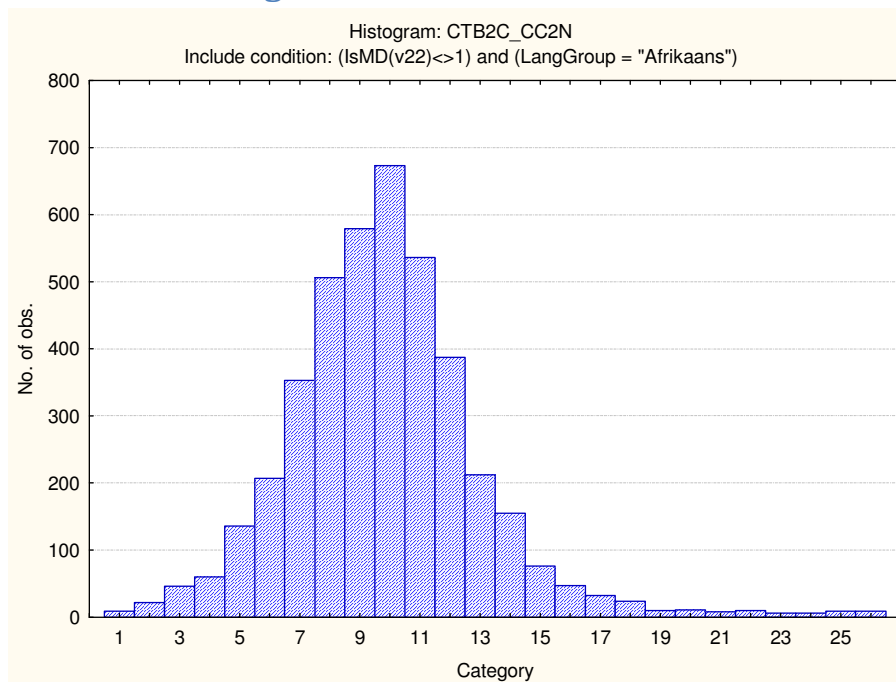
Verbal Reasoning



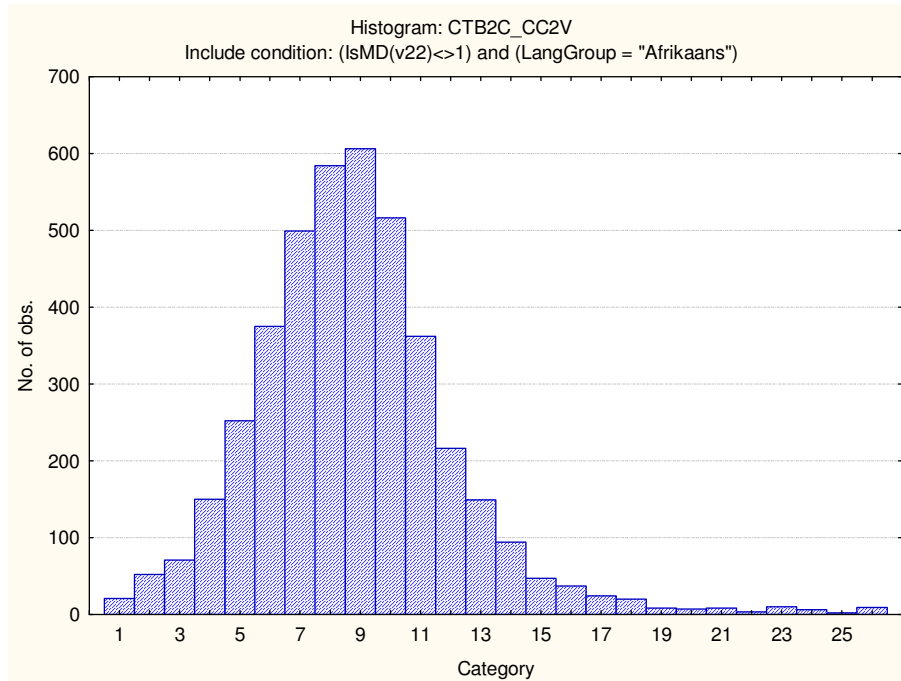
Numerical Ability



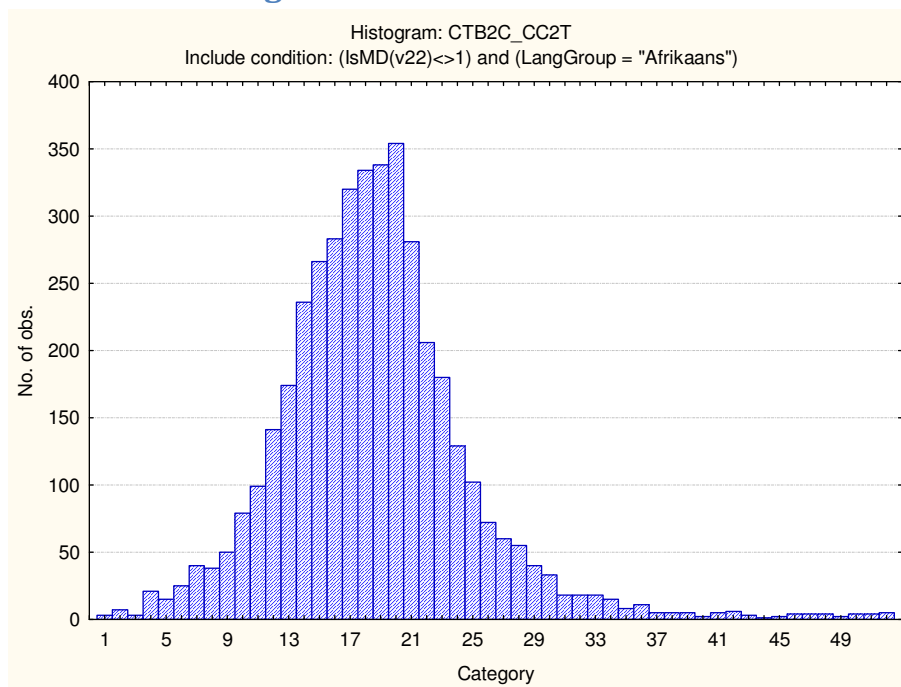
Clerical Checking Numerical



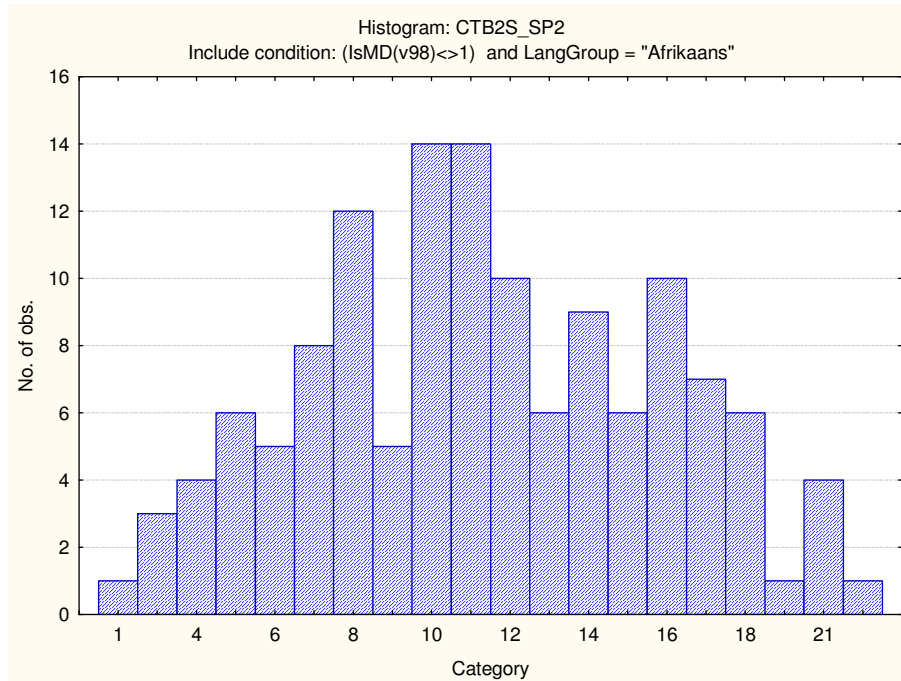
Clerical Checking Verbal



Clerical Checking Total Score



Spelling Test



Stanine table

	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-5	6-8	9-10	11-13	14-15	16-18	19-20	21-23	24-31
Numerical Ability	1-0	1-1	2-3	4-5	6-7	8-8	9-10	11-12	13-20
Clerical Checking - Numerical	1-4	5-5	6-7	8-9	10-10	11-12	13-13	14-15	16-26
Clerical Checking - Verbal	1-3	4-4	5-6	7-7	8-9	10-11	12-12	13-14	15-26
Clerical Checking - Total	1-7	8-10	11-13	14-17	18-20	21-23	24-26	27-29	30-52
Spelling	1-3	4-5	6-7	8-10	11-12	13-14	15-17	18-19	20-24

Clerical Test Battery Norm Group: South Africans, Indigenous language speakers, updated 2012

Composition of the sample

The sample consisted of South Africans who declared their home language as one of the South African indigenous languages, tested by Psytech South Africa and collaborators during the period leading up to February 2012. Not all the respondents completed the entire Clerical Test Battery, therefore biographical particulars are reported separately for the different subtests.

Composition of the sample: Verbal Reasoning Test

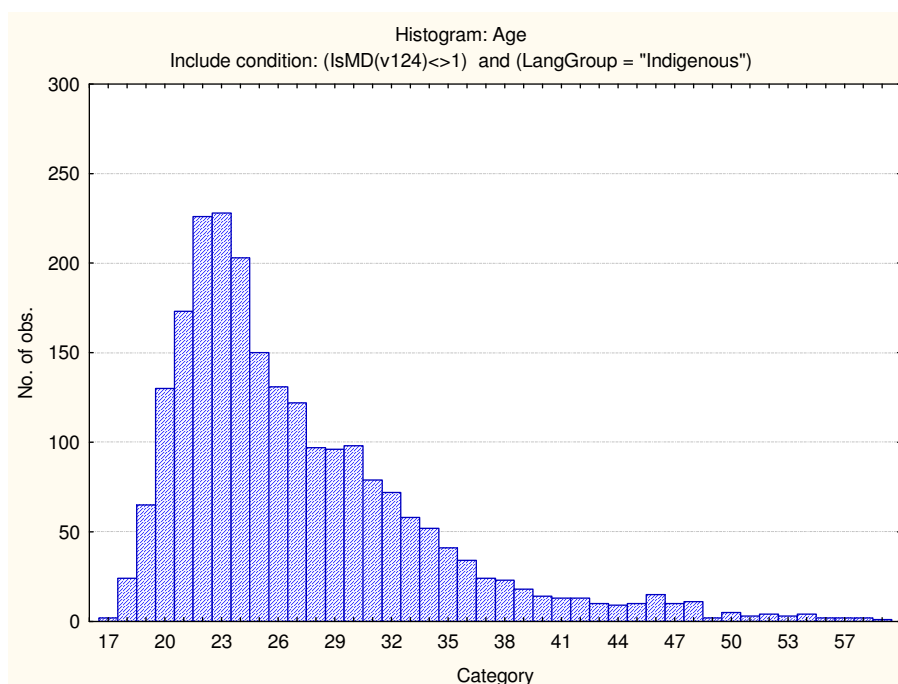
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	1333	1333	57.68066	57.6807
M	972	2305	42.05971	99.7404
U	6	2311	0.25963	100.0000
Missing	0	2311	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1235	1235	53.44007	53.4401
Under Gr 12	93	1328	4.02423	57.4643
Degree	175	1503	7.57248	65.0368
Certificate	88	1591	3.80788	68.8447
Post Graduate	25	1616	1.08178	69.9264
Technikon	354	1970	15.31804	85.2445
Diploma	204	2174	8.82735	94.0718
Missing	137	2311	5.92817	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	782	782	33.83817	33.8382
isiXhosa	360	1142	15.57767	49.4158
siSwati	88	1230	3.80788	53.2237
Sesotho	348	1578	15.05842	68.2821
Setswana	405	1983	17.52488	85.8070
Sepedi	163	2146	7.05322	92.8602
Xitsonga	80	2226	3.46170	96.3219
Tshivenda	51	2277	2.20684	98.5288
isiNdebele	34	2311	1.47122	100.0000
Missing	0	2311	0.00000	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	10	10	0.43271	0.4327
European	4	14	0.17309	0.6058
Asian	14	28	0.60580	1.2116
African	2275	2303	98.44223	99.6538
Missing	8	2311	0.34617	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.01272	6.722606	17.00000	61.00000	2279	32



Composition of the sample: Numerical Ability Test

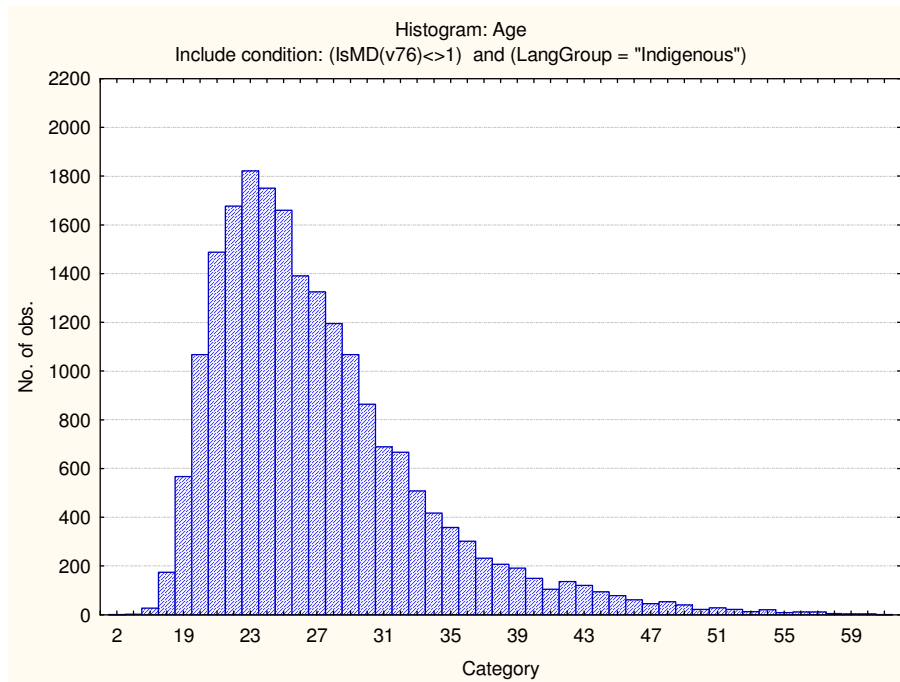
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	13585	13585	65.42574	65.4257
M	7156	20741	34.46349	99.8892
U	23	20764	0.11077	100.0000
Missing	0	20764	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	12294	12294	59.20825	59.2082
Under Gr 12	1283	13577	6.17896	65.3872
Degree	1051	14628	5.06165	70.4489
Certificate	1661	16289	7.99942	78.4483
Post Graduate	300	16589	1.44481	79.8931
Technikon	1037	17626	4.99422	84.8873
Diploma	2586	20212	12.45425	97.3416
Missing	552	20764	2.65845	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	6380	6380	30.72626	30.7263
isiXhosa	3490	9870	16.80794	47.5342
siSwati	540	10410	2.60065	50.1348
Sesotho	2629	13039	12.66134	62.7962
Setswana	3619	16658	17.42920	80.2254
Sepedi	2483	19141	11.95820	92.1836
Xitsonga	733	19874	3.53015	95.7137
Tshivenda	583	20457	2.80774	98.5215
isiNdebele	307	20764	1.47852	100.0000
Missing	0	20764	0.00000	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	103	103	0.49605	0.4961
European	16	119	0.07706	0.5731
Asian	76	195	0.36602	0.9391
African	20549	20744	98.96455	99.9037
Missing	20	20764	0.09632	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.01910	6.240697	2.000000	62.00000	20679	85



Composition of the sample: Clerical Checking Test

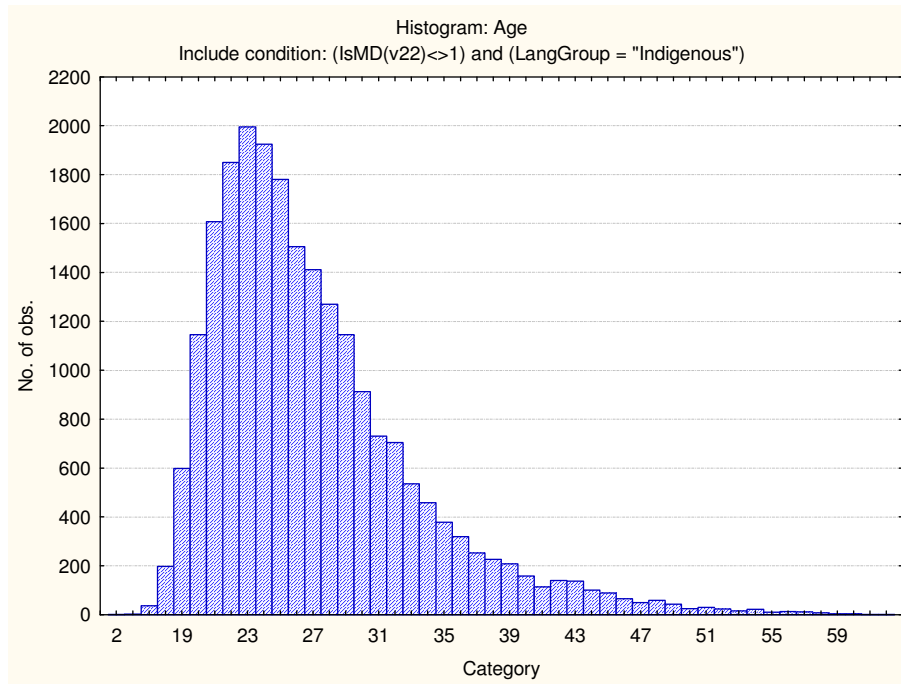
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	14542	14542	64.89936	64.8994
M	7840	22382	34.98907	99.8884
U	25	22407	0.11157	100.0000
Missing	0	22407	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	12900	12900	57.57129	57.5713
Under Gr 12	1381	14281	6.16325	63.7345
Degree	1204	15485	5.37332	69.1079
Certificate	1721	17206	7.68064	76.7885
Post Graduate	336	17542	1.49953	78.2880
Technikon	1222	18764	5.45365	83.7417
Diploma	2921	21685	13.03610	96.7778
Missing	722	22407	3.22221	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	7010	7010	31.28487	31.2849
isiXhosa	3802	10812	16.96791	48.2528
siSwati	562	11374	2.50814	50.7609
Sesotho	2862	14236	12.77279	63.5337
Setswana	3884	18120	17.33387	80.8676
Sepedi	2571	20691	11.47409	92.3417
Xitsonga	771	21462	3.44089	95.7826
Tshivenda	619	22081	2.76253	98.5451
isiNdebele	326	22407	1.45490	100.0000
Missing	0	22407	0.00000	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	106	106	0.47307	0.4731
European	18	124	0.08033	0.5534
Asian	81	205	0.36149	0.9149
African	22168	22373	98.93337	99.8483
Missing	34	22407	0.15174	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.99458	6.264821	2.000000	65.00000	22314	93



Composition of the sample: Spelling Test

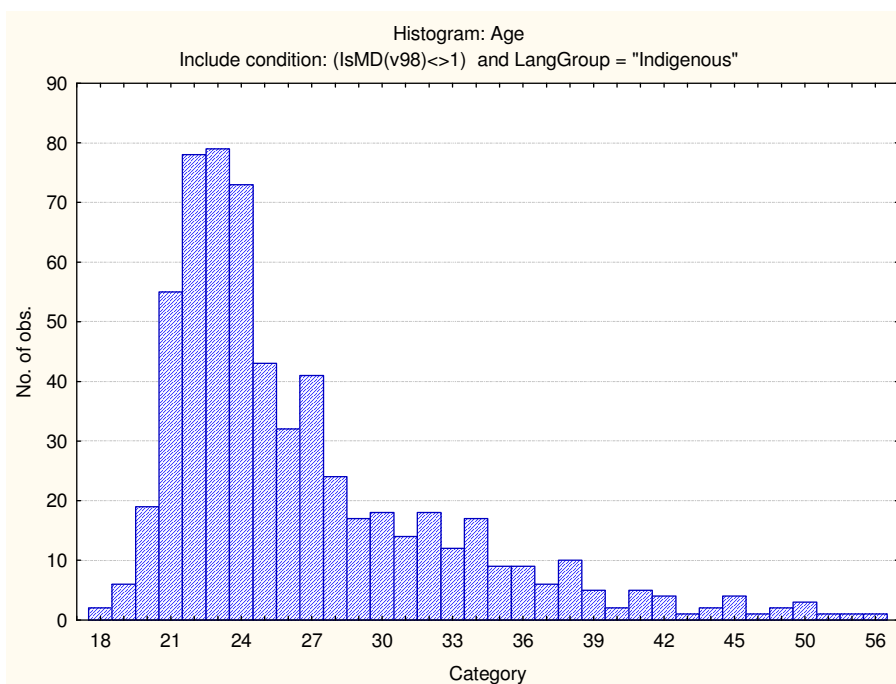
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	348	348	56.21971	56.2197
M	271	619	43.78029	100.0000
Missing	0	619	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	169	169	27.30210	27.3021
Under Gr 12	20	189	3.23102	30.5331
Degree	115	304	18.57835	49.1115
Certificate	8	312	1.29241	50.4039
Post Graduate	21	333	3.39257	53.7964
Technikon	61	394	9.85460	63.6511
Diploma	195	589	31.50242	95.1535
Missing	30	619	4.84653	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	176	176	28.43296	28.4330
isiXhosa	92	268	14.86268	43.2956
siSwati	7	275	1.13086	44.4265
Sesotho	118	393	19.06300	63.4895
Setswana	126	519	20.35541	83.8449
Sepedi	41	560	6.62359	90.4685
Xitsonga	26	586	4.20032	94.6688
Tshivenda	25	611	4.03877	98.7076
isiNdebele	8	619	1.29241	100.0000
Missing	0	619	0.00000	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2	2	0.32310	0.3231
European	1	3	0.16155	0.4847
African	609	612	98.38449	98.8691
Missing	7	619	1.13086	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.58958	6.095565	18.00000	56.00000	614	5

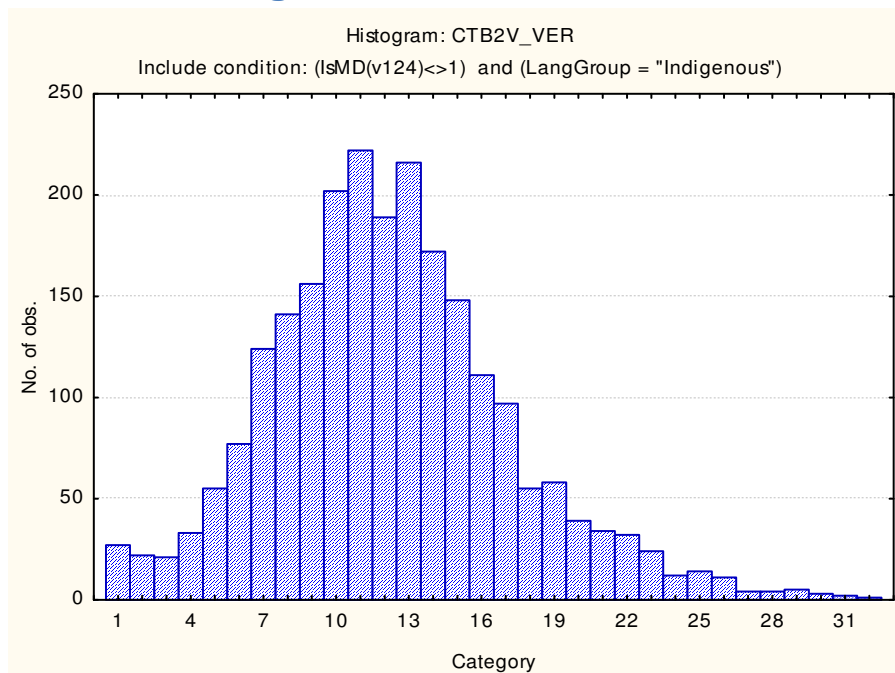


Descriptive statistics on Clerical Test Battery subtests

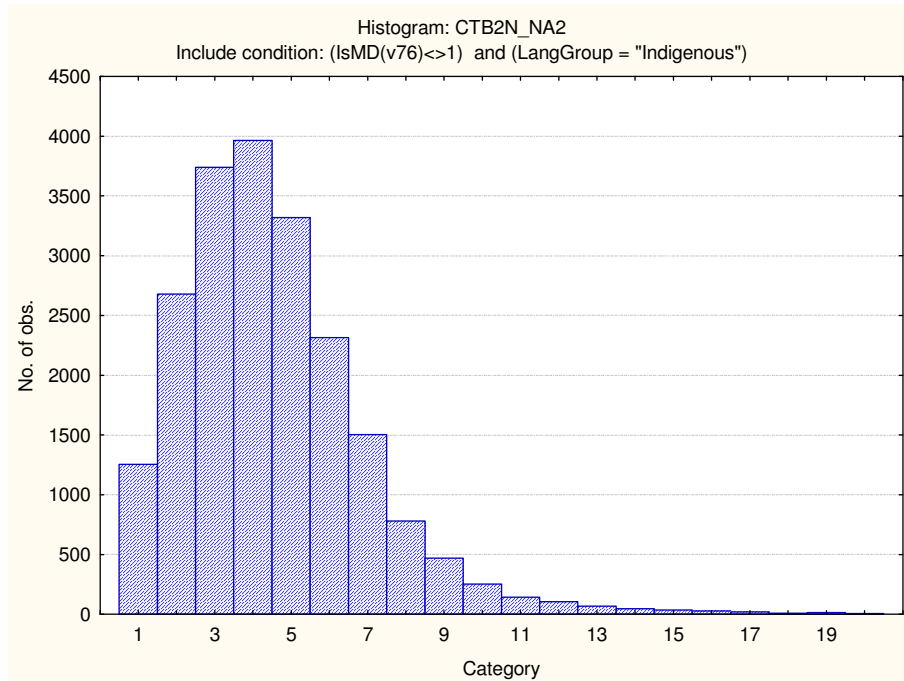
Scale	Mean	Standard deviation	Minimum score	Maximum score	N
Verbal Reasoning	12.24968	4.955164	1.000000	32.00000	2311
Numerical Ability	4.532171	2.432616	1.000000	20.00000	20764
Clerical Checking Numerical	9.26536	3.171111	1.000000	26.00000	22373
Clerical Checking Verbal	8.17661	3.252059	1.000000	26.00000	22349
Clerical Checking Total	17.40675	6.097379	1.000000	52.00000	22407
Spelling	14.56058	4.111803	2.000000	24.00000	619

Frequency distributions

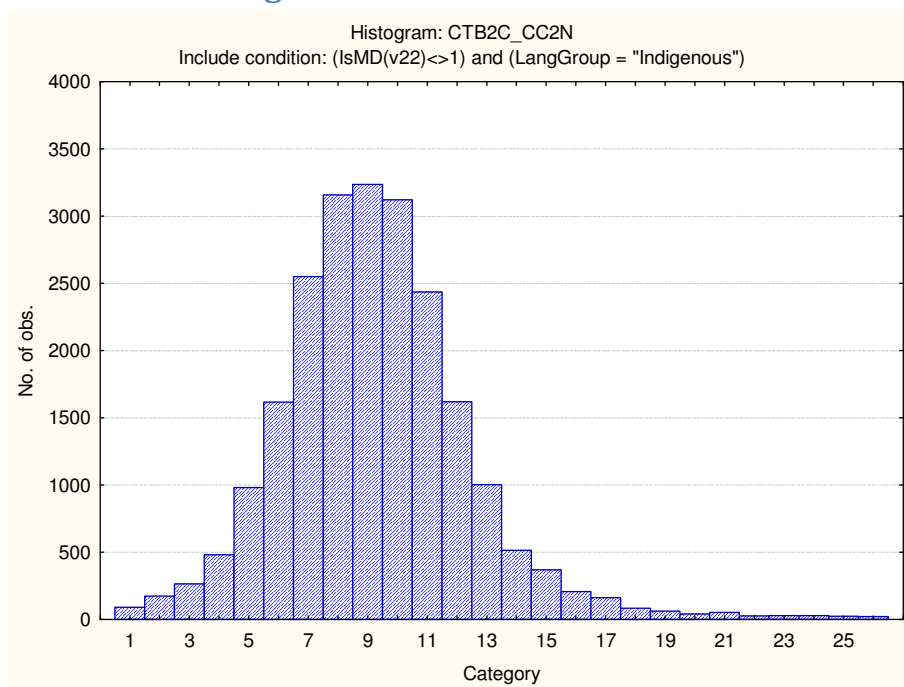
Verbal Reasoning



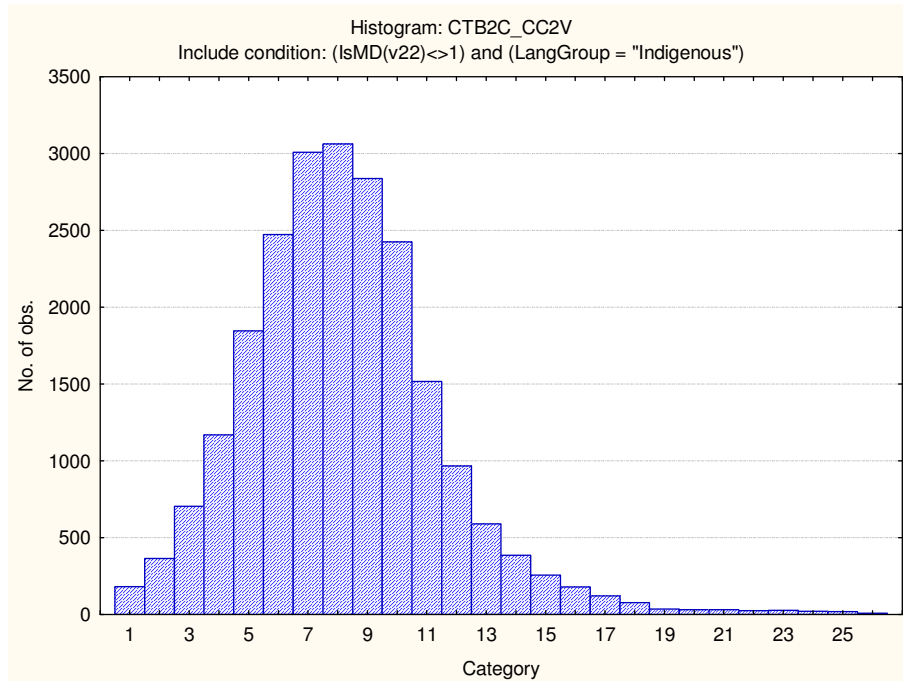
Numerical Ability



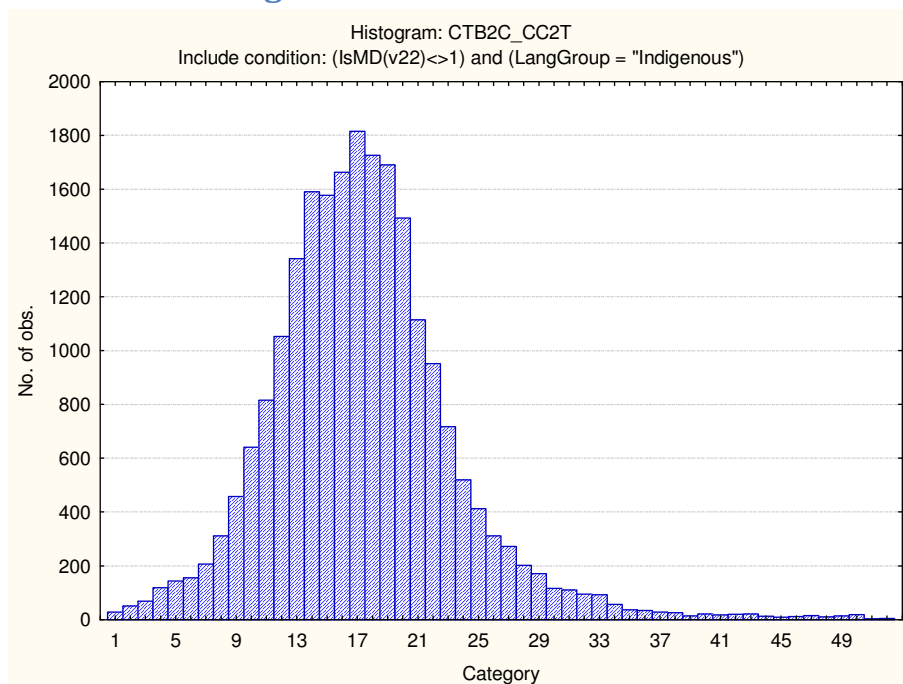
Clerical Checking Numerical



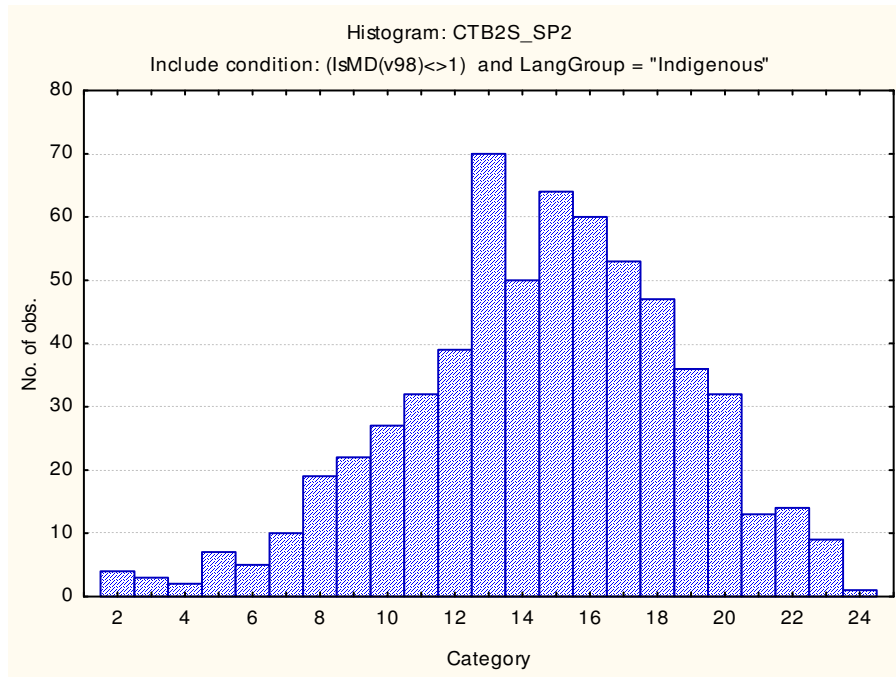
Clerical Checking Verbal



Clerical Checking Total Score



Spelling



Stanine Table

	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-3	4-6	7-8	9-11	12-13	14-15	16-18	19-20	21-32
Numerical Ability	1-0	1-1	2-2	3-3	4-5	6-6	7-7	8-8	9-20
Clerical Checking - Numerical	1-3	4-5	6-6	7-8	9-10	11-11	12-13	14-14	15-26
Clerical Checking - Verbal	1-2	3-4	5-5	6-7	8-8	9-10	11-12	13-13	14-26
Clerical Checking - Total	1-6	7-9	10-12	13-15	16-18	19-21	22-25	26-28	29-52
Spelling	2-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA Aggregate Population, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	8722	8722	56.40926	56.4093
M	6676	15398	43.17682	99.5861
Missing	64	15462	0.41392	100.0000

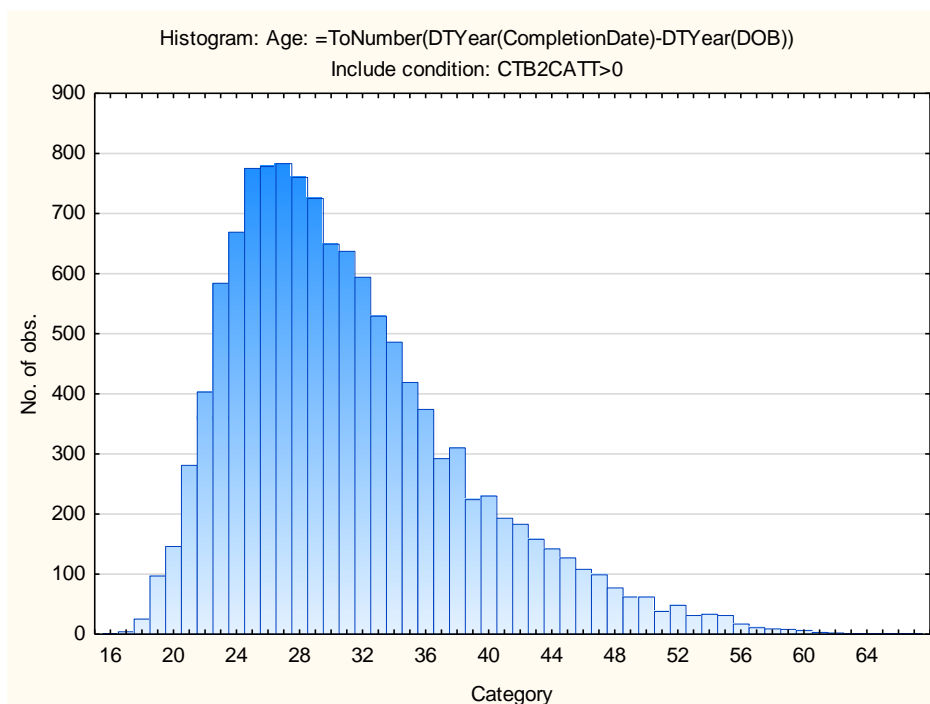
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	3437	3437	22.22869	22.2287
Tertiary Cert / Trade	2654	6091	17.16466	39.3934
Tertiary	2025	8116	13.09662	52.4900
Post Graduate	585	8701	3.78347	56.2734
< Matric	47	8748	0.30397	56.5774
Missing	6714	15462	43.42258	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1153	1153	7.45699	7.4570
African	5961	7114	38.55258	46.0096
Indian	309	7423	1.99845	48.0080
Asian	145	7568	0.93778	48.9458
European	784	8352	5.07050	54.0163
Missing	7110	15462	45.98370	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3938	3938	25.46889	25.4689
Afrikaans	761	4699	4.92174	30.3906
Setswana	528	5227	3.41482	33.8055
isiXhosa	1046	6273	6.76497	40.5704
Xitsonga	176	6449	1.13827	41.7087
Tshivenda	165	6614	1.06713	42.7758
isiZulu	1045	7659	6.75850	49.5343
Sepedi	483	8142	3.12379	52.6581
isiNdebele	75	8217	0.48506	53.1432
siSwati	54	8271	0.34924	53.4924
Sesotho	386	8657	2.49644	55.9889
Missing	6805	15462	44.01112	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3938	3938	25.46889	25.4689
Afrikaans	761	4699	4.92174	30.3906
Indigenous	3958	8657	25.59824	55.9889
Missing	6805	15462	44.01112	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.10901	7.460513	16.00000	69.00000	12228	3234



Sample composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	8479	8479	56.44013	56.4401
M	6487	14966	43.18046	99.6206
Missing	57	15023	0.37942	100.0000

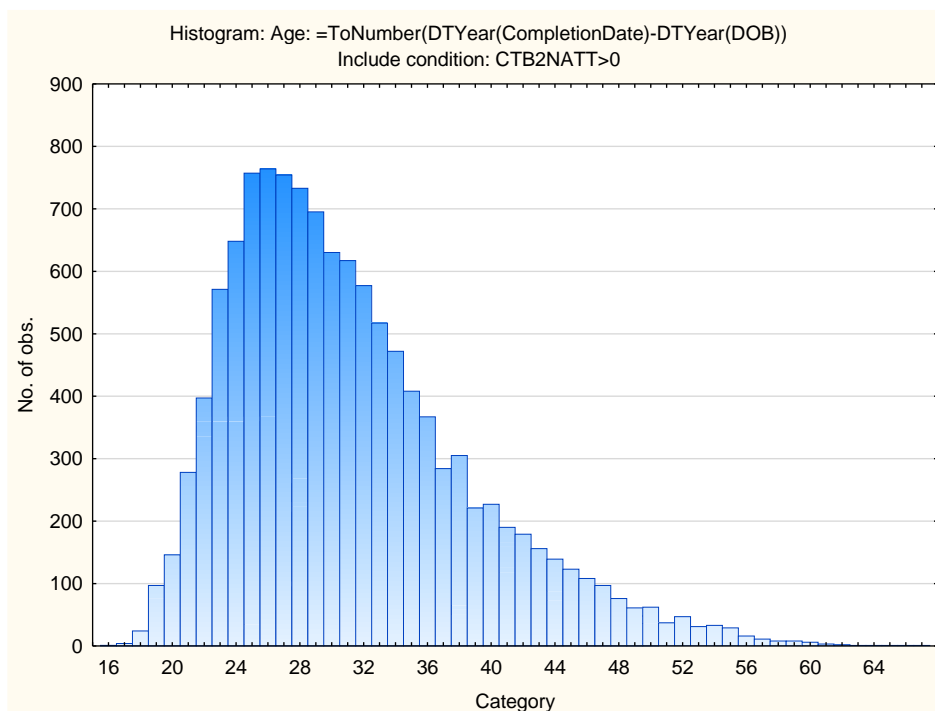
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	3416	3416	22.73847	22.7385
Tertiary Cert / Trade	2636	6052	17.54643	40.2849
Tertiary	2011	8063	13.38614	53.6710
Post Graduate	575	8638	3.82746	57.4985
< Matric	47	8685	0.31285	57.8114
Missing	6338	15023	42.18864	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1143	1143	7.60833	7.6083
African	5929	7072	39.46615	47.0745
Indian	305	7377	2.03022	49.1047
Asian	143	7520	0.95187	50.0566
European	769	8289	5.11882	55.1754
Missing	6734	15023	44.82460	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3915	3915	26.06004	26.0600
Afrikaans	743	4658	4.94575	31.0058
Setswana	524	5182	3.48799	34.4938
isiXhosa	1043	6225	6.94269	41.4365
Xitsonga	175	6400	1.16488	42.6013
Tshivenda	164	6564	1.09166	43.6930
isiZulu	1040	7604	6.92272	50.6157
Sepedi	479	8083	3.18844	53.8042
isiNdebele	75	8158	0.49923	54.3034
siSwati	54	8212	0.35945	54.6629
Sesotho	385	8597	2.56274	57.2256
Missing	6426	15023	42.77441	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3915	3915	26.06004	26.0600
Afrikaans	743	4658	4.94575	31.0058
Indigenous	3939	8597	26.21980	57.2256
Missing	6426	15023	42.77441	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.12063	7.483273	16.00000	69.00000	11921	3102



Sample composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	7349	7349	58.50183	58.5018
M	5164	12513	41.10810	99.6099
Missing	49	12562	0.39007	100.0000

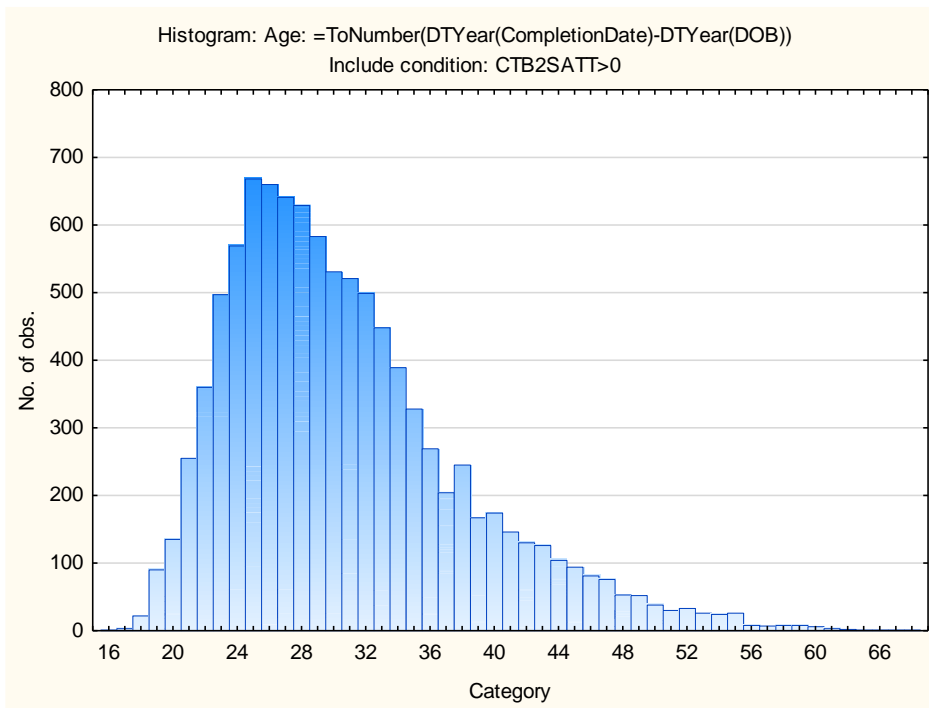
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	3124	3124	24.86865	24.8687
Tertiary Cert / Trade	2326	5450	18.51616	43.3848
Tertiary	1894	7344	15.07722	58.4620
Post Graduate	543	7887	4.32256	62.7846
< Matric	26	7913	0.20697	62.9916
Missing	4649	12562	37.00844	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	877	877	6.98137	6.9814
African	5521	6398	43.95001	50.9314
Indian	295	6693	2.34835	53.2797
Asian	118	6811	0.93934	54.2191
European	636	7447	5.06289	59.2820
Missing	5115	12562	40.71804	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3549	3549	28.25187	28.2519
Afrikaans	586	4135	4.66486	32.9167
Setswana	488	4623	3.88473	36.8015
isiXhosa	931	5554	7.41124	44.2127
Xitsonga	164	5718	1.30552	45.5182
Tshivenda	156	5874	1.24184	46.7601
isiZulu	958	6832	7.62617	54.3862
Sepedi	453	7285	3.60611	57.9924
isiNdebele	72	7357	0.57316	58.5655
siSwati	48	7405	0.38210	58.9476
Sesotho	328	7733	2.61105	61.5587
Missing	4829	12562	38.44133	100.0000

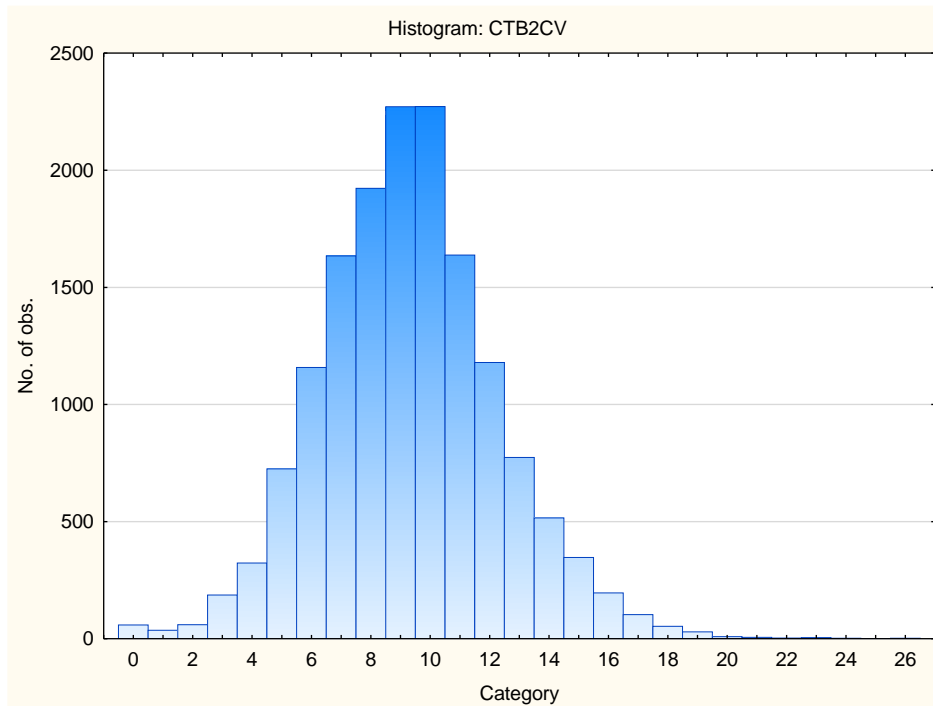
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3549	3549	28.25187	28.2519
Afrikaans	586	4135	4.66486	32.9167
Indigenous	3598	7733	28.64194	61.5587
Missing	4829	12562	38.44133	100.0000

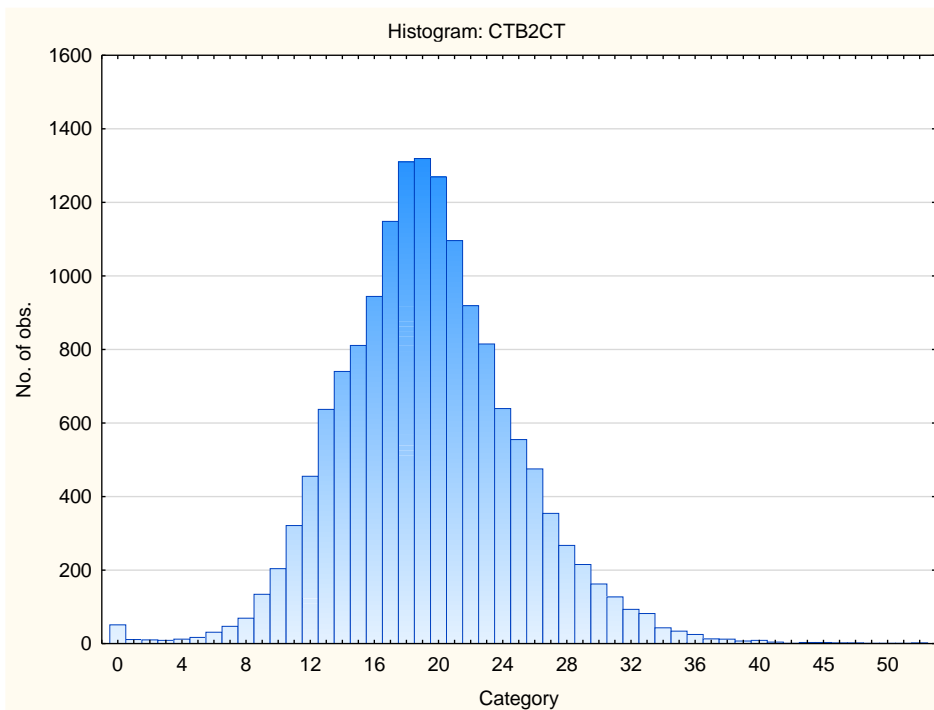
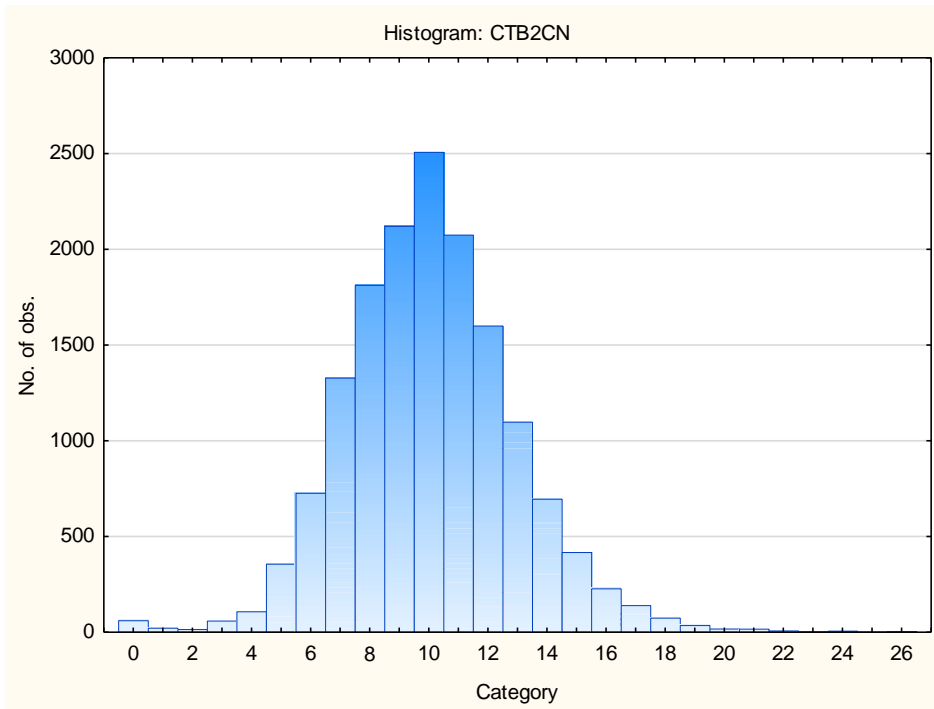
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age:	30.73318	7.359916	16.00000	69.00000	9973	2589

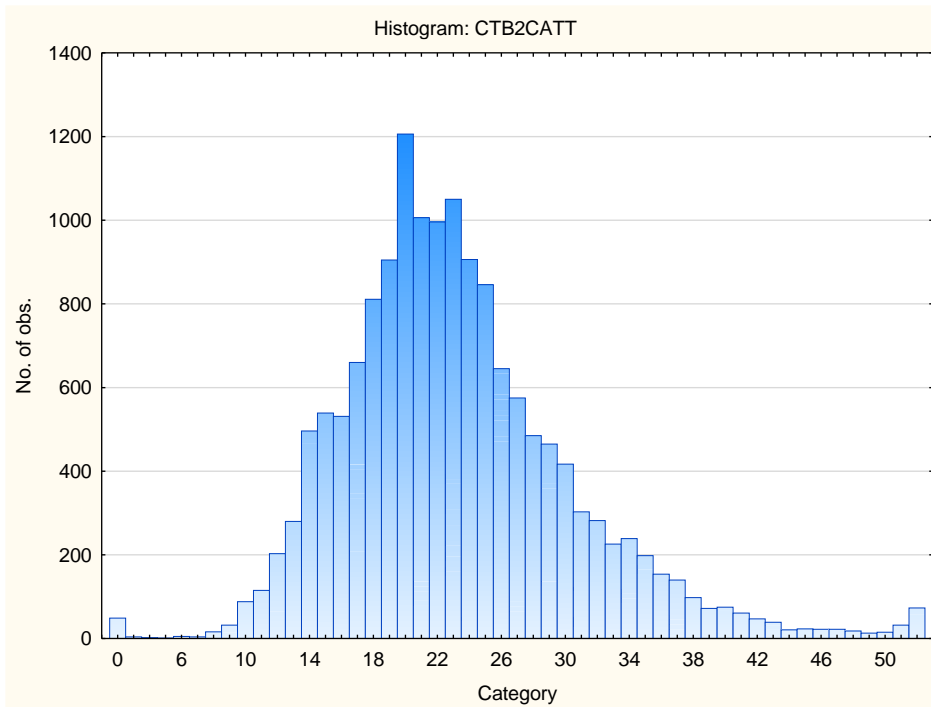


Descriptive Statistics on Clerical Test Battery Subtests

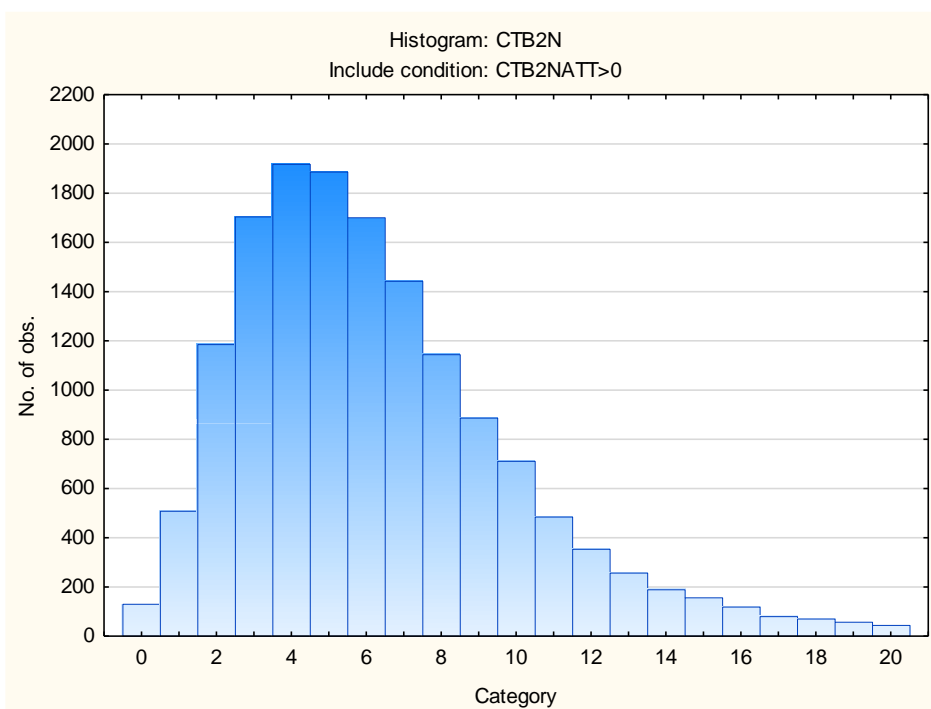
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.29818	2.996408	0.00	26.00000	15511	0
CTB2CN	10.05996	2.860255	0.00	26.00000	15511	0
CTB2CT	19.35813	5.505449	0.00	52.00000	15511	0
CTB2CATT	23.23145	7.273487	0.00	52.00000	15511	0

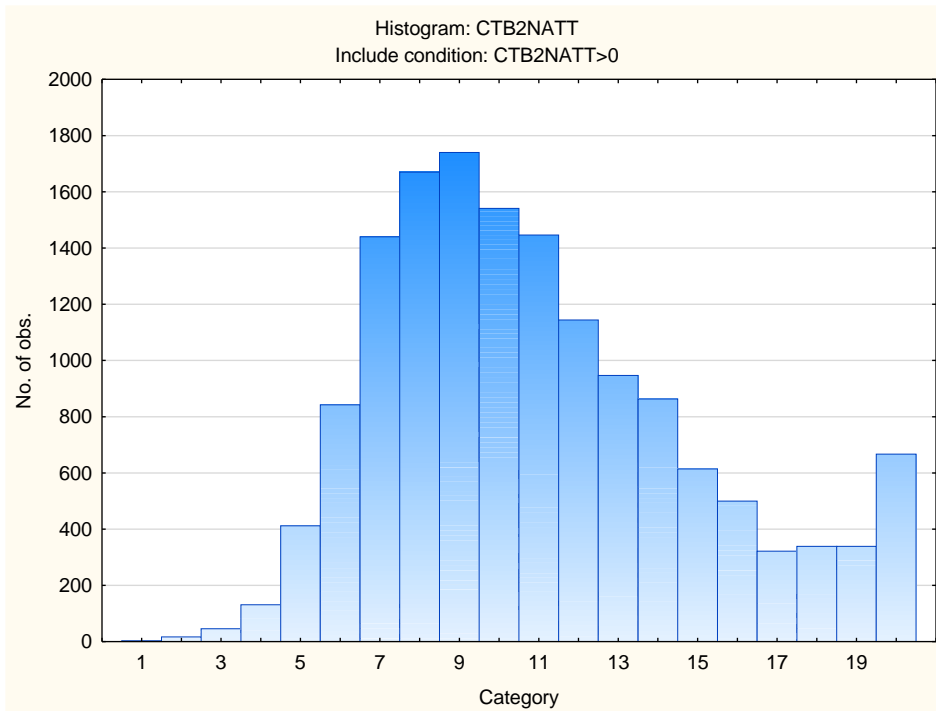




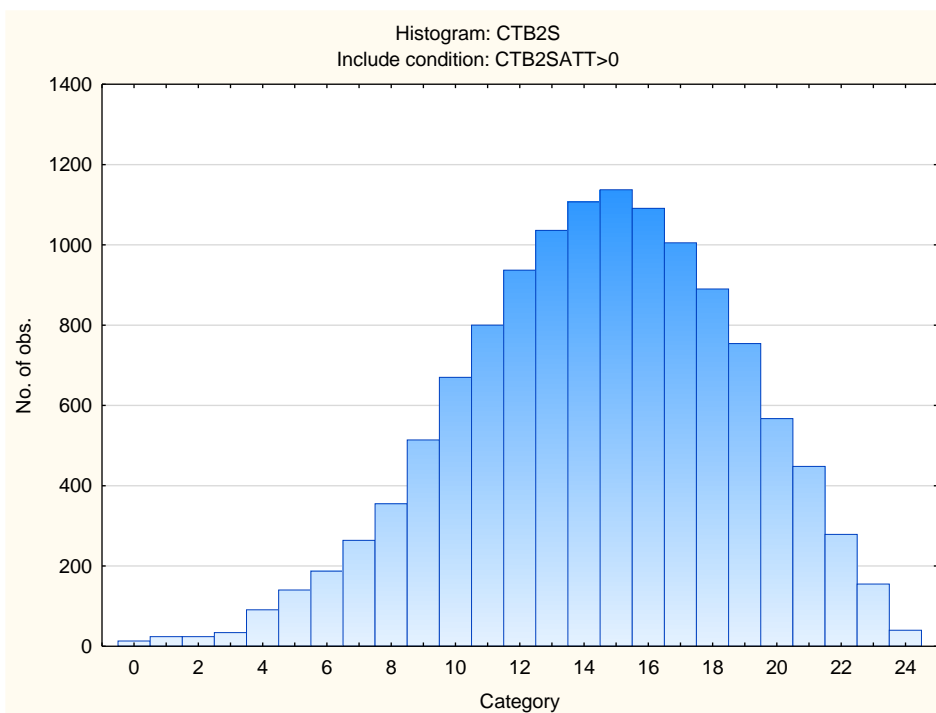


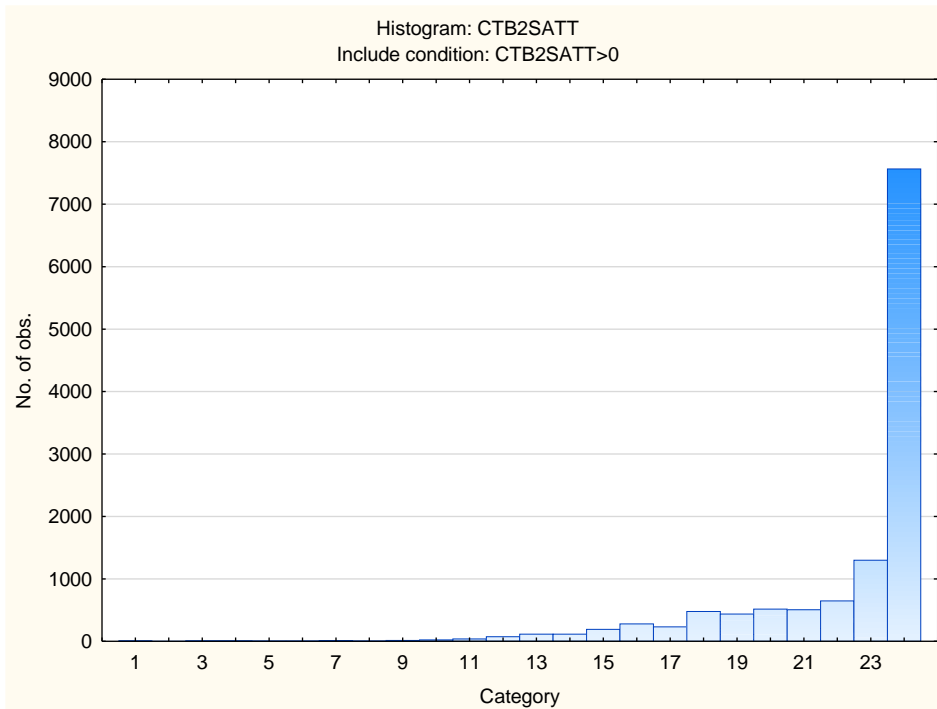
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	6.25694	3.627366	0.000000	20.00000	15023	0
CTB2NATT	10.97750	3.933565	1.000000	20.00000	15023	0



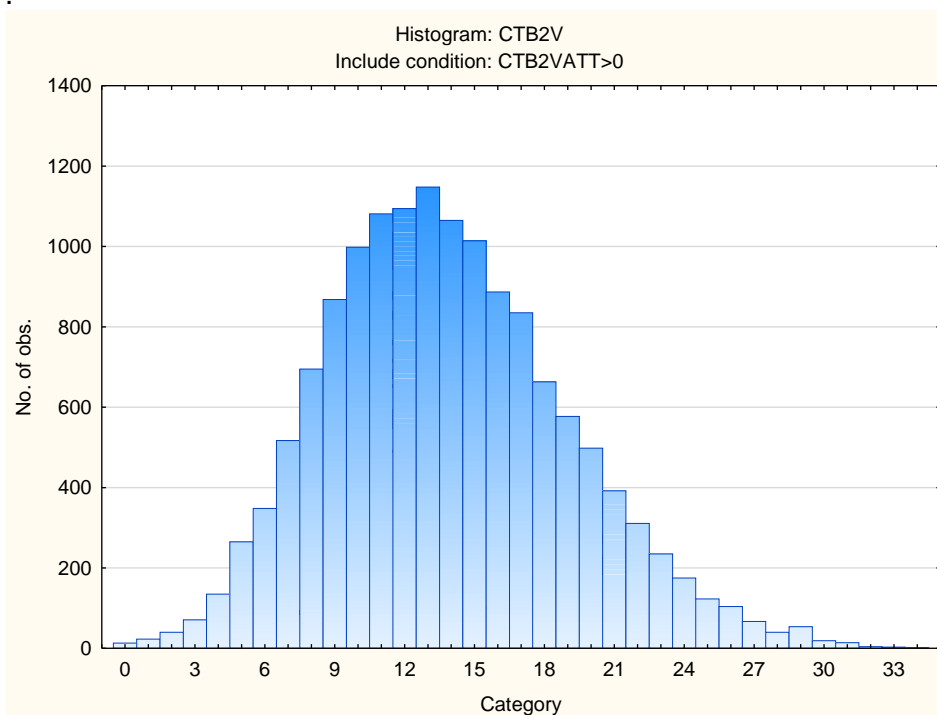


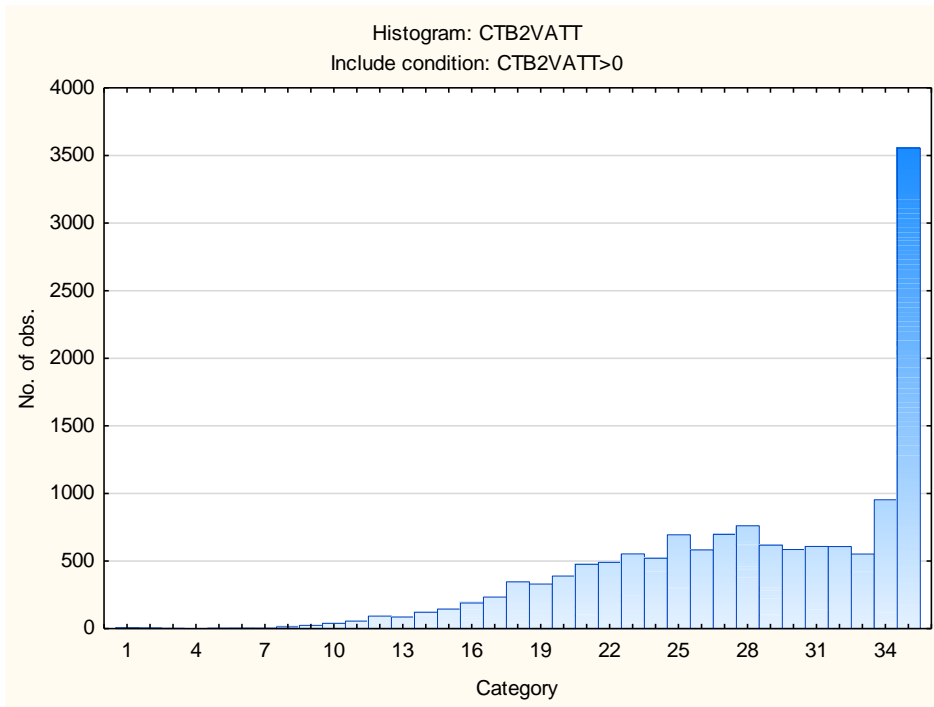
Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	14.38760	4.282588	0.000000	24.000000	12562	0
CTB2SATT	22.26007	3.042220	1.000000	24.000000	12562	0





Variable	Descriptive Statistics: Verbal Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	13.82521	5.171003	0.000000	34.000000	14377	0
CTB2VATT	28.02330	6.514277	1.000000	35.000000	14377	0





Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	0-4	5-7	8-9	10-12	13-15	16-17	18-20	21-22	23-34
Numerical Ability	0--1	0-1	2-3	4-5	6-7	8-8	9-10	11-12	13-20
Clerical Checking - Verbal	0-4	5-5	6-7	8-8	9-10	11-11	12-13	14-14	15-26
Clerical Checking - Numerical	0-5	6-6	7-7	8-9	10-10	11-12	13-13	14-15	16-26
Clerical Checking - Total	0-9	10-12	13-15	16-17	18-20	21-23	24-26	27-28	29-52
Spelling	0-6	7-9	10-11	12-13	14-15	16-17	18-19	20-21	22-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA English Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2493	2493	63.30625	63.3062
M	1432	3925	36.36364	99.6699
Missing	13	3938	0.33012	100.0000

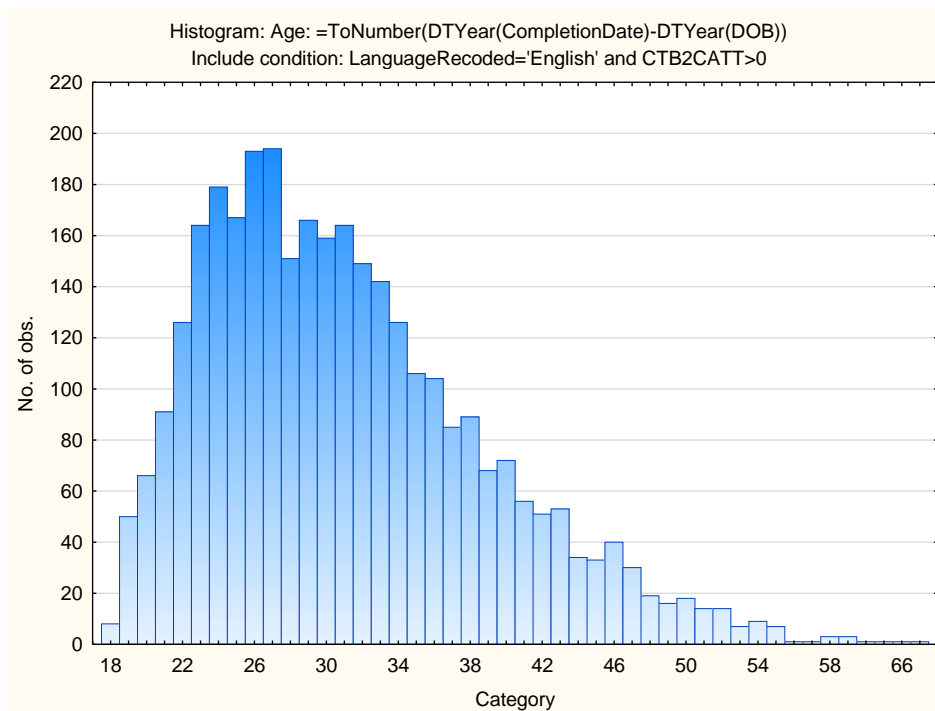
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1552	1552	39.41087	39.4109
Tertiary Cert / Trade	1054	2606	26.76486	66.1757
Tertiary	898	3504	22.80345	88.9792
Post Graduate	260	3764	6.60234	95.5815
< Matric	14	3778	0.35551	95.9370
Missing	160	3938	4.06298	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	890	890	22.60030	22.6003
African	1884	2774	47.84154	70.4418
Indian	303	3077	7.69426	78.1361
Asian	142	3219	3.60589	81.7420
European	353	3572	8.96394	90.7059
Missing	366	3938	9.29406	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3938	3938	100.0000	100.0000
Missing	0	3938	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3938	3938	100.0000	100.0000
Missing	0	3938	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No. cases Missing
Age	31.15563	7.764698	18.00000	68.00000	3232	706



Sample Composition: Numerical Subtest (CTB2N)

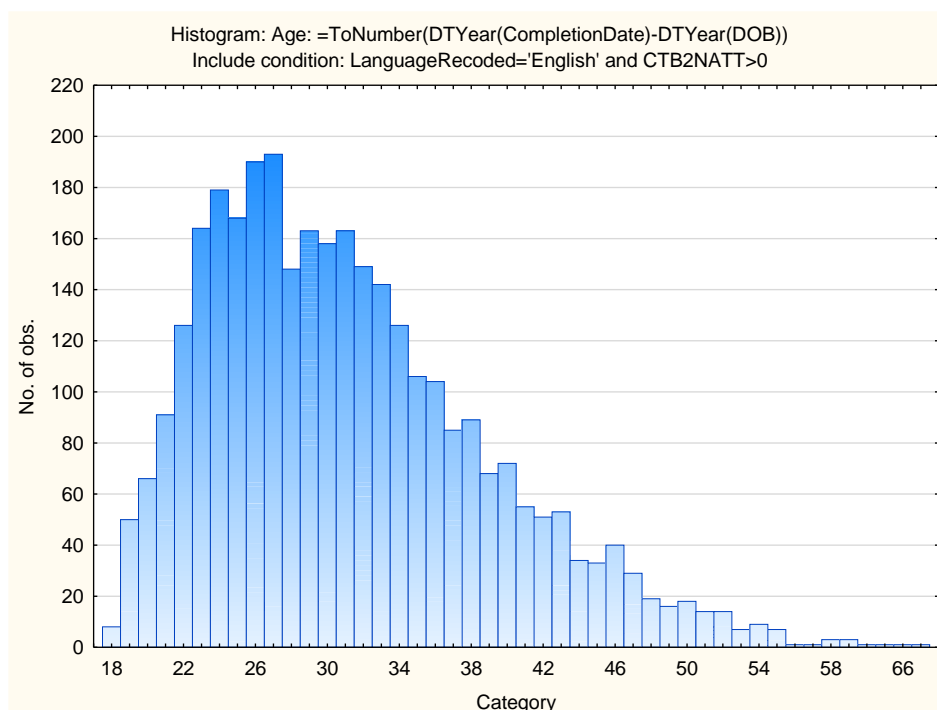
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2483	2483	63.42273	63.4227
M	1420	3903	36.27075	99.6935
Missing	12	3915	0.30651	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1547	1547	39.51469	39.5147
Tertiary Cert / Trade	1048	2595	26.76884	66.2835
Tertiary	890	3485	22.73308	89.0166
Post Graduate	256	3741	6.53895	95.5556
< Matric	14	3755	0.35760	95.9132
Missing	160	3915	4.08685	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	887	887	22.65645	22.6564
African	1874	2761	47.86718	70.5236
Indian	299	3060	7.63729	78.1609
Asian	140	3200	3.57599	81.7369
European	349	3549	8.91443	90.6513
Missing	366	3915	9.34866	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3915	3915	100.0000	100.0000
Missing	0	3915	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.15719	7.771329	18.00000	68.00000	3219	696



Sample Composition: Clerical Spelling Subtest (CTB2S)

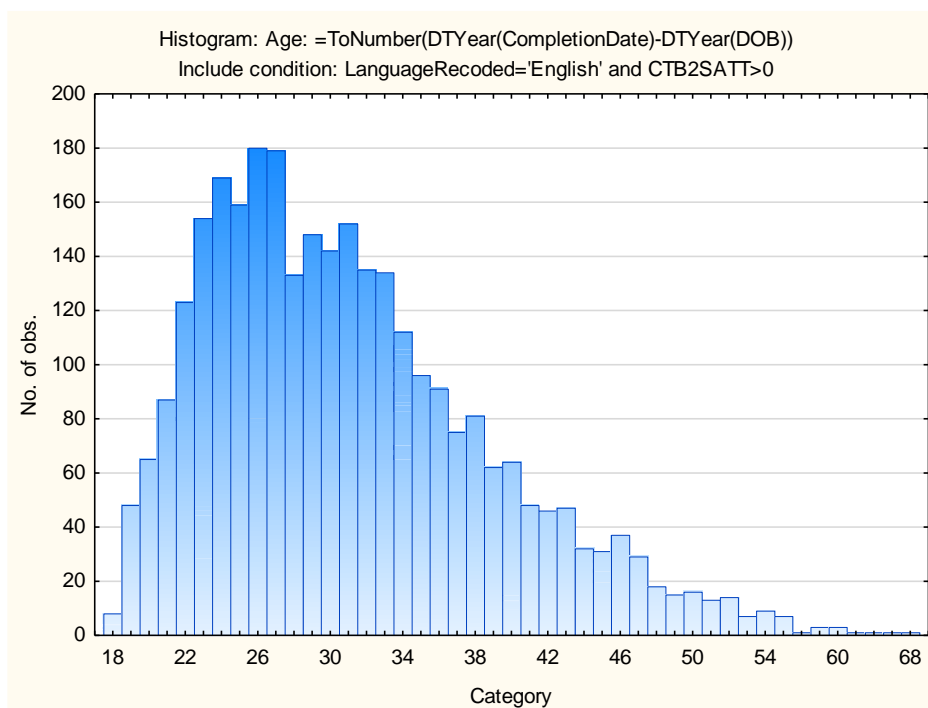
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2278	2278	64.18709	64.1871
M	1260	3538	35.50296	99.6901
Missing	11	3549	0.30995	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1403	1403	39.53226	39.5323
Tertiary Cert / Trade	933	2336	26.28910	65.8214
Tertiary	857	3193	24.14765	89.9690
Post Graduate	243	3436	6.84700	96.8160
< Matric	5	3441	0.14088	96.9569
Missing	108	3549	3.04311	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	689	689	19.41392	19.4139
African	1819	2508	51.25387	70.6678
Indian	290	2798	8.17132	78.8391
Asian	116	2914	3.26853	82.1076
European	287	3201	8.08679	90.1944
Missing	348	3549	9.80558	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3549	3549	100.0000	100.0000
Missing	0	3549	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.06080	7.837350	18.00000	68.00000	2977	572



Sample Composition: Verbal Subtest (CTB2V)

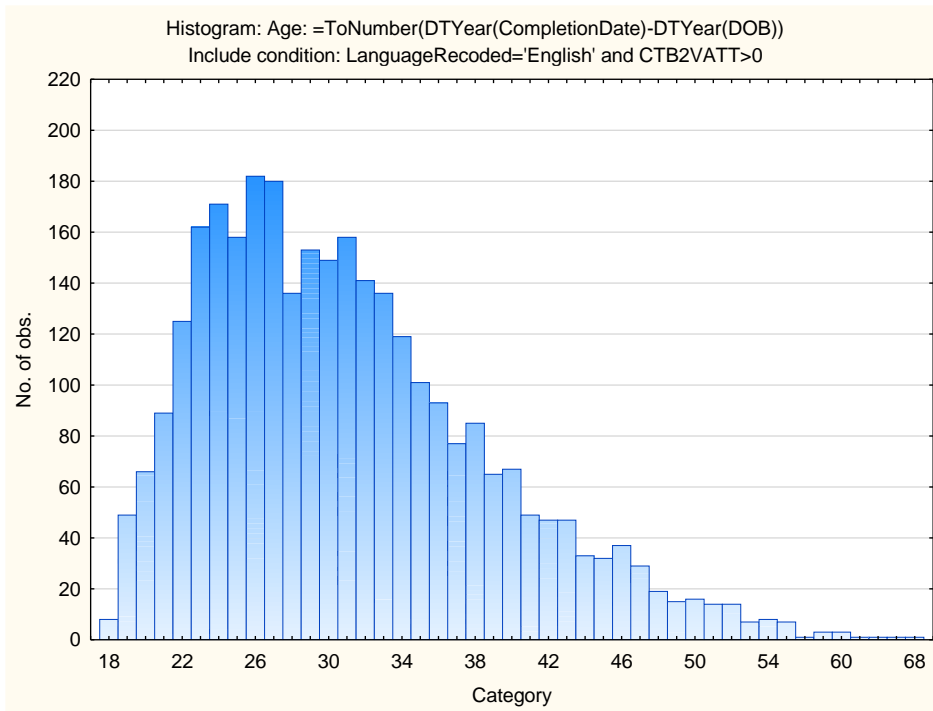
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2341	2341	62.76139	62.7614
M	1377	3718	36.91689	99.6783
Missing	12	3730	0.32172	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1460	1460	39.14209	39.1421
Tertiary Cert / Trade	983	2443	26.35389	65.4960
Tertiary	870	3313	23.32440	88.8204
Post Graduate	244	3557	6.54155	95.3619
< Matric	13	3570	0.34853	95.7105
Missing	160	3730	4.28954	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	739	739	19.81233	19.8123
African	1864	2603	49.97319	69.7855
Indian	290	2893	7.77480	77.5603
Asian	132	3025	3.53887	81.0992
European	342	3367	9.16890	90.2681
Missing	363	3730	9.73190	100.0000

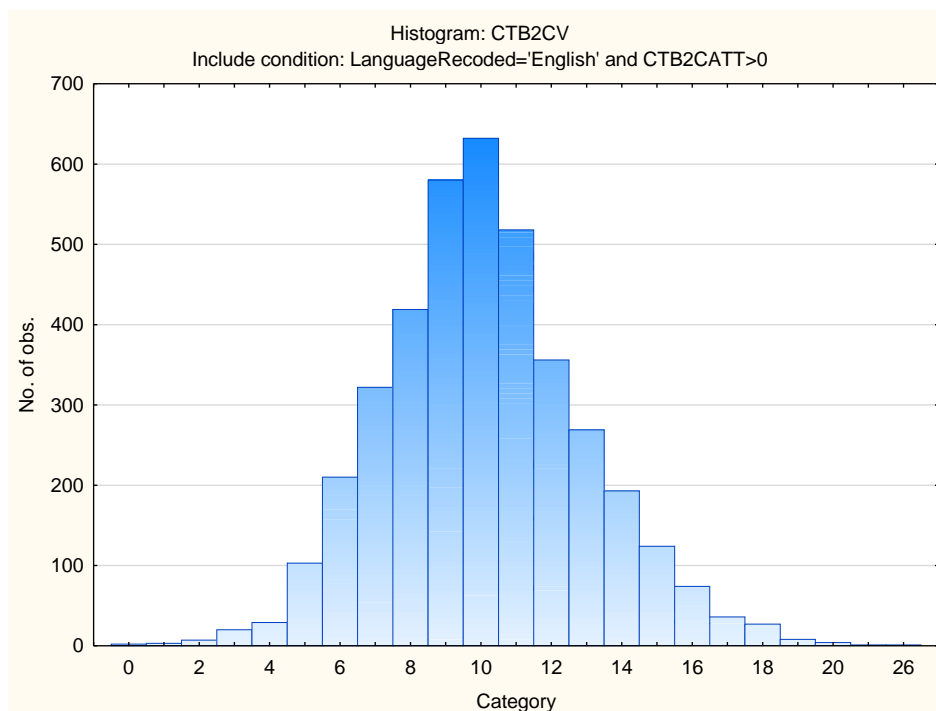
Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3730	3730	100.0000	100.0000
Missing	0	3730	0.0000	100.0000

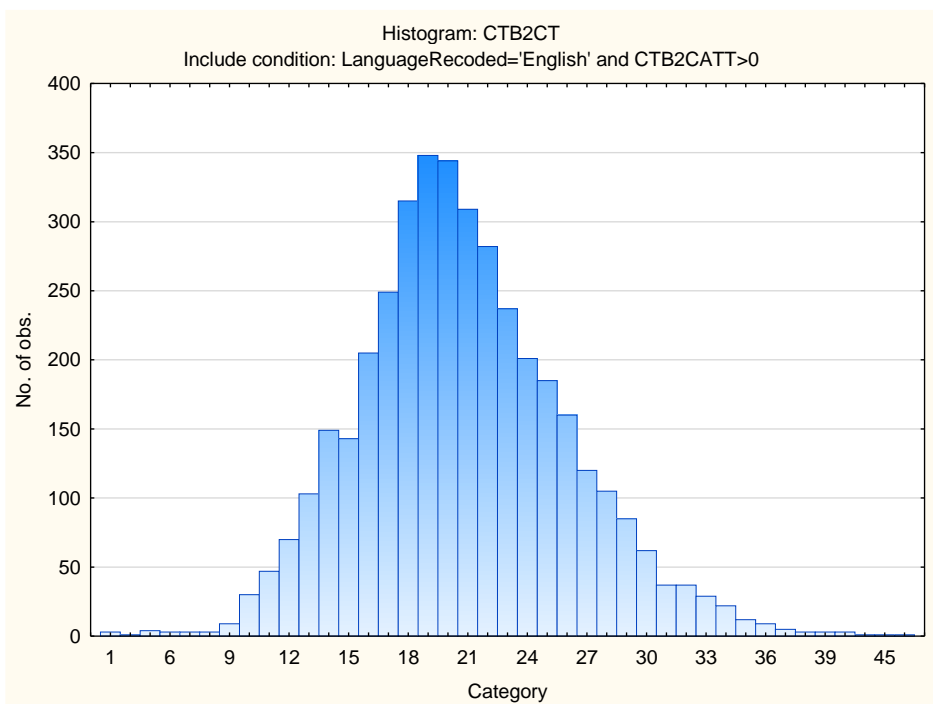
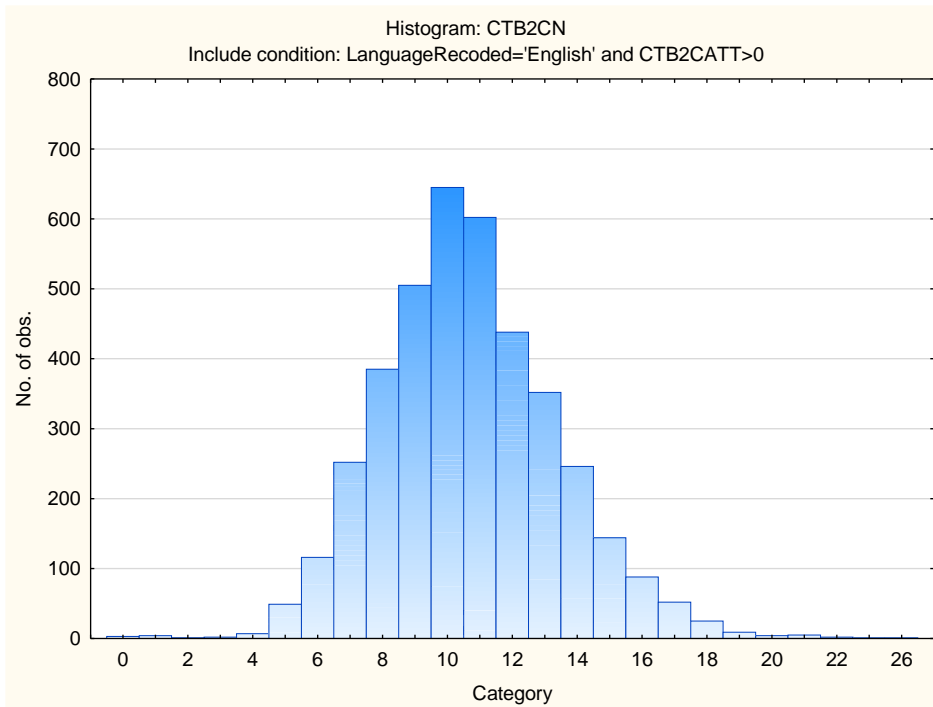
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.07267	7.799255	18.00000	68.00000	3055	675

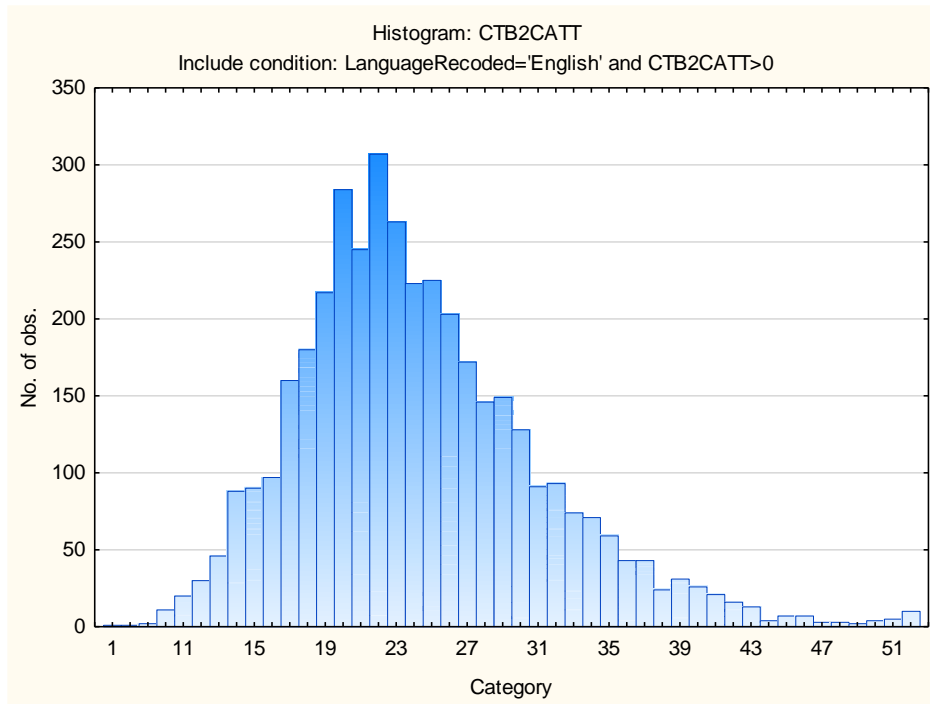


Descriptive Statistics on Clerical Test Battery Subtests

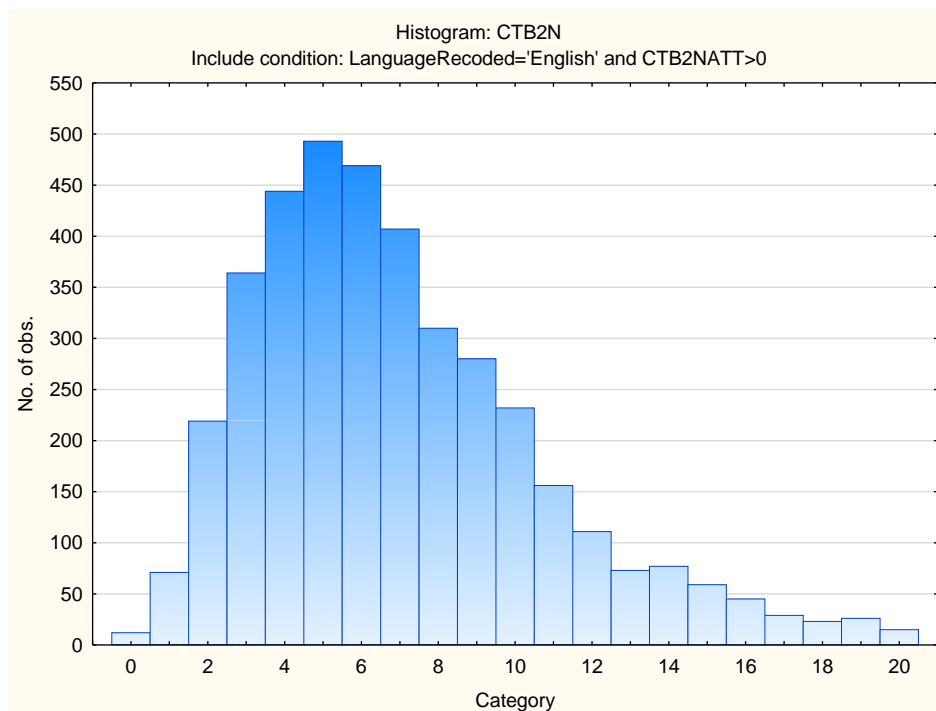
Variable	Descriptive Statistics: Clerical Checking Test					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	10.08228	2.855834	0.000000	26.000000	3938	0
CTB2CN	10.68334	2.735951	0.000000	26.000000	3938	0
CTB2CT	20.76562	5.260322	1.000000	52.000000	3938	0
CTB2CATT	24.27171	6.861659	1.000000	52.000000	3938	0

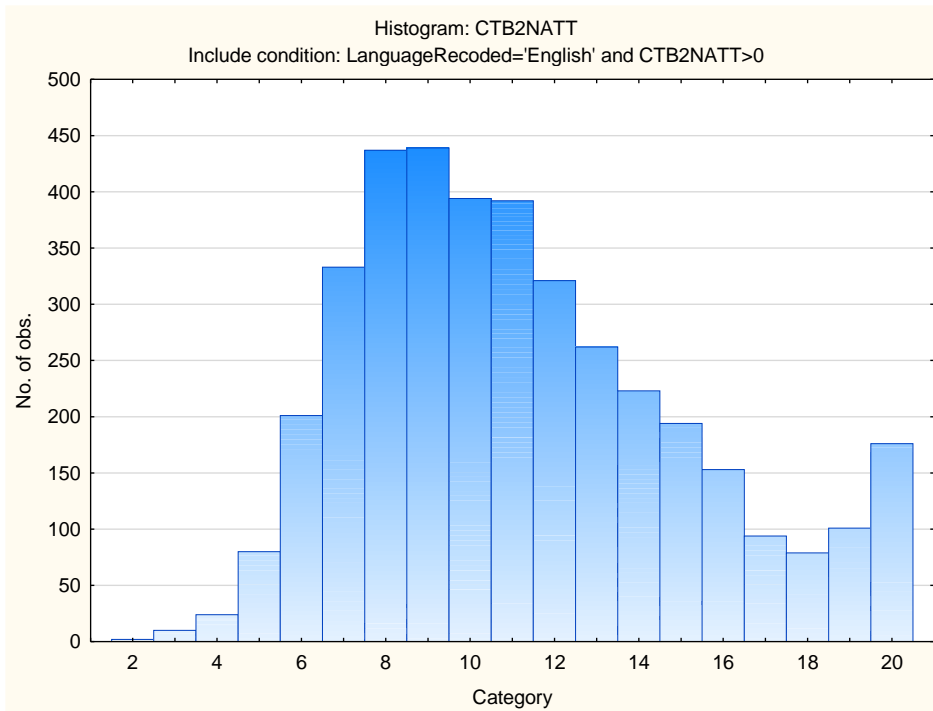




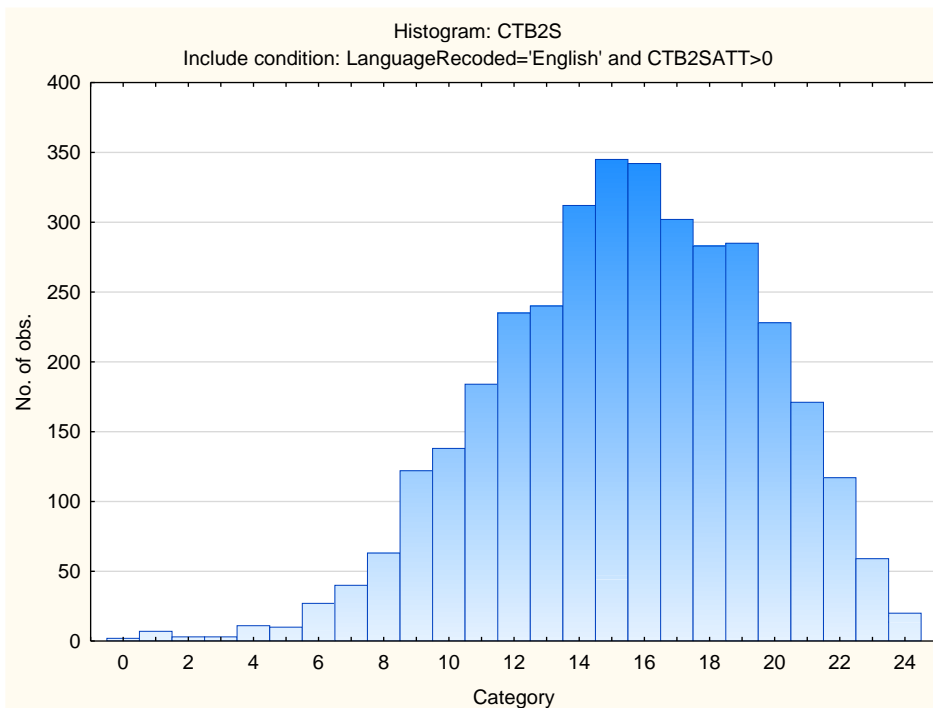


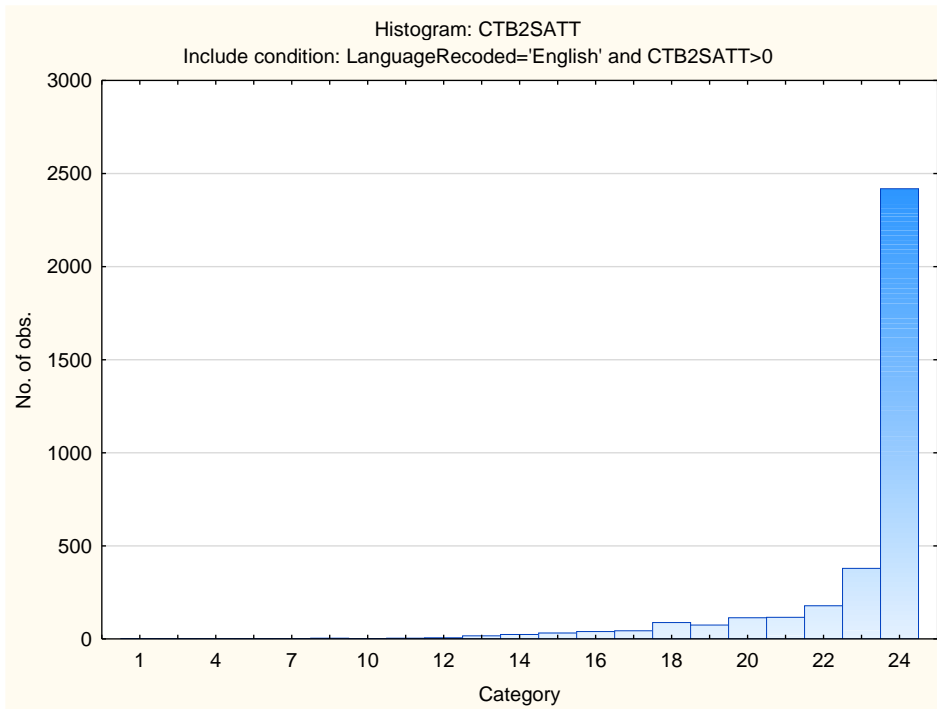
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	6.94917	3.763678	0.000000	20.00000	3915	0
CTB2NATT	11.22937	3.894627	2.000000	20.00000	3915	0



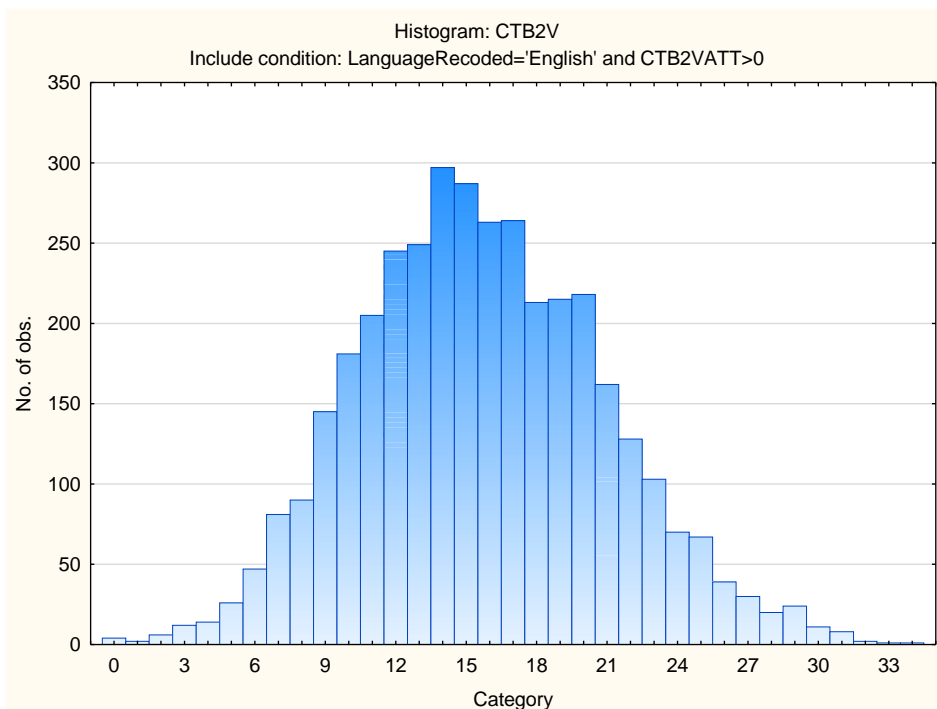


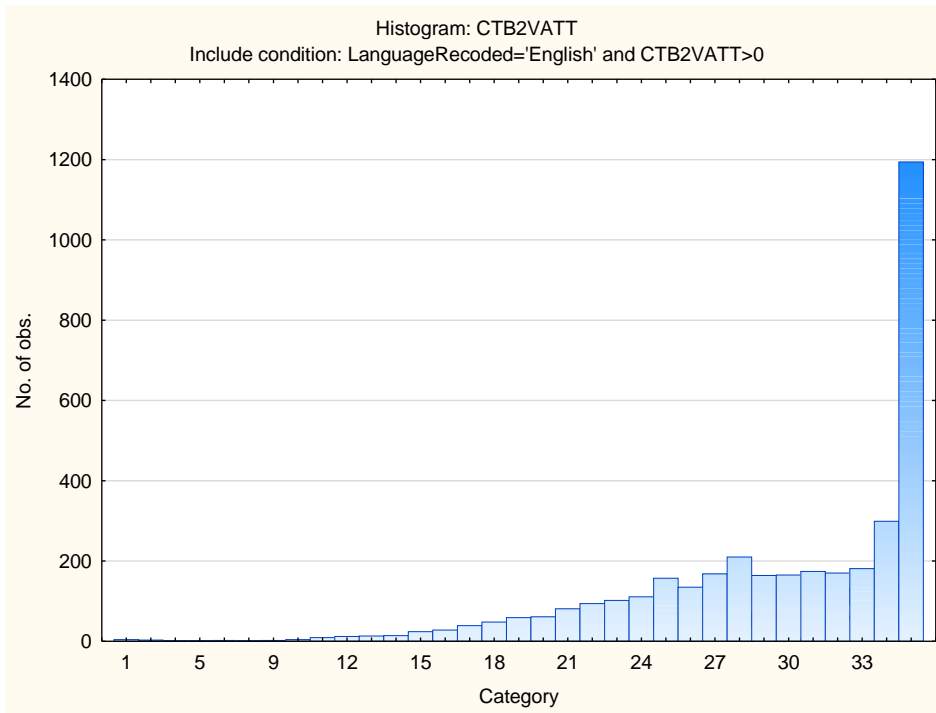
Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	15.41955	4.047223	0.000000	24.00000	3549	0
CTB2SATT	22.83291	2.477060	1.000000	24.00000	3549	0





Variable	Descriptive Statistics: Verbal Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	15.68928	5.244897	0.000000	34.00000	3730	0
CTB2VATT	29.61903	5.905387	1.000000	35.00000	3730	0





Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	0-6	7-9	10-11	12-14	15-17	18-19	20-22	23-24	25-34
Numerical Ability	0-0	1-2	3-4	5-6	7-7	8-9	10-11	12-13	14-20
Clerical Checking - Verbal	0-5	6-6	7-7	8-9	10-10	11-12	13-13	14-15	16-26
Clerical Checking - Numerical	0-5	6-7	8-8	9-9	10-11	12-12	13-14	15-15	16-26
Clerical Checking - Total	1-11	12-14	15-16	17-19	20-22	23-24	25-27	28-29	30-52
Spelling	0-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA Afrikaans Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	496	496	65.17740	65.1774
M	264	760	34.69120	99.8686
Missing	1	761	0.13141	100.0000

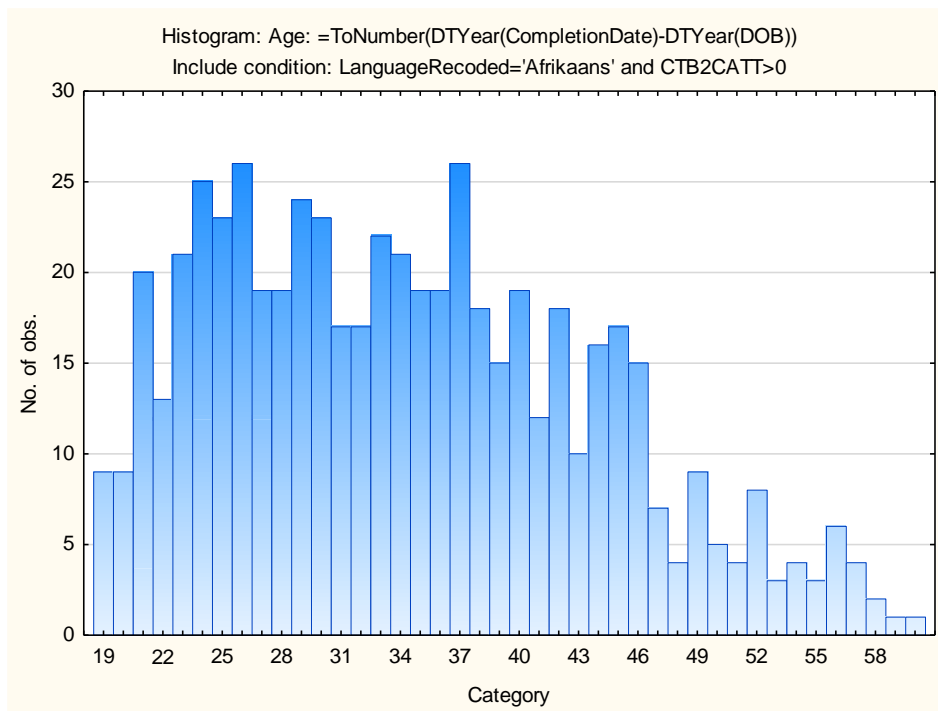
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	373	373	49.01445	49.0145
Tertiary Cert / Trade	208	581	27.33246	76.3469
Tertiary	93	674	12.22076	88.5677
Post Graduate	41	715	5.38765	93.9553
< Matric	10	725	1.31406	95.2694
Missing	36	761	4.73062	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	228	228	29.96058	29.9606
African	102	330	13.40342	43.3640
European	389	719	51.11695	94.4809
Missing	42	761	5.51905	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	761	761	100.0000	100.0000
Missing	0	761	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	761	761	100.0000	100.0000
Missing	0	761	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	34.34729	9.433971	19.00000	60.00000	573	188



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	485	485	65.27591	65.2759
M	257	742	34.58950	99.8654
Missing	1	743	0.13459	100.0000

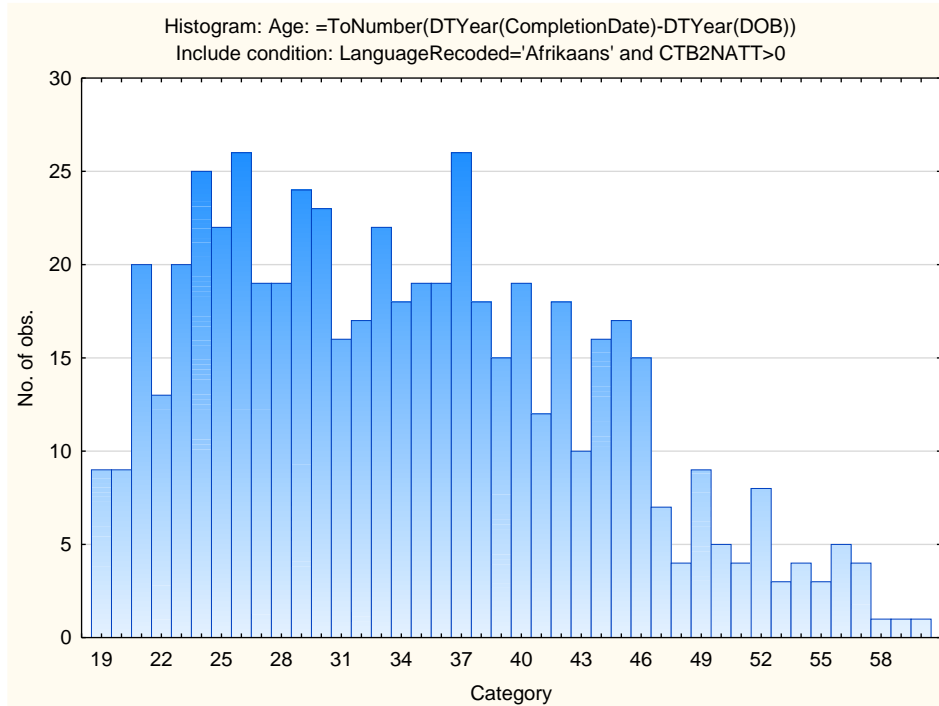
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	367	367	49.39435	49.3943
Tertiary Cert / Trade	202	569	27.18708	76.5814
Tertiary	89	658	11.97847	88.5599
Post Graduate	39	697	5.24899	93.8089
< Matric	10	707	1.34590	95.1548
Missing	36	743	4.84522	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	221	221	29.74428	29.7443
African	102	323	13.72813	43.4724
European	378	701	50.87483	94.3472
Missing	42	743	5.65276	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	743	743	100.0000	100.0000
Missing	0	743	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	743	743	100.0000	100.0000
Missing	0	743	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	34.31150	9.382643	19.00000	60.00000	565	178



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	401	401	68.43003	68.4300
M	184	585	31.39932	99.8294
Missing	1	586	0.17065	100.0000

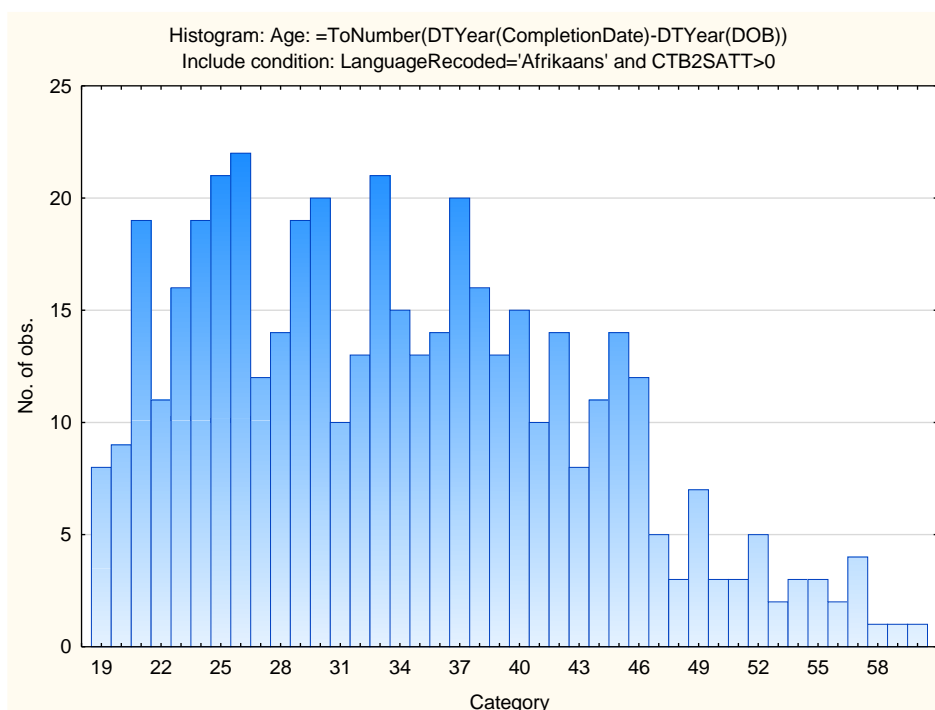
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	297	297	50.68259	50.6826
Tertiary Cert / Trade	138	435	23.54949	74.2321
Tertiary	78	513	13.31058	87.5427
Post Graduate	37	550	6.31399	93.8567
< Matric	6	556	1.02389	94.8805
Missing	30	586	5.11945	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	153	153	26.10922	26.1092
African	82	235	13.99317	40.1024
European	310	545	52.90102	93.0034
Missing	41	586	6.99659	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	586	586	100.0000	100.0000
Missing	0	586	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	586	586	100.0000	100.0000
Missing	0	586	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	33.95354	9.387923	19.00000	60.00000	452	134



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	417	417	64.55108	64.5511
M	228	645	35.29412	99.8452
Missing	1	646	0.15480	100.0000

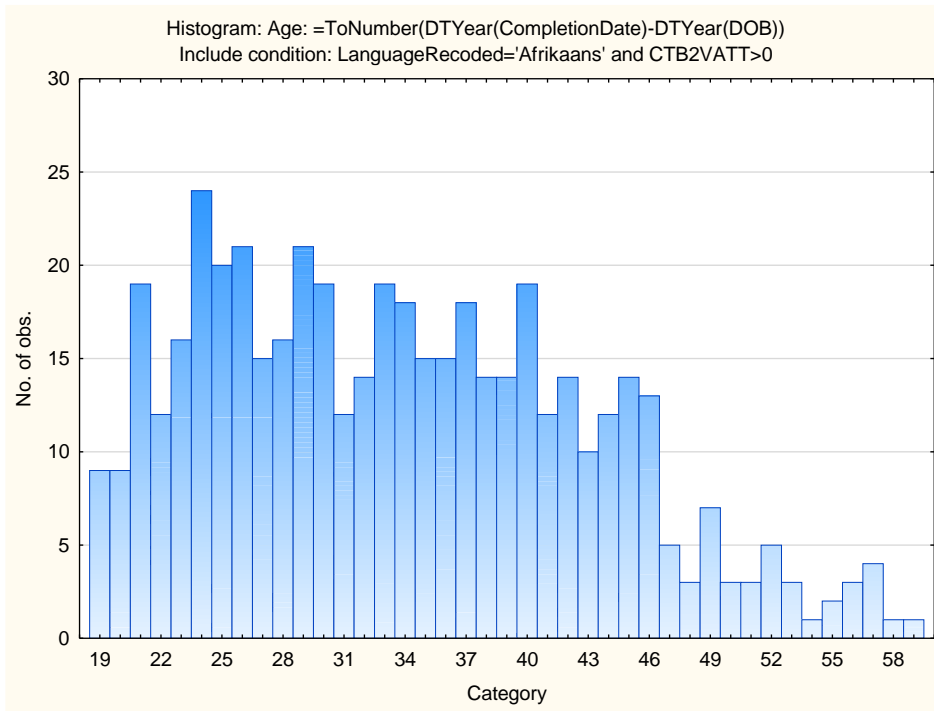
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	315	315	48.76161	48.7616
Tertiary Cert / Trade	171	486	26.47059	75.2322
Tertiary	82	568	12.69350	87.9257
Post Graduate	34	602	5.26316	93.1889
< Matric	8	610	1.23839	94.4272
Missing	36	646	5.57276	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	165	165	25.54180	25.5418
African	98	263	15.17028	40.7121
European	343	606	53.09598	93.8080
Missing	40	646	6.19195	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	646	646	100.0000	100.0000
Missing	0	646	0.0000	100.0000

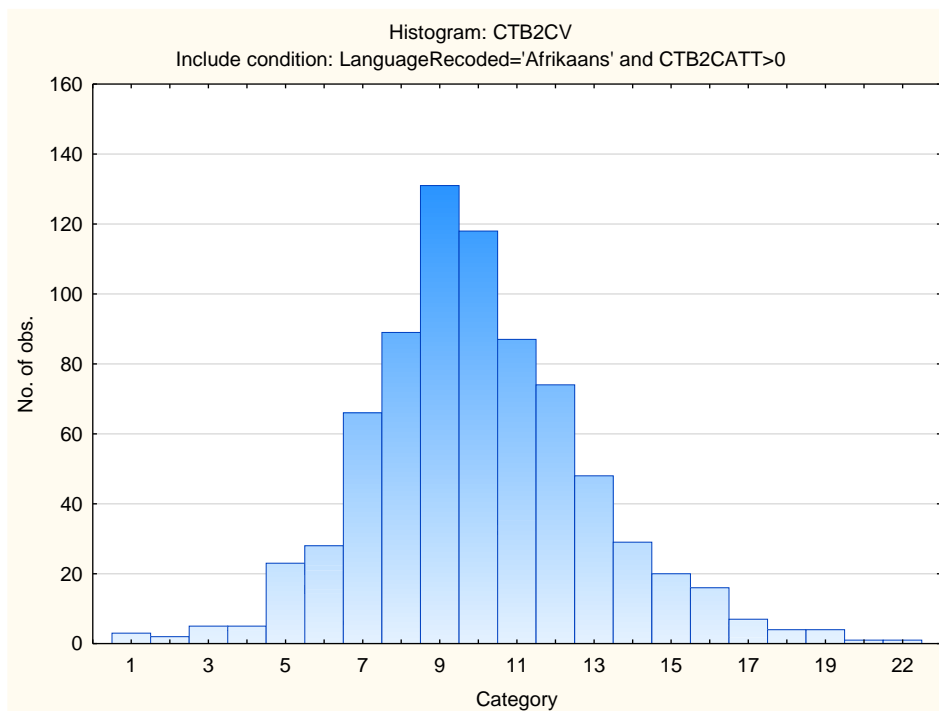
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	646	646	100.0000	100.0000
Missing	0	646	0.0000	100.0000

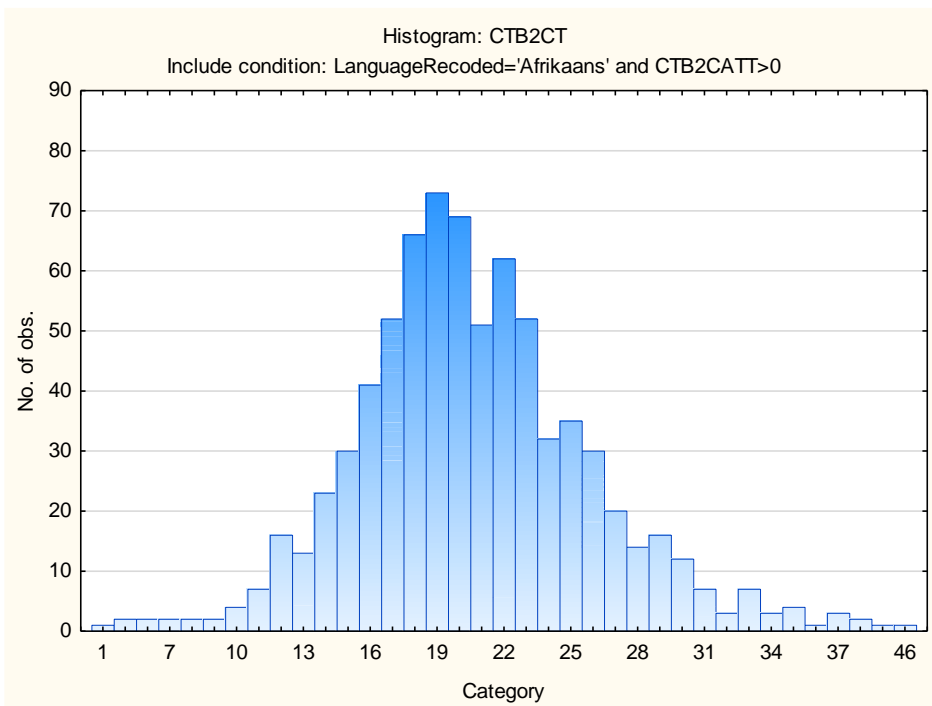
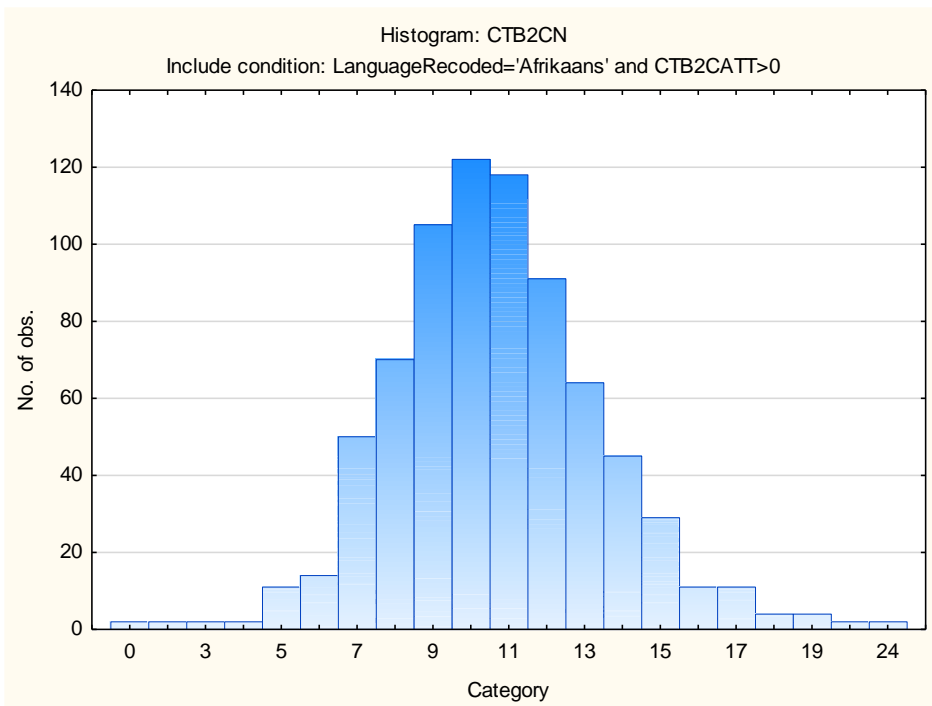
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	33.79368	9.224552	19.00000	60.00000	475	171

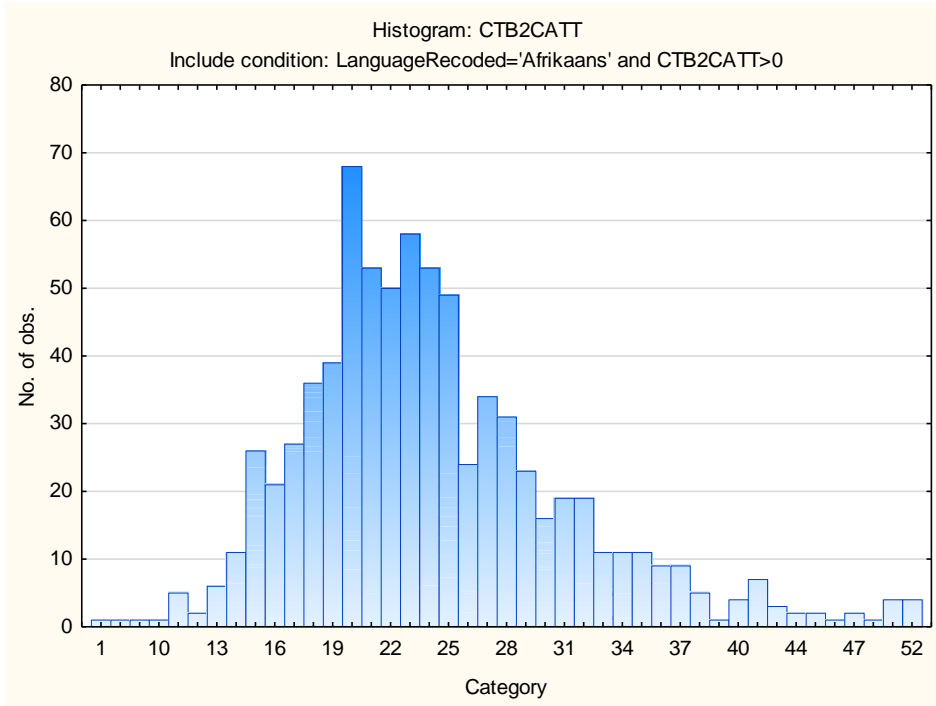


Descriptive Statistics on Clerical Test Battery Subtests

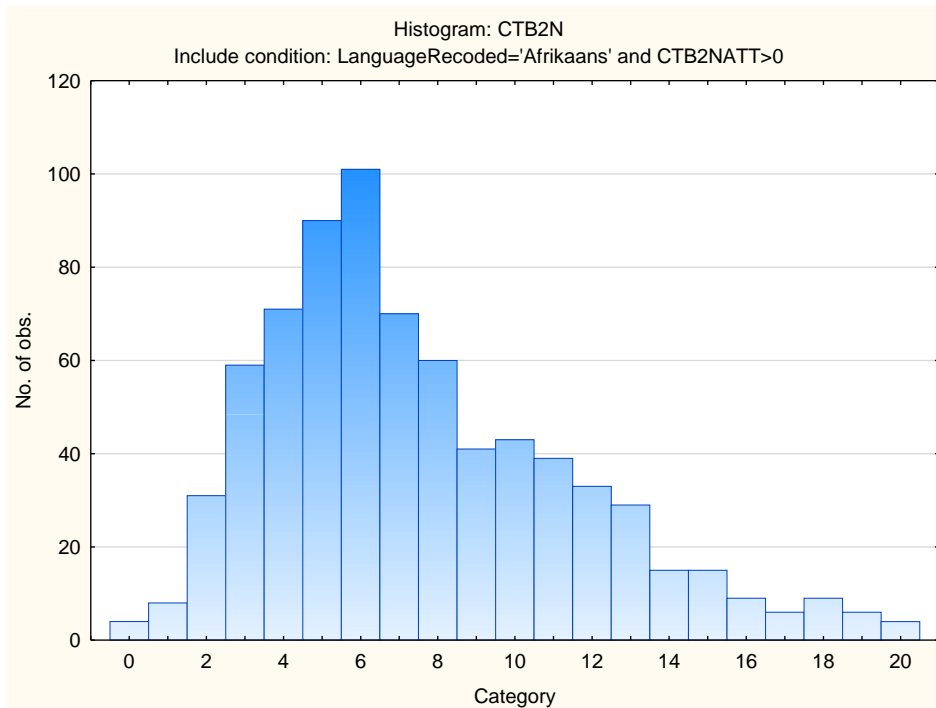
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.98423	2.906846	1.000000	22.00000	761	0
CTB2CN	10.67017	2.842861	0.000000	24.00000	761	0
CTB2CT	20.65440	5.411502	1.000000	46.00000	761	0
CTB2CATT	24.22076	7.122510	1.000000	52.00000	761	0

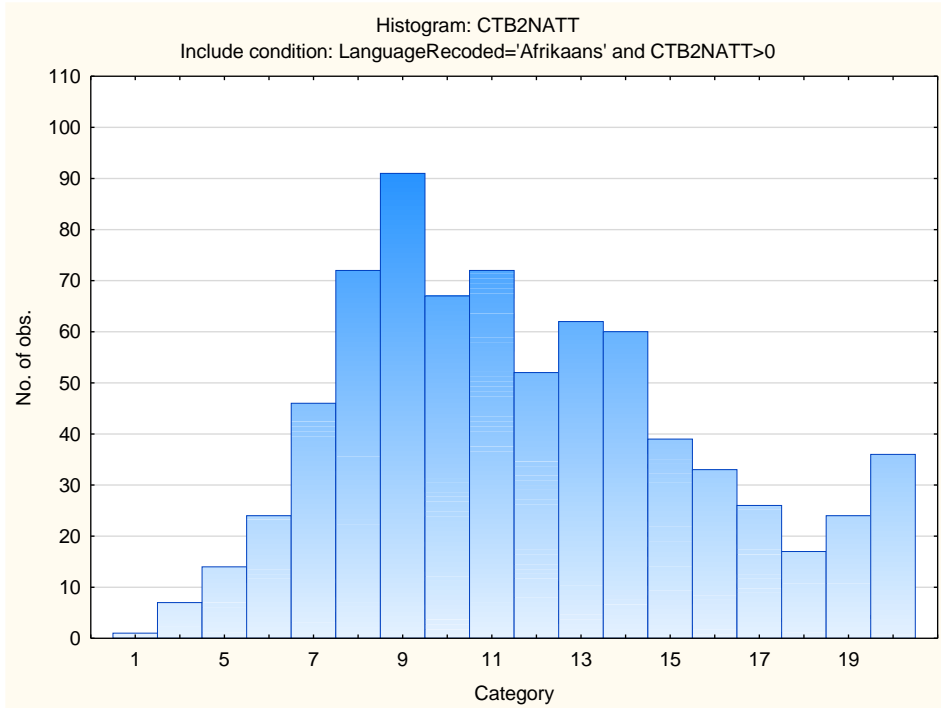




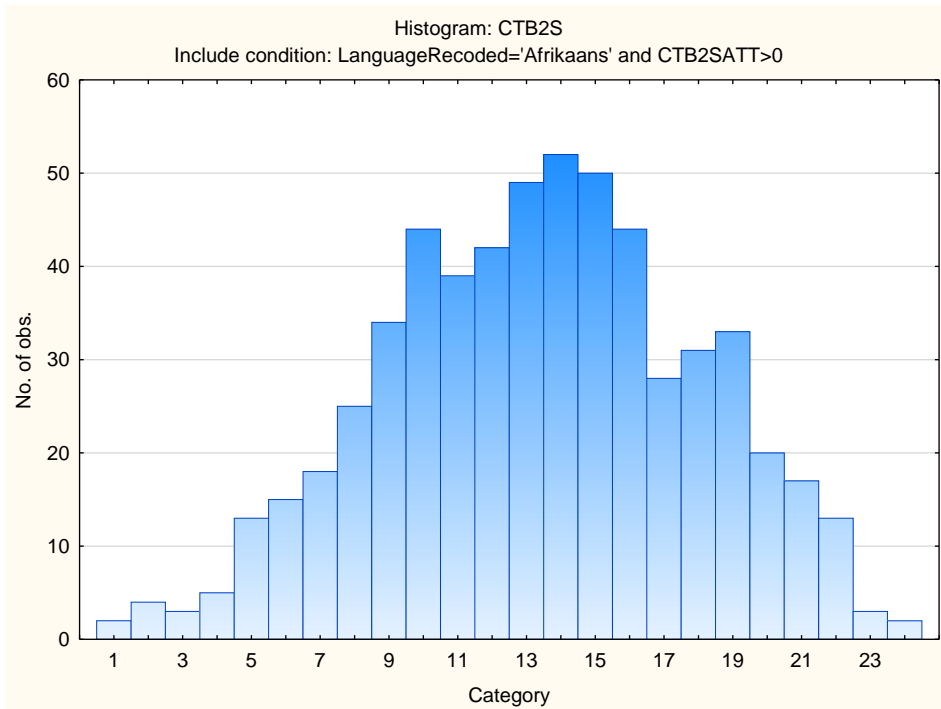


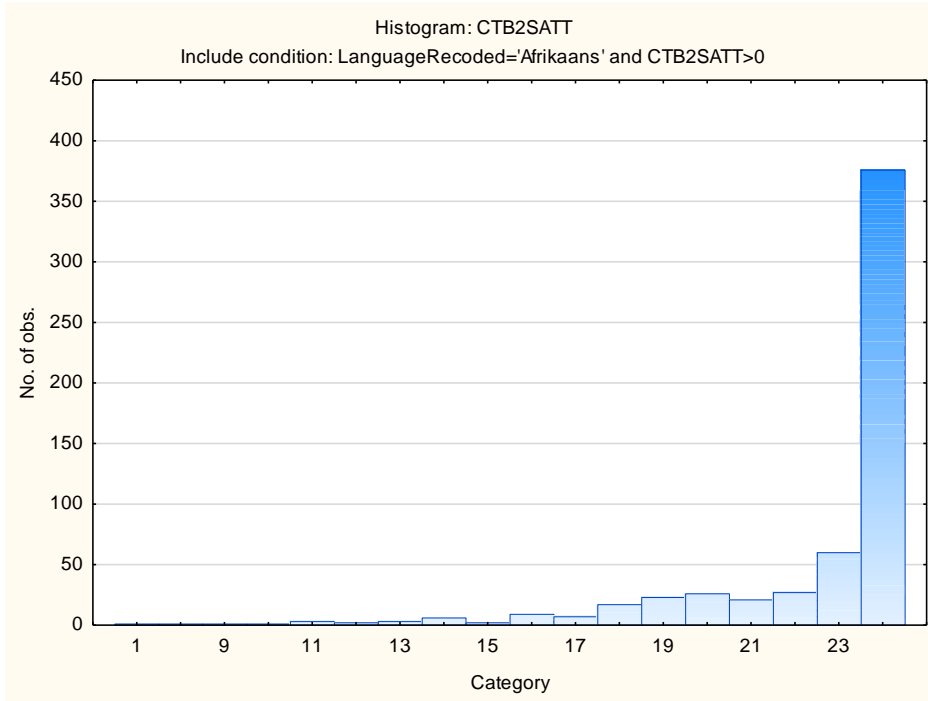
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	7.53028	3.996472	0.000000	20.00000	743	0
CTB2NATT	11.74832	3.929283	1.000000	20.00000	743	0



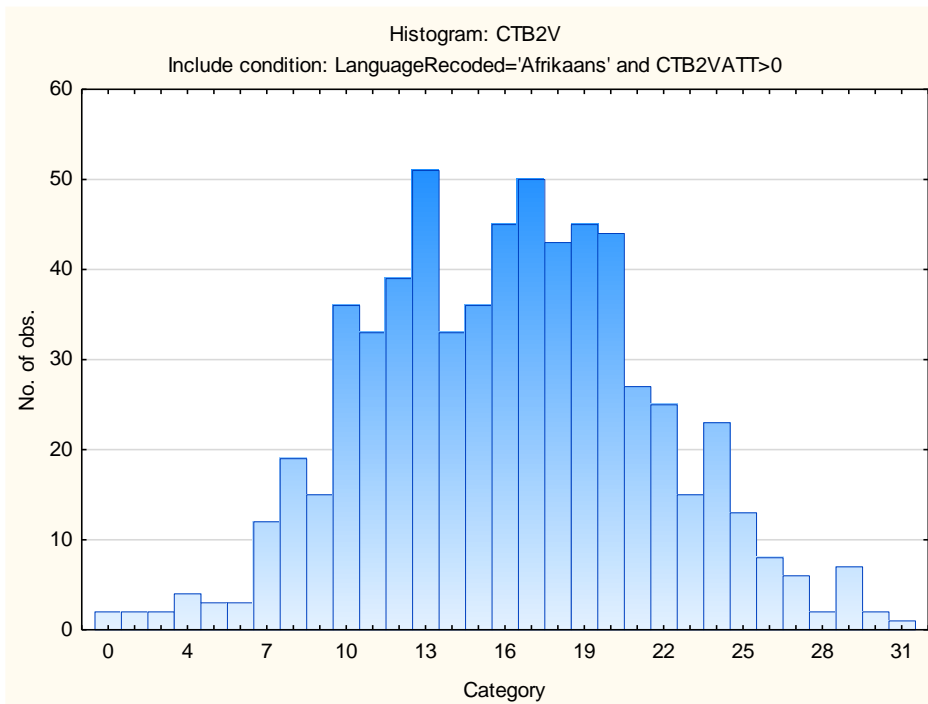


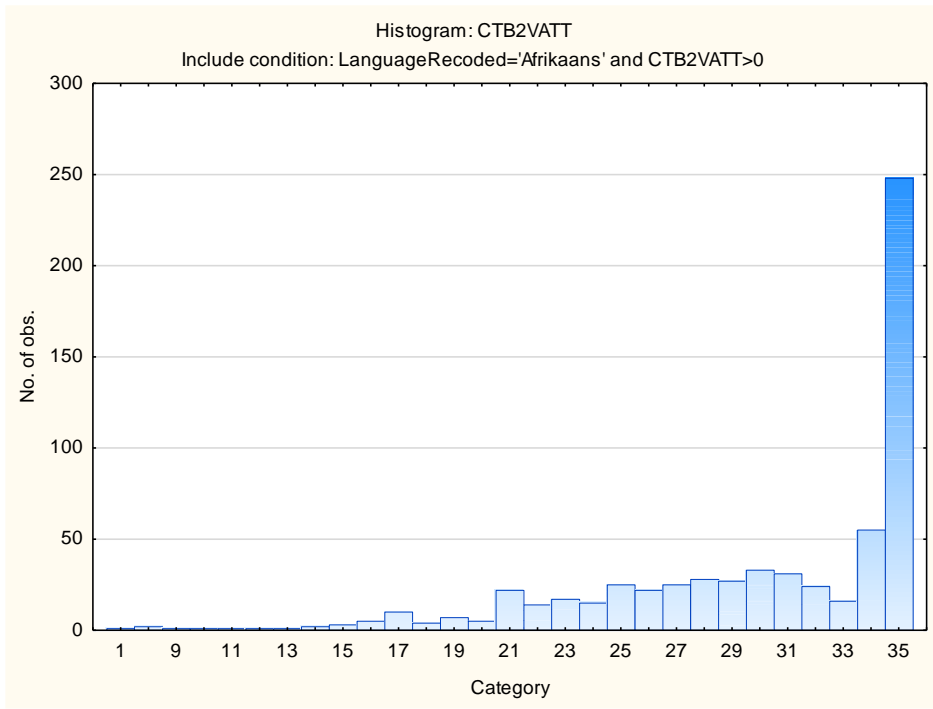
Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	13.37713	4.546747	1.000000	24.00000	586	0
CTB2SATT	22.53072	2.846484	1.000000	24.00000	586	0





Variable	Descriptive Statistics: Verbal Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	16.13622	5.361941	0.000000	31.000000	646	0
CTB2VATT	30.11920	5.858516	1.000000	35.000000	646	0





Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	0-6	7-9	10-12	13-14	15-17	18-20	21-22	23-25	26-31
Numerical Ability	0-0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-20
Clerical Checking - Verbal	1-4	5-6	7-7	8-9	10-10	11-12	13-13	14-15	16-22
Clerical Checking - Numerical	0-5	6-7	8-8	9-9	10-11	12-12	13-14	15-15	16-24
Clerical Checking - Total	1-11	12-13	14-16	17-19	20-22	23-24	25-27	28-30	31-46
Spelling	1-5	6-7	8-9	10-12	13-14	15-16	17-19	20-21	22-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA Indigenous Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2449	2449	61.87468	61.8747
M	1505	3954	38.02425	99.8989
Missing	4	3958	0.10106	100.0000

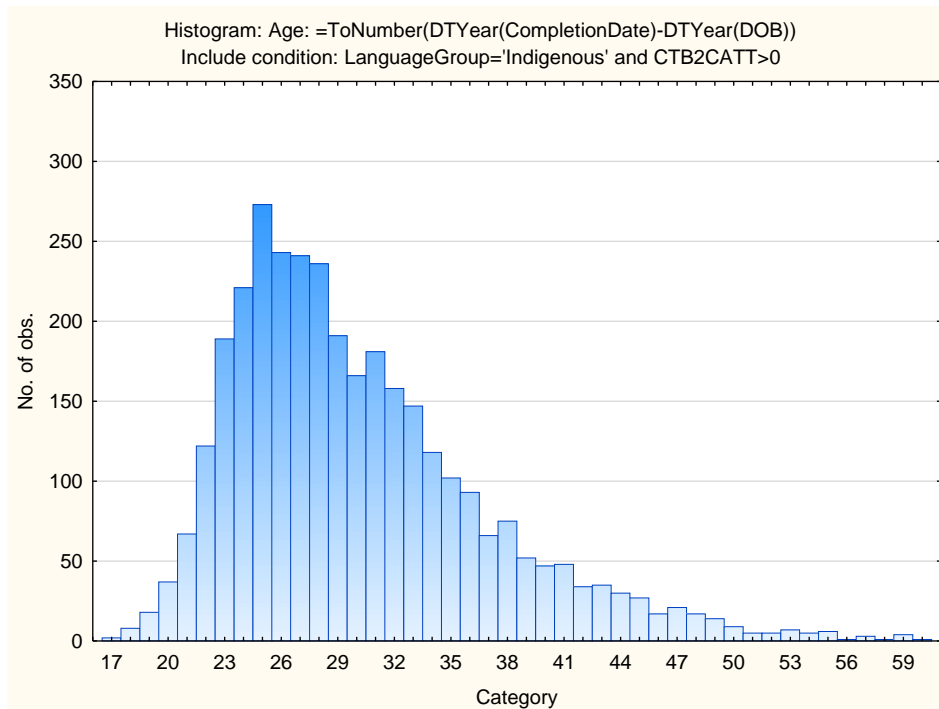
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1411	1411	35.64932	35.6493
Tertiary Cert / Trade	1274	2685	32.18797	67.8373
Tertiary	893	3578	22.56190	90.3992
Post Graduate	240	3818	6.06367	96.4629
< Matric	23	3841	0.58110	97.0440
Missing	117	3958	2.95604	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	21	21	0.53057	0.5306
African	3821	3842	96.53866	97.0692
Asian	2	3844	0.05053	97.1198
European	2	3846	0.05053	97.1703
Missing	112	3958	2.82971	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	528	528	13.34007	13.3401
isiXhosa	1046	1574	26.42749	39.7676
Xitsonga	176	1750	4.44669	44.2142
Tshivenda	165	1915	4.16877	48.3830
isiZulu	1045	2960	26.40222	74.7852
Sepedi	483	3443	12.20313	86.9884
isiNdebele	75	3518	1.89490	88.8833
siSwati	54	3572	1.36433	90.2476
Sesotho	386	3958	9.75240	100.0000
Missing	0	3958	0.00000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	3958	3958	100.0000	100.0000
Missing	0	3958	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.10859	6.806191	17.00000	62.00000	3343	615



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2436	2436	61.84311	61.8431
M	1499	3935	38.05534	99.8985
Missing	4	3939	0.10155	100.0000

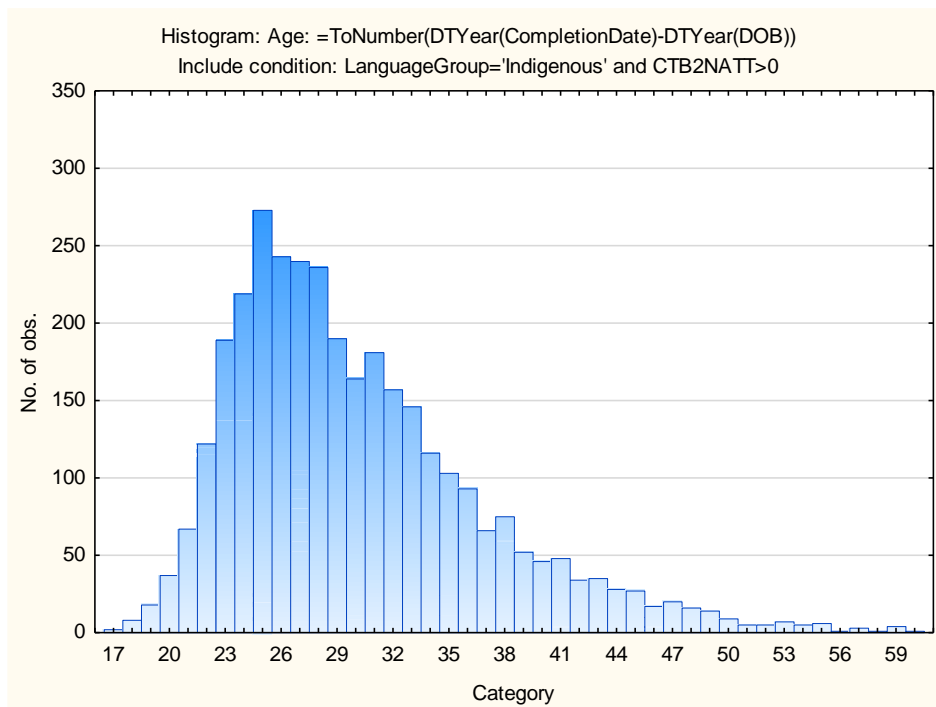
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1402	1402	35.59279	35.5928
Tertiary Cert / Trade	1269	2671	32.21630	67.8091
Tertiary	892	3563	22.64534	90.4544
Post Graduate	237	3800	6.01676	96.4712
< Matric	23	3823	0.58390	97.0551
Missing	116	3939	2.94491	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	21	21	0.53313	0.5331
African	3802	3823	96.52196	97.0551
Asian	2	3825	0.05077	97.1059
European	2	3827	0.05077	97.1566
Missing	112	3939	2.84336	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	524	524	13.30287	13.3029
isiXhosa	1043	1567	26.47880	39.7817
Xitsonga	175	1742	4.44275	44.2244
Tshivenda	164	1906	4.16349	48.3879
isiZulu	1040	2946	26.40264	74.7906
Sepedi	479	3425	12.16045	86.9510
isiNdebele	75	3500	1.90404	88.8550
siSwati	54	3554	1.37091	90.2259
Sesotho	385	3939	9.77405	100.0000
Missing	0	3939	0.00000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	3939	3939	100.0000	100.0000
Missing	0	3939	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No. cases Missing
Age	30.08952	6.794134	17.00000	62.00000	3329	610



Sample composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2213	2213	61.50639	61.5064
M	1381	3594	38.38243	99.8888
Missing	4	3598	0.11117	100.0000

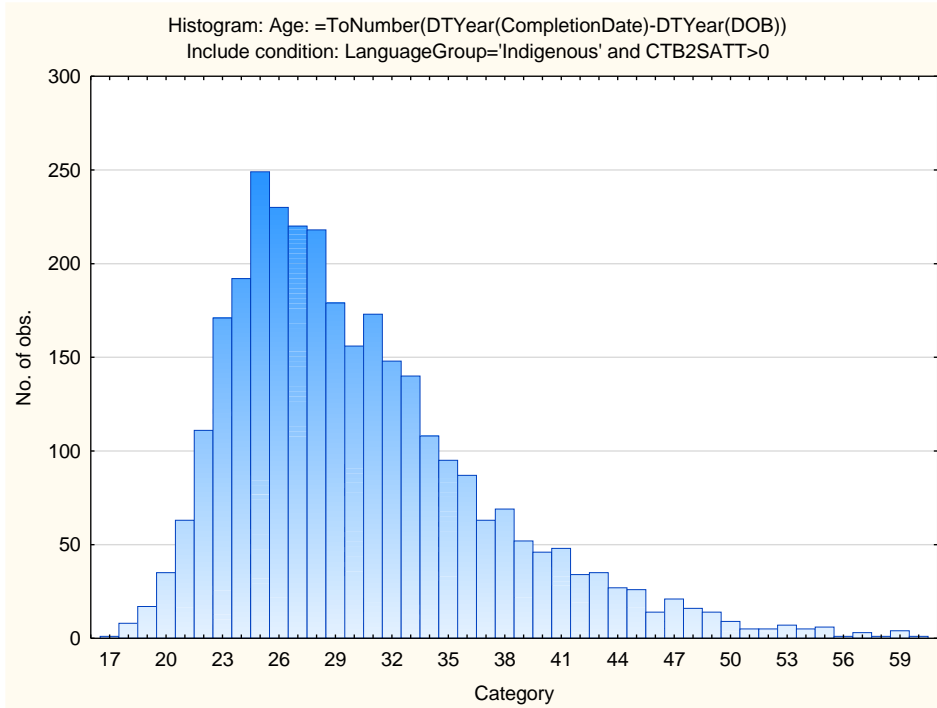
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1324	1324	36.79822	36.7982
Tertiary Cert / Trade	1142	2466	31.73986	68.5381
Tertiary	820	3286	22.79044	91.3285
Post Graduate	220	3506	6.11451	97.4430
< Matric	15	3521	0.41690	97.8599
Missing	77	3598	2.14008	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	21	21	0.58366	0.5837
African	3470	3491	96.44247	97.0261
Asian	2	3493	0.05559	97.0817
European	2	3495	0.05559	97.1373
Missing	103	3598	2.86270	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	488	488	13.56309	13.5631
isiXhosa	931	1419	25.87549	39.4386
Xitsonga	164	1583	4.55809	43.9967
Tshivenda	156	1739	4.33574	48.3324
isiZulu	958	2697	26.62590	74.9583
Sepedi	453	3150	12.59033	87.5486
isiNdebele	72	3222	2.00111	89.5497
siSwati	48	3270	1.33407	90.8838
Sesotho	328	3598	9.11618	100.0000
Missing	0	3598	0.00000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	3598	3598	100.0000	100.0000
Missing	0	3598	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.24157	6.871721	17.00000	62.00000	3113	485



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2302	2302	61.60021	61.6002
M	1431	3733	38.29275	99.8930
Missing	4	3737	0.10704	100.0000

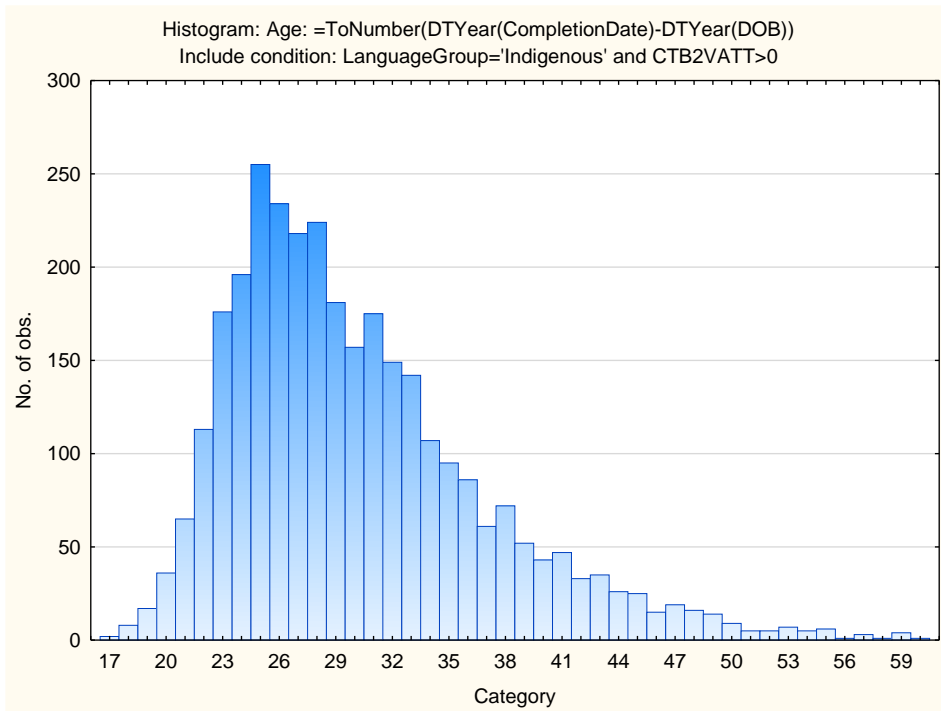
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1351	1351	36.15199	36.1520
Tertiary Cert / Trade	1193	2544	31.92400	68.0760
Tertiary	835	3379	22.34413	90.4201
Post Graduate	222	3601	5.94059	96.3607
< Matric	20	3621	0.53519	96.8959
Missing	116	3737	3.10409	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	21	21	0.56195	0.5619
African	3600	3621	96.33396	96.8959
Asian	2	3623	0.05352	96.9494
European	2	3625	0.05352	97.0029
Missing	112	3737	2.99706	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	499	499	13.35296	13.3530
isiXhosa	962	1461	25.74257	39.0955
Xitsonga	168	1629	4.49558	43.5911
Tshivenda	153	1782	4.09419	47.6853
isiZulu	1012	2794	27.08055	74.7659
Sepedi	458	3252	12.25582	87.0217
isiNdebele	73	3325	1.95344	88.9751
siSwati	52	3377	1.39149	90.3666
Sesotho	360	3737	9.63340	100.0000
Missing	0	3737	0.00000	100.0000

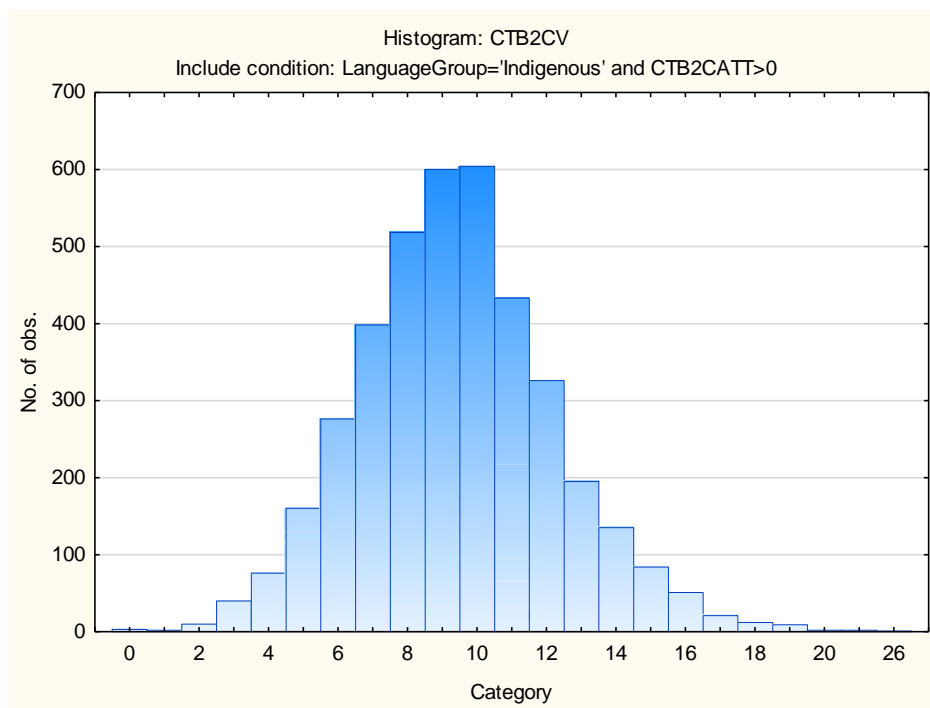
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	3737	3737	100.0000	100.0000
Missing	0	3737	0.0000	100.0000

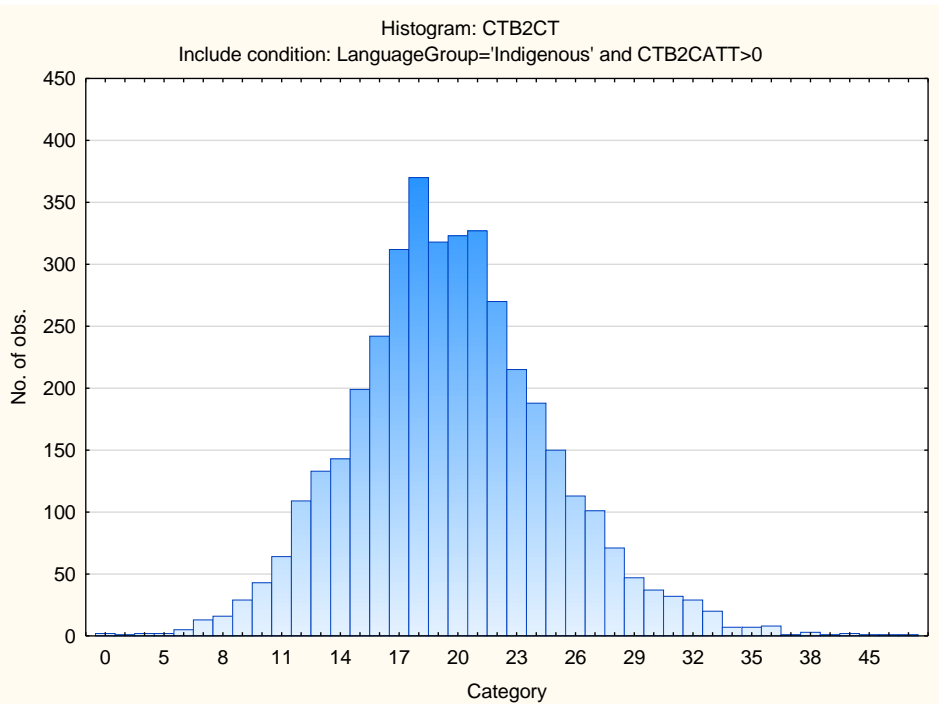
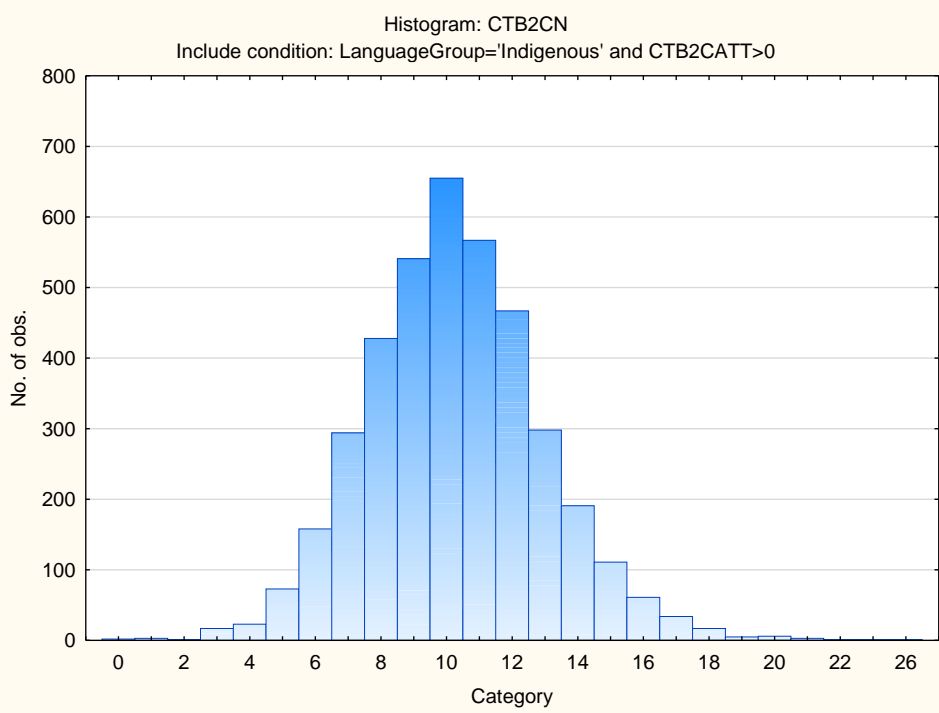
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.15664	6.841773	17.00000	62.00000	3141	596

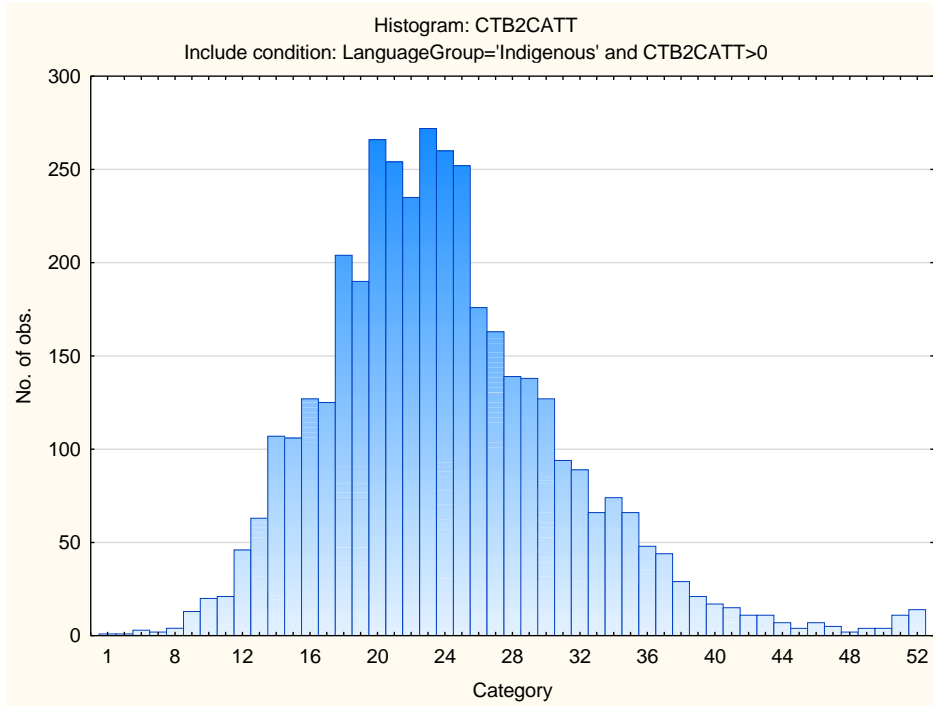


Descriptive Statistics on Clerical Test Battery Subtests

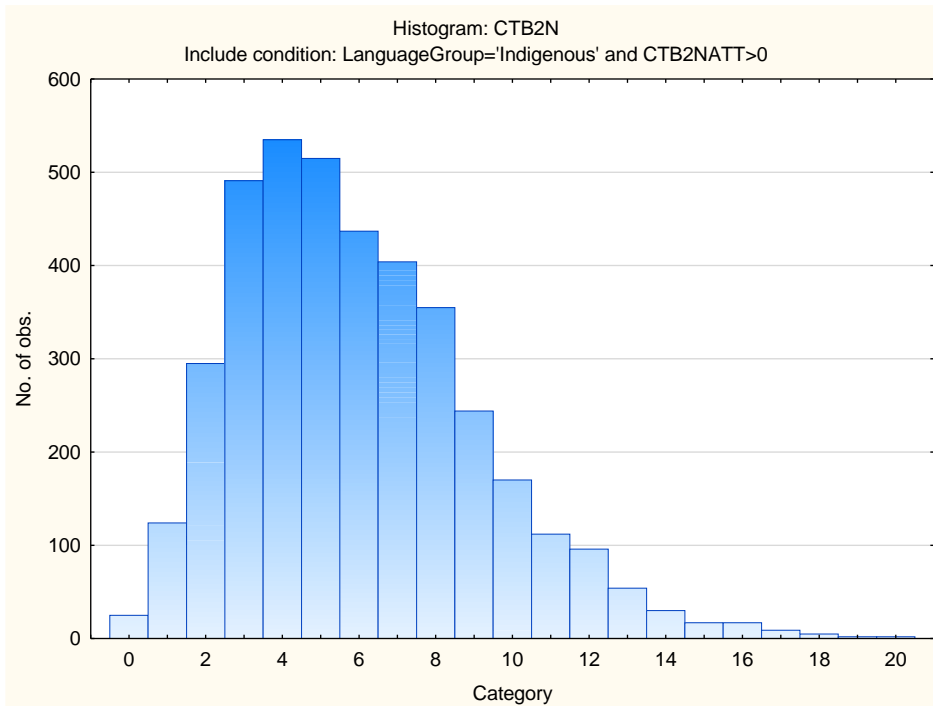
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.42496	2.846739	0.000000	26.00000	3958	0
CTB2CN	10.26402	2.706197	0.000000	26.00000	3958	0
CTB2CT	19.68898	5.142551	0.000000	52.00000	3958	0
CTB2CATT	23.98029	7.148387	1.000000	52.00000	3958	0

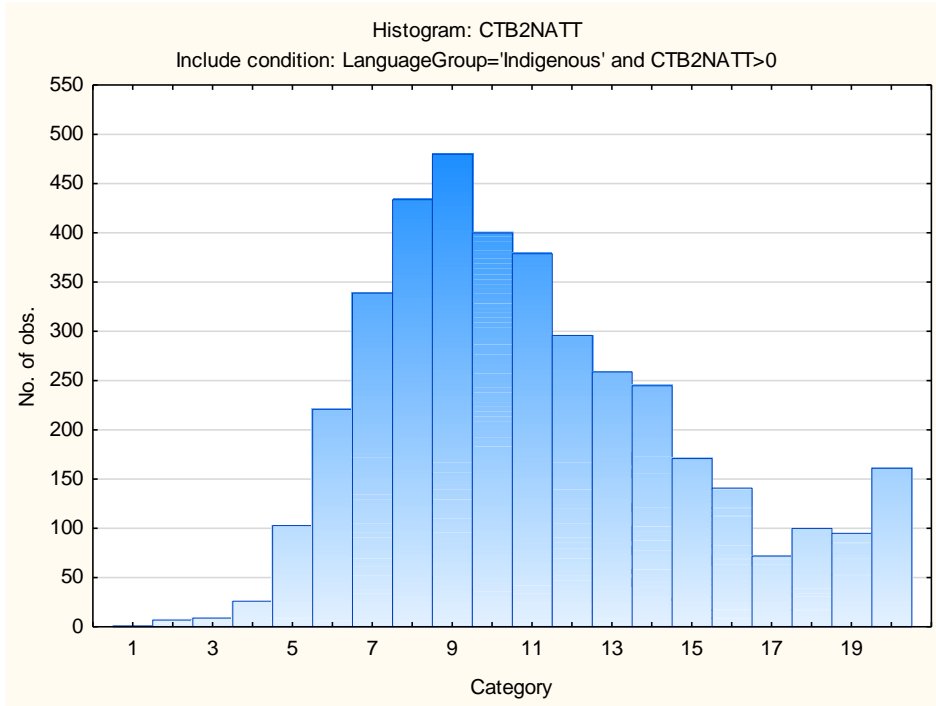




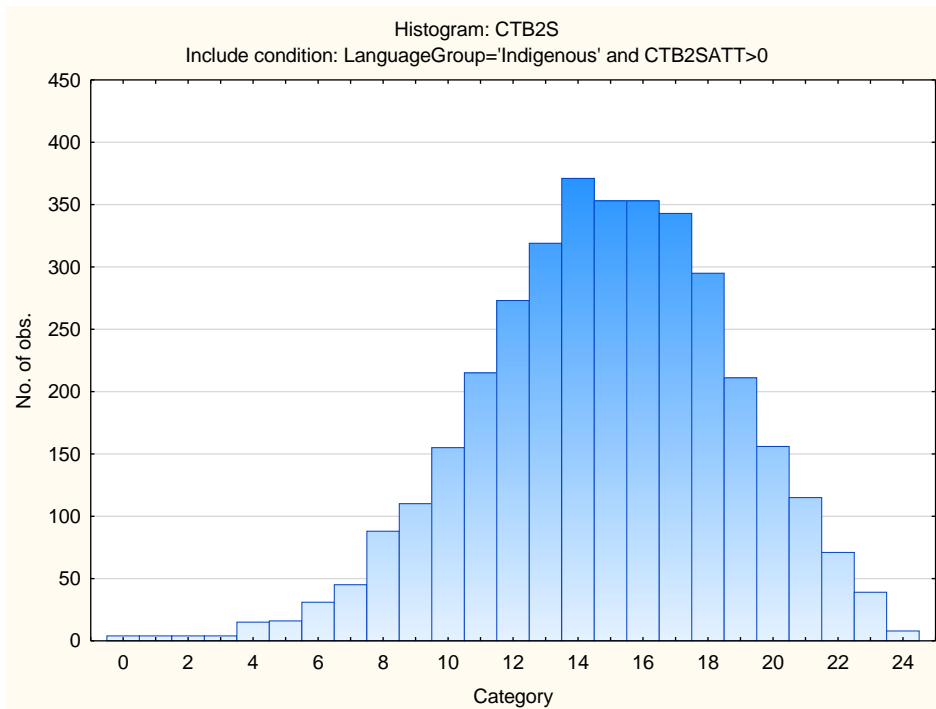


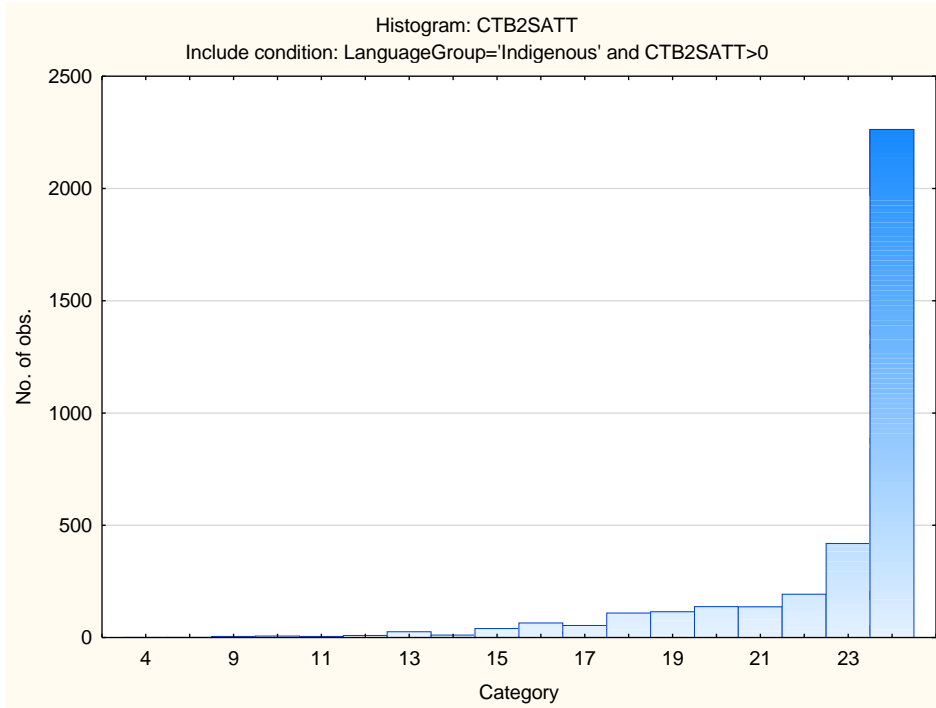
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	5.95126	3.145476	0.000000	20.00000	3939	0
CTB2NATT	11.05357	3.896832	1.000000	20.00000	3939	0



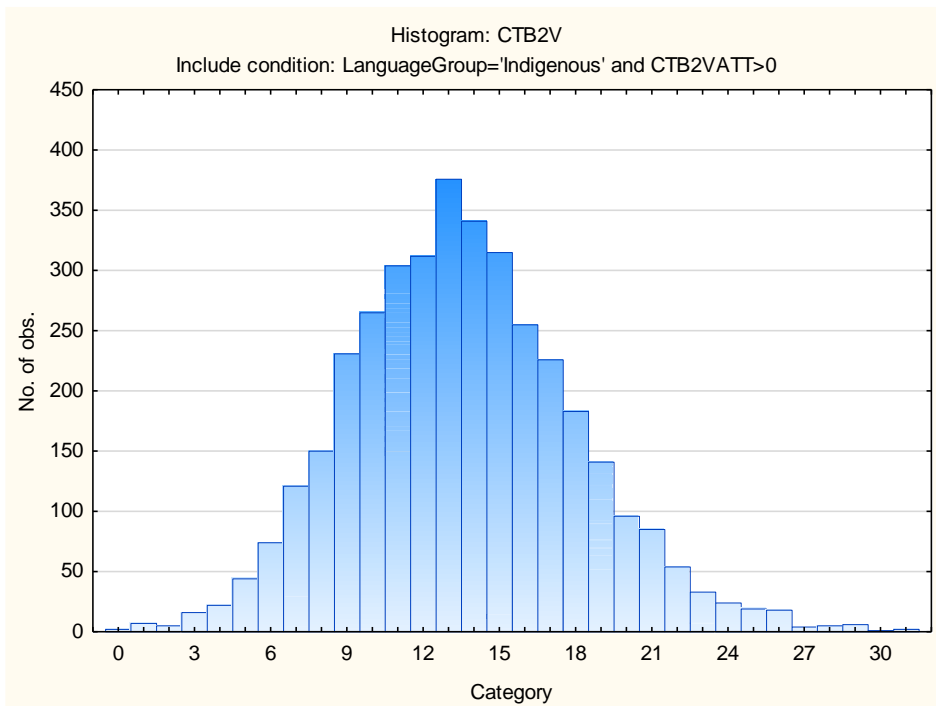


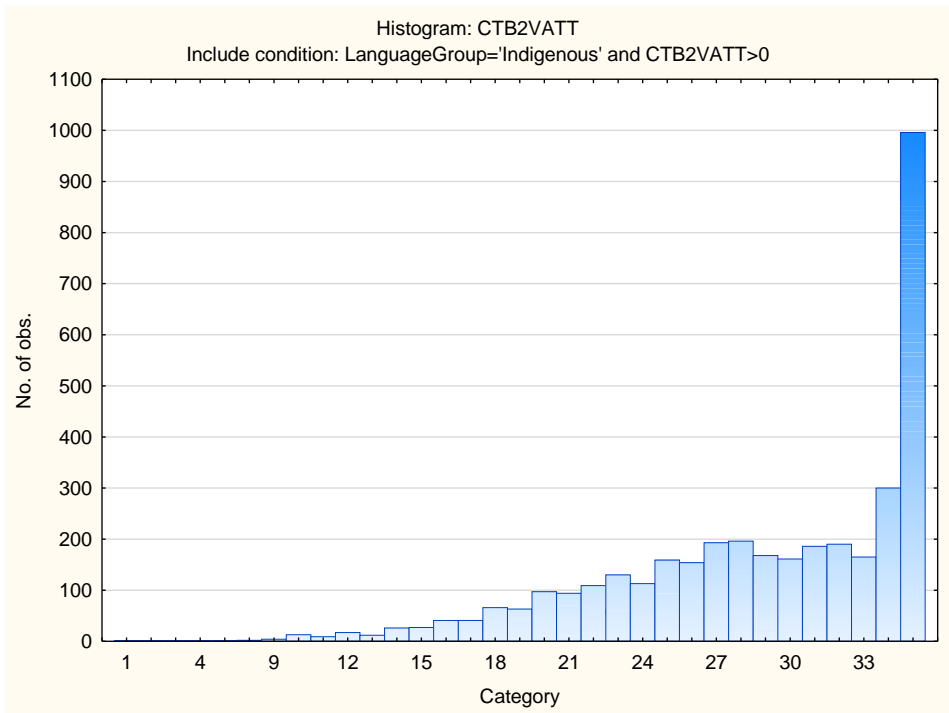
Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	14.77765	3.862889	0.000000	24.00000	3598	0
CTB2SATT	22.60089	2.583435	4.000000	24.00000	3598	0





Variable	Descriptive Statistics: Verbal Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	13.55312	4.462301	0.000000	31.00000	3737	0
CTB2VATT	28.87557	6.119289	1.000000	35.00000	3737	0





Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	0-5	6-7	8-10	11-12	13-14	15-16	17-19	20-21	22-31
Numerical Ability	0-0	1-2	3-3	4-5	6-6	7-8	9-9	10-11	12-20
Clerical Checking - Verbal	0-4	5-5	6-7	8-8	9-10	11-11	12-12	13-14	15-26
Clerical Checking - Numerical	0-5	6-6	7-8	9-9	10-10	11-12	13-13	14-14	15-26
Clerical Checking - Total	0-10	11-13	14-15	16-18	19-20	21-23	24-26	27-28	29-52
Spelling	0-8	9-9	10-11	12-13	14-15	16-17	18-19	20-21	22-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA isiXhosa Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	692	692	66.15679	66.1568
M	354	1046	33.84321	100.0000
Missing	0	1046	0.00000	100.0000

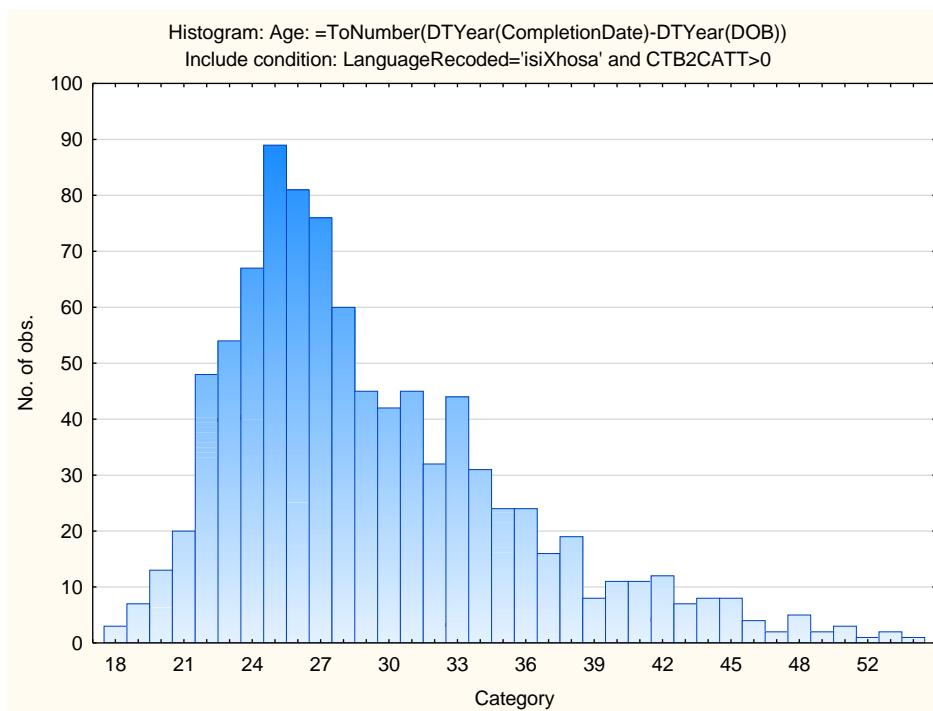
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	393	393	37.57170	37.5717
Tertiary Cert / Trade	329	722	31.45315	69.0249
Tertiary	253	975	24.18738	93.2122
Post Graduate	46	1021	4.39771	97.6099
< Matric	5	1026	0.47801	98.0880
Missing	20	1046	1.91205	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	0.57361	0.5736
African	1002	1008	95.79350	96.3671
Asian	2	1010	0.19120	96.5583
European	1	1011	0.09560	96.6539
Missing	35	1046	3.34608	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	1046	1046	100.0000	100.0000
Missing	0	1046	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1046	1046	100.0000	100.0000
Missing	0	1046	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.23568	6.368604	18.00000	55.00000	925	121



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	689	689	66.05944	66.0594
M	354	1043	33.94056	100.0000
Missing	0	1043	0.00000	100.0000

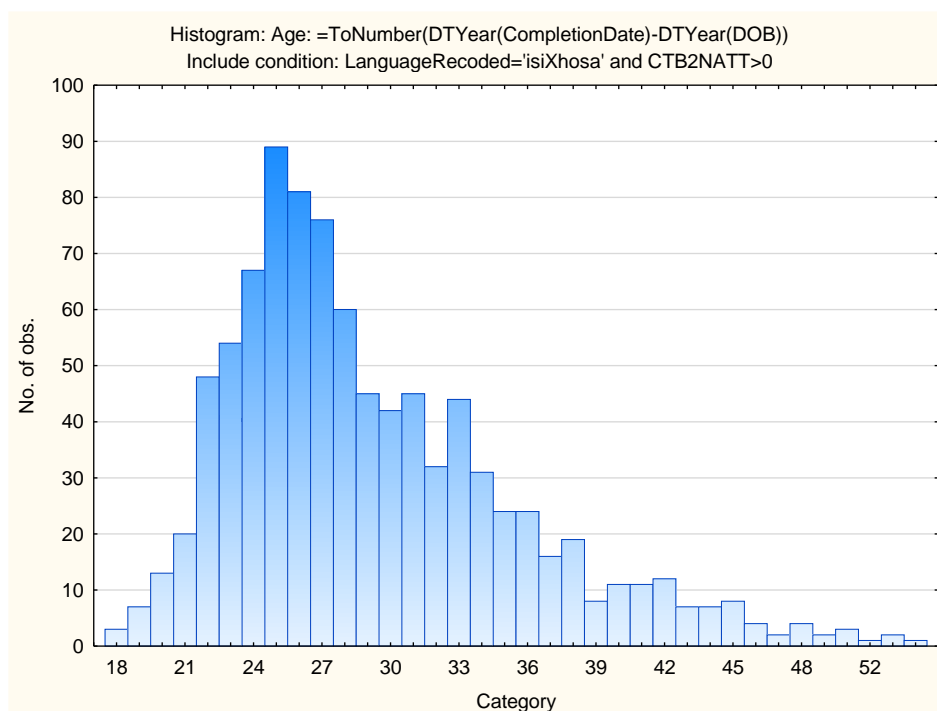
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	391	391	37.48802	37.4880
Tertiary Cert / Trade	329	720	31.54362	69.0316
Tertiary	253	973	24.25695	93.2886
Post Graduate	45	1018	4.31448	97.6031
< Matric	5	1023	0.47939	98.0825
Missing	20	1043	1.91755	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	0.57526	0.5753
African	999	1005	95.78140	96.3567
Asian	2	1007	0.19175	96.5484
European	1	1008	0.09588	96.6443
Missing	35	1043	3.35570	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	1043	1043	100.0000	100.0000
Missing	0	1043	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1043	1043	100.0000	100.0000
Missing	0	1043	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.19935	6.326726	18.00000	55.00000	923	120



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	605	605	64.98389	64.9839
M	326	931	35.01611	100.0000
Missing	0	931	0.00000	100.0000

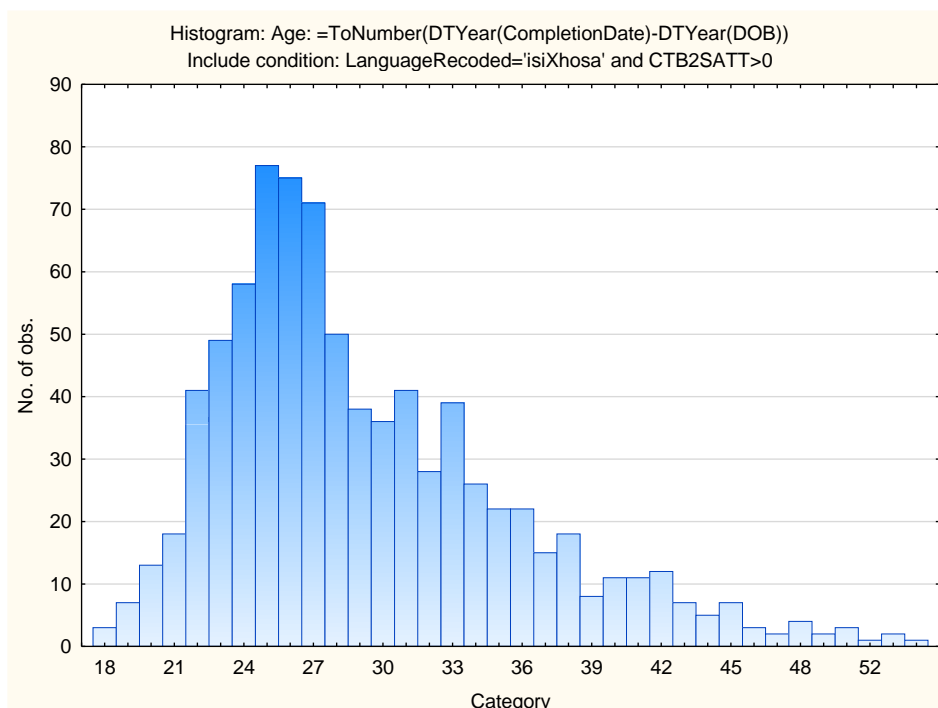
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	364	364	39.09774	39.0977
Tertiary Cert / Trade	290	654	31.14930	70.2470
Tertiary	220	874	23.63050	93.8776
Post Graduate	39	913	4.18904	98.0666
< Matric	4	917	0.42965	98.4962
Missing	14	931	1.50376	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	0.64447	0.6445
African	895	901	96.13319	96.7777
Asian	2	903	0.21482	96.9925
European	1	904	0.10741	97.0999
Missing	27	931	2.90011	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	931	931	100.0000	100.0000
Missing	0	931	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	931	931	100.0000	100.0000
Missing	0	931	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age:	29.28208	6.433932	18.00000	55.00000	826	105



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	626	626	65.07277	65.0728
M	336	962	34.92723	100.0000
Missing	0	962	0.00000	100.0000

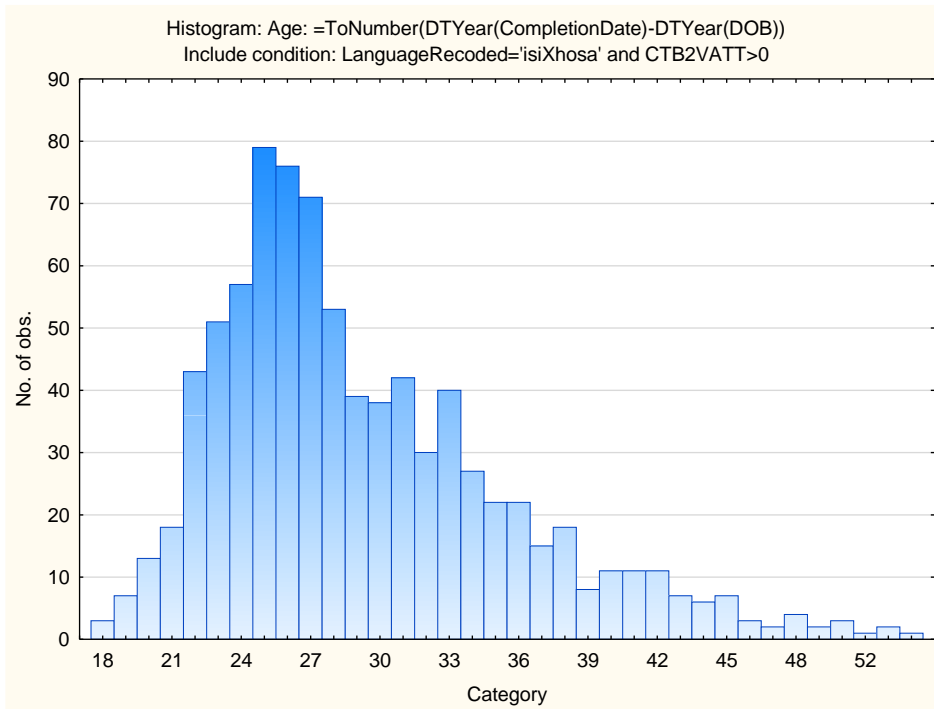
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	374	374	38.87734	38.8773
Tertiary Cert / Trade	300	674	31.18503	70.0624
Tertiary	224	898	23.28482	93.3472
Post Graduate	40	938	4.15800	97.5052
< Matric	4	942	0.41580	97.9210
Missing	20	962	2.07900	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	0.62370	0.6237
African	918	924	95.42620	96.0499
Asian	2	926	0.20790	96.2578
European	1	927	0.10395	96.3617
Missing	35	962	3.63825	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	962	962	100.0000	100.0000
Missing	0	962	0.0000	100.0000

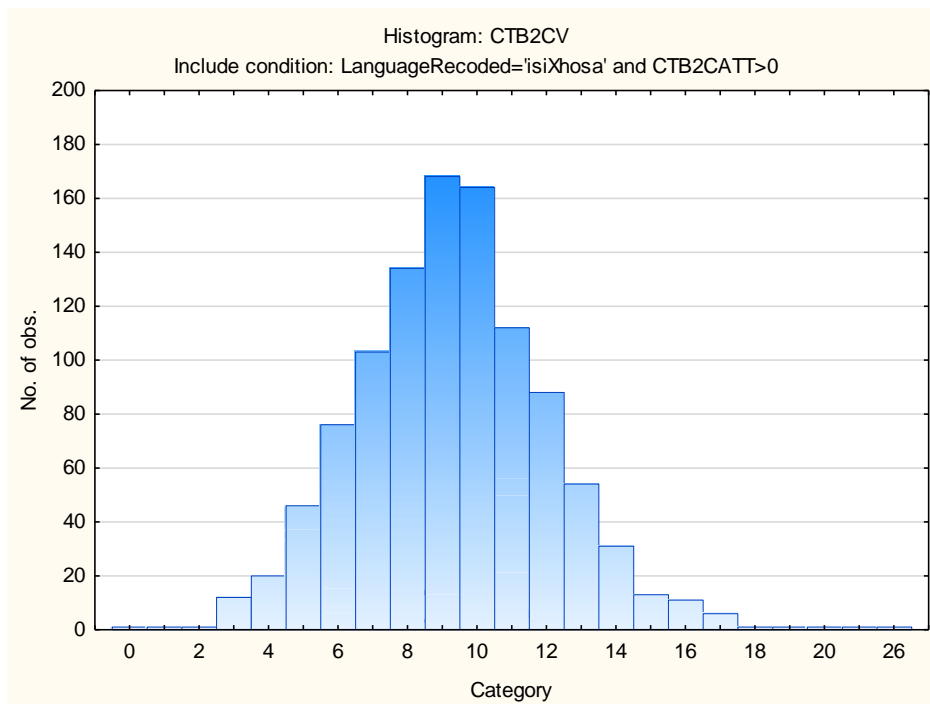
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	962	962	100.0000	100.0000
Missing	0	962	0.0000	100.0000

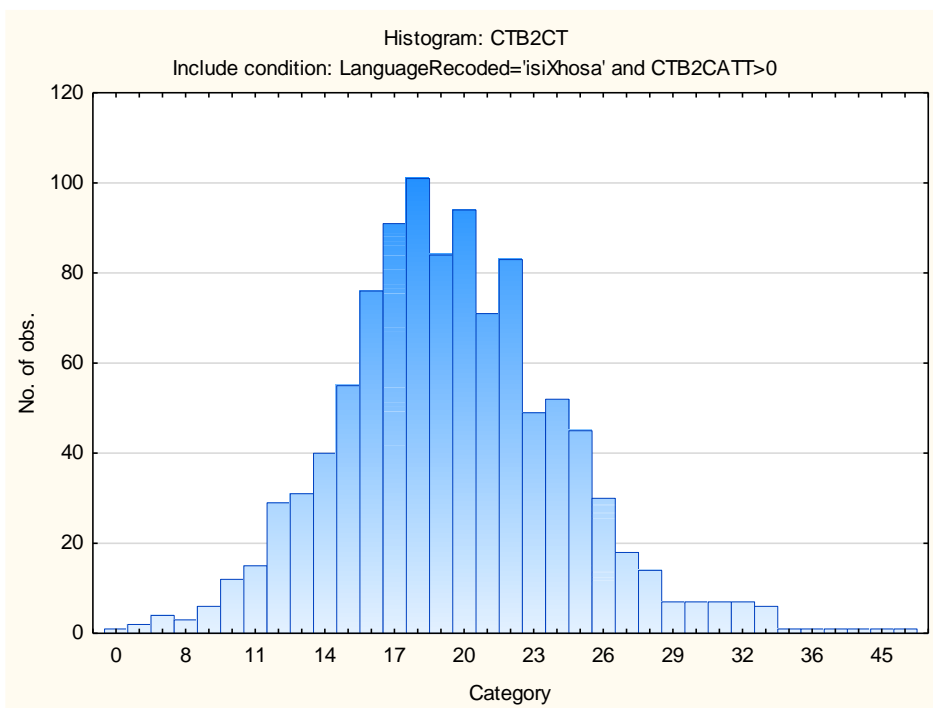
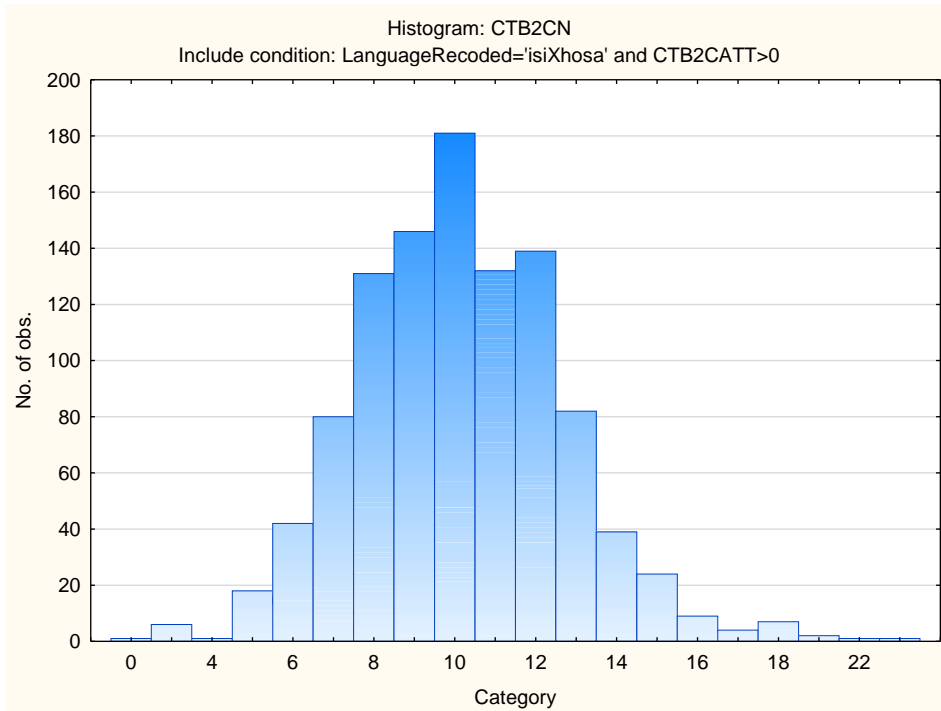
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.25979	6.398310	18.00000	55.00000	843	119

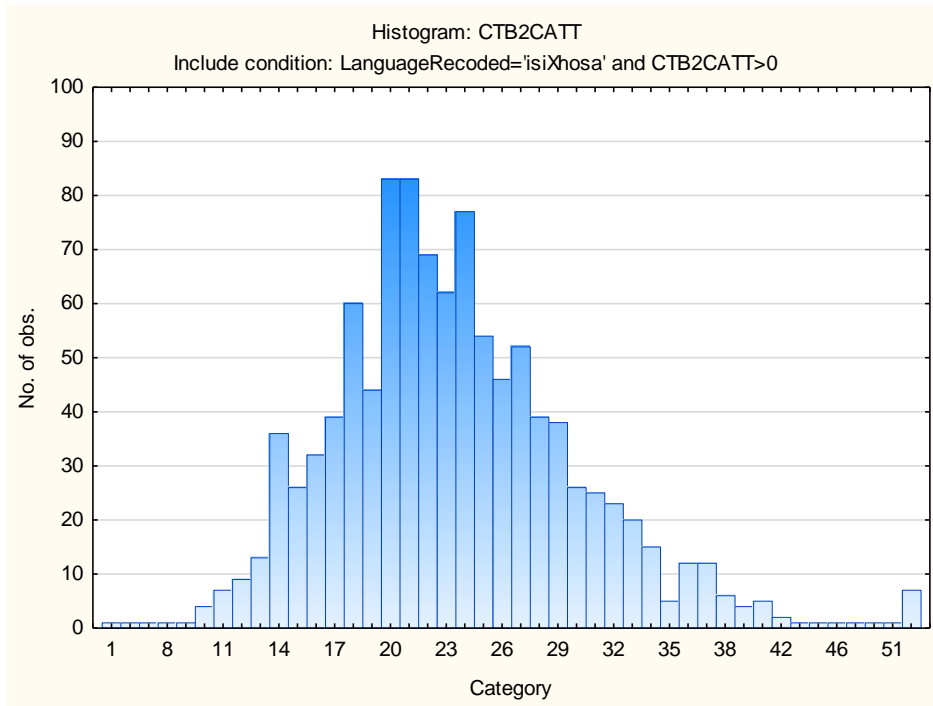


Descriptive Statistics on Clerical Test Battery Subtests

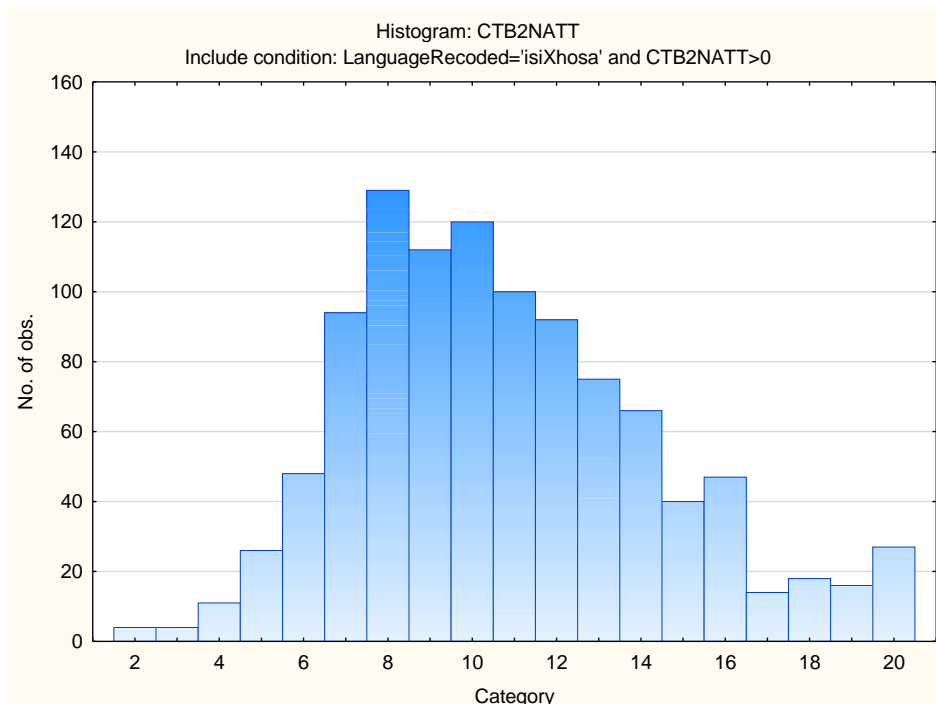
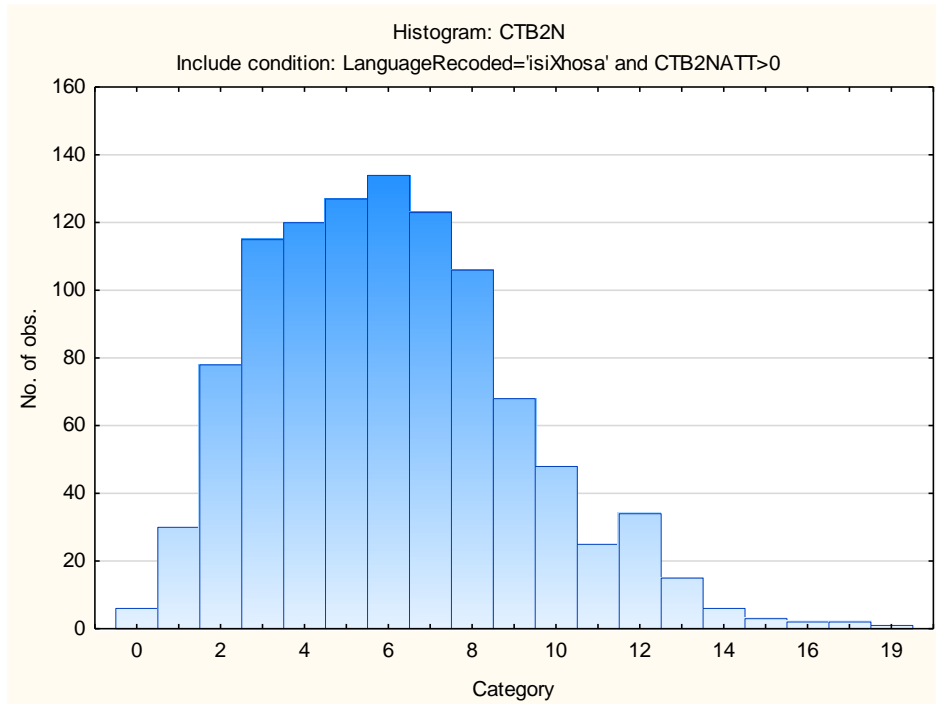
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.32409	2.801765	0.000000	26.00000	1046	0
CTB2CN	10.14723	2.613423	0.000000	26.00000	1046	0
CTB2CT	19.47132	4.992496	0.000000	52.00000	1046	0
CTB2CATT	23.49713	6.756991	1.000000	52.00000	1046	0



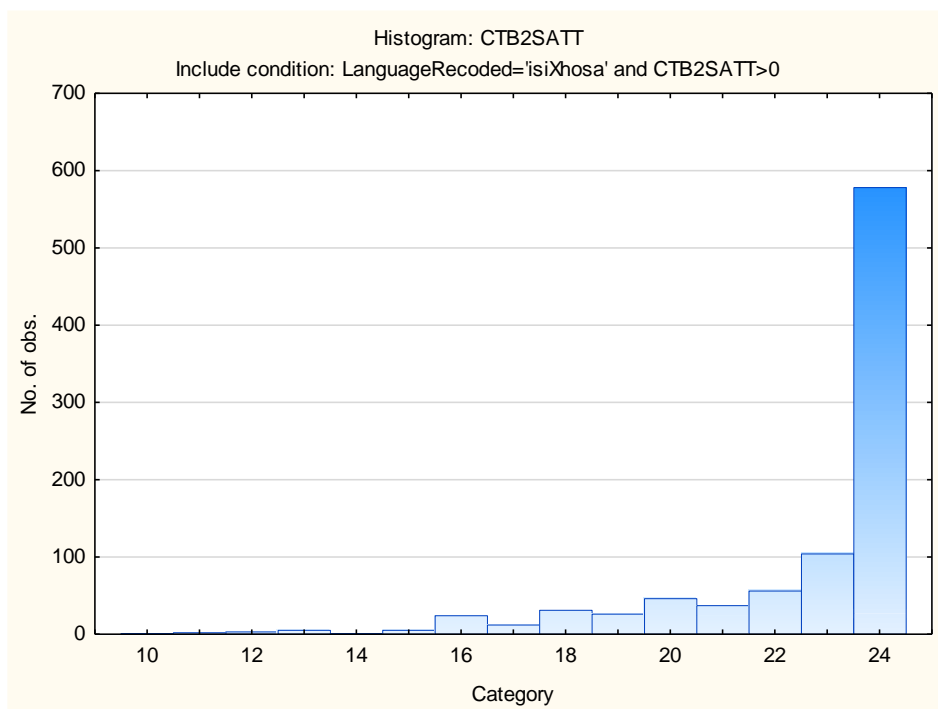
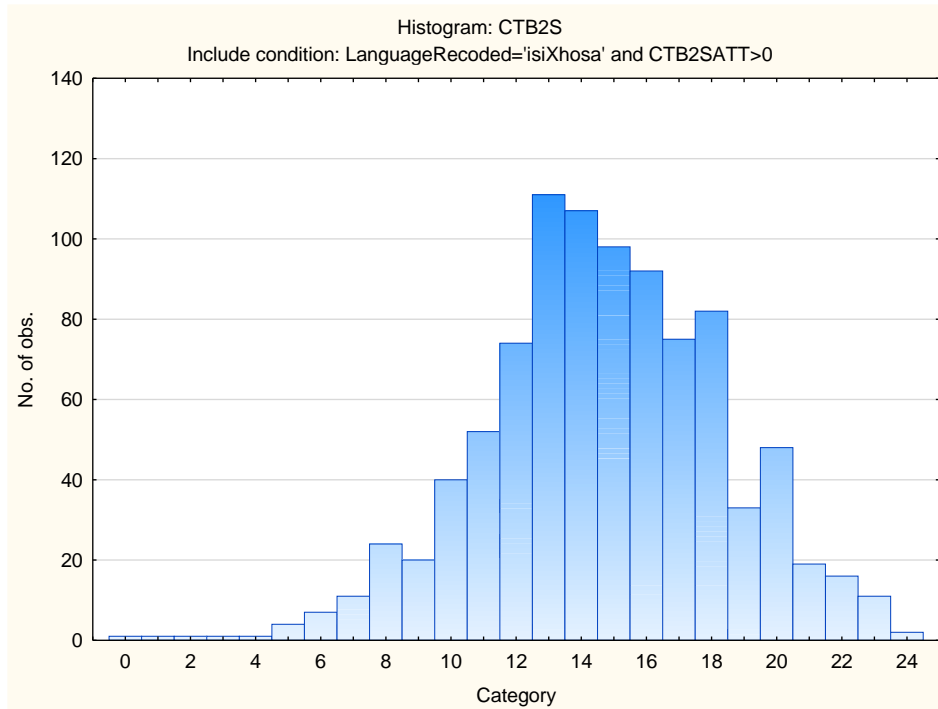




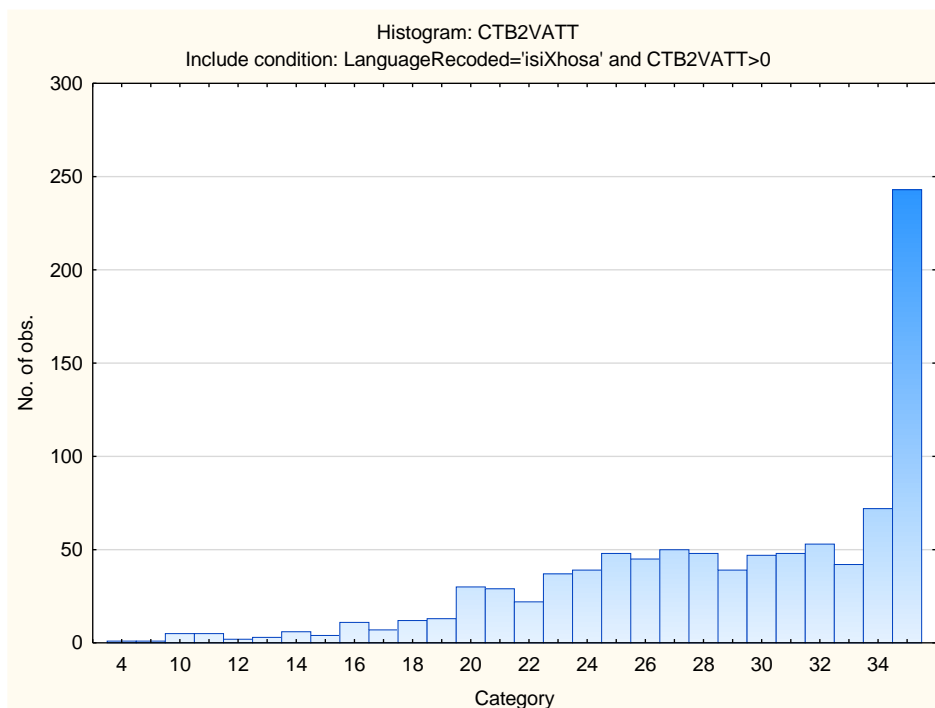
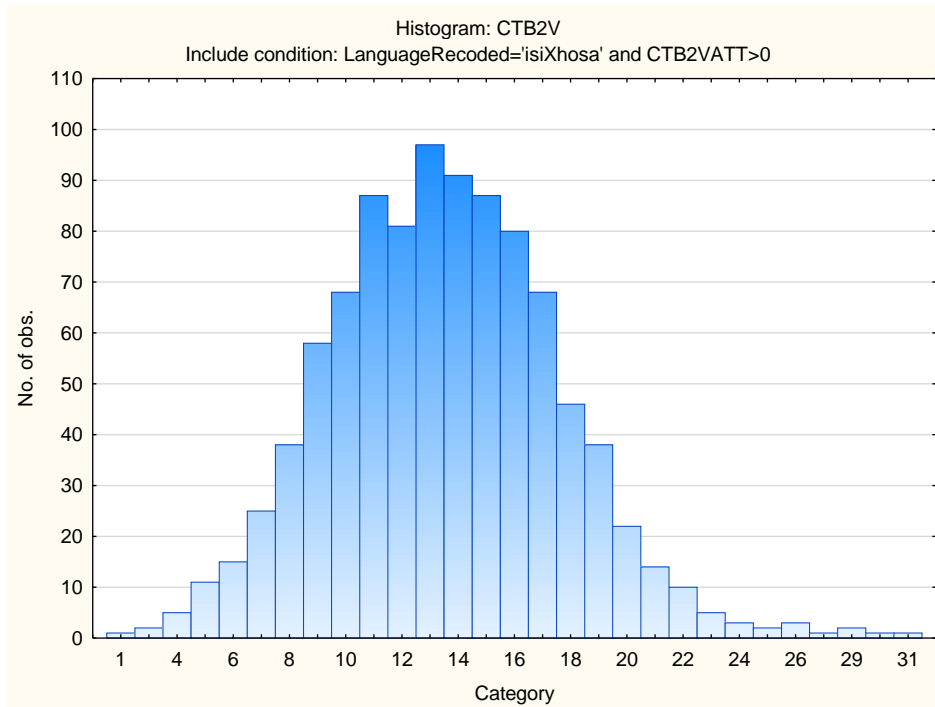
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	6.08341	3.042208	0.000000	19.00000	1043	0
CTB2NATT	10.77756	3.643730	2.000000	20.00000	1043	0



Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	14.66595	3.674836	0.00000	24.00000	931	0
CTB2SATT	22.61547	2.449125	10.00000	24.00000	931	0



Variable	Descriptive Statistics: Verbal Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	13.53846	4.116548	1.000000	31.000000	962	0
CTB2VATT	28.78482	5.994487	4.000000	35.000000	962	0



Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-31
Numerical Ability	0-0	1-2	3-3	4-5	6-6	7-8	9-9	10-11	12-19
Clerical Checking - Verbal	0-4	5-5	6-7	8-8	9-10	11-11	12-12	13-14	15-26
Clerical Checking - Numerical	0-5	6-6	7-8	9-9	10-10	11-12	13-13	14-14	15-26
Clerical Checking - Total	0-10	11-13	14-15	16-18	19-20	21-23	24-25	26-28	29-52
Spelling	0-8	9-10	11-11	12-13	14-15	16-17	18-19	20-21	22-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA isiZulu Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	681	681	65.16746	65.1675
M	364	1045	34.83254	100.0000
Missing	0	1045	0.00000	100.0000

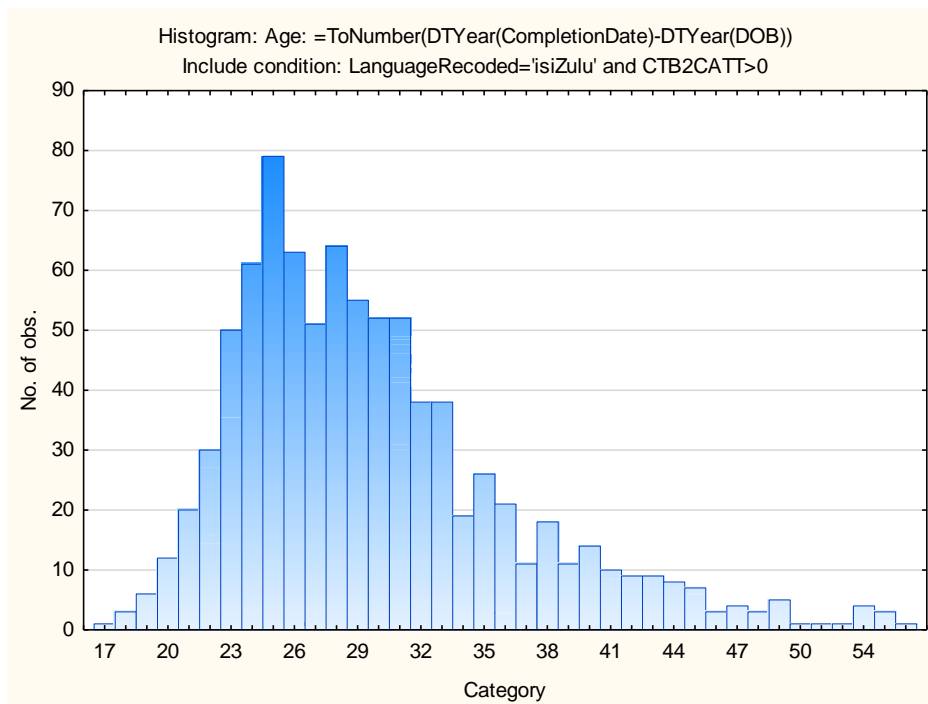
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	417	417	39.90431	39.9043
Tertiary Cert / Trade	312	729	29.85646	69.7608
Tertiary	208	937	19.90431	89.6651
Post Graduate	67	1004	6.41148	96.0766
< Matric	7	1011	0.66986	96.7464
Missing	34	1045	3.25359	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	5	5	0.47847	0.4785
African	1001	1006	95.78947	96.2679
Missing	39	1045	3.73206	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	1045	1045	100.0000	100.0000
Missing	0	1045	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1045	1045	100.0000	100.0000
Missing	0	1045	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.72454	6.717477	17.00000	59.00000	864	181



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	677	677	65.09615	65.0962
M	363	1040	34.90385	100.0000
Missing	0	1040	0.00000	100.0000

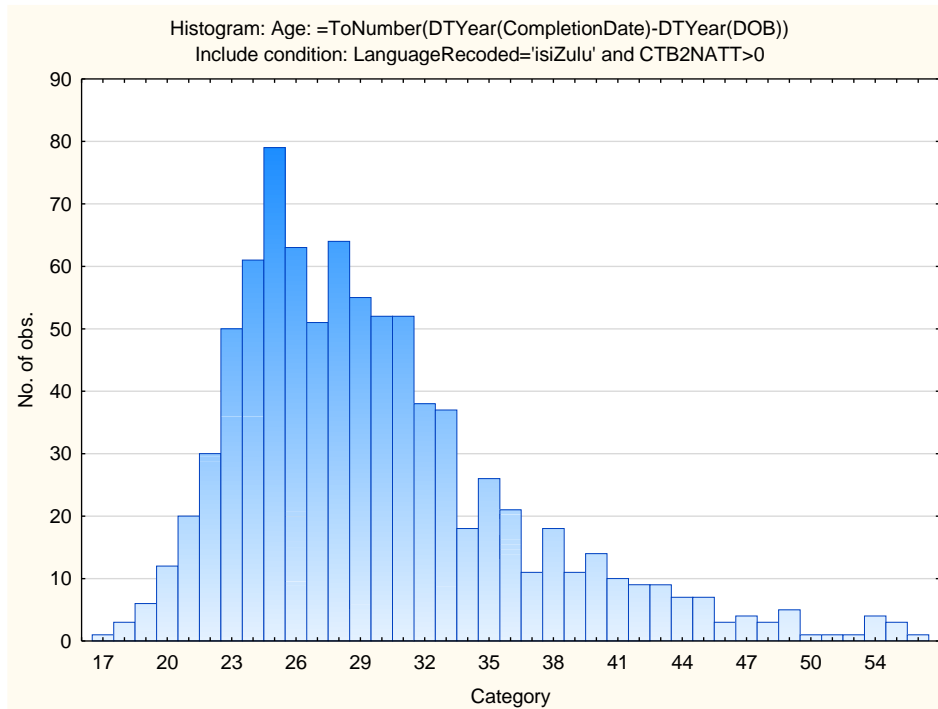
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	414	414	39.80769	39.8077
Tertiary Cert / Trade	310	724	29.80769	69.6154
Tertiary	208	932	20.00000	89.6154
Post Graduate	67	999	6.44231	96.0577
< Matric	7	1006	0.67308	96.7308
Missing	34	1040	3.26923	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	5	5	0.48077	0.4808
African	996	1001	95.76923	96.2500
Missing	39	1040	3.75000	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	1040	1040	100.0000	100.0000
Missing	0	1040	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1040	1040	100.0000	100.0000
Missing	0	1040	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.69919	6.708992	17.00000	59.00000	861	179



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	620	620	64.71816	64.7182
M	338	958	35.28184	100.0000
Missing	0	958	0.00000	100.0000

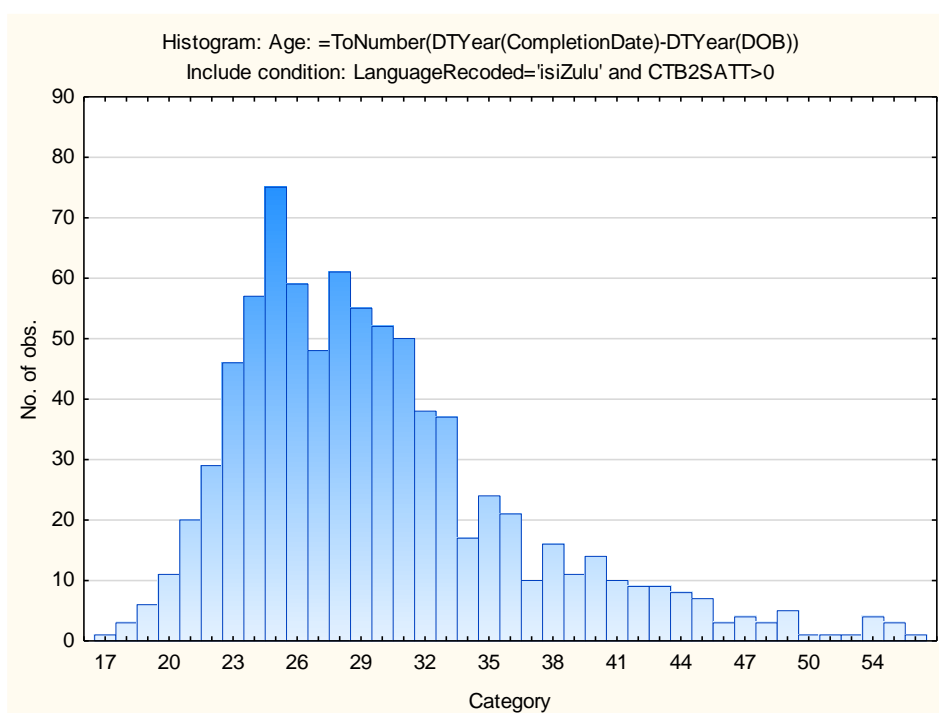
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	392	392	40.91858	40.9186
Tertiary Cert / Trade	282	674	29.43633	70.3549
Tertiary	203	877	21.18998	91.5449
Post Graduate	60	937	6.26305	97.8079
< Matric	2	939	0.20877	98.0167
Missing	19	958	1.98330	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	5	5	0.52192	0.5219
African	914	919	95.40710	95.9290
Missing	39	958	4.07098	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	958	958	100.0000	100.0000
Missing	0	958	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	958	958	100.0000	100.0000
Missing	0	958	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.80361	6.770313	17.00000	59.00000	830	128



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	657	657	64.92095	64.9209
M	355	1012	35.07905	100.0000
Missing	0	1012	0.00000	100.0000

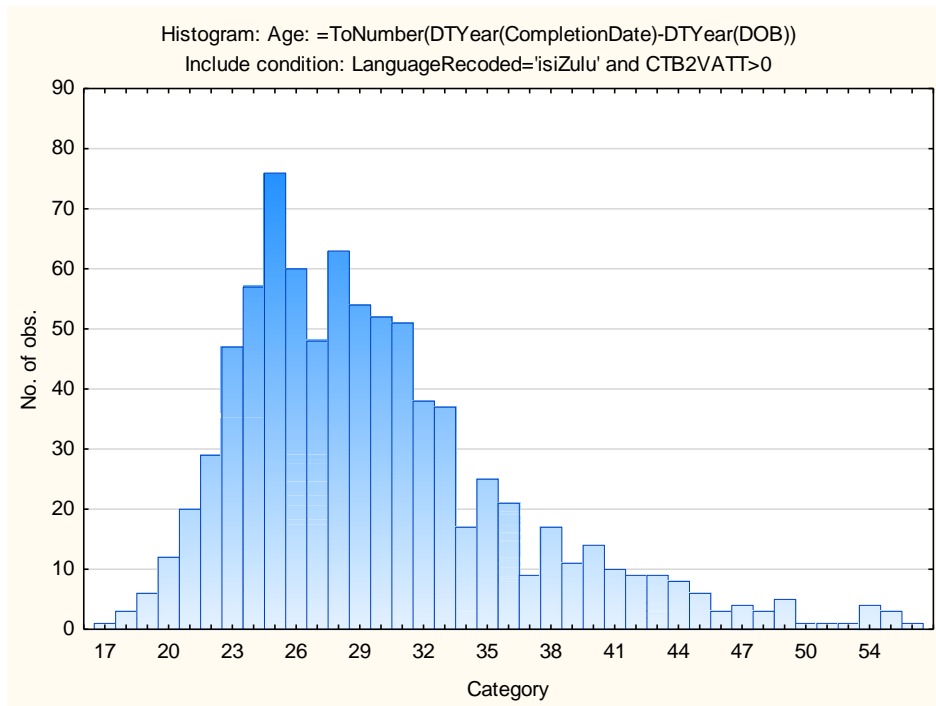
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	412	412	40.71146	40.7115
Tertiary Cert / Trade	294	706	29.05138	69.7628
Tertiary	204	910	20.15810	89.9209
Post Graduate	61	971	6.02767	95.9486
< Matric	7	978	0.69170	96.6403
Missing	34	1012	3.35968	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	5	5	0.49407	0.4941
African	968	973	95.65217	96.1462
Missing	39	1012	3.85375	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	1012	1012	100.0000	100.0000
Missing	0	1012	0.0000	100.0000

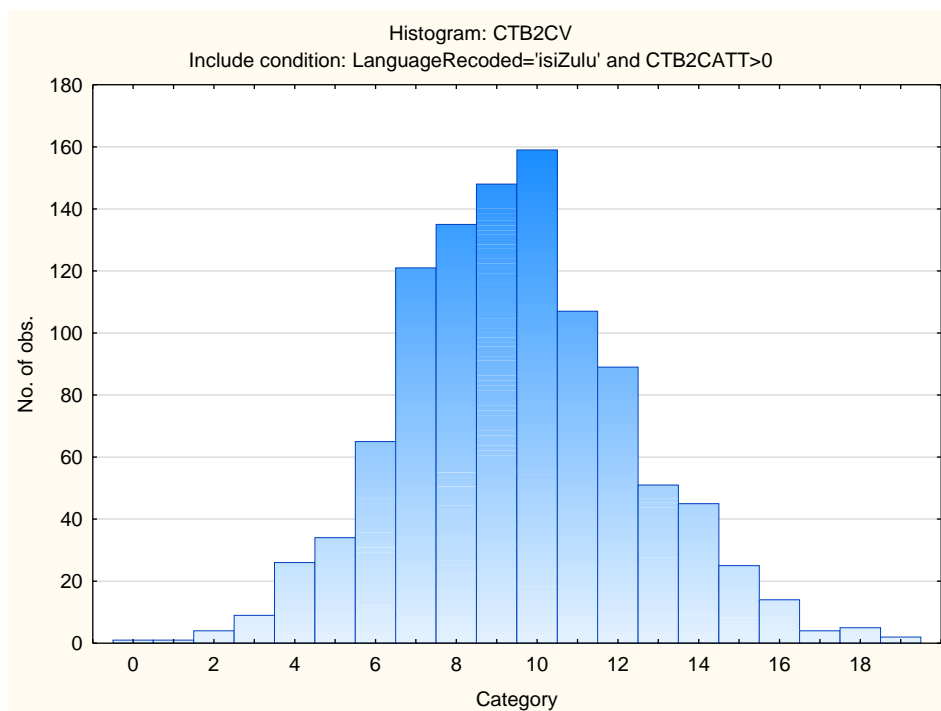
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1012	1012	100.0000	100.0000
Missing	0	1012	0.0000	100.0000

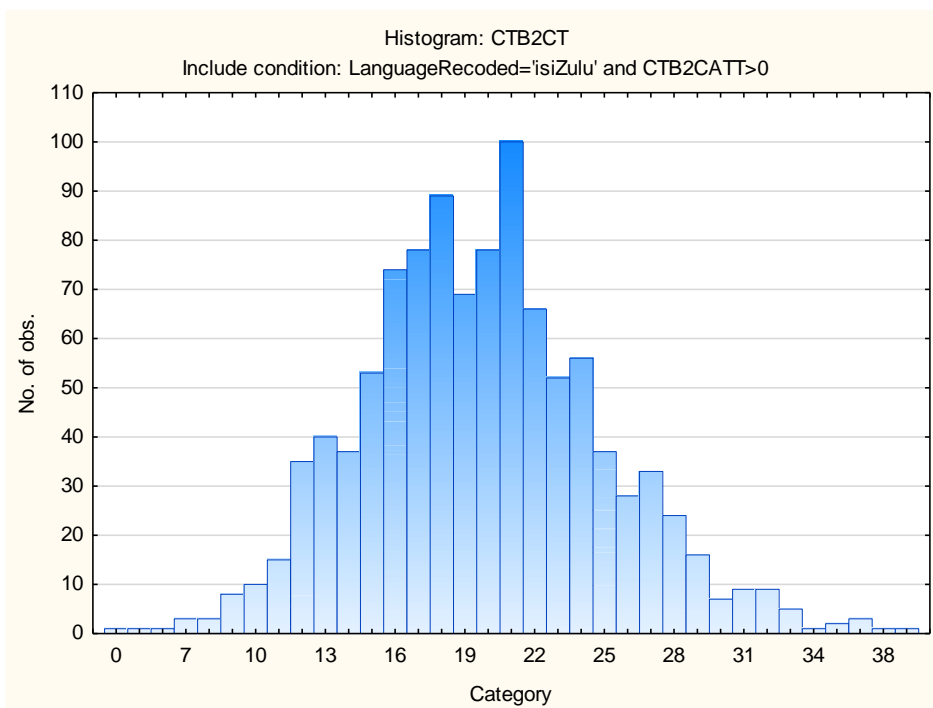
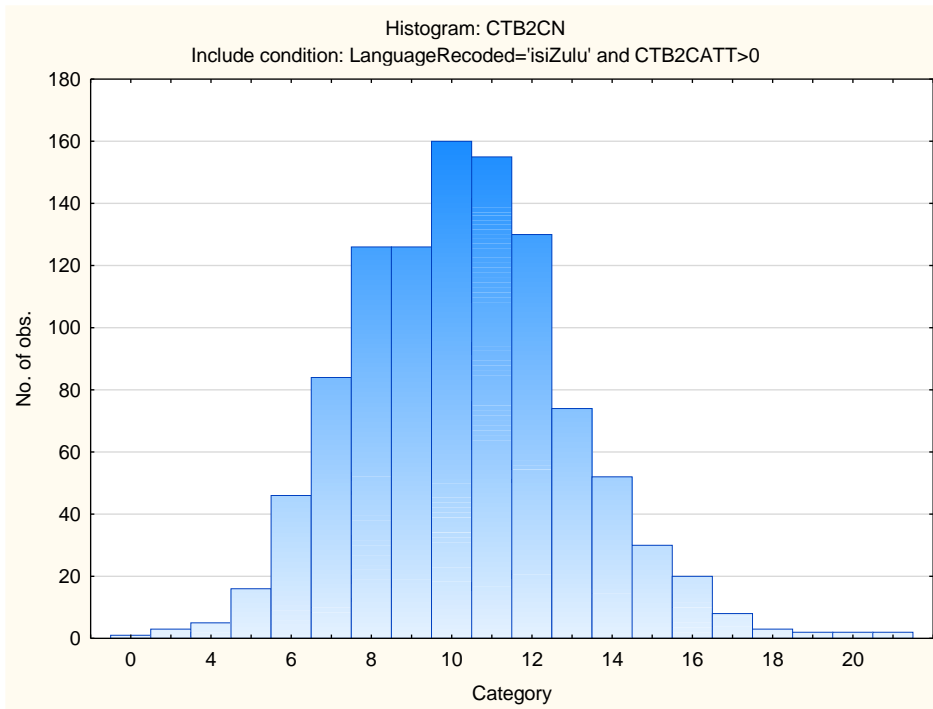
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.76077	6.745693	17.00000	59.00000	836	176

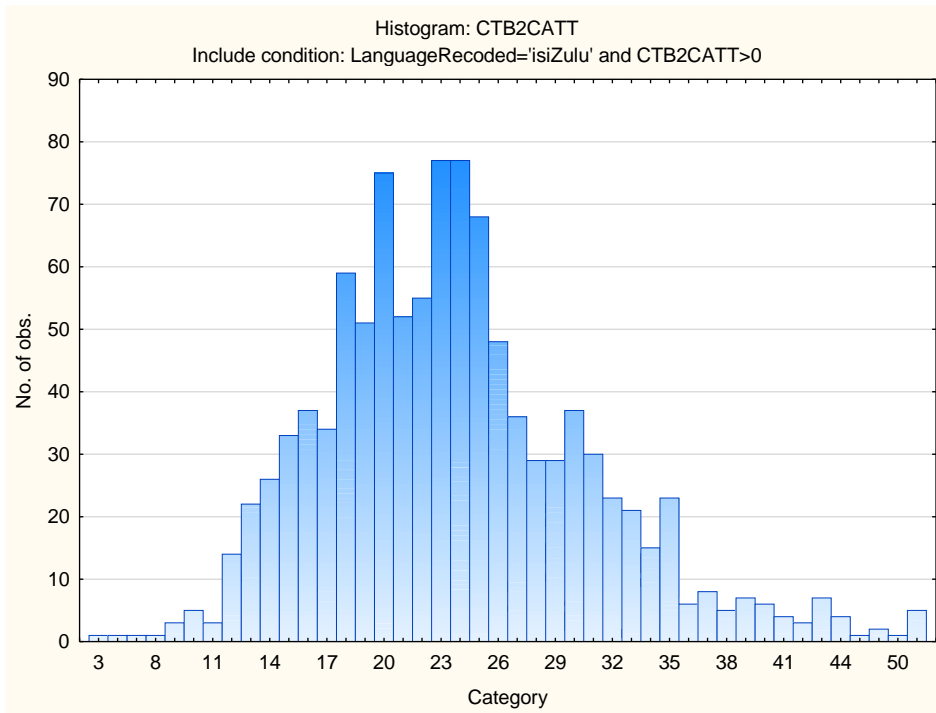


Descriptive Statistics on Clerical Test Battery Subtests

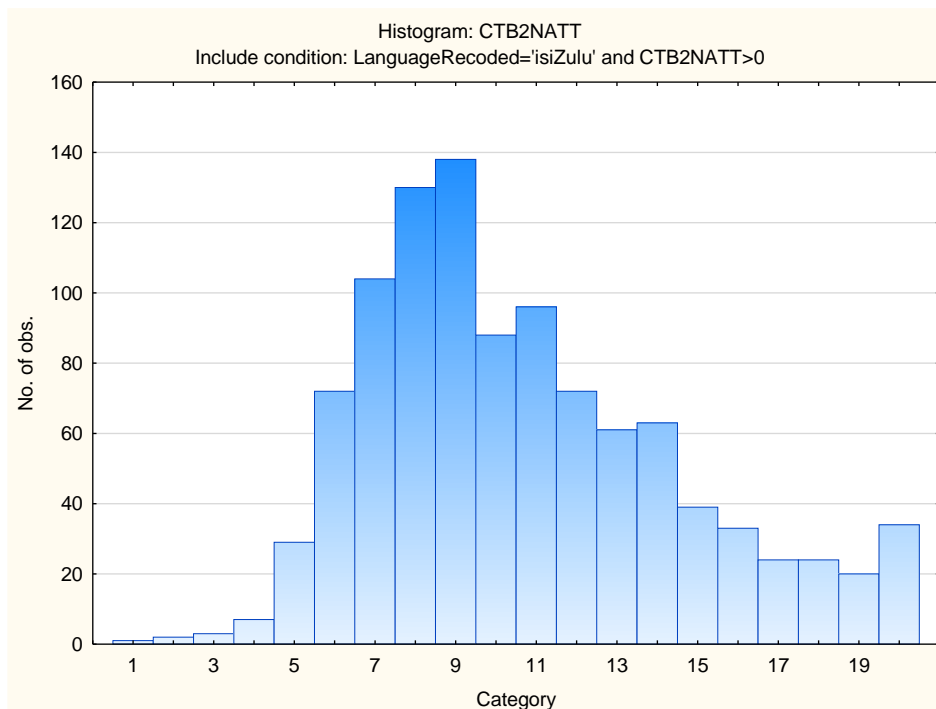
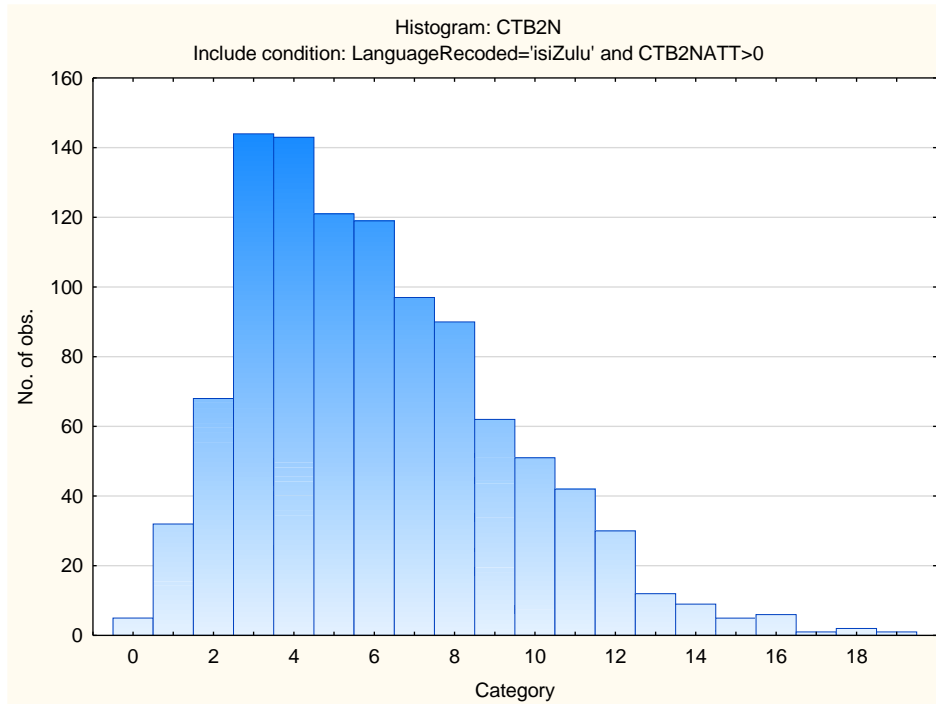
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.45646	2.873660	0.000000	19.000000	1045	0
CTB2CN	10.28708	2.714703	0.000000	21.000000	1045	0
CTB2CT	19.74354	5.201981	0.000000	40.000000	1045	0
CTB2CATT	23.77990	7.131320	3.000000	51.000000	1045	0



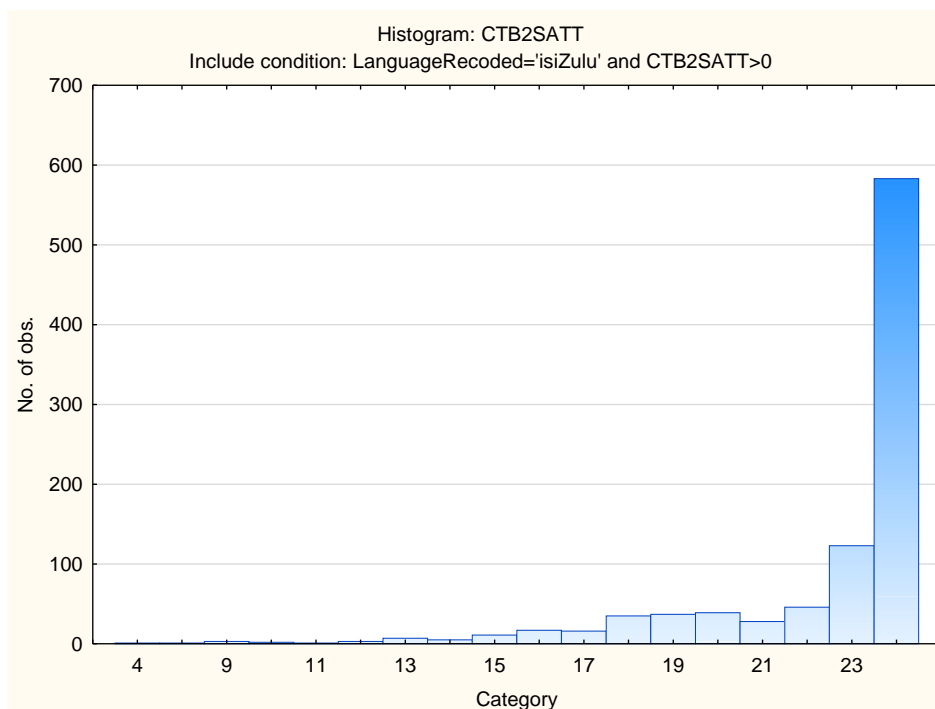
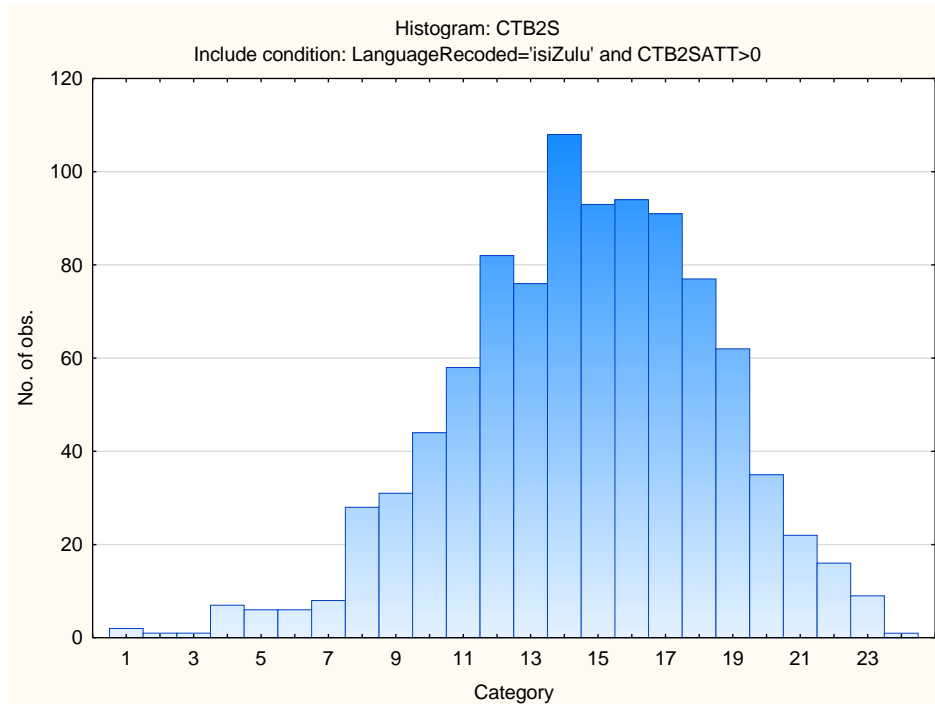




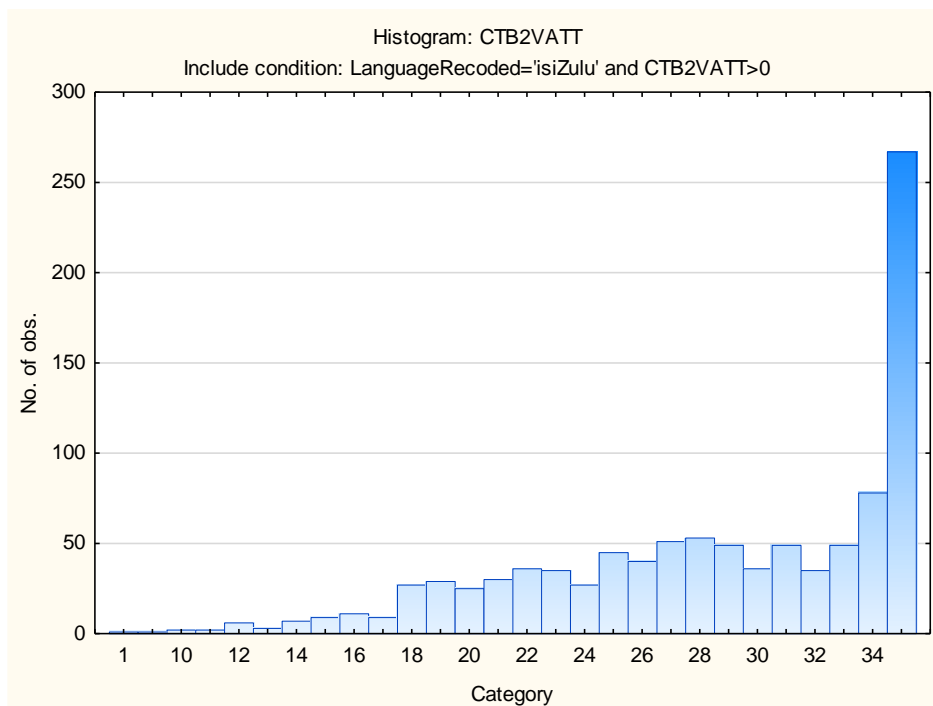
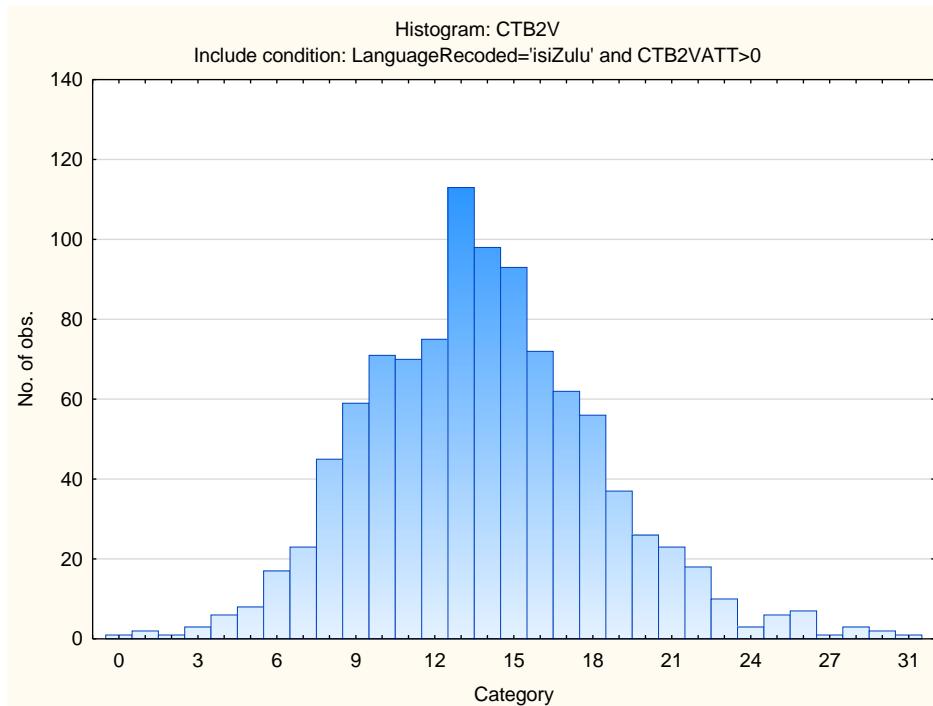
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	6.06250	3.218231	0.000000	19.00000	1040	0
CTB2NATT	10.68942	3.852512	1.000000	20.00000	1040	0



Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	14.58977	3.811902	1.000000	24.00000	958	0
CTB2SATT	22.45198	2.806786	4.000000	24.00000	958	0



Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	13.83103	4.454863	0.000000	31.00000	1012	0
CTB2VATT	28.56818	6.264709	1.000000	35.00000	1012	0



Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	0-6	7-8	9-10	11-12	13-14	15-17	18-19	20-21	22-31
Numerical Ability	0-0	1-2	3-3	4-5	6-6	7-8	9-10	11-11	12-19
Clerical Checking - Verbal	0-4	5-5	6-7	8-8	9-10	11-11	12-13	14-14	15-19
Clerical Checking - Numerical	0-5	6-6	7-8	9-9	10-10	11-12	13-13	14-15	16-21
Clerical Checking - Total	0-10	11-13	14-15	16-18	19-21	22-23	24-26	27-28	29-40
Spelling	1-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA Sepedi Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	270	270	55.90062	55.9006
M	210	480	43.47826	99.3789
Missing	3	483	0.62112	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	105	105	21.73913	21.7391
Tertiary Cert / Trade	179	284	37.06004	58.7992
Tertiary	140	424	28.98551	87.7847
Post Graduate	42	466	8.69565	96.4803
< Matric	1	467	0.20704	96.6874
Missing	16	483	3.31263	100.0000

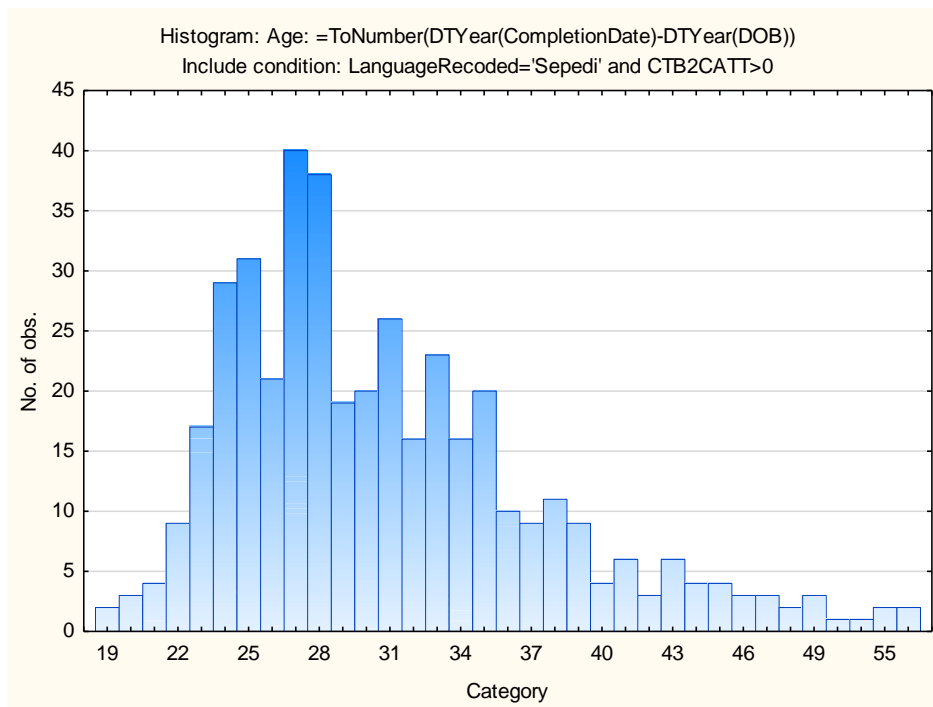
Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.20704	0.2070
African	471	472	97.51553	97.7226
Missing	11	483	2.27743	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	483	483	100.0000	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Missing	0	483	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	483	483	100.0000	100.0000
Missing	0	483	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.85132	6.833314	19.00000	59.00000	417	66



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	268	268	55.94990	55.9499
M	208	476	43.42380	99.3737
Missing	3	479	0.62630	100.0000

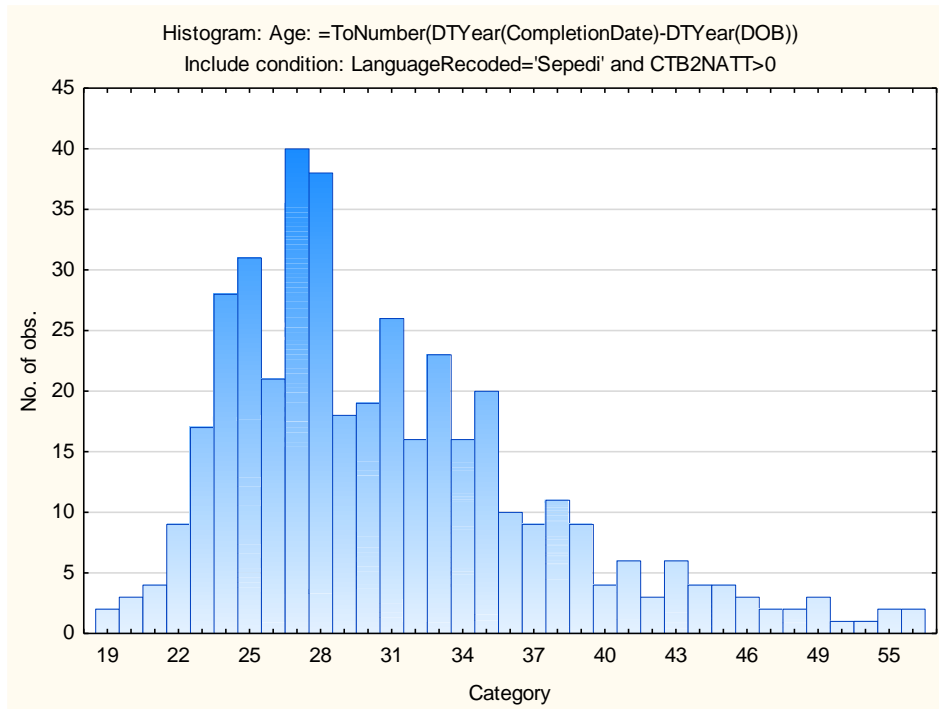
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	104	104	21.71190	21.7119
Tertiary Cert / Trade	179	283	37.36952	59.0814
Tertiary	139	422	29.01879	88.1002
Post Graduate	41	463	8.55950	96.6597
< Matric	1	464	0.20877	96.8685
Missing	15	479	3.13152	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.20877	0.2088
African	467	468	97.49478	97.7035
Missing	11	479	2.29645	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	479	479	100.0000	100.0000
Missing	0	479	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	479	479	100.0000	100.0000
Missing	0	479	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.83535	6.811043	19.00000	59.00000	413	66



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	253	253	55.84989	55.8499
M	197	450	43.48786	99.3377
Missing	3	453	0.66225	100.0000

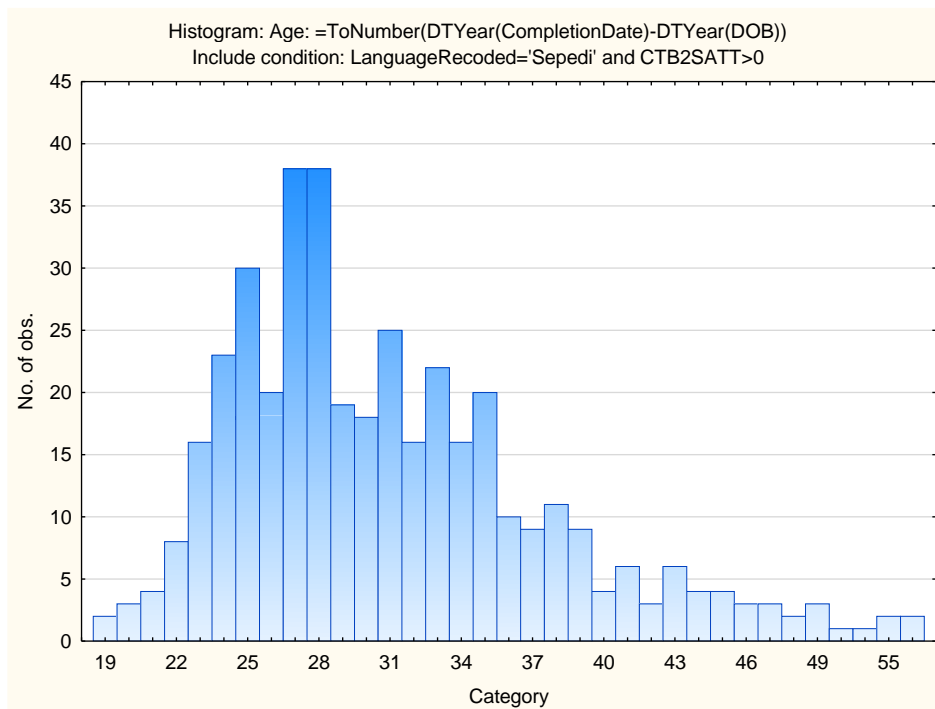
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	101	101	22.29581	22.2958
Tertiary Cert / Trade	169	270	37.30684	59.6026
Tertiary	130	400	28.69757	88.3002
Post Graduate	41	441	9.05077	97.3510
< Matric	1	442	0.22075	97.5717
Missing	11	453	2.42826	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.22075	0.2208
African	441	442	97.35099	97.5717
Missing	11	453	2.42826	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	453	453	100.0000	100.0000
Missing	0	453	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	453	453	100.0000	100.0000
Missing	0	453	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.03990	6.873020	19.00000	59.00000	401	52



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	256	256	55.89520	55.8952
M	199	455	43.44978	99.3450
Missing	3	458	0.65502	100.0000

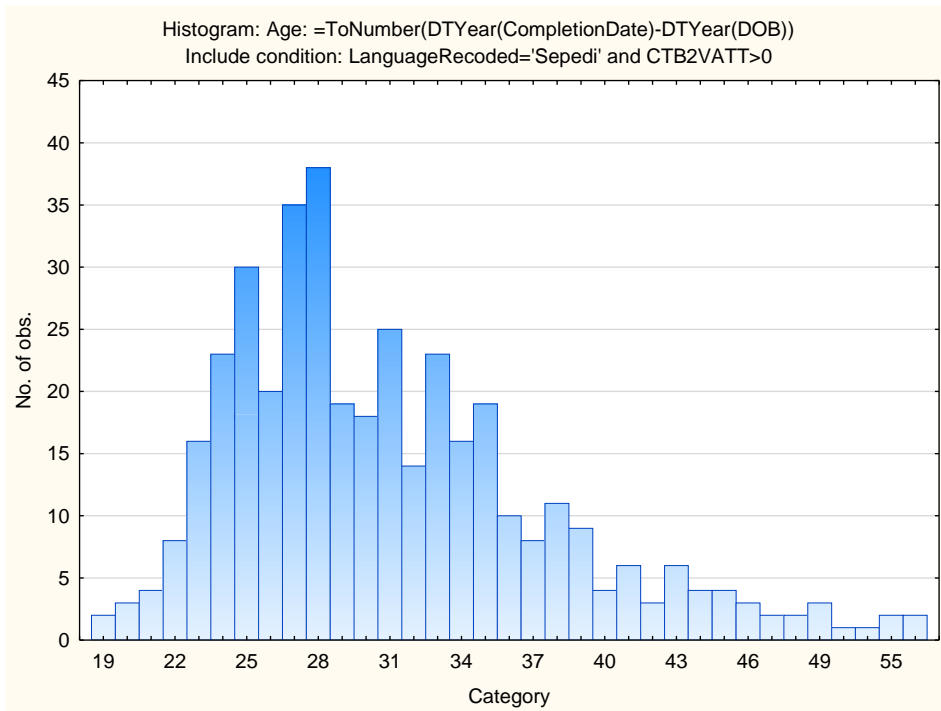
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	99	99	21.61572	21.6157
Tertiary Cert / Trade	171	270	37.33624	58.9520
Tertiary	132	402	28.82096	87.7729
Post Graduate	41	443	8.95197	96.7249
Missing	15	458	3.27511	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.21834	0.2183
African	446	447	97.37991	97.5983
Missing	11	458	2.40175	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	458	458	100.0000	100.0000
Missing	0	458	0.0000	100.0000

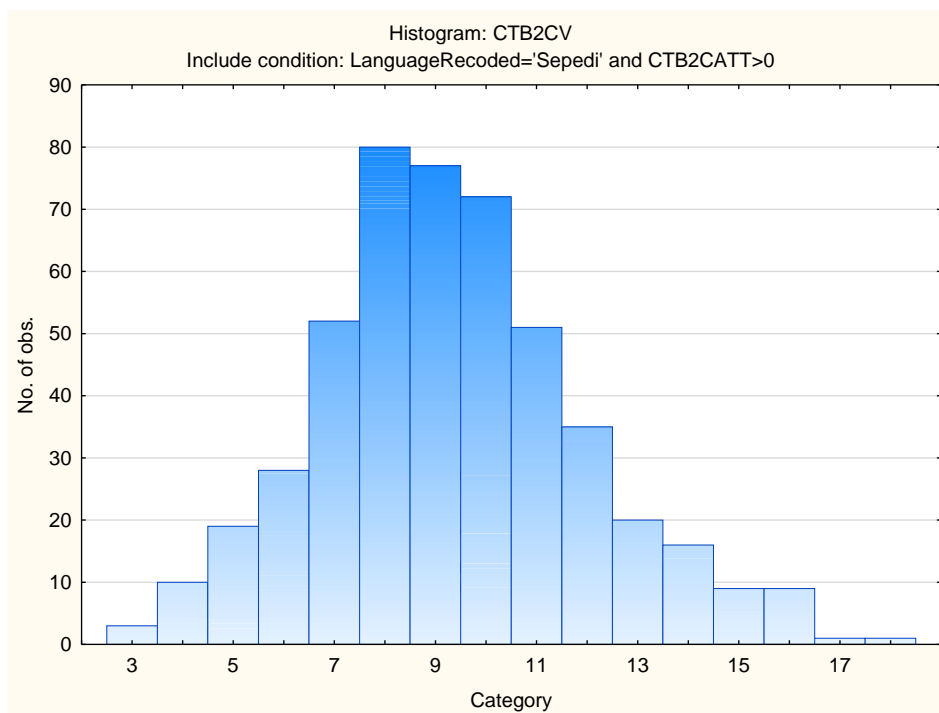
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	458	458	100.0000	100.0000
Missing	0	458	0.0000	100.0000

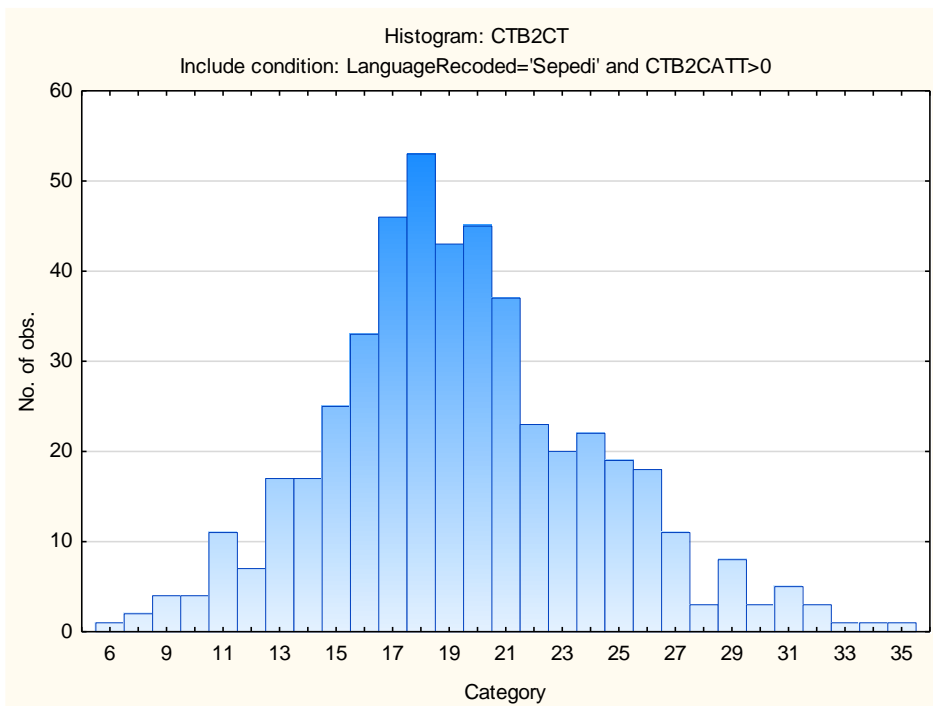
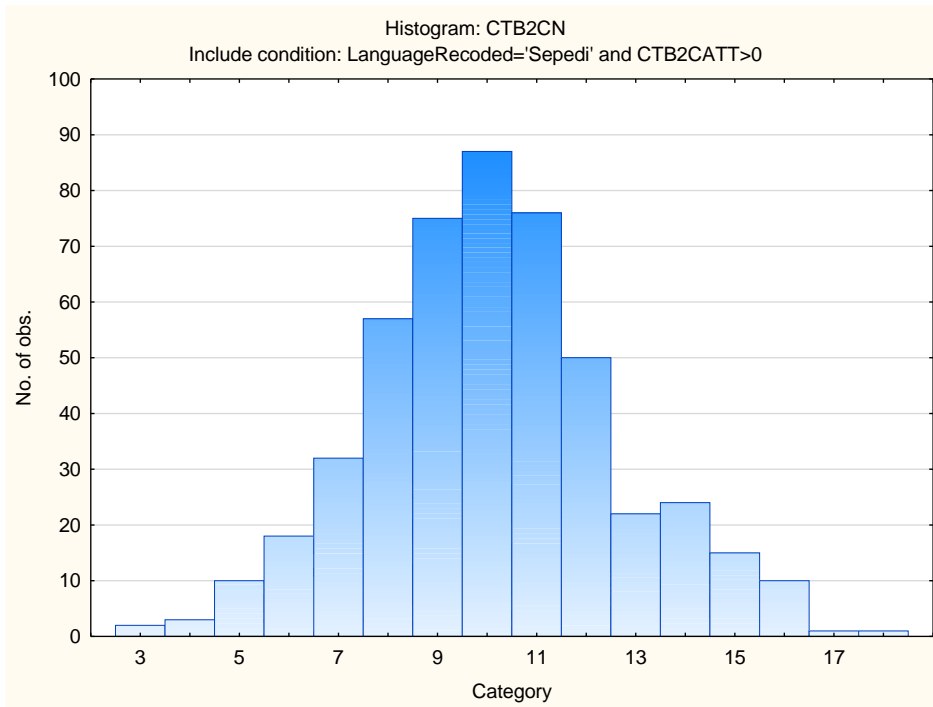
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.00508	6.868816	19.00000	59.00000	394	64

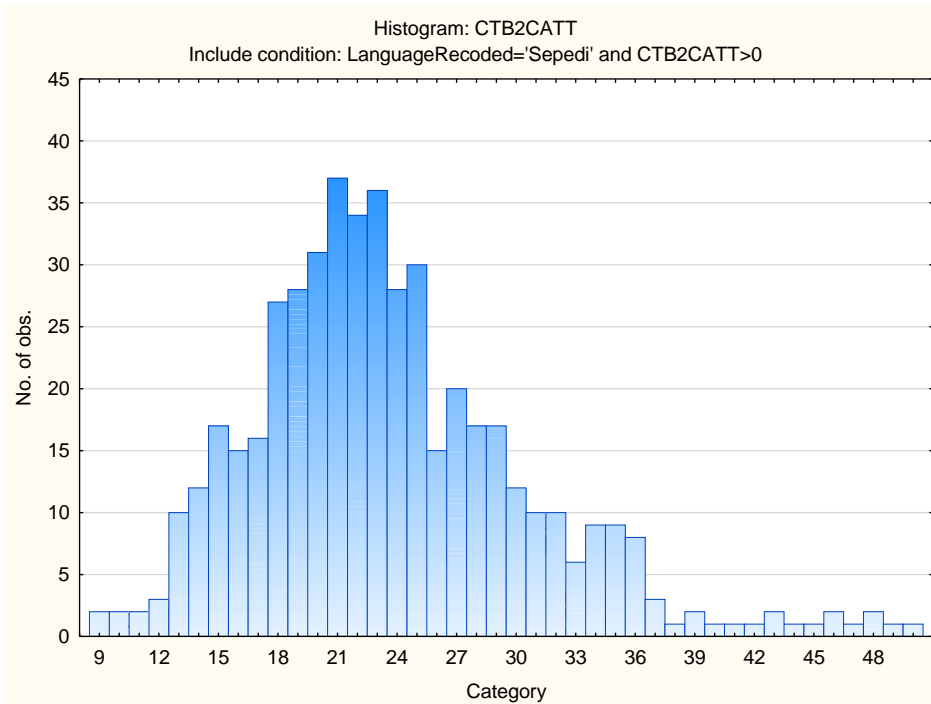


Descriptive Statistics on Clerical Test Battery Subtests

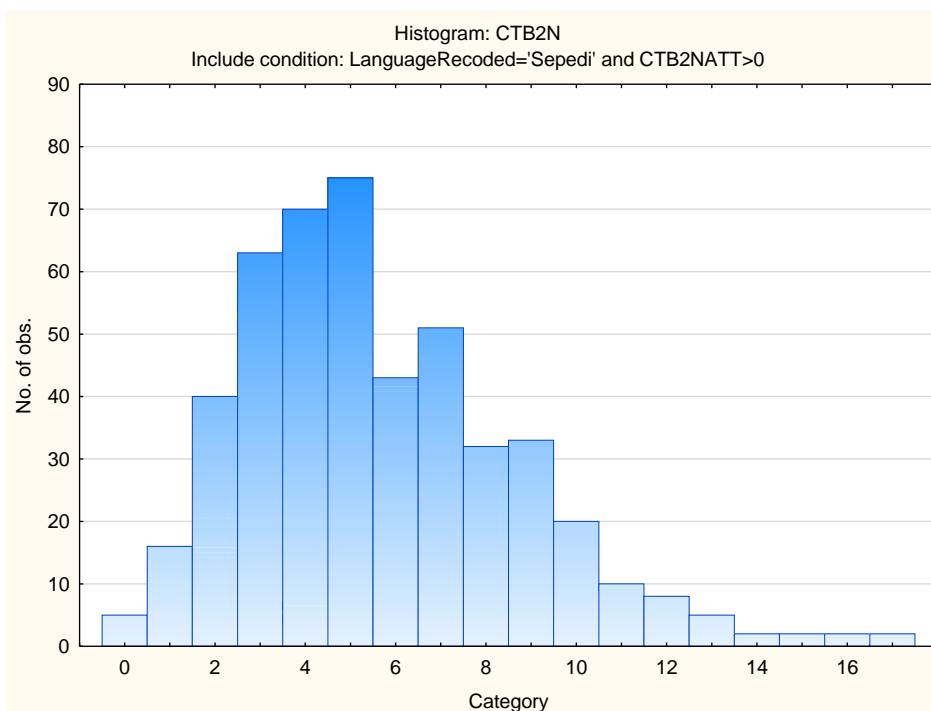
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.33540	2.651104	3.000000	19.000000	483	0
CTB2CN	10.10145	2.509744	3.000000	18.000000	483	0
CTB2CT	19.43685	4.757790	6.000000	35.000000	483	0
CTB2CATT	23.67081	7.007207	9.000000	52.000000	483	0

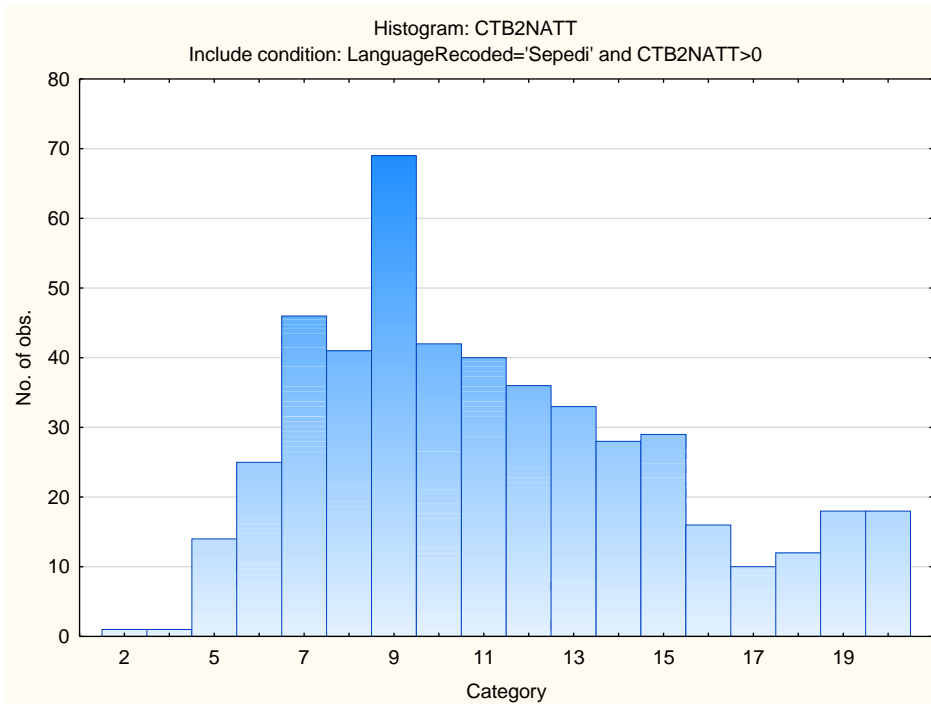




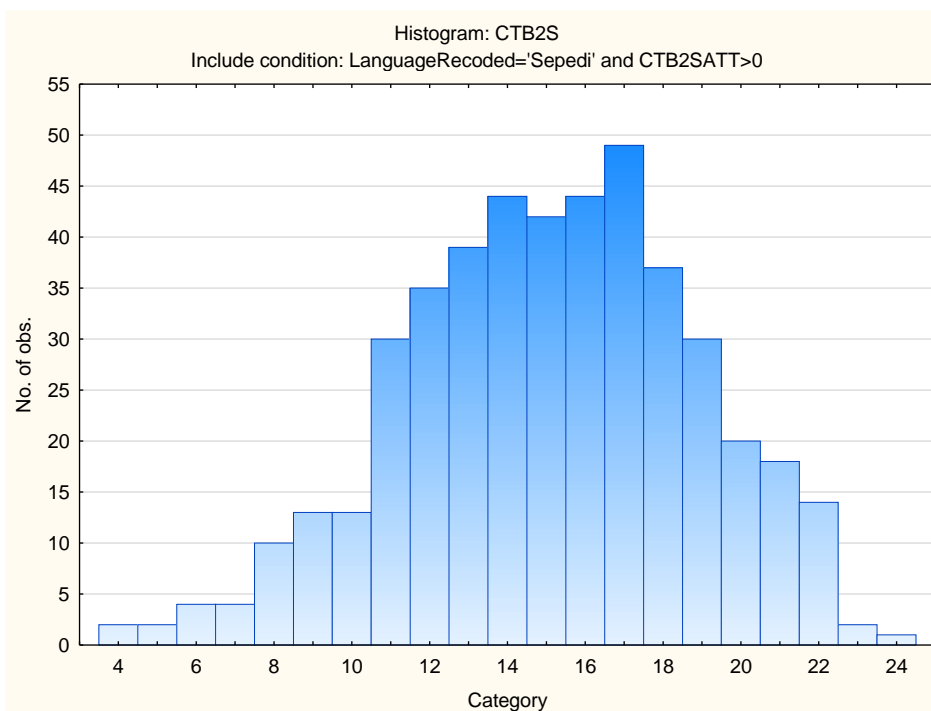


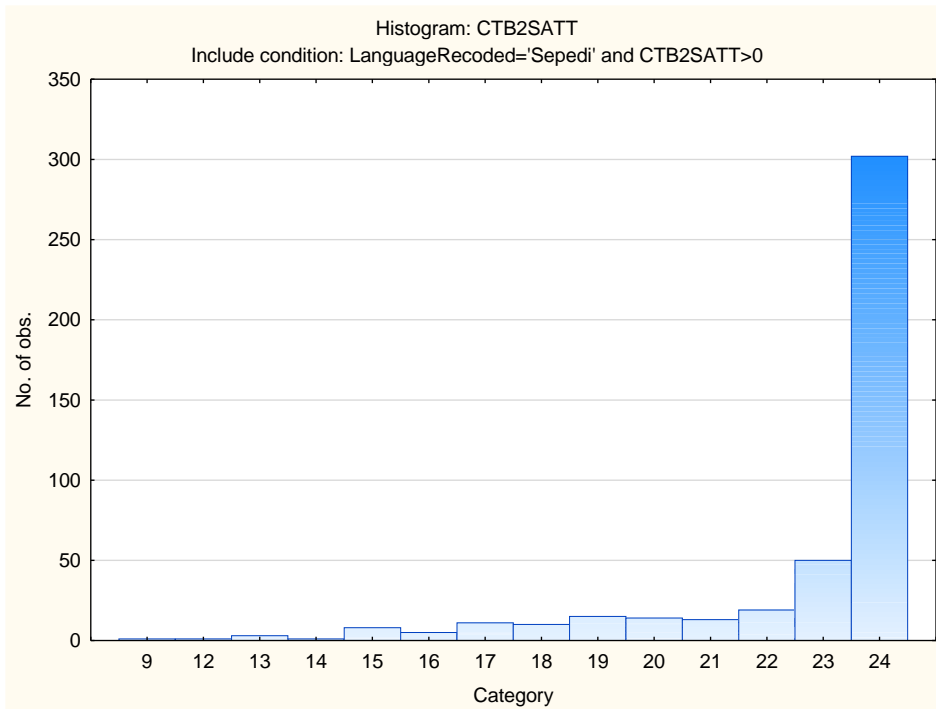
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	5.64301	3.031202	0.000000	17.00000	479	0
CTB2NATT	11.25052	3.959507	2.000000	20.00000	479	0



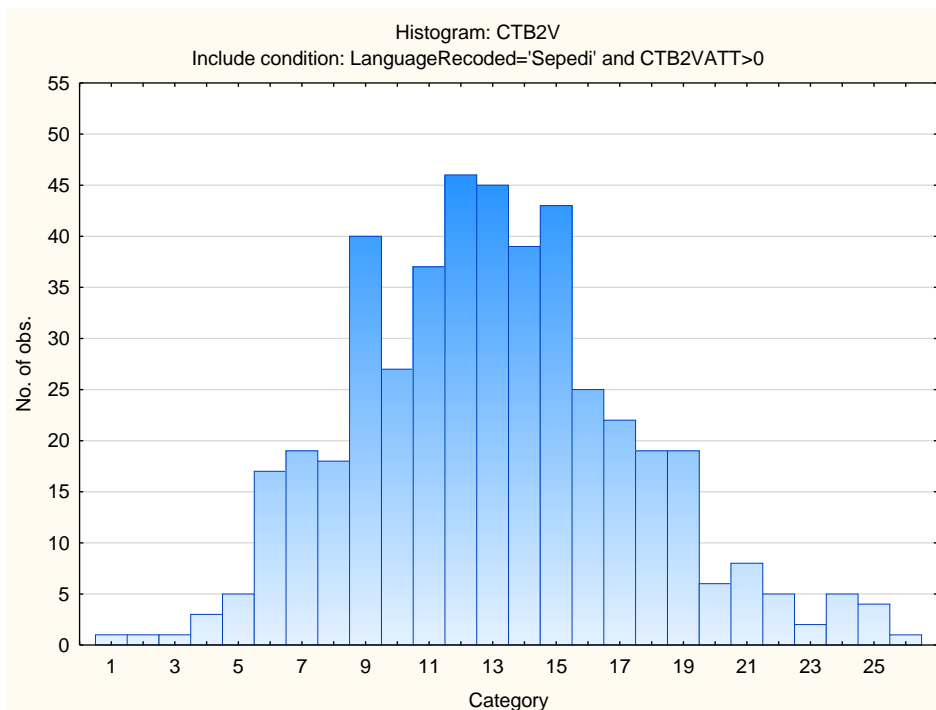


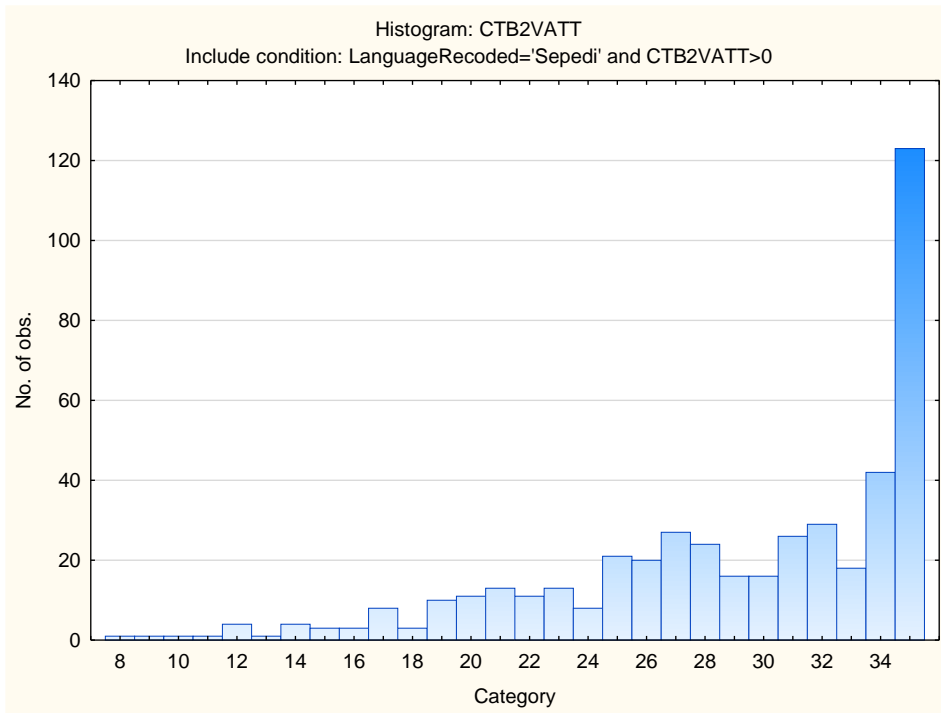
Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	15.07506	3.760957	4.000000	24.00000	453	0
CTB2SATT	22.72627	2.491604	9.000000	24.00000	453	0





Variable	Descriptive Statistics: Verbal Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	13.00437	4.372180	1.000000	28.000000	458	0
CTB2VATT	29.05022	6.129858	8.000000	35.000000	458	0





Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-5	6-7	8-9	10-11	12-14	15-16	17-18	19-20	21-28
Numerical Ability	0-0	1-1	2-3	4-4	5-6	7-7	8-9	10-10	11-17
Clerical Checking - Verbal	3-4	5-6	7-7	8-8	9-9	10-11	12-12	13-13	14-19
Clerical Checking - Numerical	3-5	6-6	7-8	9-9	10-10	11-11	12-13	14-14	15-18
Clerical Checking - Total	6-11	12-13	14-15	16-18	19-20	21-23	24-25	26-27	28-35
Spelling	4-8	9-10	11-12	13-14	15-16	17-17	18-19	20-21	22-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA Sesotho Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	222	222	57.51295	57.5130
M	164	386	42.48705	100.0000
Missing	0	386	0.00000	100.0000

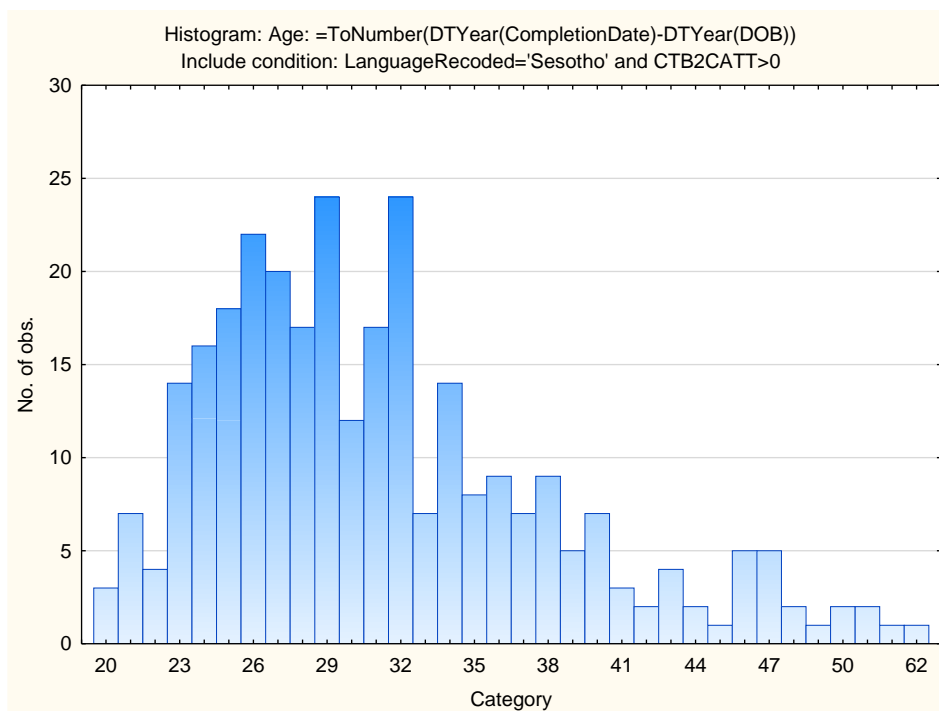
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	161	161	41.70984	41.7098
Tertiary Cert / Trade	107	268	27.72021	69.4301
Tertiary	60	328	15.54404	84.9741
Post Graduate	20	348	5.18135	90.1554
< Matric	6	354	1.55440	91.7098
Missing	32	386	8.29016	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2	2	0.51813	0.5181
African	380	382	98.44560	98.9637
Missing	4	386	1.03627	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sesotho	386	386	100.0000	100.0000
Missing	0	386	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	386	386	100.0000	100.0000
Missing	0	386	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.27458	7.220709	20.00000	62.00000	295	91



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	223	223	57.92208	57.9221
M	162	385	42.07792	100.0000
Missing	0	385	0.00000	100.0000

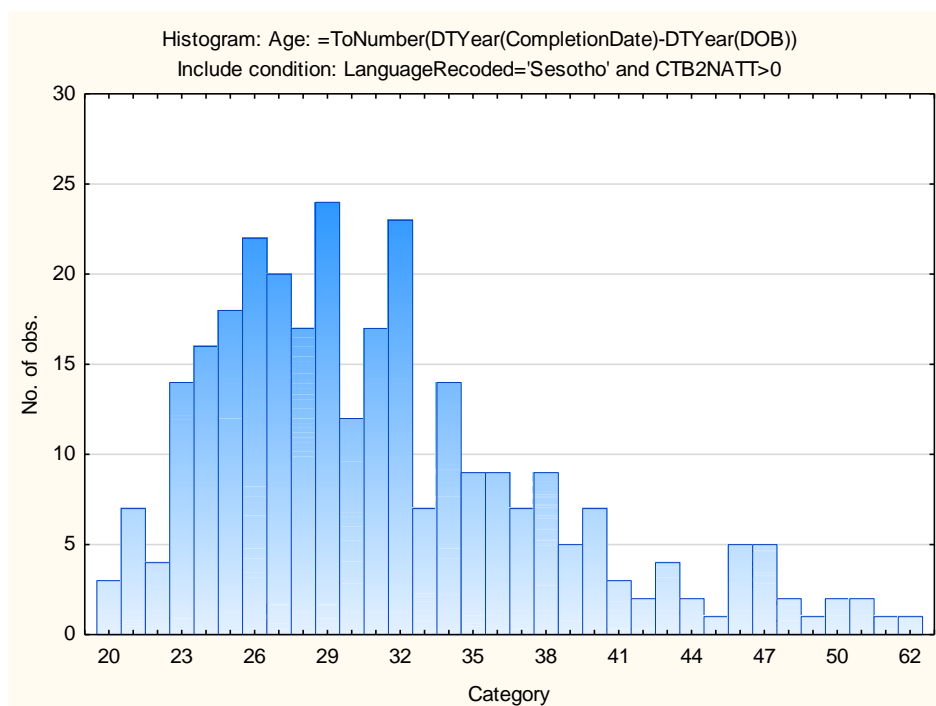
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	160	160	41.55844	41.5584
Tertiary Cert / Trade	107	267	27.79221	69.3506
Tertiary	61	328	15.84416	85.1948
Post Graduate	19	347	4.93506	90.1299
< Matric	6	353	1.55844	91.6883
Missing	32	385	8.31169	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2	2	0.51948	0.5195
African	379	381	98.44156	98.9610
Missing	4	385	1.03896	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sesotho	385	385	100.0000	100.0000
Missing	0	385	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	385	385	100.0000	100.0000
Missing	0	385	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.28475	7.223846	20.00000	62.00000	295	90



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	189	189	57.62195	57.6220
M	139	328	42.37805	100.0000
Missing	0	328	0.00000	100.0000

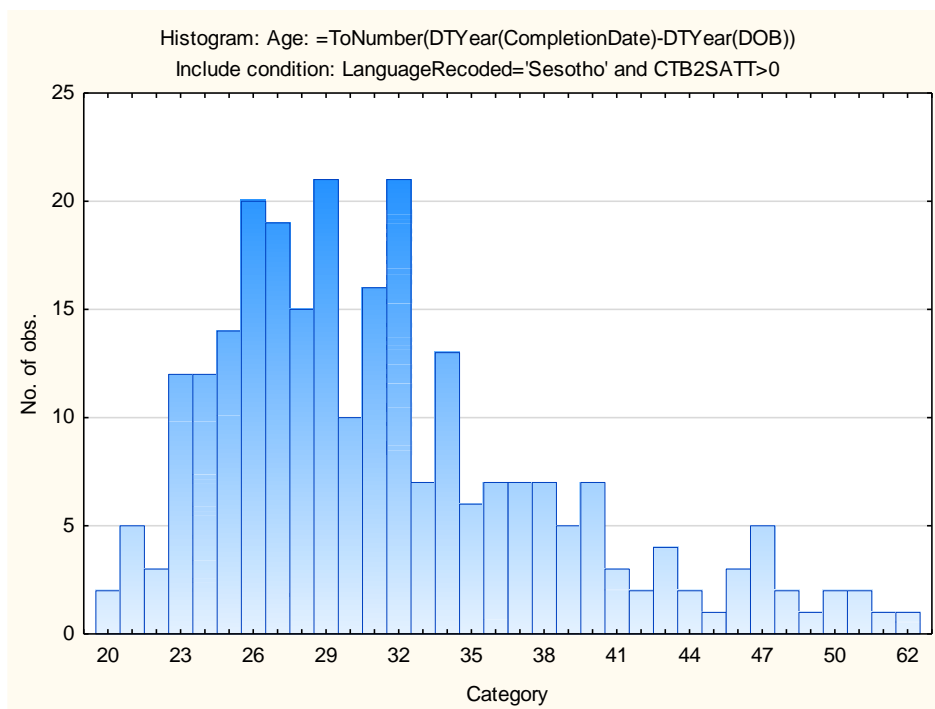
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	148	148	45.12195	45.1220
Tertiary Cert / Trade	82	230	25.00000	70.1220
Tertiary	50	280	15.24390	85.3659
Post Graduate	19	299	5.79268	91.1585
< Matric	5	304	1.52439	92.6829
Missing	24	328	7.31707	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2	2	0.60976	0.6098
African	322	324	98.17073	98.7805
Missing	4	328	1.21951	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sesotho	328	328	100.0000	100.0000
Missing	0	328	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	328	328	100.0000	100.0000
Missing	0	328	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.57752	7.289177	20.00000	62.00000	258	70



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	213	213	59.16667	59.1667
M	147	360	40.83333	100.0000
Missing	0	360	0.00000	100.0000

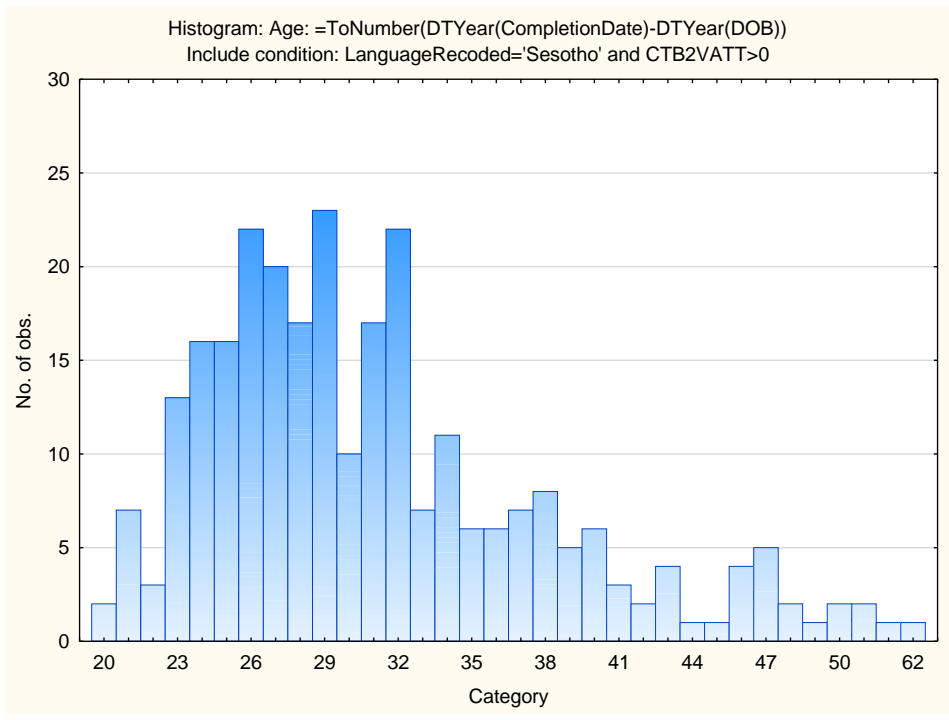
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	143	143	39.72222	39.7222
Tertiary Cert / Trade	102	245	28.33333	68.0556
Tertiary	58	303	16.11111	84.1667
Post Graduate	19	322	5.27778	89.4444
< Matric	6	328	1.66667	91.1111
Missing	32	360	8.88889	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2	2	0.55556	0.5556
African	354	356	98.33333	98.8889
Missing	4	360	1.11111	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sesotho	360	360	100.0000	100.0000
Missing	0	360	0.0000	100.0000

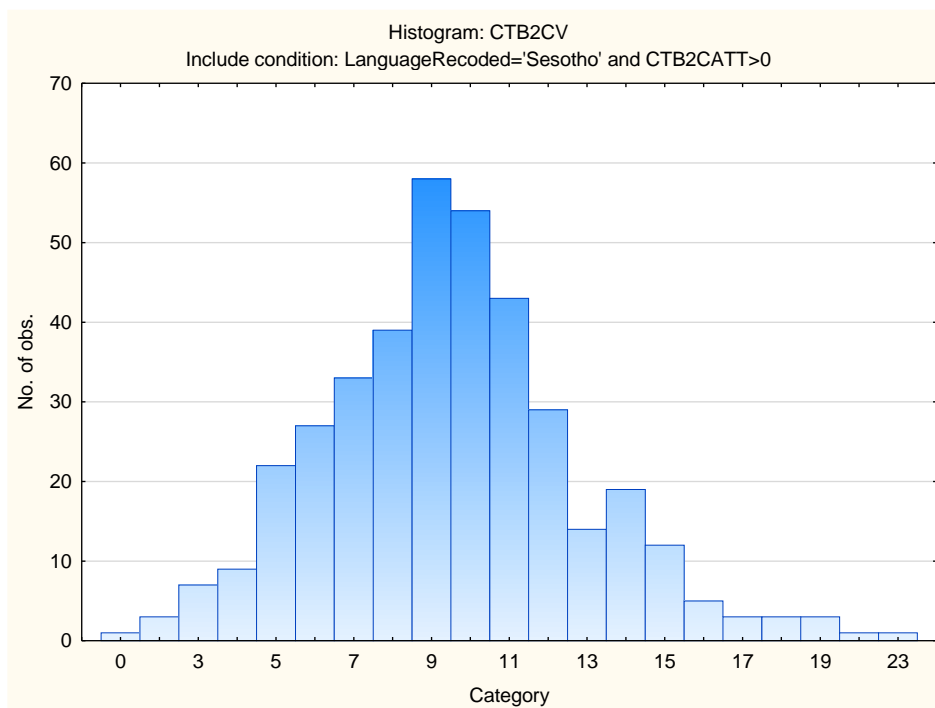
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	360	360	100.0000	100.0000
Missing	0	360	0.0000	100.0000

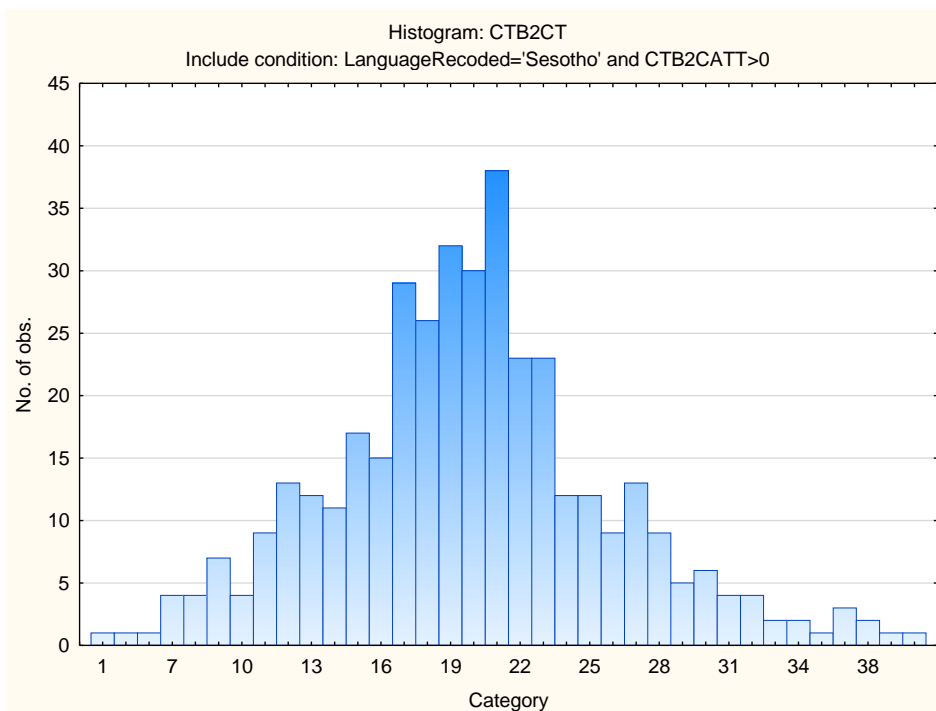
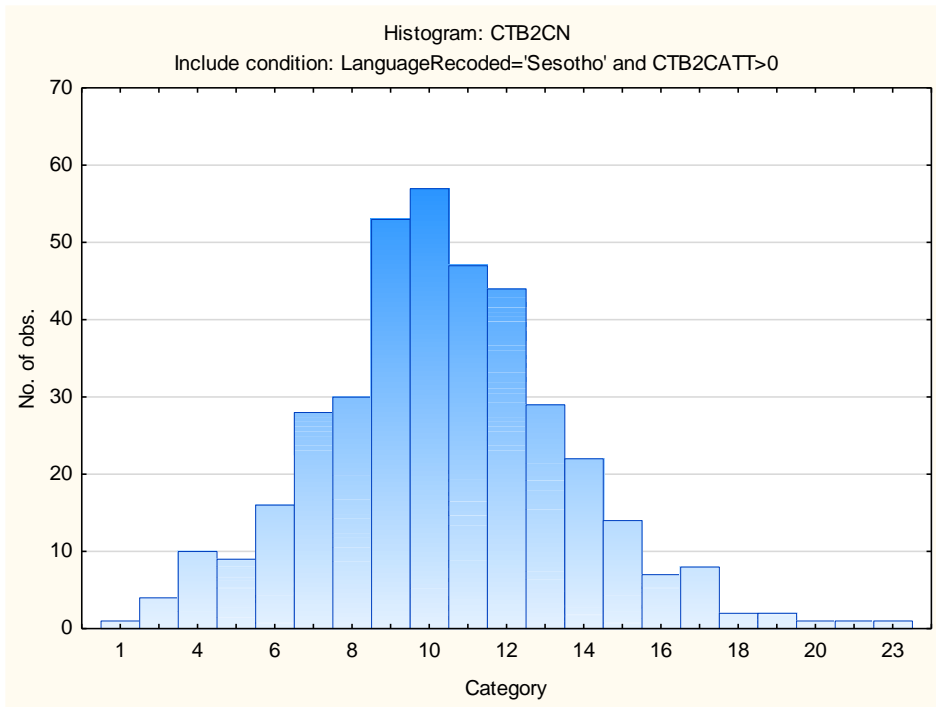
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.17216	7.260618	20.00000	62.00000	273	87

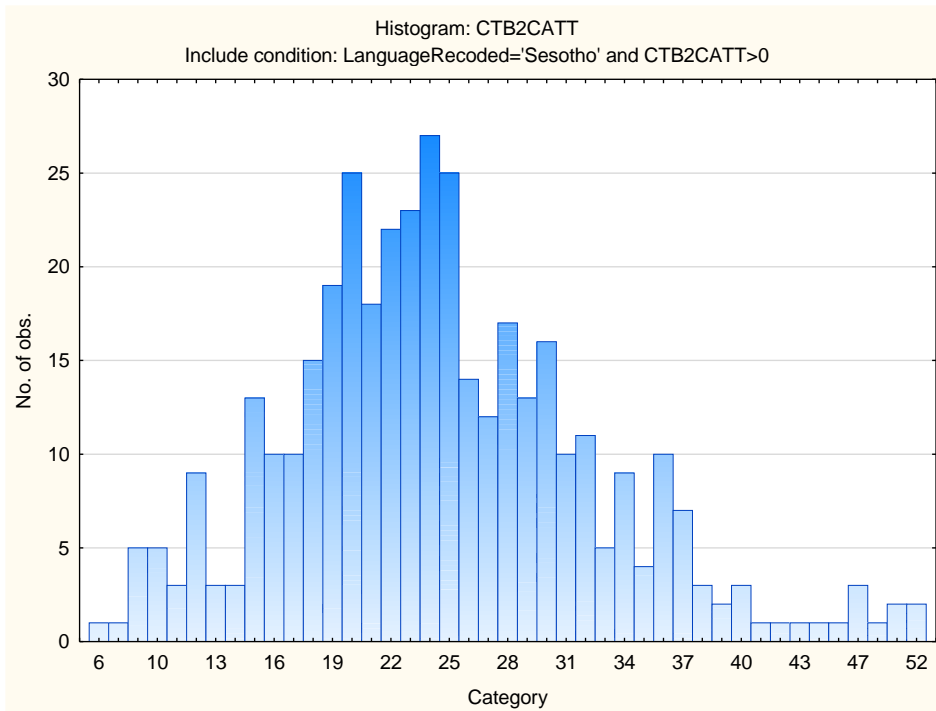


Descriptive Statistics on Clerical Test Battery Subtests

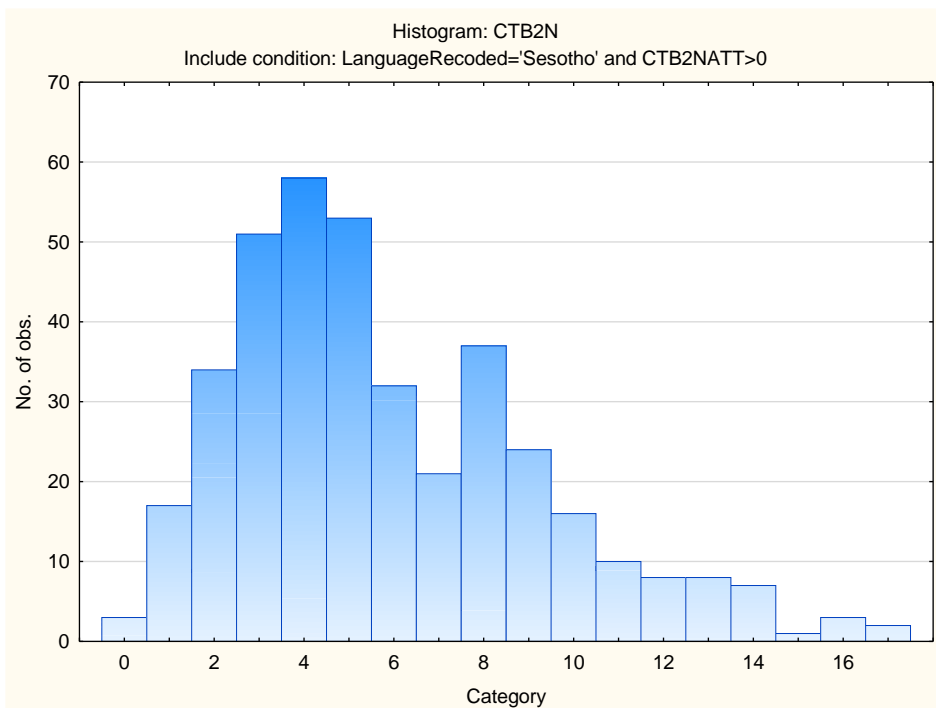
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.51813	3.335123	0.000000	23.00000	386	0
CTB2CN	10.37047	3.223301	1.000000	23.00000	386	0
CTB2CT	19.88860	6.183810	1.000000	46.00000	386	0
CTB2CATT	24.58290	8.026231	6.000000	52.00000	386	0

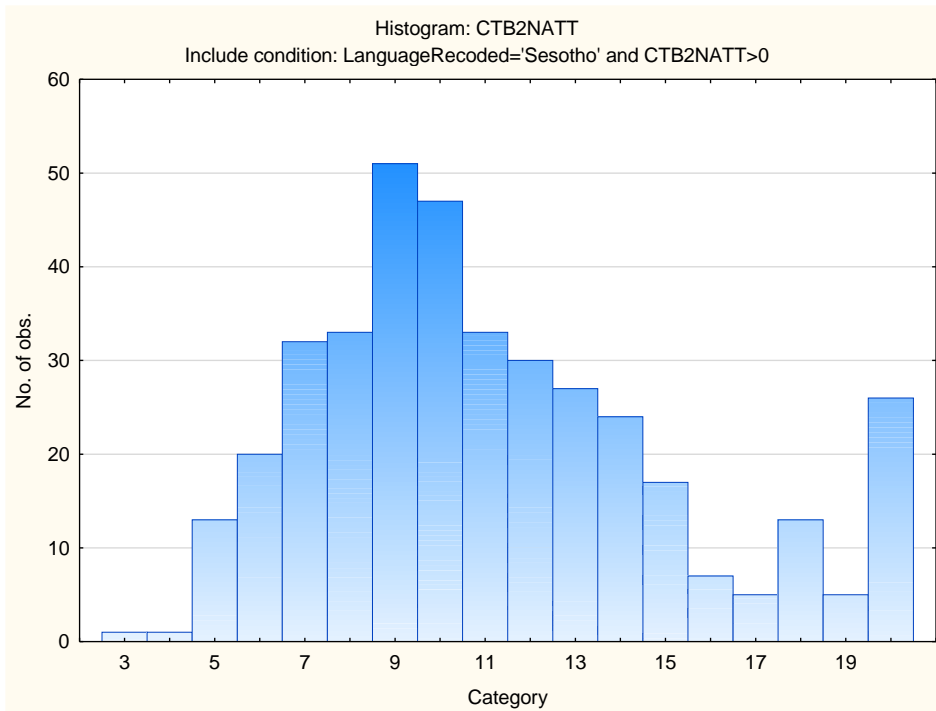




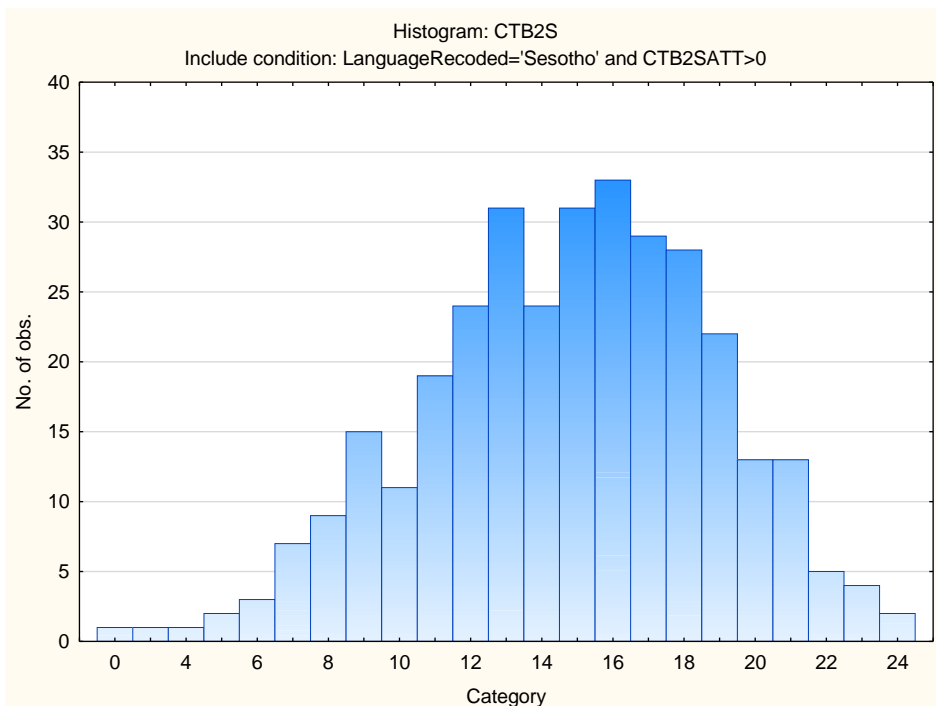


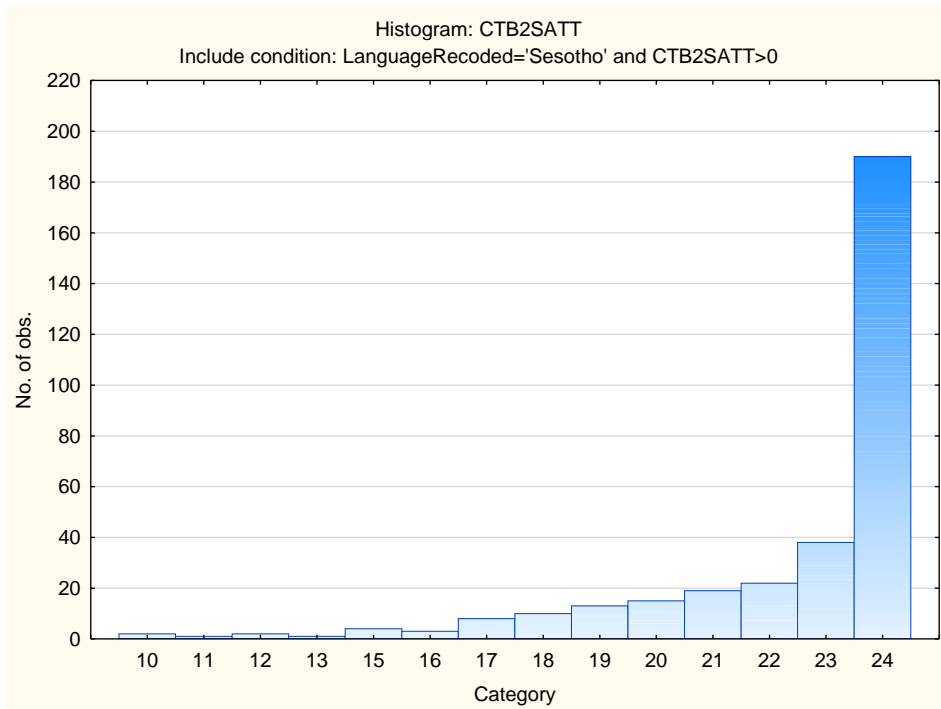
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	5.84675	3.405708	0.000000	17.00000	385	0
CTB2NATT	11.22078	4.007231	3.000000	20.00000	385	0



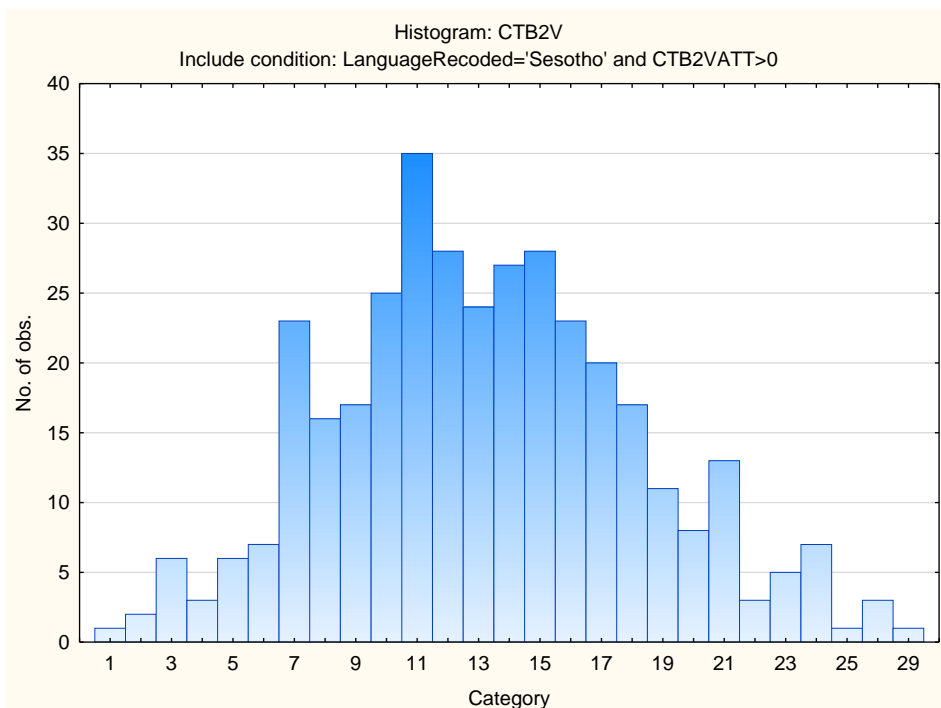


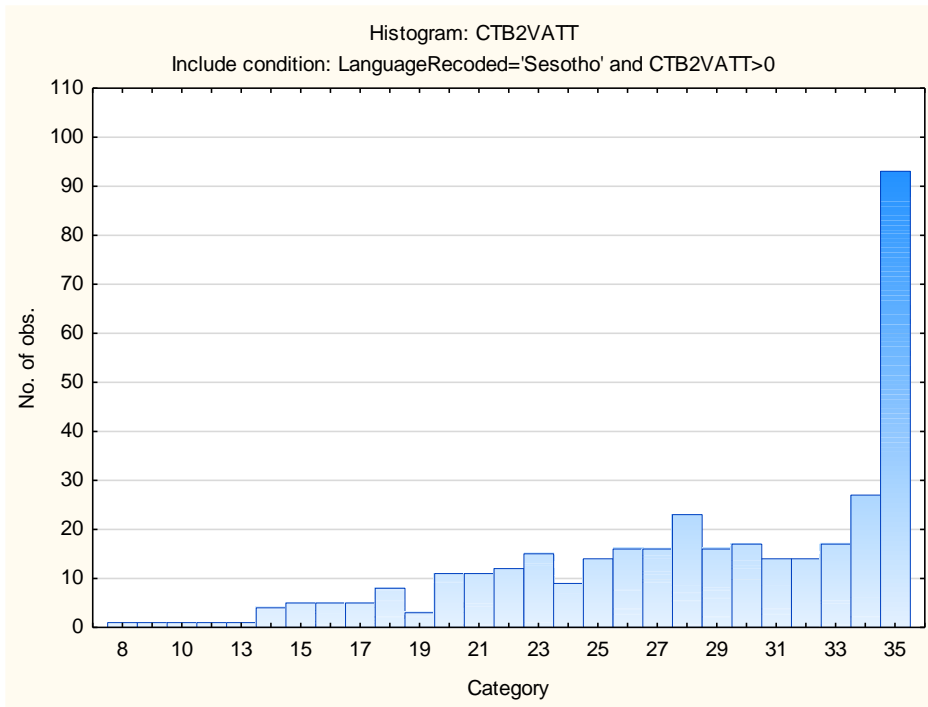
Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	14.71646	4.105874	0.00000	24.00000	328	0
CTB2SATT	22.42683	2.645314	10.00000	24.00000	328	0





Variable	Descriptive Statistics: Verbal Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	13.24167	5.016956	1.000000	29.000000	360	0
CTB2VATT	28.49167	6.303374	8.000000	35.000000	360	0





Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-4	5-6	7-9	10-11	12-14	15-17	18-19	20-22	23-29
Numerical Ability	0--1	0-1	2-3	4-4	5-6	7-8	9-10	11-11	12-17
Clerical Checking - Verbal	0-3	4-5	6-7	8-8	9-10	11-12	13-13	14-15	16-23
Clerical Checking - Numerical	1-4	5-6	7-7	8-9	10-11	12-12	13-14	15-16	17-23
Clerical Checking - Total	1-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-46
Spelling	0-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA Setswana Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	328	328	62.12121	62.1212
M	200	528	37.87879	100.0000
Missing	0	528	0.00000	100.0000

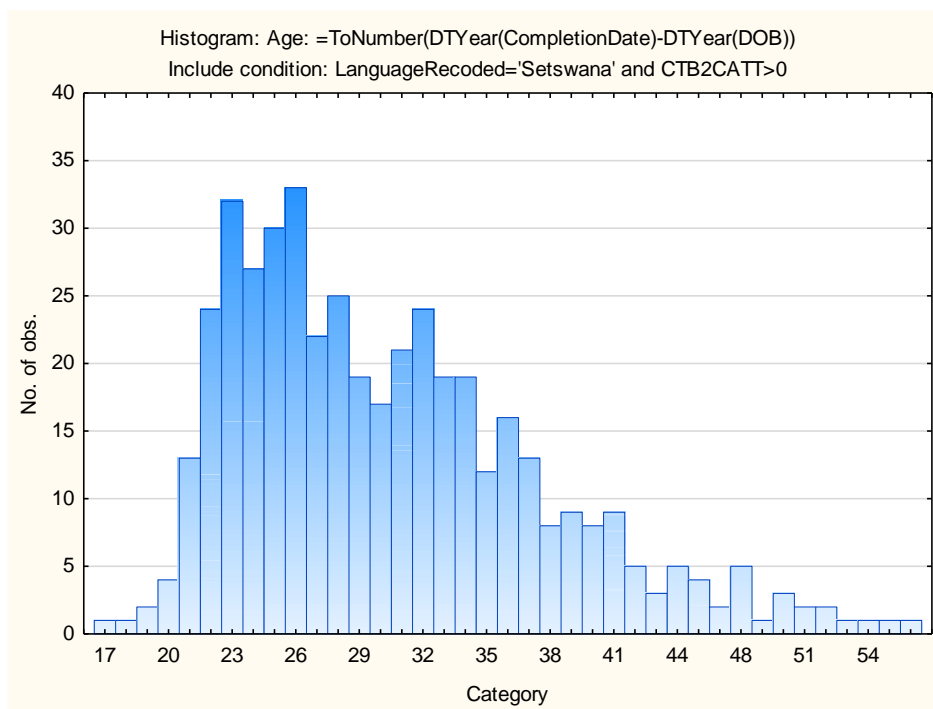
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	199	199	37.68939	37.6894
Tertiary Cert / Trade	186	385	35.22727	72.9167
Tertiary	106	491	20.07576	92.9924
Post Graduate	26	517	4.92424	97.9167
< Matric	3	520	0.56818	98.4848
Missing	8	528	1.51515	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	1.13636	1.1364
African	510	516	96.59091	97.7273
Missing	12	528	2.27273	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	528	528	100.0000	100.0000
Missing	0	528	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	528	528	100.0000	100.0000
Missing	0	528	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.43468	7.377457	17.00000	58.00000	444	84



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	325	325	62.02290	62.0229
M	199	524	37.97710	100.0000
Missing	0	524	0.00000	100.0000

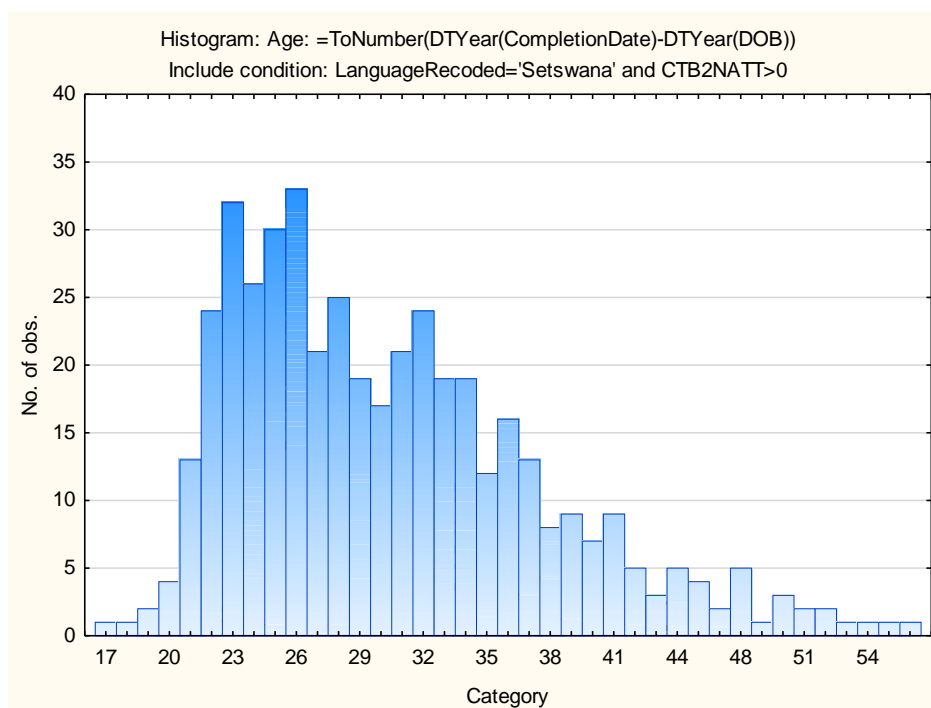
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	197	197	37.59542	37.5954
Tertiary Cert / Trade	184	381	35.11450	72.7099
Tertiary	106	487	20.22901	92.9389
Post Graduate	26	513	4.96183	97.9008
< Matric	3	516	0.57252	98.4733
Missing	8	524	1.52672	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	1.14504	1.1450
African	506	512	96.56489	97.7099
Missing	12	524	2.29008	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	524	524	100.0000	100.0000
Missing	0	524	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	524	524	100.0000	100.0000
Missing	0	524	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.43537	7.380319	17.00000	58.00000	441	83



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	305	305	62.50000	62.5000
M	183	488	37.50000	100.0000
Missing	0	488	0.00000	100.0000

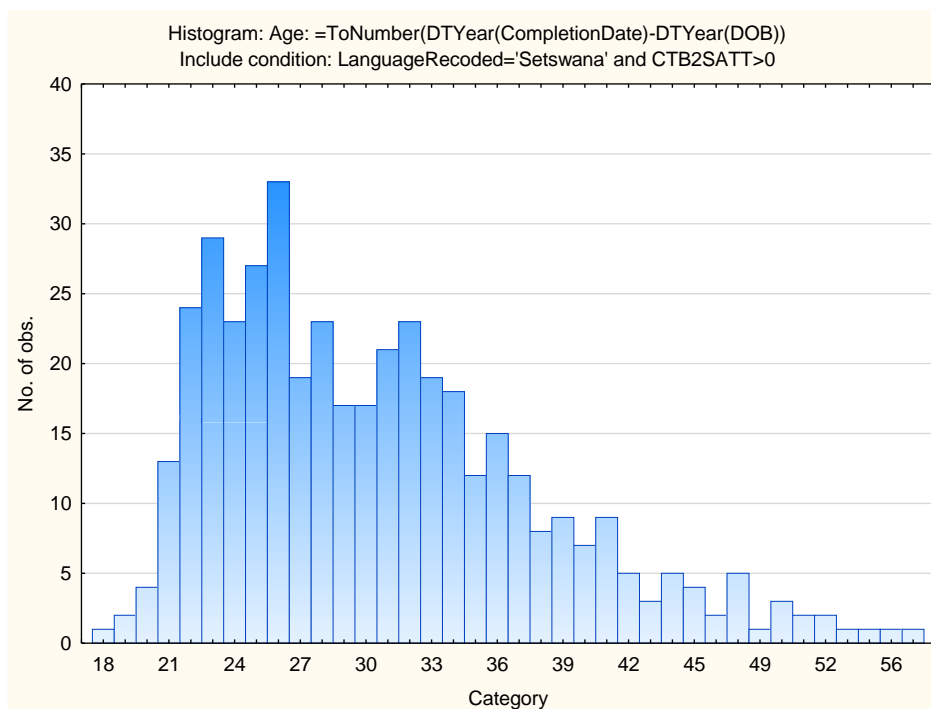
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	187	187	38.31967	38.3197
Tertiary Cert / Trade	169	356	34.63115	72.9508
Tertiary	100	456	20.49180	93.4426
Post Graduate	25	481	5.12295	98.5656
< Matric	3	484	0.61475	99.1803
Missing	4	488	0.81967	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	1.22951	1.2295
African	470	476	96.31148	97.5410
Missing	12	488	2.45902	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	488	488	100.0000	100.0000
Missing	0	488	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	488	488	100.0000	100.0000
Missing	0	488	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.59857	7.442983	18.00000	58.00000	421	67



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	310	310	62.12425	62.1242
M	189	499	37.87575	100.0000
Missing	0	499	0.00000	100.0000

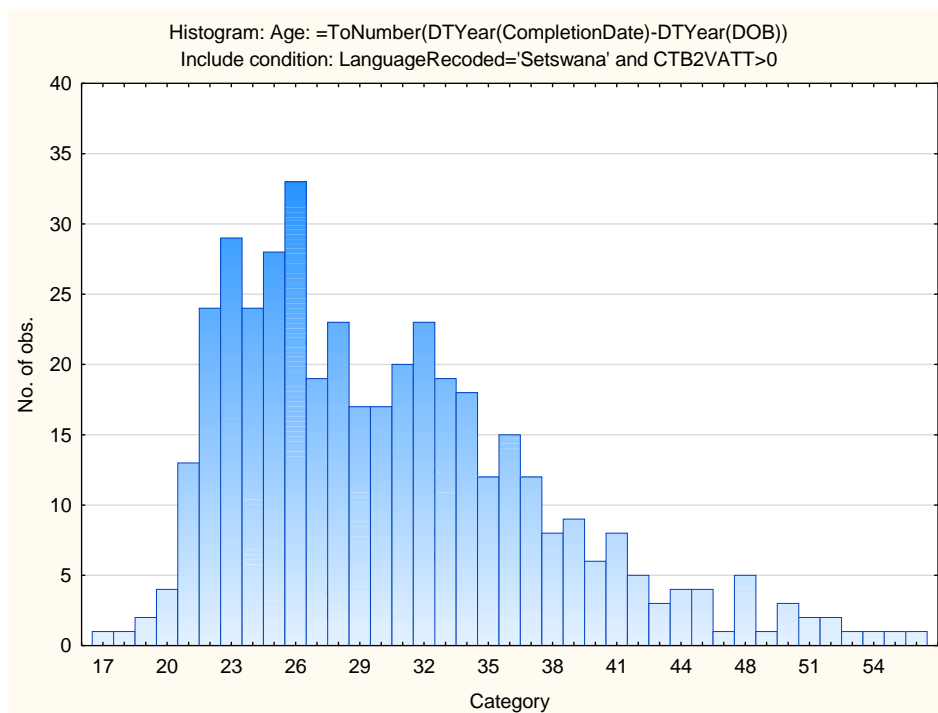
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	189	189	37.87575	37.8758
Tertiary Cert / Trade	174	363	34.86974	72.7455
Tertiary	101	464	20.24048	92.9860
Post Graduate	25	489	5.01002	97.9960
< Matric	2	491	0.40080	98.3968
Missing	8	499	1.60321	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	1.20240	1.2024
African	481	487	96.39279	97.5952
Missing	12	499	2.40481	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	499	499	100.0000	100.0000
Missing	0	499	0.0000	100.0000

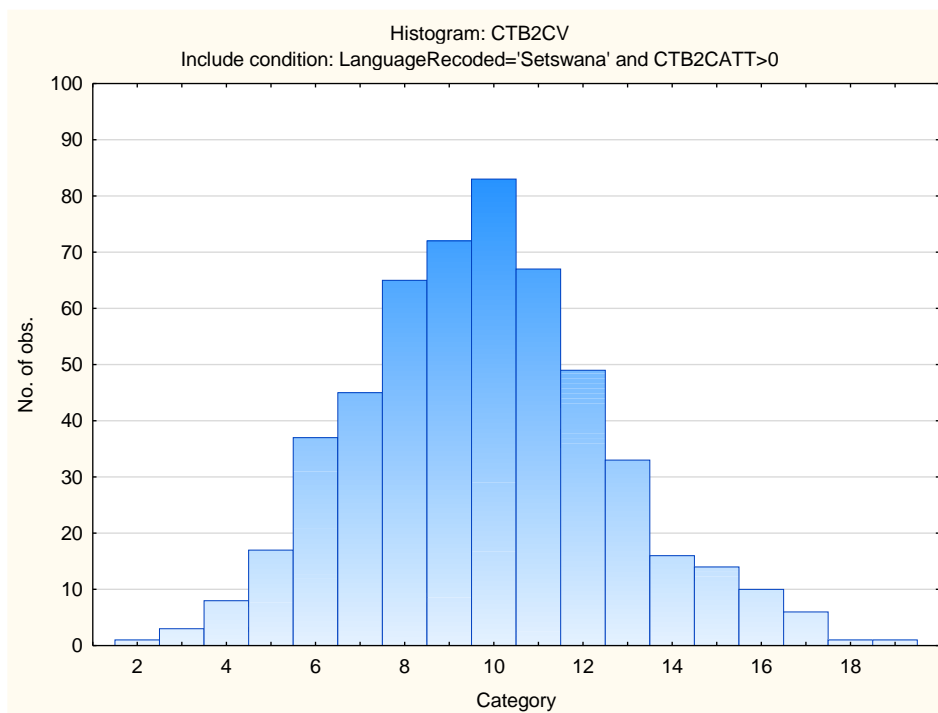
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	499	499	100.0000	100.0000
Missing	0	499	0.0000	100.0000

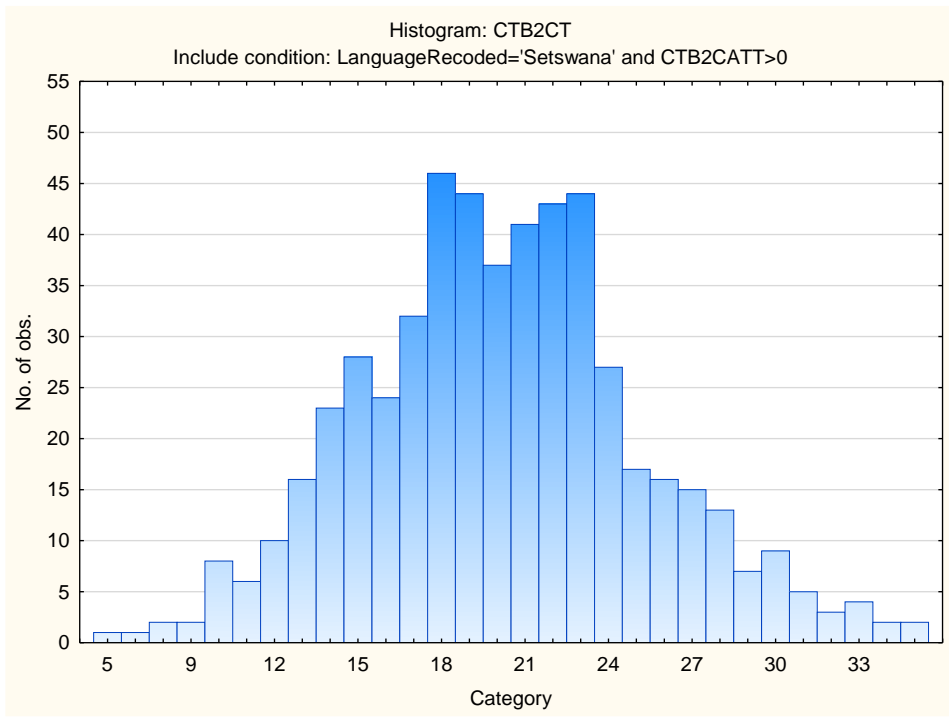
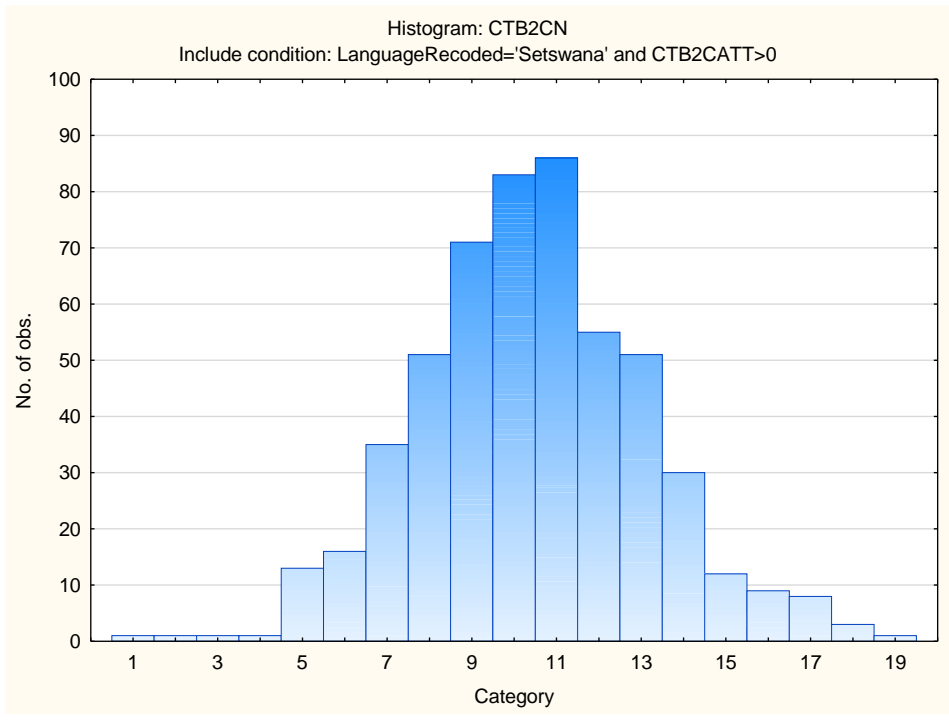
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.41766	7.396480	17.00000	58.00000	419	80

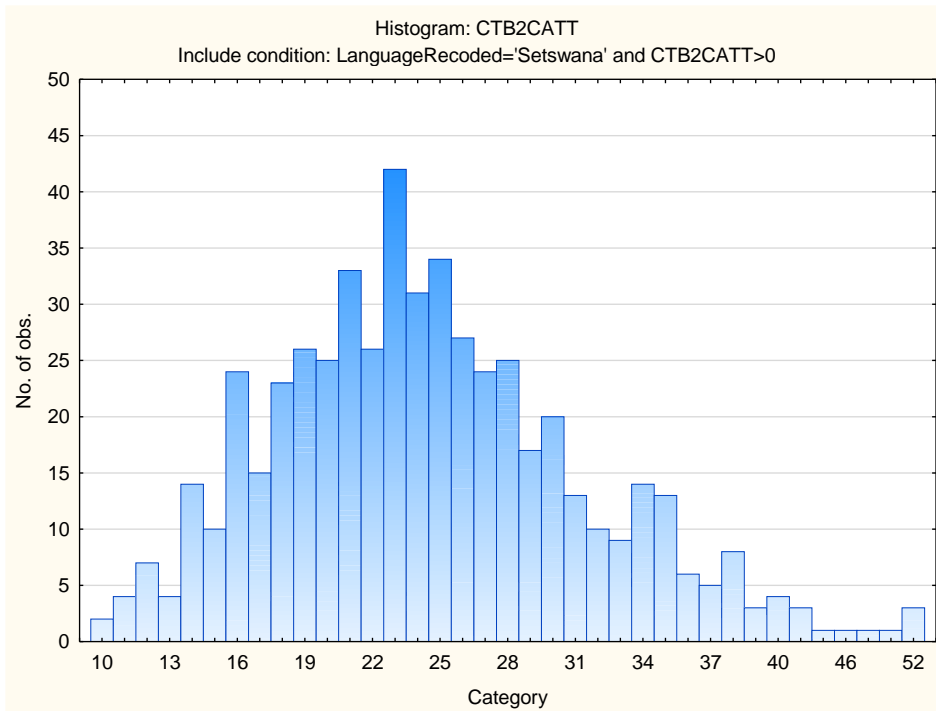


Descriptive Statistics on Clerical Test Battery subtests

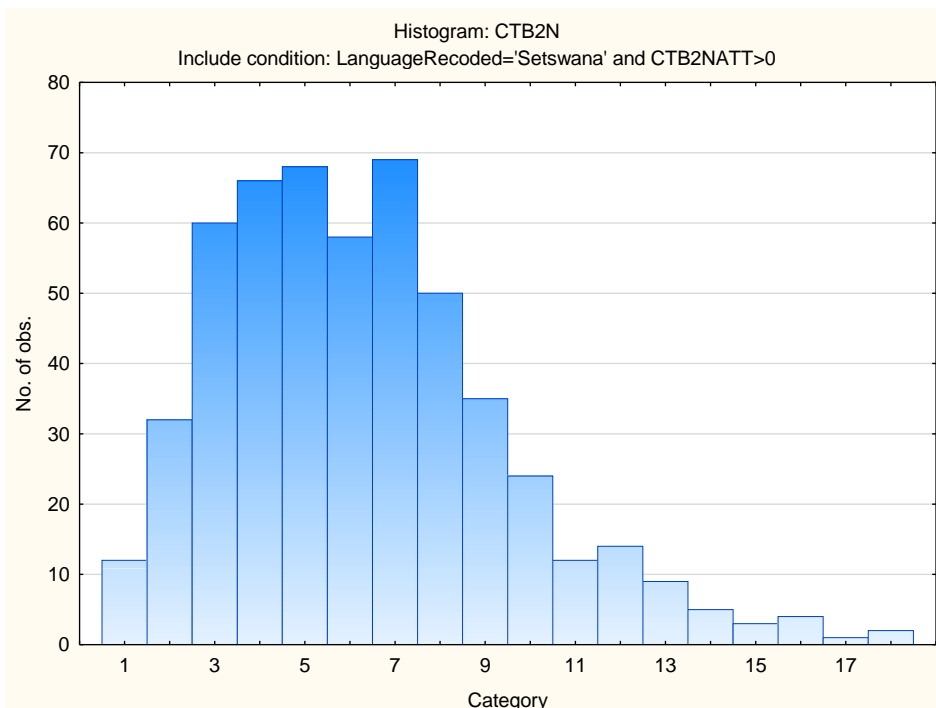
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.75379	2.818343	2.00000	19.00000	528	0
CTB2CN	10.44508	2.695983	1.00000	19.00000	528	0
CTB2CT	20.19886	5.093457	5.00000	35.00000	528	0
CTB2CATT	24.54924	7.086444	10.00000	52.00000	528	0

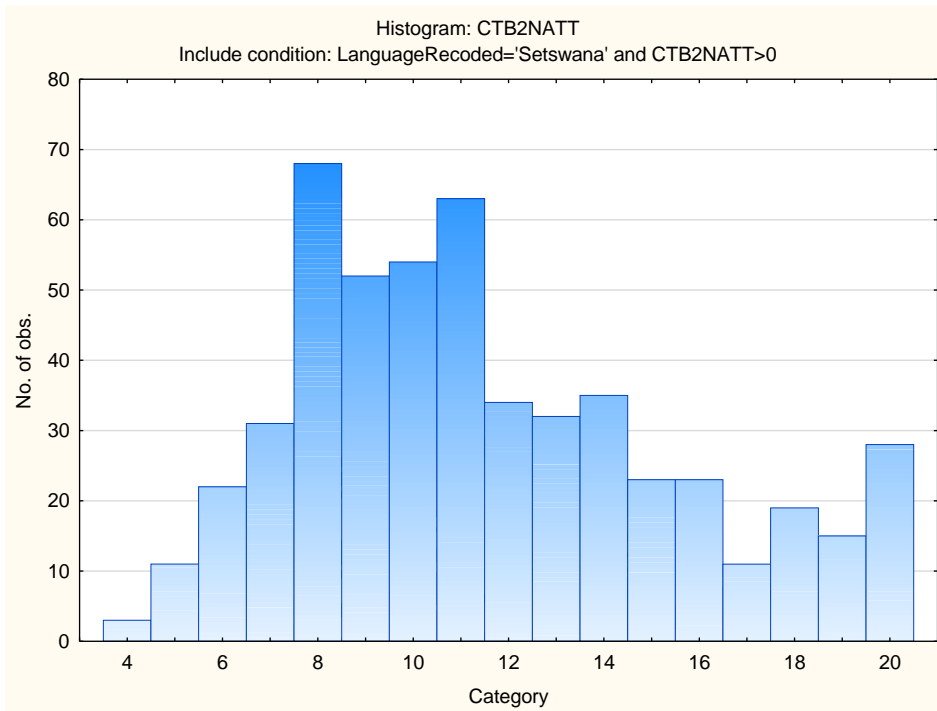




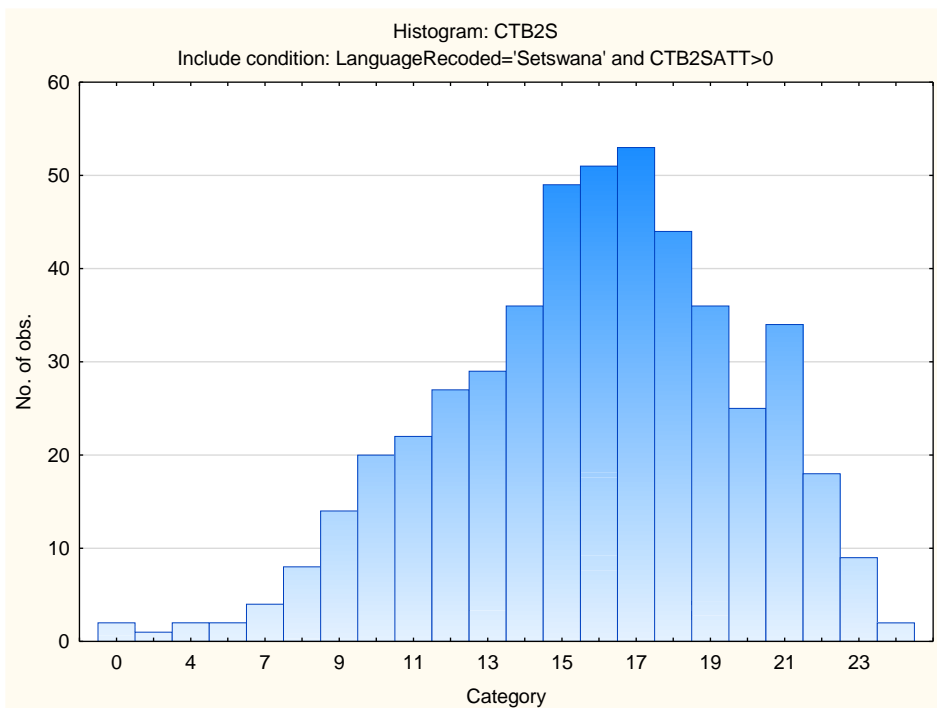


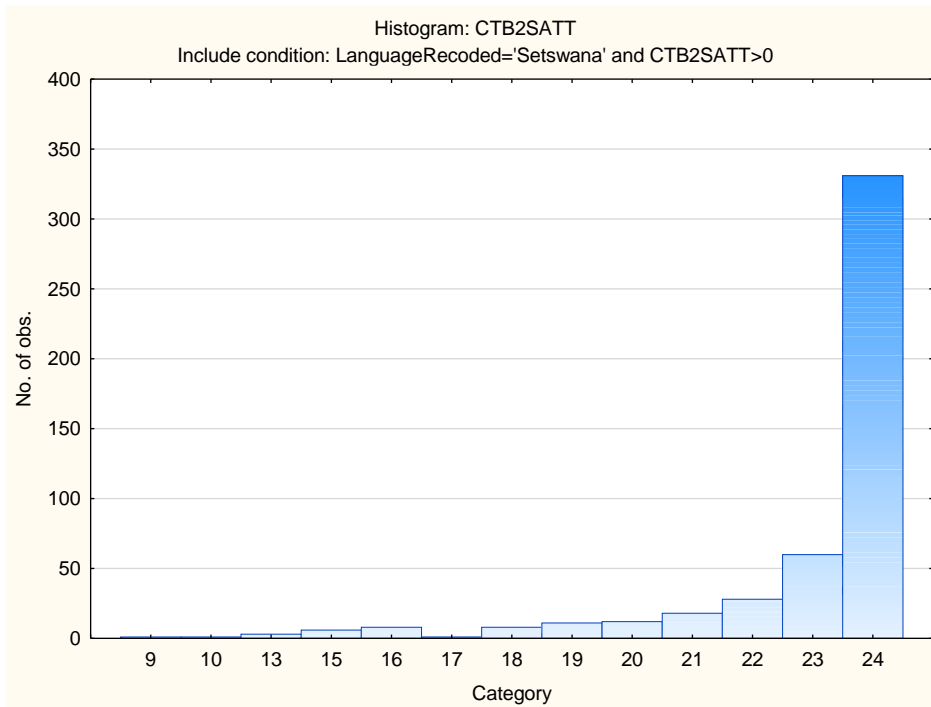
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	6.29580	3.191513	1.000000	20.00000	524	0
CTB2NATT	11.56870	3.976154	4.000000	20.00000	524	0



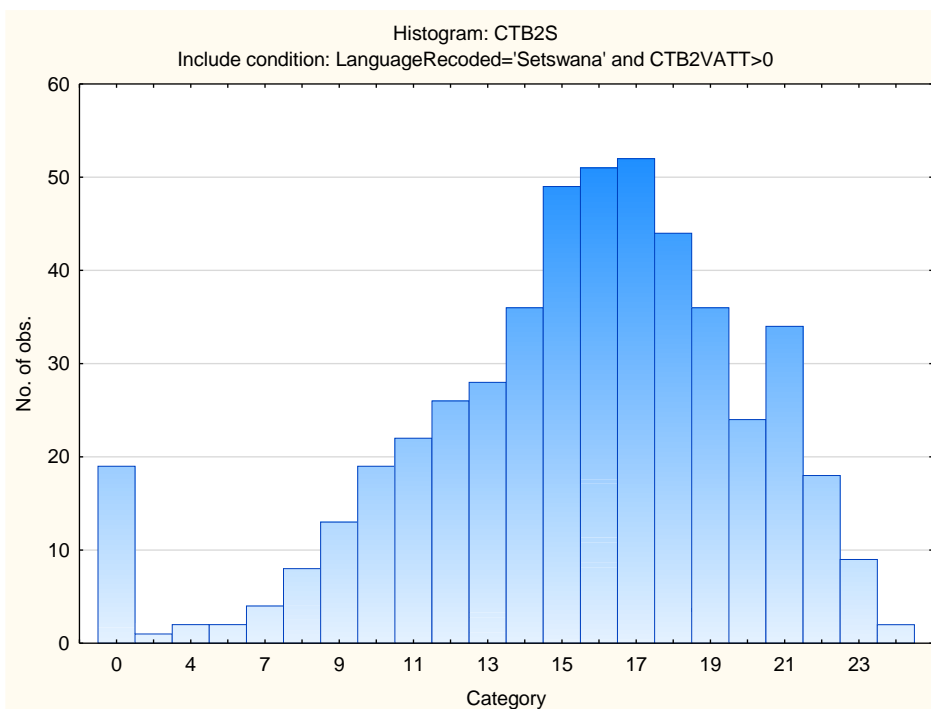


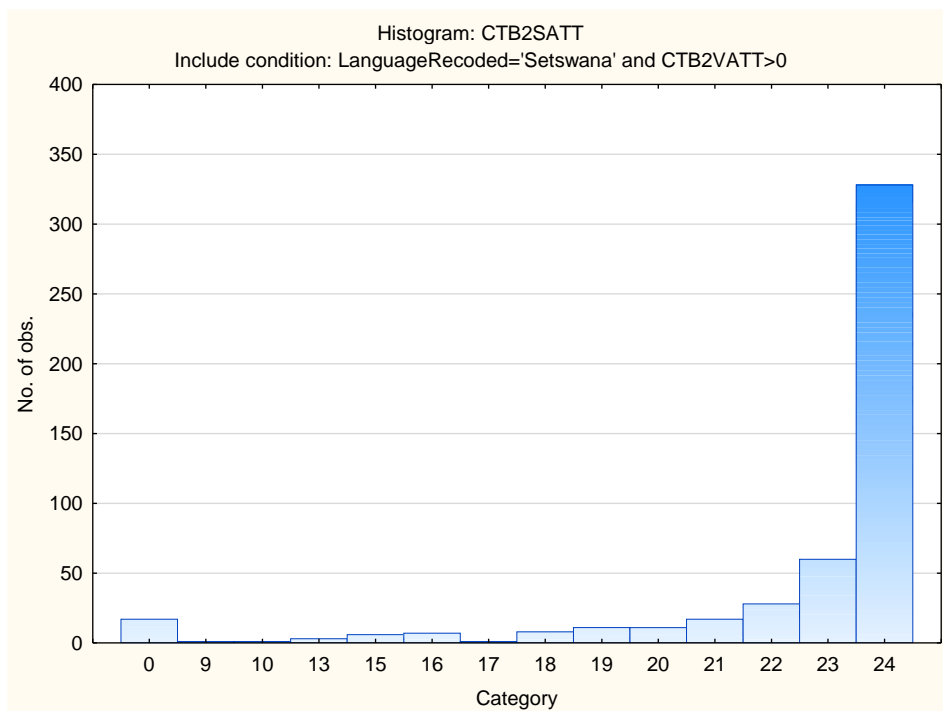
Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	15.73975	4.010753	0.000000	24.00000	488	0
CTB2SATT	22.95902	2.215857	9.000000	24.00000	488	0





Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	15.23046	4.867006	0.00	24.00000	499	0
CTB2SATT	22.19439	4.699001	0.00	24.00000	499	0





Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	0-6	7-9	10-11	12-14	15-16	17-18	19-21	22-23	24-24
Numerical Ability	1-0	1-2	3-3	4-5	6-7	8-8	9-10	11-11	12-20
Clerical Checking - Verbal	2-4	5-6	7-7	8-9	10-10	11-11	12-13	14-14	15-19
Clerical Checking - Numerical	1-5	6-7	8-8	9-9	10-11	12-12	13-13	14-15	16-19
Clerical Checking - Total	5-11	12-13	14-16	17-18	19-21	22-24	25-26	27-29	30-35
Spelling	0-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24

Clerical Test Battery 2 (CTB2)

Norm Group: SA Tshivenda Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	92	92	55.75758	55.7576
M	73	165	44.24242	100.0000
Missing	0	165	0.00000	100.0000

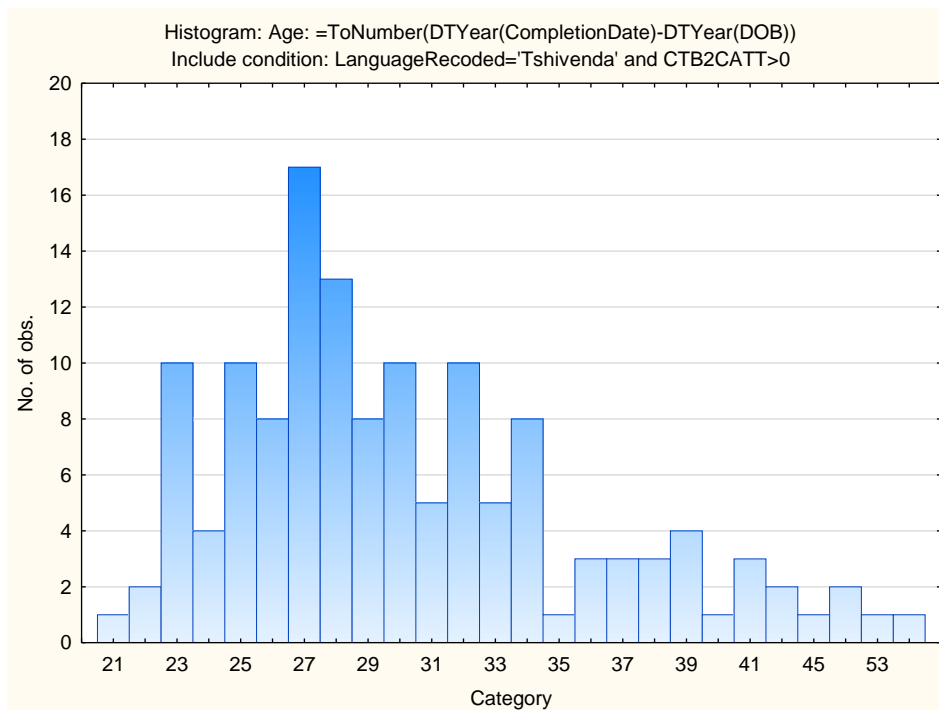
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	38	38	23.03030	23.0303
Tertiary Cert / Trade	52	90	31.51515	54.5455
Tertiary	53	143	32.12121	86.6667
Post Graduate	18	161	10.90909	97.5758
Missing	4	165	2.42424	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.60606	0.6061
African	158	159	95.75758	96.3636
Missing	6	165	3.63636	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Tshivenda	165	165	100.0000	100.0000
Missing	0	165	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	165	165	100.0000	100.0000
Missing	0	165	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.44118	6.287866	21.00000	57.00000	136	29



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	91	91	55.48780	55.4878
M	73	164	44.51220	100.0000
Missing	0	164	0.00000	100.0000

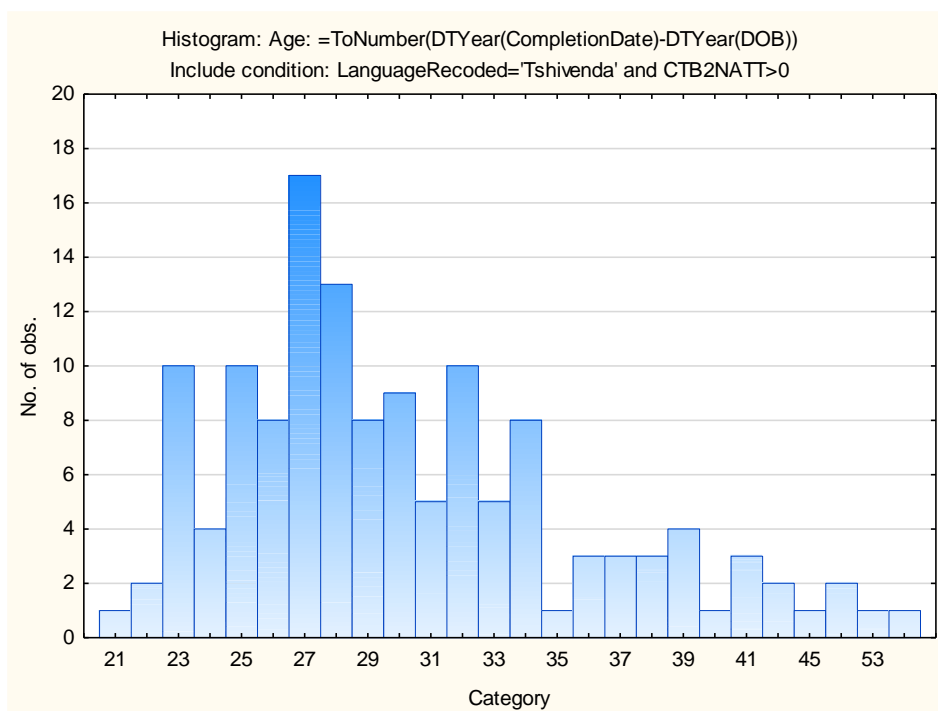
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	38	38	23.17073	23.1707
Tertiary Cert / Trade	52	90	31.70732	54.8780
Tertiary	52	142	31.70732	86.5854
Post Graduate	18	160	10.97561	97.5610
Missing	4	164	2.43902	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.60976	0.6098
African	157	158	95.73171	96.3415
Missing	6	164	3.65854	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Tshivenda	164	164	100.0000	100.0000
Missing	0	164	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	164	164	100.0000	100.0000
Missing	0	164	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.44444	6.311168	21.00000	57.00000	135	29



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	86	86	55.12821	55.1282
M	70	156	44.87179	100.0000
Missing	0	156	0.00000	100.0000

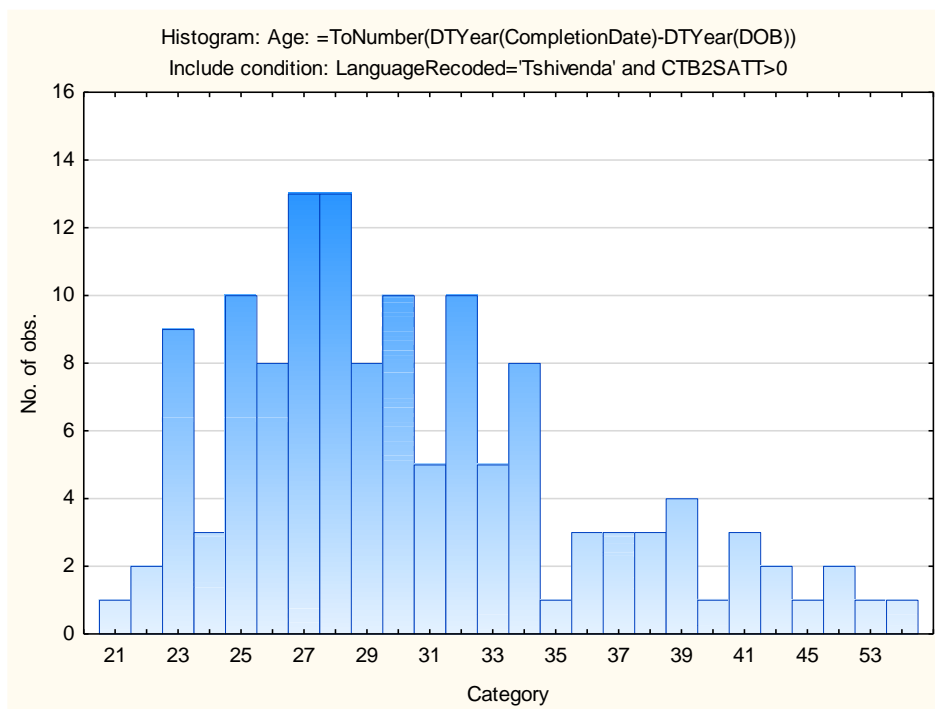
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	37	37	23.71795	23.7179
Tertiary Cert / Trade	50	87	32.05128	55.7692
Tertiary	50	137	32.05128	87.8205
Post Graduate	16	153	10.25641	98.0769
Missing	3	156	1.92308	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.64103	0.6410
African	150	151	96.15385	96.7949
Missing	5	156	3.20513	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Tshivenda	156	156	100.0000	100.0000
Missing	0	156	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	156	156	100.0000	100.0000
Missing	0	156	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.65385	6.341339	21.00000	57.00000	130	26



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	83	83	54.24837	54.2484
M	70	153	45.75163	100.0000
Missing	0	153	0.00000	100.0000

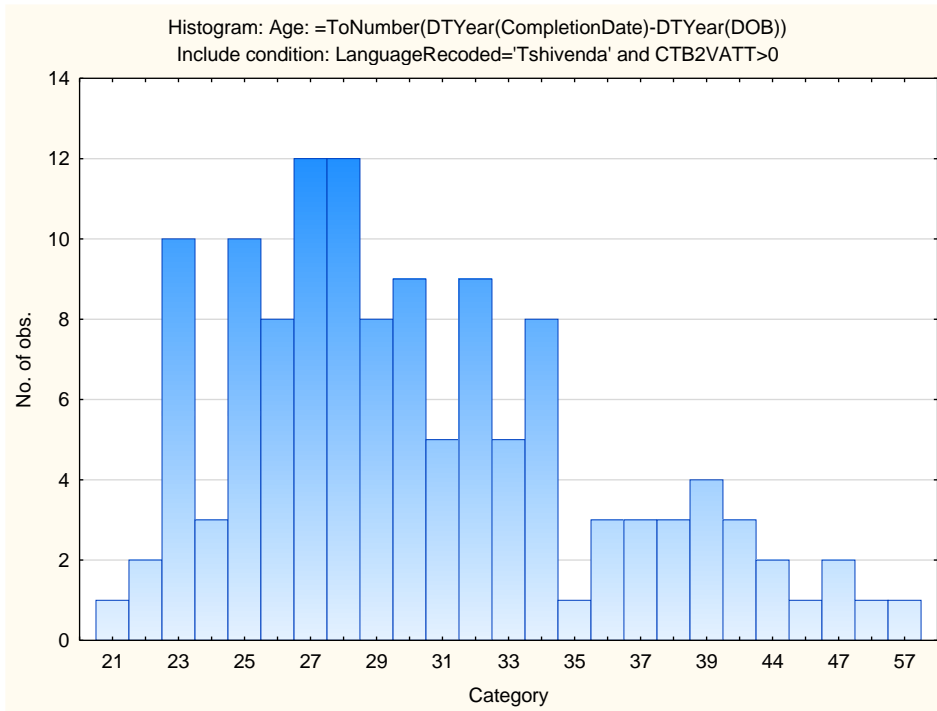
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	37	37	24.18301	24.1830
Tertiary Cert / Trade	48	85	31.37255	55.5556
Tertiary	48	133	31.37255	86.9281
Post Graduate	16	149	10.45752	97.3856
Missing	4	153	2.61438	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.65359	0.6536
African	146	147	95.42484	96.0784
Missing	6	153	3.92157	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Tshivenda	153	153	100.0000	100.0000
Missing	0	153	0.0000	100.0000

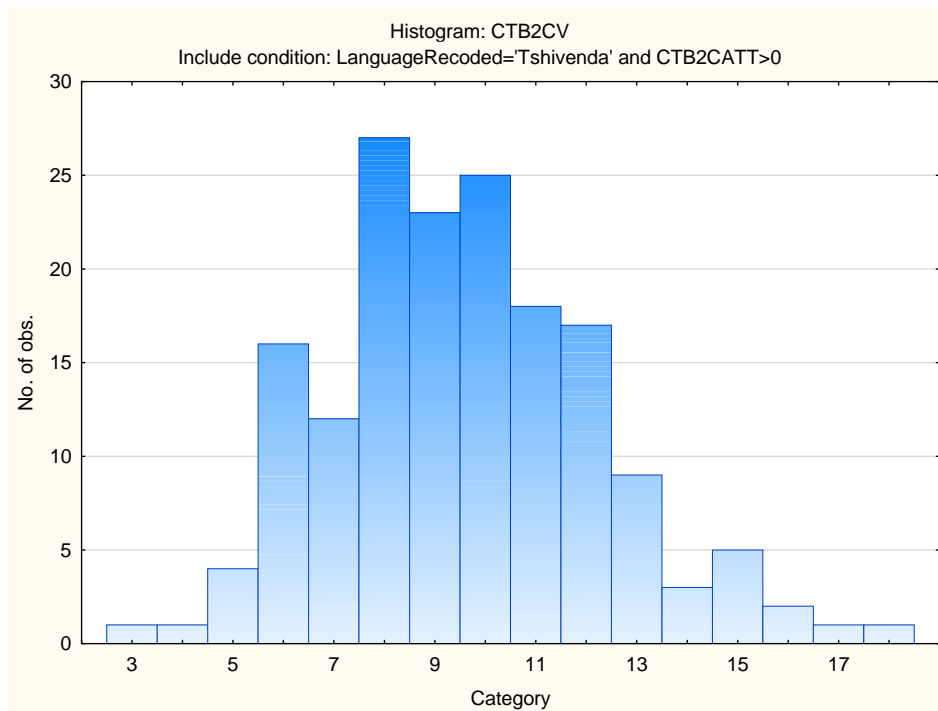
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	153	153	100.0000	100.0000
Missing	0	153	0.0000	100.0000

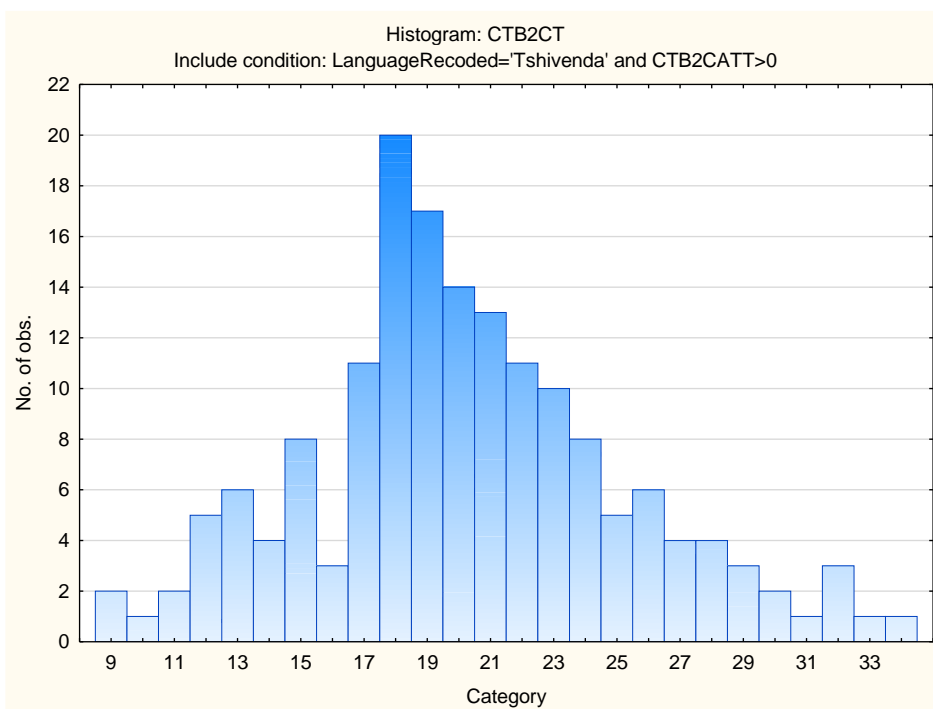
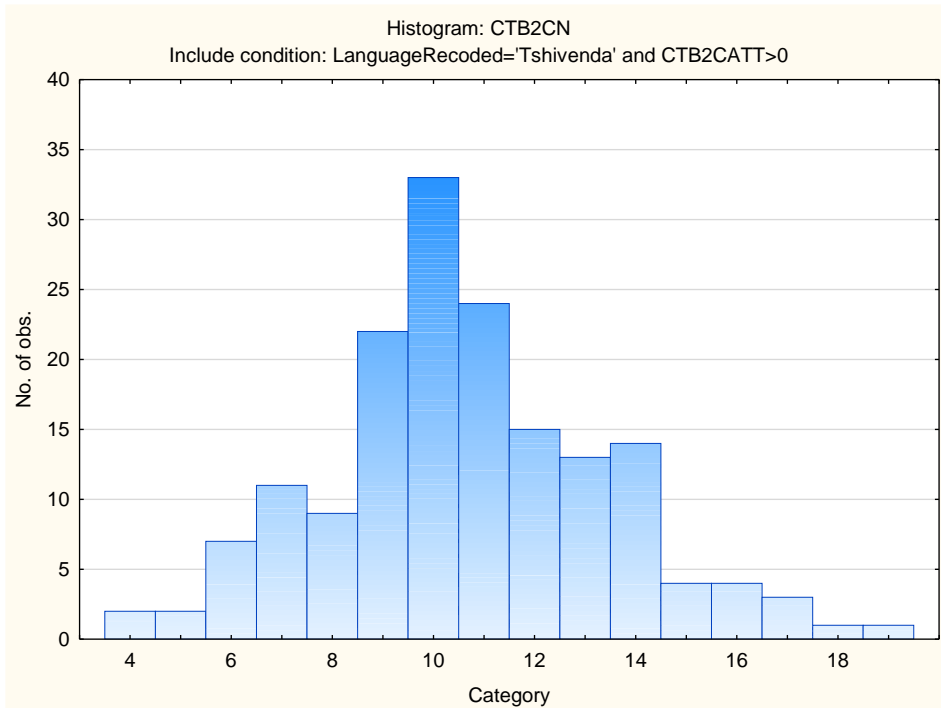
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.56349	6.409363	21.00000	57.00000	126	27

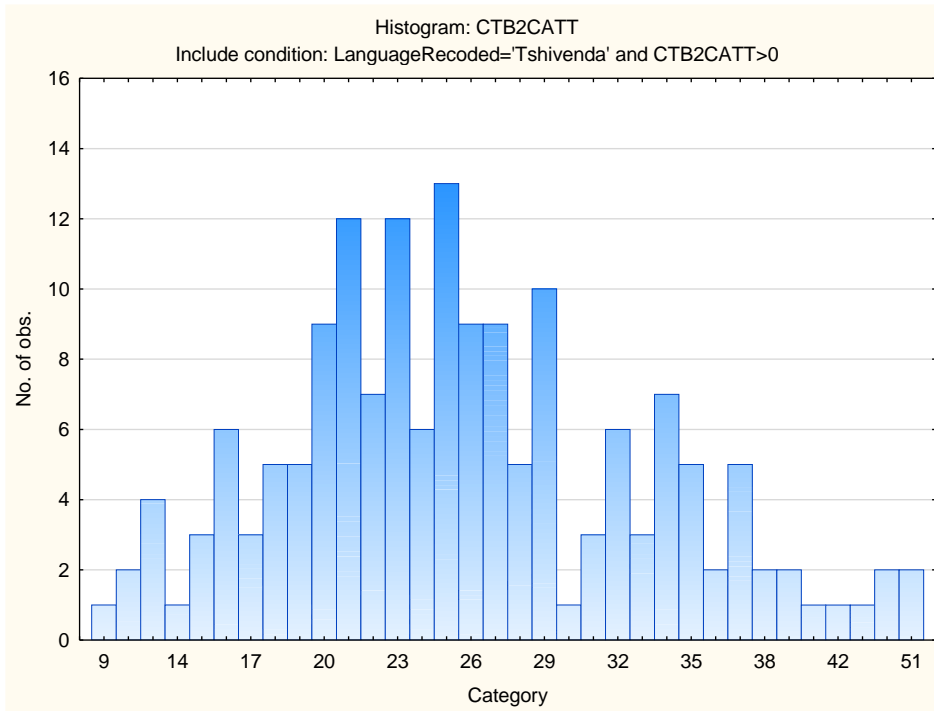


Descriptive Statistics on Clerical Test Battery subtests

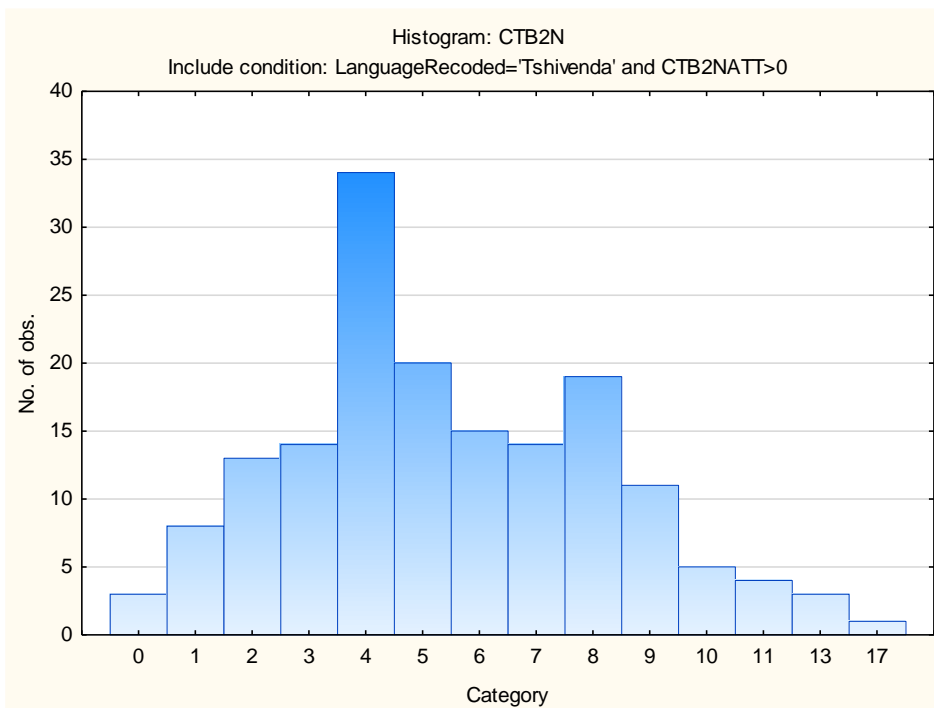
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.60000	2.700045	3.000000	19.00000	165	0
CTB2CN	10.66061	2.814373	4.000000	20.00000	165	0
CTB2CT	20.26061	5.050835	9.000000	36.00000	165	0
CTB2CATT	25.94545	7.895858	9.000000	51.00000	165	0

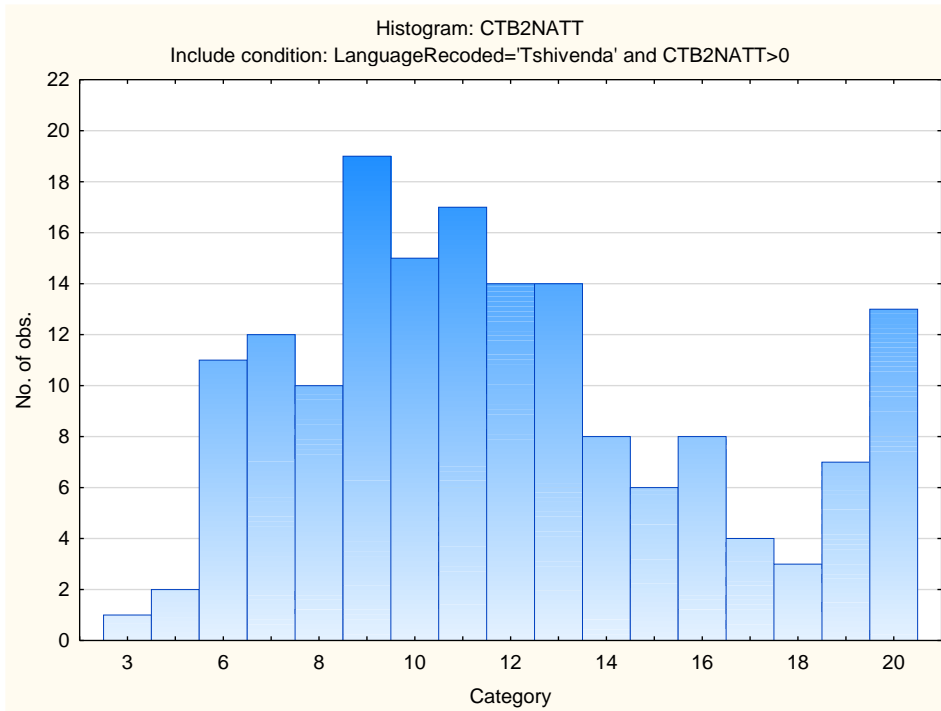




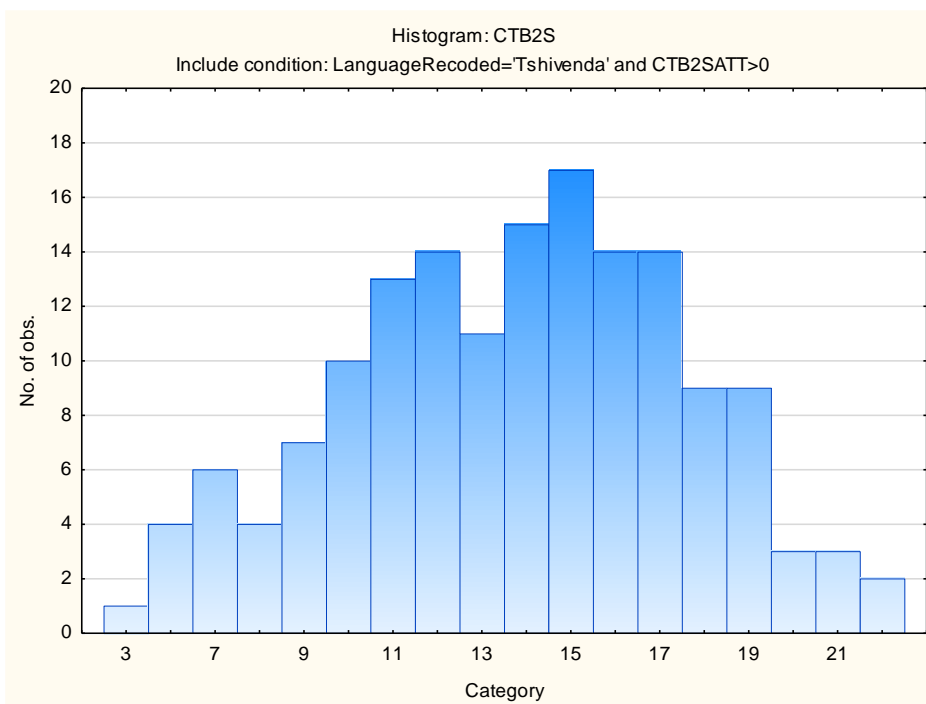


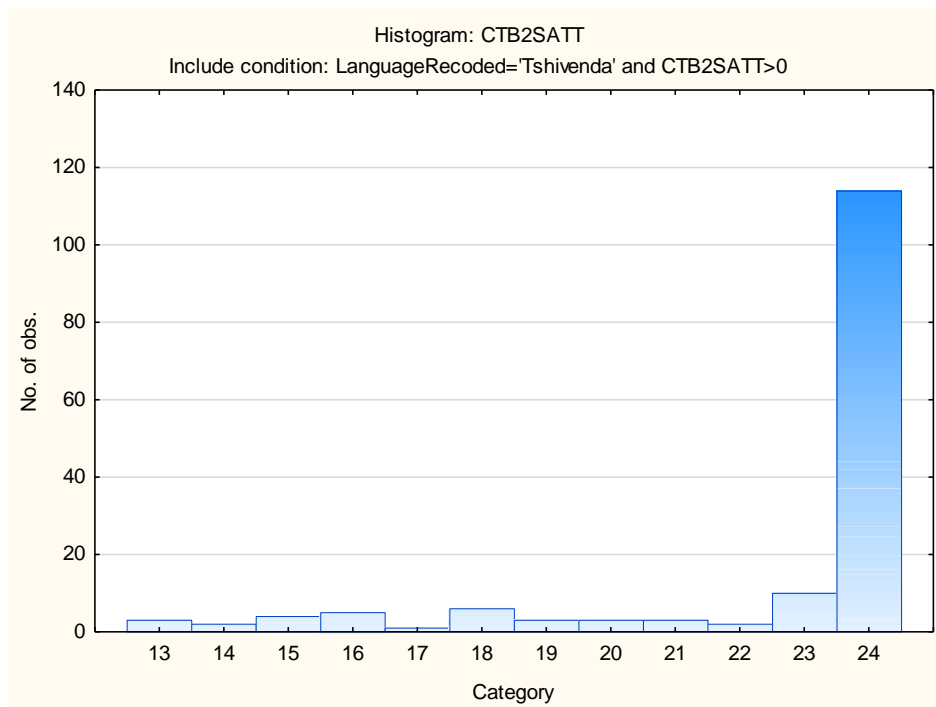
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	5.49390	2.923350	0.000000	17.000000	164	0
CTB2NATT	11.86585	4.211472	3.000000	20.000000	164	0



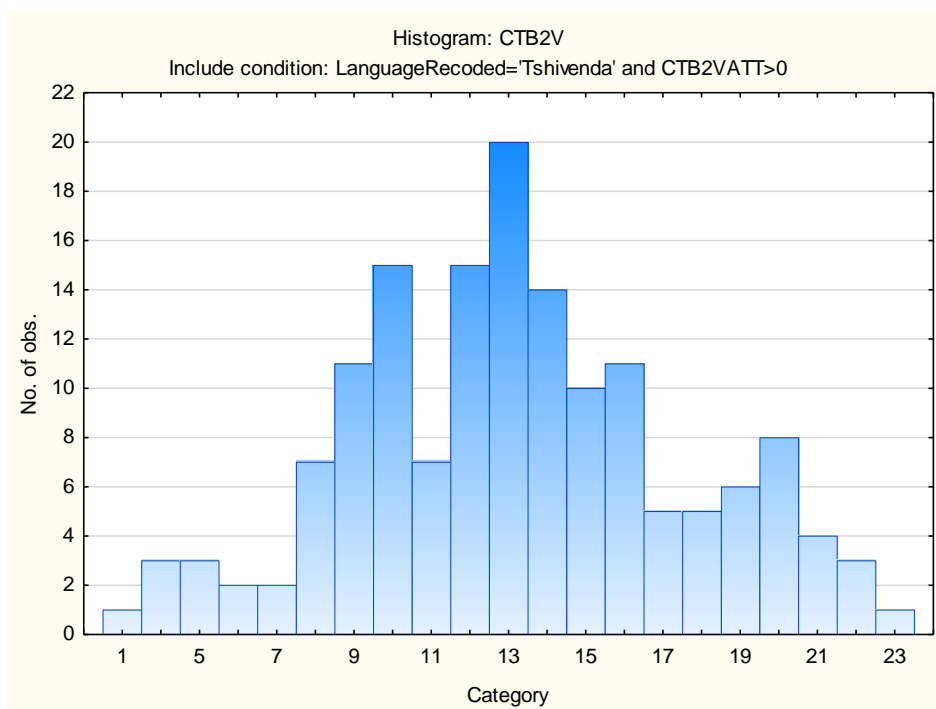


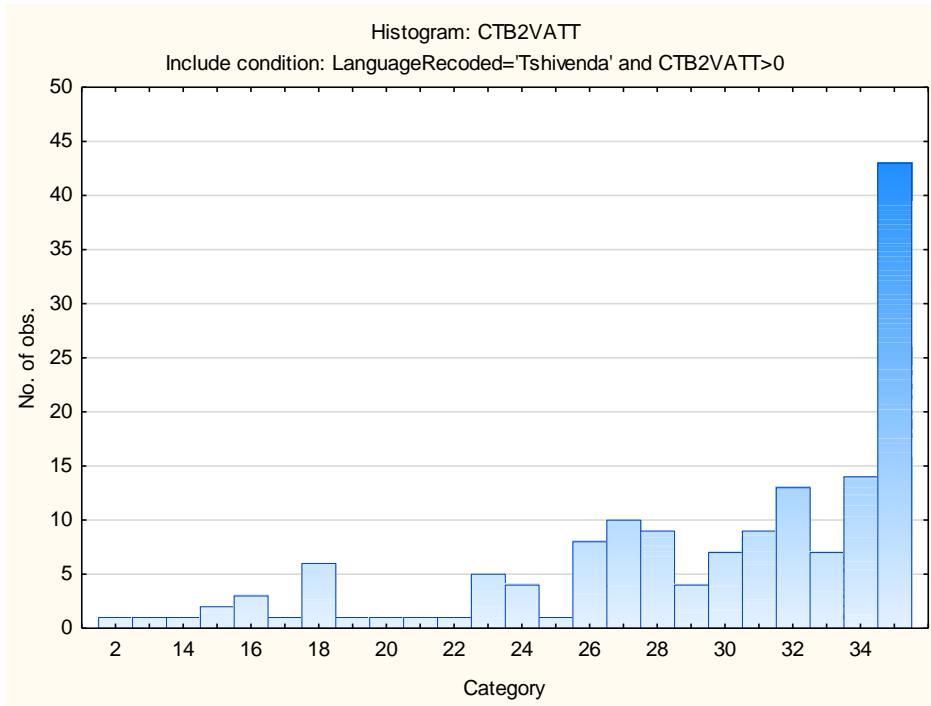
Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	13.75000	3.831323	3.00000	22.00000	156	0
CTB2SATT	22.57692	2.922744	13.00000	24.00000	156	0





Variable	Descriptive Statistics: Verbal Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	13.20261	4.320026	1.000000	23.000000	153	0
CTB2VATT	29.49673	6.189044	2.000000	35.000000	153	0





Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	1-5	6-7	8-9	10-12	13-14	15-16	17-18	19-20	21-23
Numerical Ability	0-0	1-1	2-3	4-4	5-6	7-7	8-9	10-10	11-17
Clerical Checking - Verbal	3-4	5-6	7-7	8-8	9-10	11-11	12-12	13-14	15-19
Clerical Checking - Numerical	4-5	6-7	8-8	9-9	10-11	12-12	13-14	15-15	16-20
Clerical Checking - Total	9-11	12-13	14-16	17-18	19-21	22-24	25-26	27-29	30-36
Spelling	3-7	8-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22

Clerical Test Battery 2 (CTB2)

Norm Group: SA Xitsonga Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	81	81	46.02273	46.0227
M	94	175	53.40909	99.4318
Missing	1	176	0.56818	100.0000

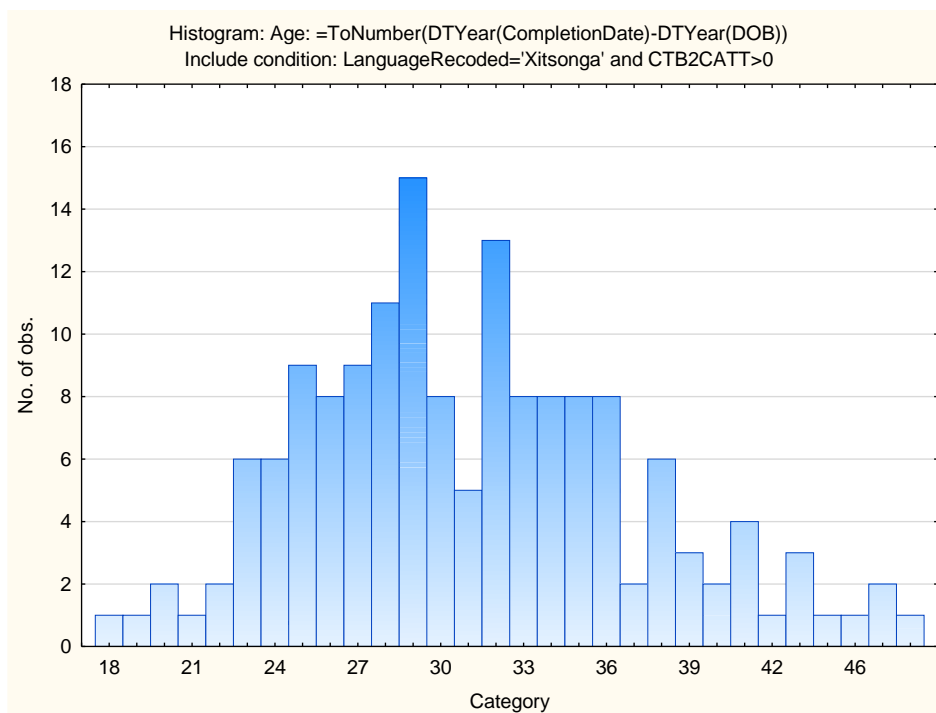
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	51	51	28.97727	28.9773
Tertiary Cert / Trade	69	120	39.20455	68.1818
Tertiary	42	162	23.86364	92.0455
Post Graduate	11	173	6.25000	98.2955
< Matric	1	174	0.56818	98.8636
Missing	2	176	1.13636	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	173	173	98.29545	98.2955
European	1	174	0.56818	98.8636
Missing	2	176	1.13636	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Xitsonga	176	176	100.0000	100.0000
Missing	0	176	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	176	176	100.0000	100.0000
Missing	0	176	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.14194	6.110921	18.00000	51.00000	155	21



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	80	80	45.71429	45.7143
M	94	174	53.71429	99.4286
Missing	1	175	0.57143	100.0000

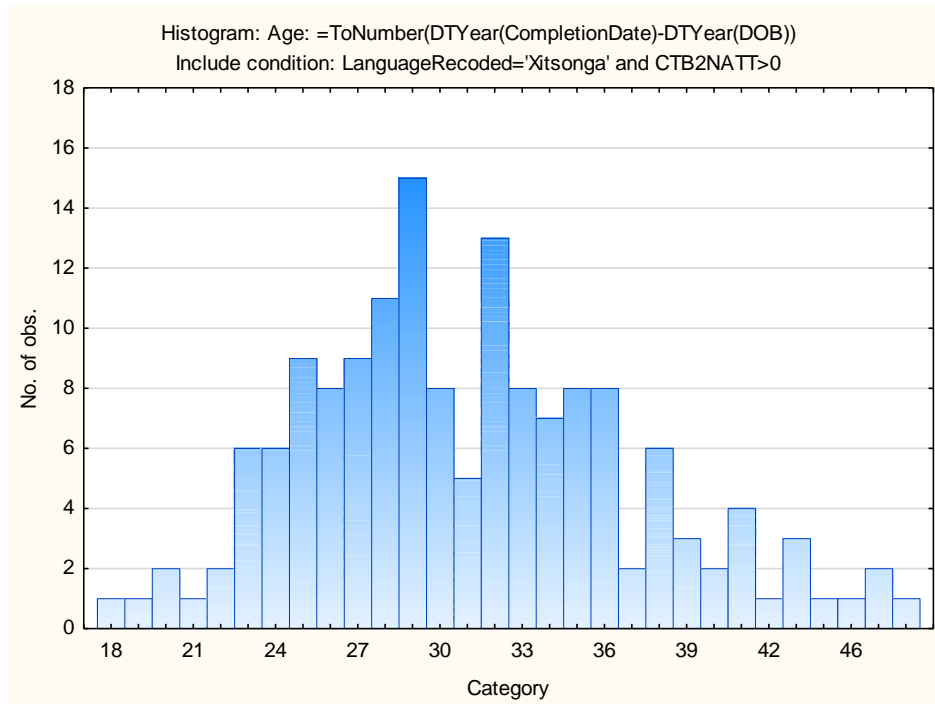
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	51	51	29.14286	29.1429
Tertiary Cert / Trade	68	119	38.85714	68.0000
Tertiary	42	161	24.00000	92.0000
Post Graduate	11	172	6.28571	98.2857
< Matric	1	173	0.57143	98.8571
Missing	2	175	1.14286	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	172	172	98.28571	98.2857
European	1	173	0.57143	98.8571
Missing	2	175	1.14286	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Xitsonga	175	175	100.0000	100.0000
Missing	0	175	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	175	175	100.0000	100.0000
Missing	0	175	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.12338	6.126475	18.00000	51.00000	154	21



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	76	76	46.34146	46.3415
M	87	163	53.04878	99.3902
Missing	1	164	0.60976	100.0000

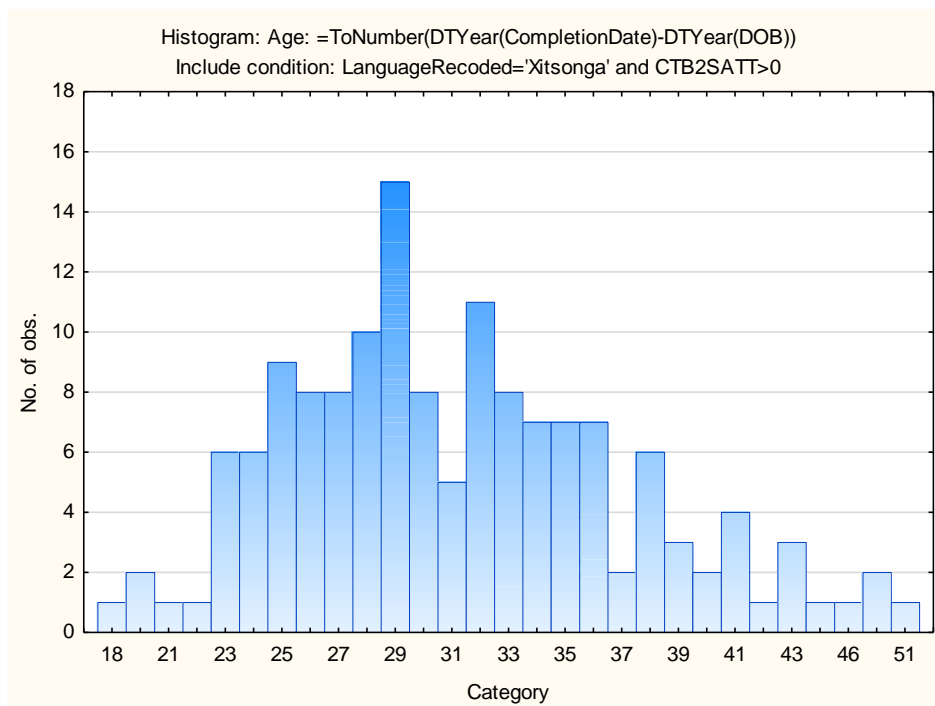
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	50	50	30.48780	30.4878
Tertiary Cert / Trade	63	113	38.41463	68.9024
Tertiary	40	153	24.39024	93.2927
Post Graduate	10	163	6.09756	99.3902
Missing	1	164	0.60976	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	161	161	98.17073	98.1707
European	1	162	0.60976	98.7805
Missing	2	164	1.21951	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Xitsonga	164	164	100.0000	100.0000
Missing	0	164	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	164	164	100.0000	100.0000
Missing	0	164	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.24658	6.126890	18.00000	51.00000	146	18



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	76	76	45.23810	45.2381
M	91	167	54.16667	99.4048
Missing	1	168	0.59524	100.0000

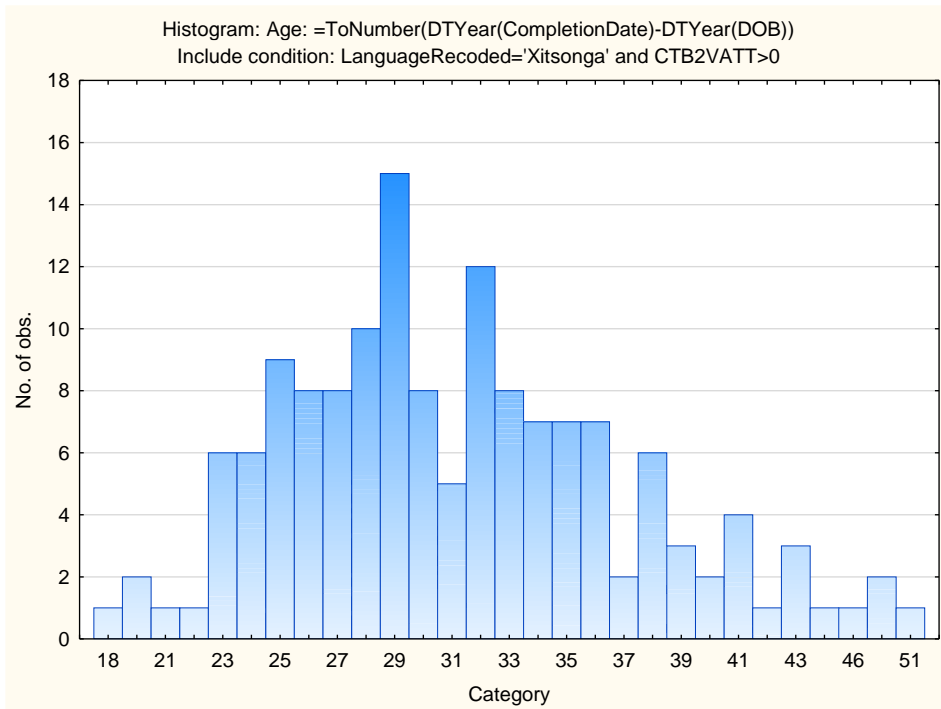
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	50	50	29.76190	29.7619
Tertiary Cert / Trade	65	115	38.69048	68.4524
Tertiary	40	155	23.80952	92.2619
Post Graduate	10	165	5.95238	98.2143
< Matric	1	166	0.59524	98.8095
Missing	2	168	1.19048	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	165	165	98.21429	98.2143
European	1	166	0.59524	98.8095
Missing	2	168	1.19048	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Xitsonga	168	168	100.0000	100.0000
Missing	0	168	0.0000	100.0000

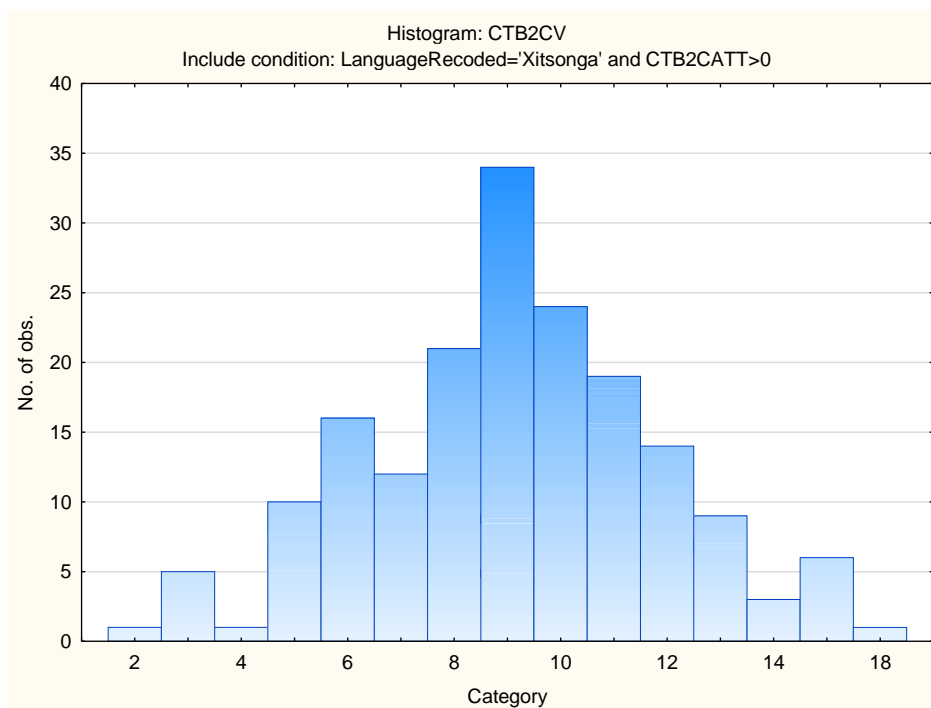
Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	168	168	100.0000	100.0000
Missing	0	168	0.0000	100.0000

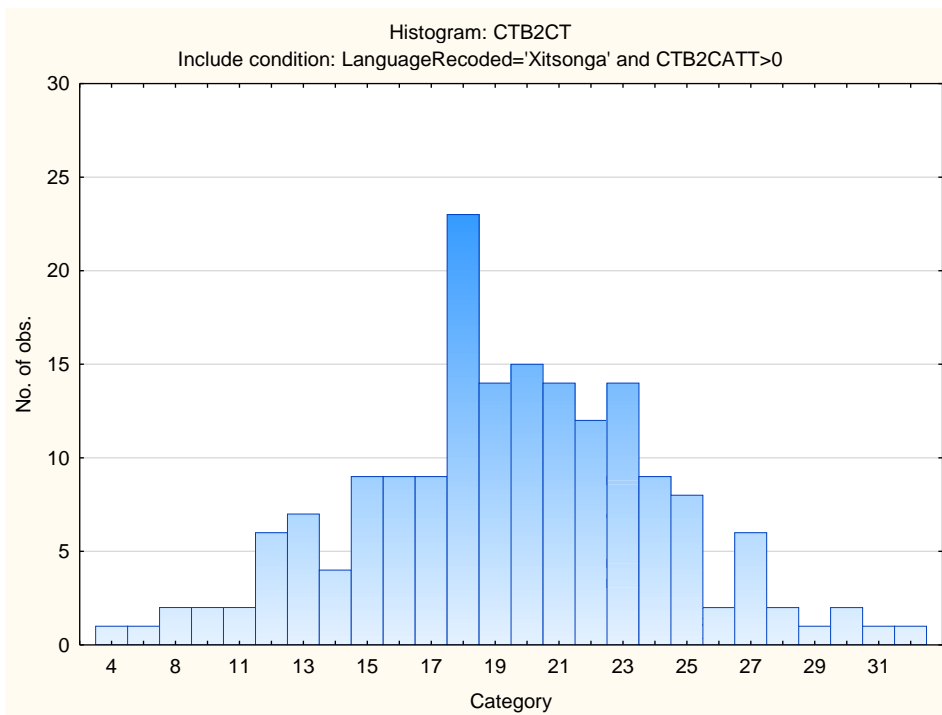
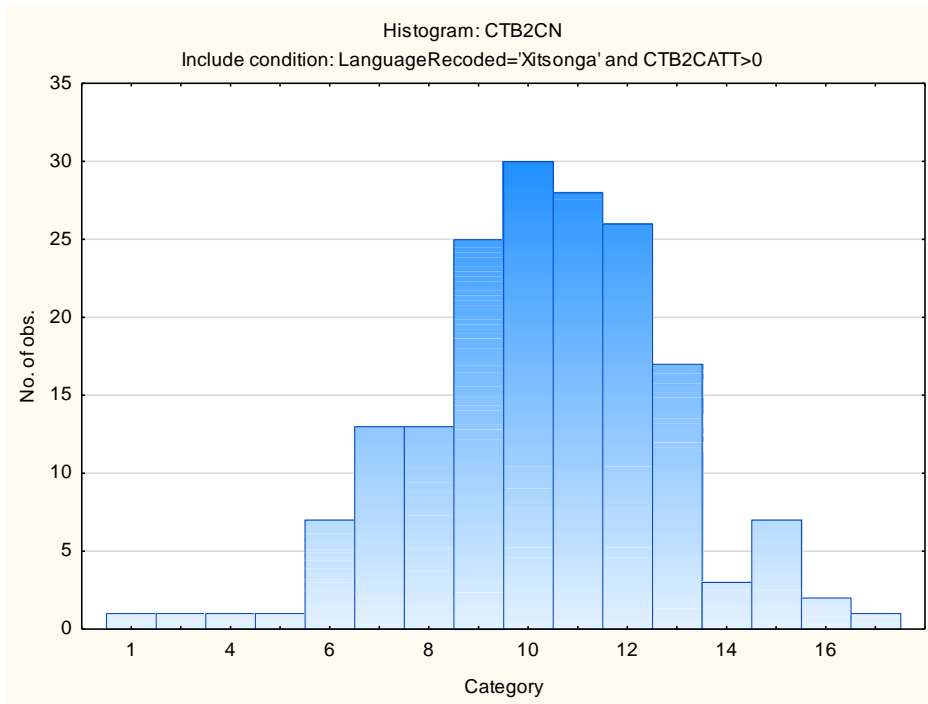
Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.25170	6.106188	18.00000	51.00000	147	21

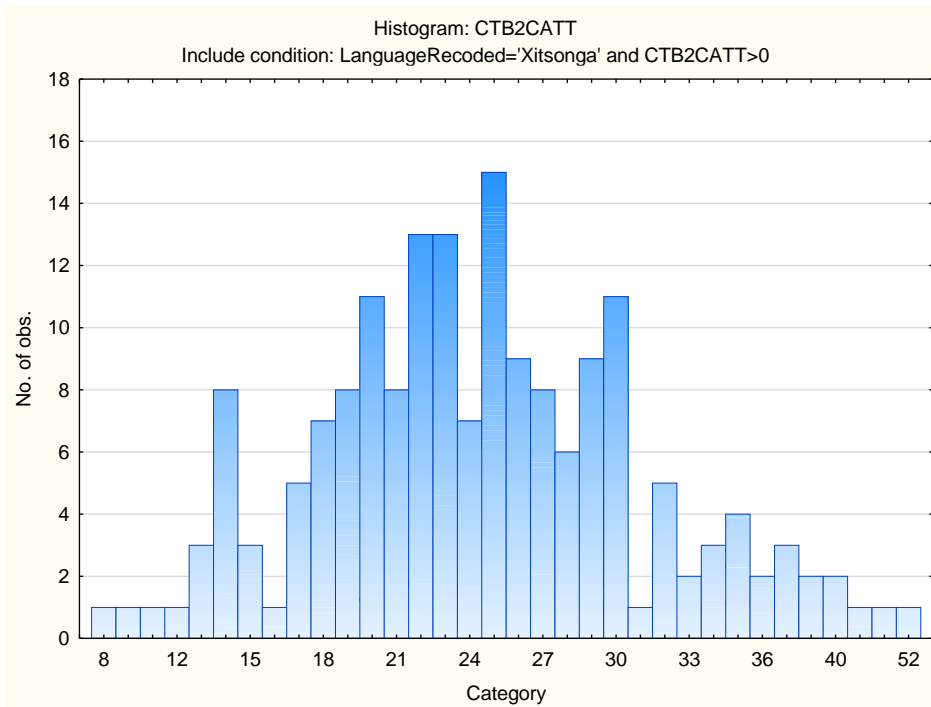


Descriptive Statistics on Clerical Test Battery Subtests

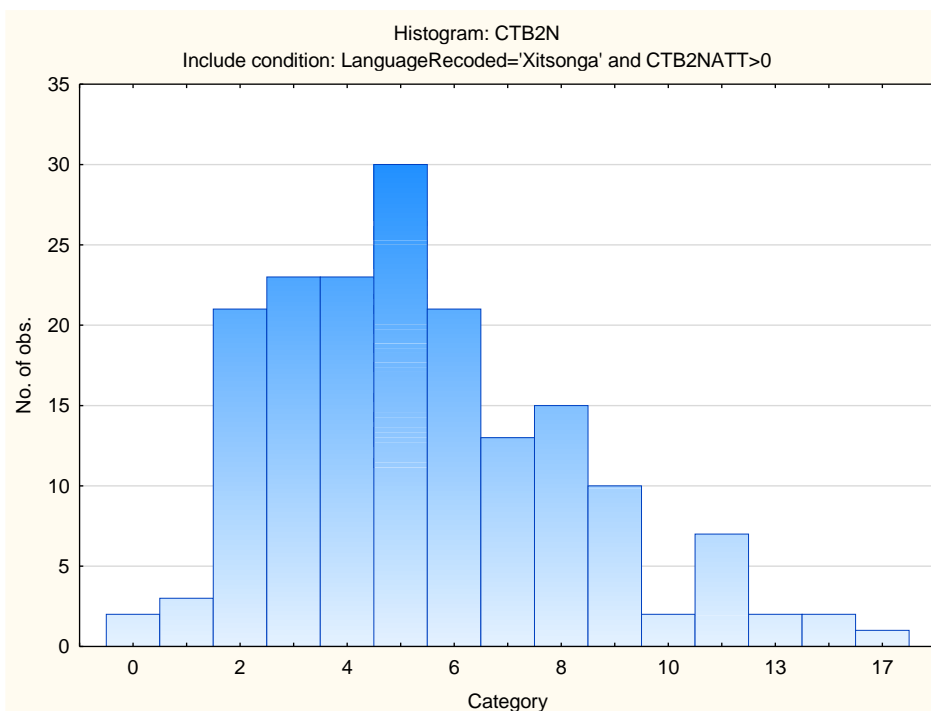
Variable	Descriptive Statistics: Clerical Checking Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2CV	9.14205	2.793307	2.000000	18.000000	176	0
CTB2CN	10.29545	2.519225	1.000000	17.000000	176	0
CTB2CT	19.43750	4.839901	4.000000	35.000000	176	0
CTB2CATT	24.55114	7.094279	8.000000	52.000000	176	0

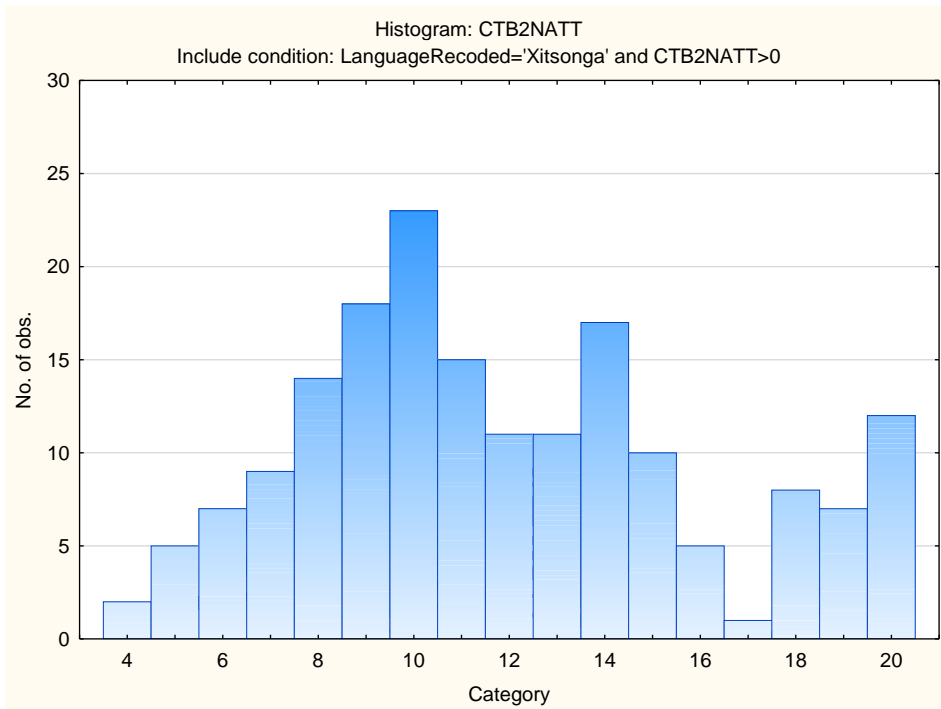




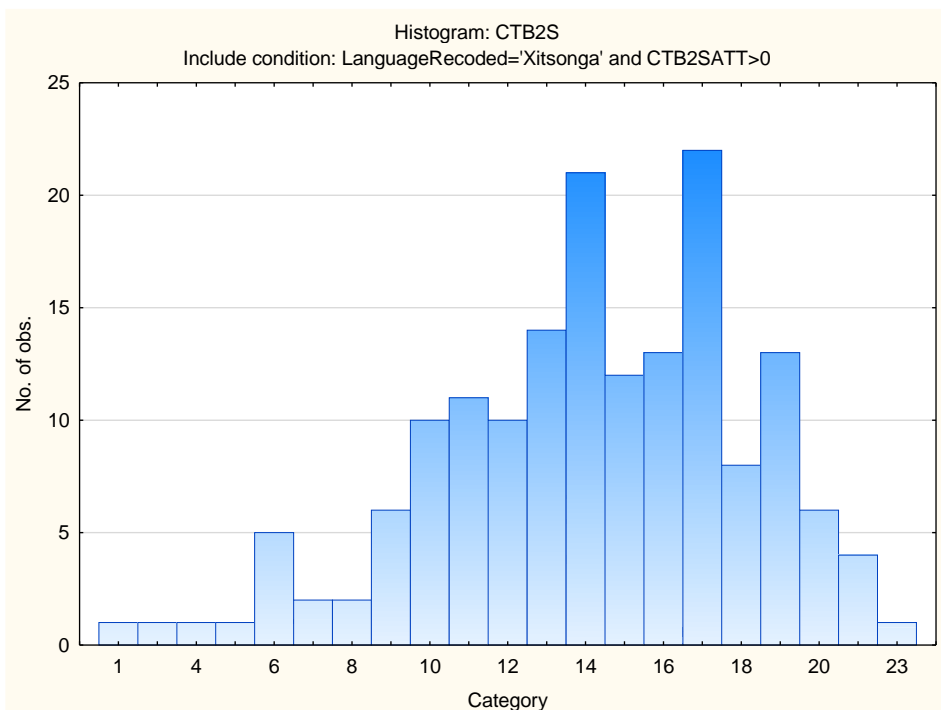


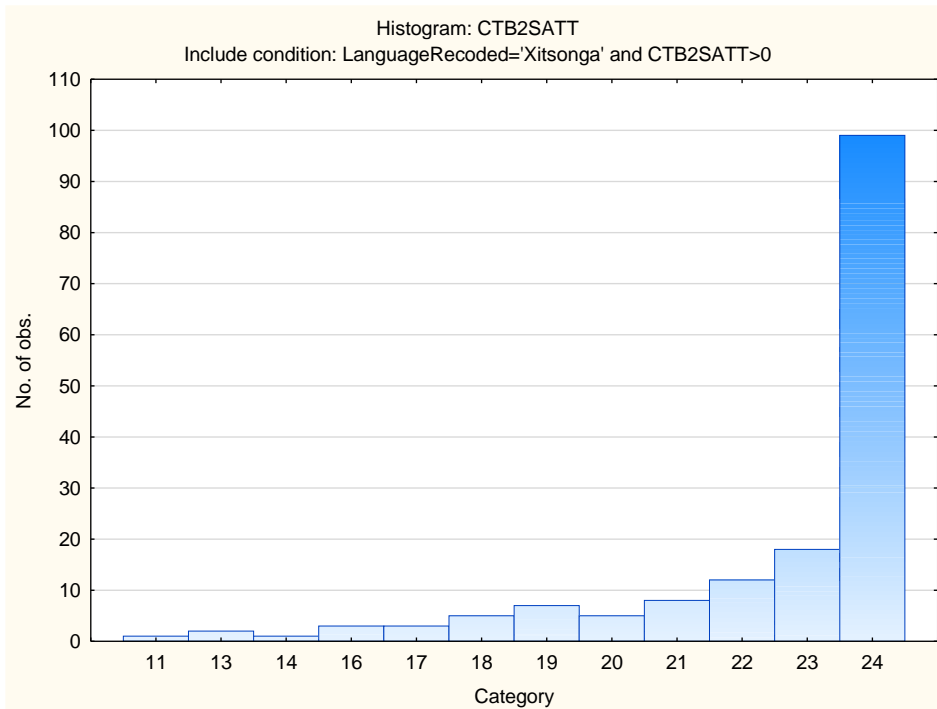
Variable	Descriptive Statistics: Numerical Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2N	5.44571	2.945125	0.000000	17.00000	175	0
CTB2NATT	11.90857	4.162322	4.000000	20.00000	175	0



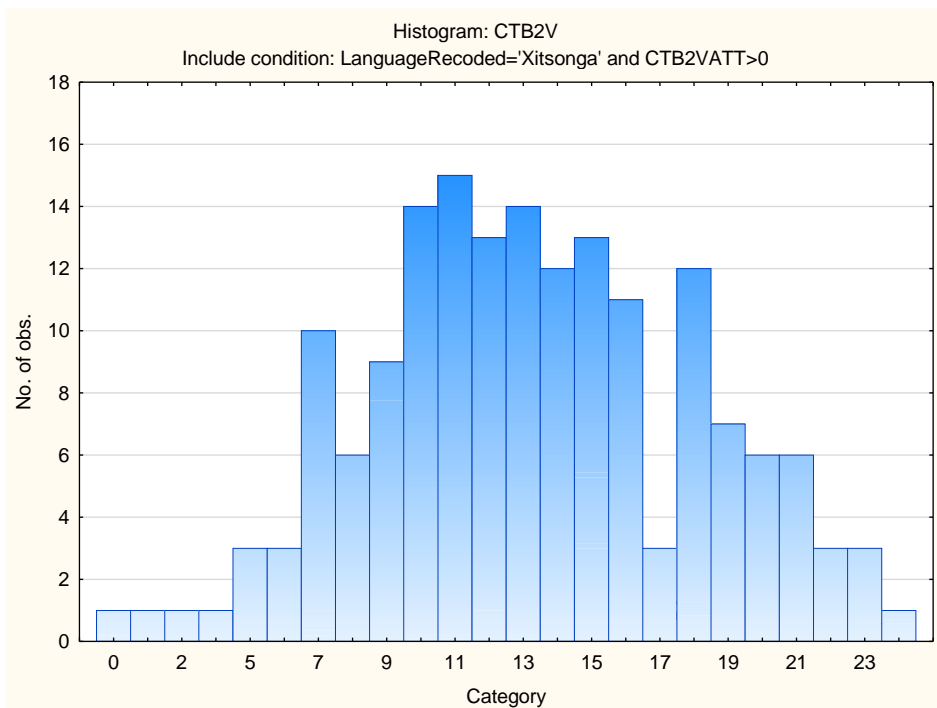


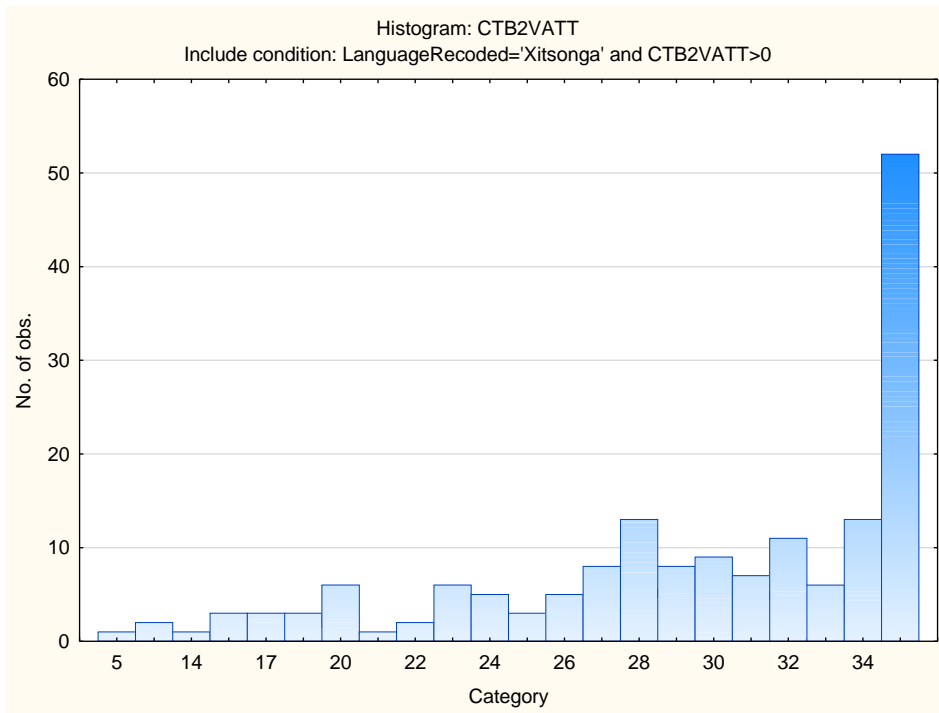
Variable	Descriptive Statistics: Spelling Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2S	14.16463	4.032502	1.00000	23.00000	164	0
CTB2SATT	22.53049	2.560732	11.00000	24.00000	164	0





Variable	Descriptive Statistics: Verbal Reasoning Subtest					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
CTB2V	13.25000	4.771108	0.000000	24.00000	168	0
CTB2VATT	29.49405	6.091121	5.000000	35.00000	168	0





Stanine Table

Scales	Stanine Groups								
	S9_1	S9_2	S9_3	S9_4	S9_5	S9_6	S9_7	S9_8	S9_9
Verbal Reasoning	0-4	5-7	8-9	10-12	13-14	15-16	17-19	20-21	22-24
Numerical Ability	0-0	1-1	2-3	4-4	5-6	7-7	8-9	10-10	11-17
Clerical Checking - Verbal	2-4	5-5	6-7	8-8	9-9	10-11	12-12	13-14	15-18
Clerical Checking - Numerical	1-5	6-7	8-8	9-9	10-10	11-12	13-13	14-14	15-17
Clerical Checking - Total	4-10	11-13	14-15	16-18	19-20	21-23	24-25	26-27	28-35
Spelling	1-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22-23

Clerical Test Battery (CTB2)

Reliability introduction

Reliability introduction	1
Reliability studies	3
Availability of biographical information	3
Relationship between reliability groups and norm groups	3
Standard error of measurement (SEM)	3
Choosing an appropriate comparison group for reliability	3
The effect of reliability on validity	3
Advice to users	4
List of reliability tables	5

Reliability studies

Reliability studies are done whenever we receive a substantial body of data that contains item responses. Reliability calculation is one of the services offered by Psytech SA to its clients. In almost all cases, clients have been willing to share the results of these calculations with other users.

Availability of biographical information

Frequently full biographical information is not collected, which makes it very difficult to calculate separate reliabilities on different racial and language groups. In some cases, it has been necessary to do a post-hoc classification of respondents based on their names. In such situations it is usually not possible to distinguish between Whites and Coloureds, and they have had to be classified together in one group.

Relationship between reliability groups and norm groups

It is not possible to create a norm group for each reliability sample, because of sample size constraints. It is also not possible to report a reliability coefficient for every norm sample, because item response data are not always available. For ease of reference, we have included as much information as possible about the composition of the samples, rather than refer the user to the description of a related norm group.

Standard error of measurement (SEM)

Where data are available, the standard error of measurement is reported for every group for which we have calculated reliabilities. This is usually done for samples that are also used as norm groups. In some cases, the standard error of measurement is reported for a group that has been screened for English comprehension, and for the total group as well.

Choosing an appropriate comparison group for reliability

If a larger, more diverse group is available that conforms to the demographic characteristics of the group you are interested in, use that table for comparison purposes.

The effect of reliability on validity

The reliability of a test places an upper limit on its validity. If a test is not reliable, it can not be valid.

What Does It Mean If A Test Has Low Reliability?

On an ability measure, Reliability is considered low if it is below 0.75. In cases where the reliability is below 0.65, the results should be interpreted with extreme caution by using additional information for this purpose. The interview prompts report can assist the user in obtaining additional information for the purpose of triangulation, directly from the respondent. There are various reasons why the reliability of a test, or of a specific sample of the overall sample group, might be low:

- Respondents guessing the answers to items which they may not know. Results should therefore be interpreted with caution.
- Respondents may have rushed to complete the assessment or may have been lacking in motivation at the time of test completion. In this instance, a lower reliability could be attributed to guessing or hasty decision making.
- Respondents finding the test items too difficult.

- Shorter tests, although economic and quick to administer, tend to be less reliable.

It is best practice to always rely on multiple sources of information when making an informed decision utilising an assessment process. This is of particular importance when the reliability of an assessment is lower than usual.

Advice to users

- Collect full biographical information on the respondents.
- Verify whether the scales you are interested in for decision-making purposes, are reliable for the persons you want to test.
- Where available, bear the Standard Error of Measurement in mind when making decisions on test results.
- Do not use unreliable scales for decision making.
- Do not rely on a single test when reliability is doubtful.

List of reliability tables

Group	Type of reliability	Subtests	N0.
Outbound call centre applicants (selling insurance)	Internal consistency	Verbal Reasoning Numerical ability Clerical Checking Spelling	R1
Outbound call centre applicants and incumbents (selling insurance)	Internal consistency	Verbal Reasoning Numerical Ability Clerical Checking Spelling	R2
SA Retail clerical incumbents	Internal consistency	Verbal Reasoning Numerical ability Clerical Checking Spelling	R3
SA Retail applicants	Internal consistency	Clerical Checking Numerical ability	R4
SA Black clerical applicants	Internal consistency	Clerical Checking Numerical ability	R5
SA Asian retail applicants	Internal consistency	Clerical Checking Numerical ability	R6
SA White retail applicants	Internal consistency	Clerical Checking Numerical ability	R7
SA Coloured retail applicants	Internal consistency	Clerical Checking Numerical ability	R8
SA Police applicants	Internal consistency	Clerical Checking	R9
SA Black police applicants	Internal consistency	Clerical Checking	R10
SA White police applicants	Internal consistency	Clerical Checking	R11
SA Asian police applicants	Internal consistency	Clerical Checking	R12
SA Coloured police applicants	Internal consistency	Clerical checking	R13
SA General Population	Internal consistency	Verbal Reasoning Numerical Ability Spelling Clerical Checking	R14
SA African 2012	Internal consistency	Verbal Reasoning Numerical Ability Clerical Checking Spelling	R15
SA Coloured 2012	Internal consistency	Verbal Reasoning Numerical Ability Clerical Checking Spelling	R16
SA European 2012	Internal consistency	Verbal Reasoning Numerical Ability Clerical Checking Spelling	R17

CTB2 Reliability: Outbound Call Centre applicants (selling insurance)

184 applicants to outbound call centre sales positions at a South African insurance company.

Minimum educational level grade 12

Data collected in 2001

Sample composition

Race was coded according to respondents' names.

Category	Frequency table: RACE			
	Count	Cumulative Count	Percent	Cumulative Percent
Whites/coloureds	99	99	53.80435	53.8043
Blacks	66	165	35.86957	89.6739
Asians	11	176	5.97826	95.6522
Missing	8	184	4.34783	100.0000

Category	Frequency table: GENDER			
	Count	Cumulative Count	Percent	Cumulative Percent
Unknown	8	8	4.34783	4.3478
Male	68	76	36.95652	41.3043
Female	108	184	58.69565	100.0000
Missing	0	184	0.00000	100.0000

Variable	Descriptive Statistics AGE				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
AGE	184	25.81522	0.00	43.00000	6.754767

Internal consistency reliabilities

Subtest	Cronbach alpha Total group
Verbal Reasoning	.832034
Numerical ability	.784871
Clerical Checking verbal	.759045
Clerical Checking numerical	.784388
Clerical Checking total	.880848
Spelling	.809475
Mean alpha	0.808444

Standard error of measurement

	1 ScaleName	2 SEM	3 SD	4 Reliability
1	Verbal Reasoning	2.397322	5.849459	0.832034
2	Numerical Ability	1.651829	3.561358	0.784871
3	Checking Verbal	1.589875	3.238881	0.759045
4	Checking Numerical	1.434054	3.088367	0.784388
5	Checking Total	2.097332	6.075982	0.880848
6	Spelling	1.995078	4.570712	0.809475

CRTB2 reliabilities: Outbound call centre applicants and incumbents (selling insurance)

Applicants and incumbents to a call centre operator firm in Gauteng. Data collected in 2001. Minimum qualification grade 12.

Sample composition

Race was coded according to respondents' names.
The minimum educational qualification was grade 12.

Category	Frequency table: RACE			
	Count	Cumulative Count	Percent	Cumulative Percent
Whites/coloureds	74	74	38.14433	38.1443
Asians	38	112	19.58763	57.7320
Blacks	80	192	41.23711	98.9691
Missing	2	194	1.03093	100.0000

Category	Frequency table: GENDER			
	Count	Cumulative Count	Percent	Cumulative Percent
Female	95	95	48.96907	48.9691
Male	96	191	49.48454	98.4536
Unknown	3	194	1.54639	100.0000
Missing	0	194	0.00000	100.0000

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
AGE	25.97917	7.175408	0.00	57.00000	192	2

Internal consistency reliabilities on Clerical Test Battery subtests

Subtest	Cronbach alpha
Verbal Reasoning	.787170
Numerical ability	.871607
Clerical Checking verbal	.897463
Clerical Checking numerical	.908011
Clerical Checking total	.950147
Spelling	.852686
Mean alpha	0.877847

Standard error of measurement

	1 ScaleName	2 SEM	3 SD	4 Reliability
1	Verbal Reasoning	2.506831	5.43386	0.78717
2	Numerical Ability	1.793089	5.00416	0.871607
3	Checking Verbal	1.715331	5.35683	0.897463
4	Checking Numerical	1.600663	5.27755	0.908011
5	Checking Total	2.324711	10.41174	0.950147
6	Spelling	1.96258	5.11335	0.852686

CTB2 Reliability: SA retail clerical incumbents

Workers in various clerical positions with a major South African retail group. The data were collected in 2001.

Sample composition

Race was coded according to applicants' names. Whites and coloureds were coded as WC.

Frequency table: RACE				
Category	Count	Cumulative Count	Percent	Cumulative Percent
WC	31	31	72.09302	72.0930
B	8	39	18.60465	90.6977
A	2	41	4.65116	95.3488
Missing	2	43	4.65116	100.0000

Frequency table: GENDER				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Female	32	32	74.41860	74.4186
Male	10	42	23.25581	97.6744
Unknown	1	43	2.32558	100.0000
Missing	0	43	0.00000	100.0000

Descriptive Statistics					
Variable	Valid N	Mean	Minimum	Maximum	Std.Dev.
AGE	43	28.44186	20.00000	49.00000	6.111279

Internal consistency reliability

Subtest	Cronbach alpha
Verbal Reasoning	.805318
Numerical ability	.823084
Clerical Checking verbal	.719113
Clerical Checking numerical	.778423
Clerical Checking total	.862850
Spelling	.744055
Mean alpha	0.788807

Standard error of measurement

	1 ScaleName	2 SEM	3 SD	4 Reliability
1	Verbal Reasoning	2.727489	6.181590	0.805318
2	Numerical Ability	1.776654	4.223956	0.823084
3	Checking Verbal	1.691455	3.191498	0.719113
4	Checking Numerical	1.654462	3.514750	0.778423
5	Checking Total	2.359199	6.370400	0.86285
6	Spelling	1.855746	3.668134	0.744055

CTB2 reliability: SA retail applicants

Applicants to a variety of positions, including temporary and casual workers, at a major South African clothing retail group. Data was collected in 2002. This group contains information from Kwazulu-Natal and the Western Cape.

Sample composition

Where race information was not collected, race information was coded by name. In the absence of specific information, Whites and Coloureds were coded WC.

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured:	479	479	19.72005	19.7200
European:	52	531	2.14080	21.8608
Asian	506	1037	20.83162	42.6925
African	1263	2300	51.99671	94.6892
Unknown	1	2301	0.04117	94.7303
WC	49	2350	2.01729	96.7476
Missing	79	2429	3.25237	100.0000

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
M	746	746	30.71223	30.7122
F	1680	2426	69.16427	99.8765
Unknown	3	2429	0.12351	100.0000
Missing	0	2429	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	527	527	21.69617	21.6962
University diploma:	80	607	3.29354	24.9897
University entrance matri:	108	715	4.44627	29.4360
Technikon:	10	725	0.41169	29.8477
Degree	30	755	1.23508	31.0828
Post Graduate:	40	795	1.64677	32.7295
Grade 10 or 11:	50	845	2.05846	34.7880
Missing	1584	2429	65.21202	100.0000

Frequency table: First Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	325	325	13.37999	13.3800
isiZulu	325	650	13.37999	26.7600
isiXhosa:	14	664	0.57637	27.3364
Swazi	1	665	0.04117	27.3775
Sesotho	5	670	0.20585	27.5834
Setswana:	2	672	0.08234	27.6657
siSwati	1	673	0.04117	27.7069
Other	2	675	0.08234	27.7892
Xitsonga:	2	677	0.08234	27.8716
Afrikaans:	6	683	0.24702	28.1186
Missing	1746	2429	71.88143	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	25.89349	6.756780	14.00000	60.00000	2413	16

Internal consistency reliability on CTB2 subtests

Subtest	Cronbach Alpha
Checking Verbal	.753614
Checking Numerical	.799087
Checking Total	.875987
Numerical Ability	.730802

Standard error of measurement

	1	2	3	4
	ScaleName	SEM	SD	Reliability
1	Checking Numerical	1.381022	3.081034	0.799087
2	Checking Verbal	1.603792	3.231024	0.753614
3	Checking Total	2.113102	6.000491	0.875987
4	Numerical Ability	1.522428	2.934275	0.730802

CTB2 reliability: SA Black retail applicants

Black applicants to a variety of positions, including temporary and casual workers, at a major South African clothing retail group. Data was collected in 2002. This norm group contains information from Kwazulu-Natal and the Western Cape.

Sample composition

Frequency table: Sex				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	394	394	31.19557	31.1956
F	866	1260	68.56690	99.7625
Unknown	3	1263	0.23753	100.0000
Missing	0	1263	0.00000	100.0000

Frequency table: Education				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	223	223	17.65637	17.6564
University diploma:	39	262	3.08789	20.7443
University entrance matri:	56	318	4.43389	25.1781
Technikon:	6	324	0.47506	25.6532
Degree	19	343	1.50435	27.1576
Post Graduate:	29	372	2.29612	29.4537
Grade 10 or 11:	12	384	0.95012	30.4038
Missing	879	1263	69.59620	100.0000

Frequency table: First Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	6	6	0.47506	0.4751
isiZulu	325	331	25.73238	26.2074
isiXhosa:	14	345	1.10847	27.3159
Swazi	1	346	0.07918	27.3951
Sesotho	5	351	0.39588	27.7910
Setswana:	2	353	0.15835	27.9493
siSwati	1	354	0.07918	28.0285
Xitsonga:	2	356	0.15835	28.1869
Missing	907	1263	71.81314	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.29689	5.761193	16.00000	60.00000	1253	10

Internal consistency reliabilities on CTB2 subtests

Subtest	Cronbach Alpha
Checking Verbal	.849399
Checking Numerical	.787262
Checking Total	.866491
Numerical Ability	.609055

Standard error of measurement

	1 ScaleName	2 SEM	3 SD	4 Reliability
1	Numerical Ability	1.473776	2.357076	0.609055
2	Checking Verbal	1.180468	3.041868	0.849399
3	Checking Numerical	1.477945	3.204319	0.787262
4	Checking Total	2.15275	5.891669	0.866491

CTB2 reliability: SA Asian retail applicants

Asian applicants to a variety of positions, including temporary and casual workers, at a major South African clothing retail group. Data was collected in 2002. This norm group contains information from Kwazulu-Natal and the Western Cape.

Sample composition

Frequency table: Sex				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	163	163	32.21344	32.2134
F	343	506	67.78656	100.0000
Missing	0	506	0.00000	100.0000

Frequency table: Education				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	149	149	29.44664	29.4466
University diploma:	33	182	6.52174	35.9684
University entrance matri:	46	228	9.09091	45.0593
Technikon:	3	231	0.59289	45.6522
Degree	10	241	1.97628	47.6285
Post Graduate:	10	251	1.97628	49.6047
Grade 10 or 11:	8	259	1.58103	51.1858
Missing	247	506	48.81423	100.0000

Frequency table: First Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	262	262	51.77866	51.7787
Other	2	264	0.39526	52.1739
Missing	242	506	47.82609	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	25.14343	6.976961	16.00000	51.00000	502	4

Internal consistency reliabilities on CTB2 subtests

Subtest	Cronbach Alpha
Checking Verbal	.758343
Checking Numerical	.819922
Checking Total	.886384
Numerical Ability	.754337

Standard error of measurement

	1 ScaleName	2 SEM	3 SD	4 Reliability
1	Numerical Ability	1.608697	3.245670	0.754337
2	Checking Verbal	1.586074	3.226442	0.758343
3	Checking Numerical	1.358290	3.200827	0.819922
4	Checking Total	2.080879	6.173436	0.886384

CTB2 reliability: SA White retail applicants

White applicants to a variety of positions, including temporary and casual workers, at a major South African clothing retail group. Data was collected in 2002. This group contains information from Kwazulu-Natal and the Western Cape

Sample composition

Frequency table: Education				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	14	14	26.92308	26.9231
University diploma:	1	15	1.92308	28.8462
Post Graduate:	1	16	1.92308	30.7692
Grade 10 or 11:	1	17	1.92308	32.6923
Missing	35	52	67.30769	100.0000

Frequency table: First Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	10	10	19.23077	19.2308
Afrikaans:	1	11	1.92308	21.1538
Missing	41	52	78.84615	100.0000

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.17647	11.50427	17.00000	59.00000	51	1

Internal consistency reliabilities on CTB2 subtests

For some of the items, no person in this group answered the item correctly (mostly, because the respondents did not finish the test). This meant that some of the items had to be excluded from the item analysis, because they had no variance. These items are identified in the table below.

Subtest	Items excluded	Cronbach Alpha
Checking Verbal	37,39,41,43,45,47,49,51	.792373
Checking Numerical	38,40,42,44,46,48,50,52	.813416
Checking Total	37,39,41,43,45,47,49,51 38,40,42,44,46,48,50,52	.890725
Numerical Ability		.834847

The following table gives the reliabilities of the subscales as estimated by the Kuder-Richardson Formula 21

	Descriptive Statistics (srtmrtval.sta)			
	1 Mean	2 SD	3 Num Items	4 KR21
Numerical ability	7.38000	4.06	20.00000	0.75525
Checking Verbal	8.92000	3.38	26.00000	0.50657
Checking Numerical	9.79000	2.93	26.00000	0.30058
Checking Total	18.71000	6.03	52.00000	0.68373

Standard error of measurement

The table below gives the standard error of measurement, calculated using the KR21 estimate of reliability, which is the lower of the two estimates.

	1 ScaleName	2 SEM	3 SD	4 Reliability
1	Numerical Ability	2.008561	4.06	0.75525
2	Checking Verbal	2.374272	3.38	0.50657
3	Checking Numerical	2.450396	2.93	0.30058
4	Checking Total	3.391151	6.03	0.68373

The table below gives the reliability estimated by the Kuder-Richardson formula 21:

CTB2 reliability: SA Coloured retail applicants

Coloured applicants to a variety of positions, including temporary and casual workers, at a major South African clothing retail group. Data was collected in 2002. This group contains information from Kwazulu-Natal and the Western Cape.

Sample composition

Frequency table: Sex				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	135	135	28.18372	28.1837
F	344	479	71.81628	100.0000
Missing	0	479	0.00000	100.0000

Frequency table: Education				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	138	138	28.81002	28.8100
University diploma:	6	144	1.25261	30.0626
University entrance matri:	6	150	1.25261	31.3152
Degree	1	151	0.20877	31.5240
Grade 10 or 11:	29	180	6.05428	37.5783
Missing	299	479	62.42171	100.0000

Frequency table: First Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
English	44	44	9.18580	9.1858
Afrikaans:	5	49	1.04384	10.2296
Missing	430	479	89.77035	100.0000

Descriptive Statistics						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	24.75732	7.442280	14.00000	58.00000	478	1

Internal consistency reliabilities on CTB2 subtests

Because some items were not answered correctly by anyone in the sample, they had to be excluded from the analysis.

Subtest	Items excluded	Cronbach Alpha
Checking Verbal	37,45	.682429
Checking Numerical		.752866
Checking Total	37,45	.840079
Numerical Ability		.660568

The table below gives the reliability estimated by the Kuder-Richardson formula 21:

	1 Mean	2 SD	3 Num Items	4 KR21
Numerical ability	5.02500	2.521895	20.00000	0.42991
Clerical Checking Numerical	9.17745	2.630652	26.00000	0.14763
Clerical Checking Verbal	8.29228	2.689310	26.00000	0.22789
Clerical Checking Total	17.46973	4.988965	52.00000	0.54439

It can be seen that the Kuder-Richardson formula 21 gives a very low estimate of the reliability of the checking test. The user is advised to look at the report on differential item functioning, and other reliability studies for this population group.

Standard error of measurement

This table gives the standard error of measurement calculated using the Cronbach coefficient Alpha.

	1 ScaleName	2 SEM	3 SD	4 Reliability
1	Numerical Ability	1.421175	2.521895	0.682429
2	Checking Verbal	1.307765	2.630652	0.752866
3	Checking Numerical	1.075458	2.689310	0.840079
4	Checking Total	2.906611	4.988965	0.660568

The following table gives the standard error of measurement calculated using the Kuder-Richardson Formula 21.

	1 ScaleName	2 SEM	3 SD	4 Reliability
1	Numerical Ability	1.904143	2.521895	0.42991
2	Checking Verbal	2.428726	2.630652	0.14763
3	Checking Numerical	2.363091	2.689310	0.22789
4	Checking Total	3.367505	4.988965	0.54439

CTB2 reliability: SA Police applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Category	Frequency table: Gender			
	Count	Cumulative Count	Percent	Cumulative Percent
M	23013	23013	71.31391	71.3139
F	6391	29404	19.80477	91.1187
Error	2	29406	0.00620	91.1249
Missing	2864	32270	8.87512	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
B	25717	25717	79.69321	79.6932
W	1460	27177	4.52433	84.2175
C	1058	28235	3.27859	87.4961
A	913	29148	2.82925	90.3254
Missing	3122	32270	9.67462	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	4556	4556	14.11838	14.1184
isiNdebele:	636	5192	1.97087	16.0892
Setswana:	3841	9033	11.90270	27.9919
Error	206	9239	0.63836	28.6303
Zulu	5738	14977	17.78122	46.4115
Tshivenda:	1932	16909	5.98698	52.3985
Xitsonga:	2496	19405	7.73474	60.1333
Sesotho	2662	22067	8.24915	68.3824
Afrikaans:	2332	24399	7.22653	75.6089
Xhosa	3620	28019	11.21785	86.8268
Siswati	1000	29019	3.09885	89.9256
Other	9	29028	0.02789	89.9535
English	1241	30269	3.84568	93.7992
Missing	2001	32270	6.20081	100.0000

Category	Frequency table: Qualification			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	19769	19769	61.26123	61.2612
Gr12 Exemption:	2774	22543	8.59622	69.8575
3 yr deg/dip:	2842	25385	8.80694	78.6644
<Grade12:	128	25513	0.39665	79.0610
1-2yr Diploma:	2538	28051	7.86489	86.9259
Error	1945	29996	6.02727	92.9532
Postgraduate:	273	30269	0.84599	93.7992
Missing	2001	32270	6.20081	100.0000

Variable	Descriptive Statistics AGE					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	25.45025	7.657817	0.00	108.0000	29148	3122

Internal consistency reliabilities on CTB2 subtests

Subtest	Cronbach Alpha
Checking Verbal	.667325
Checking Numerical	.710739
Checking Total	.813030

Standard error of measurement

	1	2	3	4
	ScaleName	SEM	SD	Reliability
1	Checking Verbal	1.732219	3.003259	0.667325
2	Checking Numerical	1.53713	2.858023	0.710739
3	Checking Total	2.317145	5.358797	0.81303

CTB2 Reliability: SA Police Black applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Category	Frequency table:			
	Count	Cumulative Count	Percent	Cumulative Percent
M	20073	20073	78.05343	78.0534
F	5396	25469	20.98223	99.0357
Error	2	25471	0.00778	99.0434
Missing	246	25717	0.95657	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	4385	4385	17.05098	17.0510
isiNdebele:	586	4971	2.27865	19.3296
Setswana:	3589	8560	13.95575	33.2854
Error	130	8690	0.50550	33.7909
Zulu	5571	14261	21.66271	55.4536
Tshivenda:	1892	16153	7.35700	62.8106
Xitsonga:	2416	18569	9.39456	72.2052
Sesotho	2569	21138	9.98950	82.1947
Afrikaans:	37	21175	0.14387	82.3385
Xhosa	3513	24688	13.66022	95.9988
Siswati	973	25661	3.78349	99.7822
Other	6	25667	0.02333	99.8056
English	50	25717	0.19442	100.0000
Missing	0	25717	0.00000	100.0000

Category	Frequency table: Qualification			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	16832	16832	65.45087	65.4509
Gr12 Exemption:	2332	19164	9.06793	74.5188
3 yr deg/dip:	2750	21914	10.69332	85.2121
<Grade12:	104	22018	0.40440	85.6165
1-2yr Diploma:	2327	24345	9.04849	94.6650
Error	1114	25459	4.33176	98.9968
Postgraduate:	258	25717	1.00323	100.0000
Missing	0	25717	0.00000	100.0000

Variable	Descriptive Statistics AGE					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.02221	7.371958	0.00	108.0000	25034	683

Internal consistency reliabilities on CTB2 subtests

Subtest	Cronbach Alpha
Checking Verbal	.660892
Checking Numerical	.702843
Checking Total	.806975

Standard error of measurement

	1 ScaleName	2 SEM	3 SD	4 Reliability
1	Checking Verbal	1.745143	2.996829	0.660892
2	Checking Numerical	1.542695	2.830005	0.702843
3	Checking Total	2.330963	5.305529	0.806975

CTB2 Reliability SA White police applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Frequency table: Gender				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	1018	1018	69.72603	69.7260
F	432	1450	29.58904	99.3151
Missing	10	1460	0.68493	100.0000

Frequency table: Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	1	1	0.06849	0.0685
Error	8	9	0.54795	0.6164
Zulu	2	11	0.13699	0.7534
Afrikaans:	1334	1345	91.36986	92.1233
Siswati	1	1346	0.06849	92.1918
Other	1	1347	0.06849	92.2603
English	113	1460	7.73973	100.0000
Missing	0	1460	0.00000	100.0000

Frequency table: Qualification				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	1190	1190	81.50685	81.5068
Gr12 Exemption:	134	1324	9.17808	90.6849
3 yr deg/dip:	14	1338	0.95890	91.6438
<Grade12:	13	1351	0.89041	92.5342
1-2yr Diploma:	58	1409	3.97260	96.5068
Error	46	1455	3.15068	99.6575
Postgraduate:	5	1460	0.34247	100.0000
Missing	0	1460	0.00000	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	22.25775	6.173112	1.000000	106.0000	1451	9

Internal consistency reliabilities on CTB2 subtests

Subtest	Cronbach Alpha
Checking Verbal	.615546
Checking Numerical	.678955
Checking Total	.783562

Standard error of measurement

	1	2	3	4
	ScaleName	SEM	SD	Reliability
1	Checking Verbal	1.563949	2.522322	0.615546
2	Checking Numerical	1.332379	2.351500	0.678955
3	Checking Total	2.05481	4.416772	0.783562

CTB2 Reliability: SA Asian police applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Frequency table: Gender				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	705	705	77.21796	77.2180
F	202	907	22.12486	99.3428
Missing	6	913	0.65717	100.0000

Frequency table: Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Error	3	3	0.32859	0.3286
Afrikaans:	1	4	0.10953	0.4381
Other	2	6	0.21906	0.6572
English	907	913	99.34283	100.0000
Missing	0	913	0.00000	100.0000

Frequency table: Qualification				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	589	589	64.51260	64.5126
Gr12 Exemption:	189	778	20.70099	85.2136
3 yr deg/dip:	20	798	2.19058	87.4042
<Grade12:	3	801	0.32859	87.7327
1-2yr Diploma:	77	878	8.43373	96.1665
Error	31	909	3.39540	99.5619
Postgraduate:	4	913	0.43812	100.0000
Missing	0	913	0.00000	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	23.54576	5.248657	1.000000	101.0000	907	6

Internal consistency reliabilities on CTB2 subtests

None of the respondents in this group got the last item correct.

Subtest	Items excluded	Cronbach Alpha
Clerical Verbal		.596721
Clerical Numerical	52	.676657
Clerical Total	52	.780932

Standard error of measurement

	1	2	3	4
	ScaleName	SEM	SD	Reliability
1	Checking Verbal	1.549285	2.439656	0.596721
2	Checking Numerical	1.386722	2.438696	0.676657
3	Checking Total	2.078211	4.440176	0.780932

CTB2 Reliability: SA Coloured police applicants

Applicants to the South African Police services tested in 2002.

Sample composition

Frequency table: Gender				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	786	786	74.29112	74.2911
F	255	1041	24.10208	98.3932
Missing	17	1058	1.60681	100.0000

Frequency table: Language				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	5	5	0.47259	0.4726
Setswana:	8	13	0.75614	1.2287
Error	13	26	1.22873	2.4575
Zulu	7	33	0.66163	3.1191
Xitsonga:	1	34	0.09452	3.2136
Sesotho	4	38	0.37807	3.5917
Afrikaans:	856	894	80.90737	84.4991
Siswati	5	899	0.47259	84.9716
English	159	1058	15.02836	100.0000
Missing	0	1058	0.00000	100.0000

Frequency table: Qualification				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade12	843	843	79.67864	79.6786
Gr12 Exemption:	73	916	6.89981	86.5784
3 yr deg/dip:	22	938	2.07940	88.6578
<Grade12:	7	945	0.66163	89.3195
1-2yr Diploma:	46	991	4.34783	93.6673
Error	64	1055	6.04915	99.7164
Postgraduate:	3	1058	0.28355	100.0000
Missing	0	1058	0.00000	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	24.24688	6.114418	0.00	101.0000	1041	17

Internal consistency reliabilities on CTB2 subtests

None of the respondents got the last item in the Checking test correct, therefore this item was excluded from the item analysis.

Subtest	Items excluded	Cronbach Alpha
Checking Verbal		.622972
Checking Numerical	52	.687580
Checking Total	52	.790787

Standard error of measurement

	1	2	3	4
	ScaleName	SEM	SD	Reliability
1	Checking Verbal	1.618291	2.635541	0.622972
2	Checking Numerical	1.429912	2.558231	0.68758
3	Checking Total	2.159689	4.721683	0.790787

Clerical Test Battery reliability: South African General Population updated 2012

Sample composition

The sample consisted of South Africans who were assessed on the Clerical Test Battery by Psytech SA and its collaborators in the period leading up to January 2012. Not all respondents completed the entire battery, therefore biographical particulars are reported separately for the different subtests.

Biographical composition of the sample: Verbal Reasoning Test (VR2)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	4057	4057	59.00233	59.0023
M	2745	6802	39.92147	98.9238
U	74	6876	1.07621	100.0000
Missing	0	6876	0.00000	100.0000

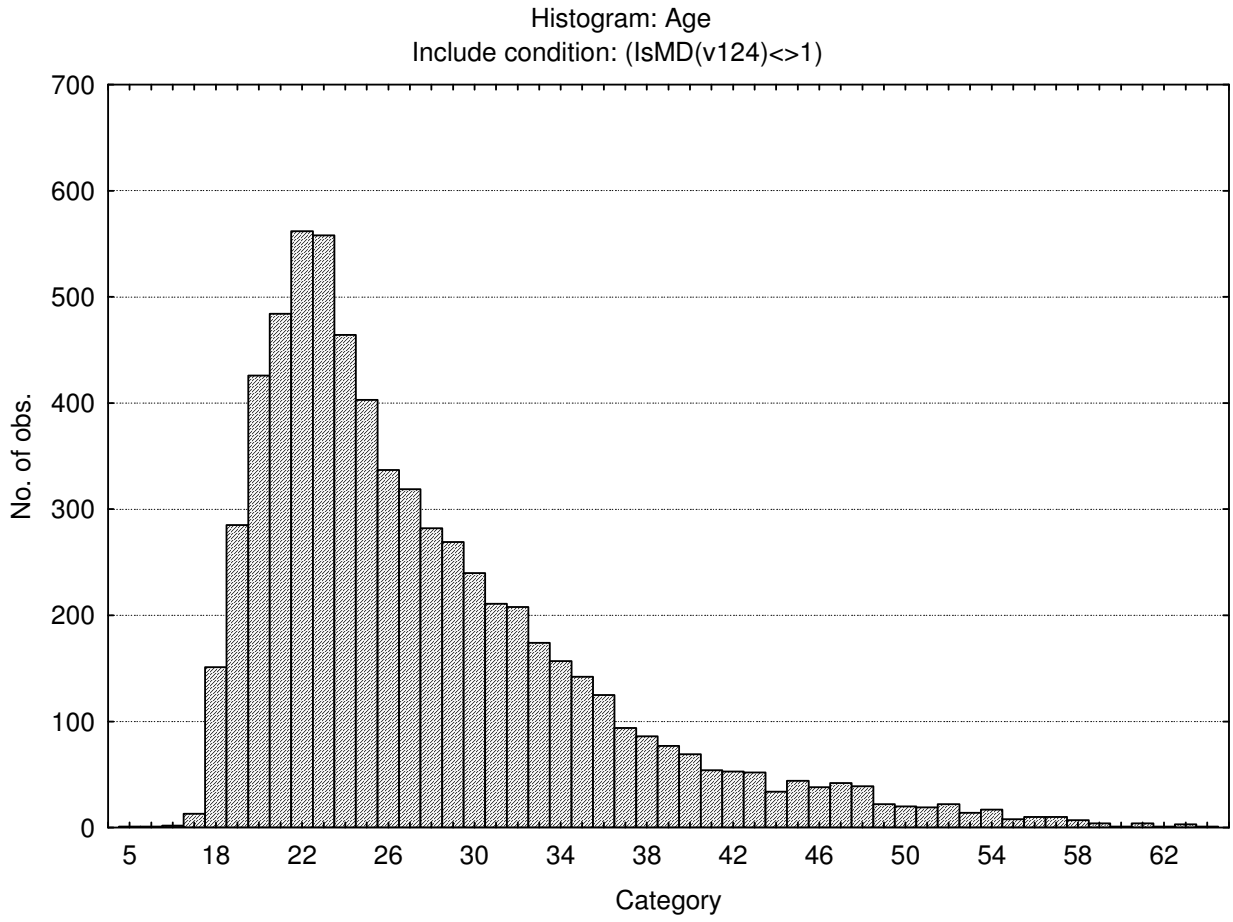
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	2872	2872	41.76847	41.7685
Under Gr 12	238	3110	3.46131	45.2298
Degree	319	3429	4.63933	49.8691
Certificate	115	3544	1.67248	51.5416
Post Graduate	49	3593	0.71262	52.2542
Technikon	494	4087	7.18441	59.4386
Diploma	297	4384	4.31937	63.7580
Missing	2492	6876	36.24200	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	782	782	11.37289	11.3729
Afrikaans	731	1513	10.63118	22.0041
isiXhosa	360	1873	5.23560	27.2397
siSwati	88	1961	1.27981	28.5195
Sesotho	348	2309	5.06108	33.5806
Setswana	405	2714	5.89005	39.4706
Sepedi	163	2877	2.37056	41.8412
Xitsonga	80	2957	1.16347	43.0047
Tshivenda	51	3008	0.74171	43.7464
English	1427	4435	20.75334	64.4997
isiNdebele	34	4469	0.49447	64.9942
Missing	2407	6876	35.00582	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	2311	2311	33.60966	33.6097
English	1427	3738	20.75334	54.3630
Afrikaans	731	4469	10.63118	64.9942
Missing	2407	6876	35.00582	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	831	831	12.08551	12.0855
European	633	1464	9.20593	21.2914
Asian	615	2079	8.94415	30.2356
African	2491	4570	36.22746	66.4631
Missing	2306	6876	33.53694	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.70551	7.857333	5.000000	99.00000	6659	217



Biographical composition of the sample: Numerical Ability Test (NA2)

Category	Frequency table: sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	29888	29888	66.56274	66.5627
M	14850	44738	33.07202	99.6348
U	164	44902	0.36524	100.0000
Missing	0	44902	0.00000	100.0000

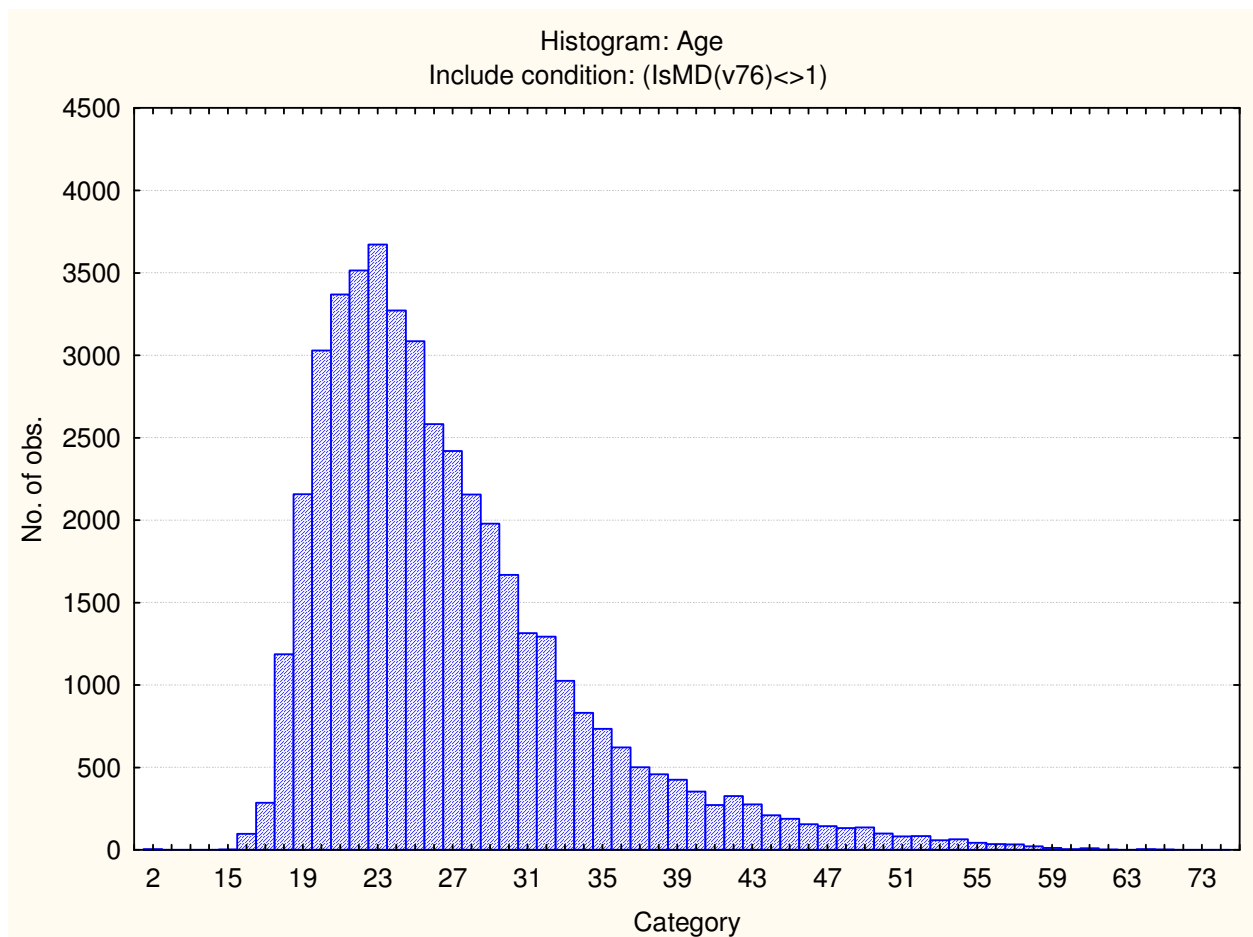
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	20649	20649	45.98682	45.9868
Under Gr 12	2757	23406	6.14004	52.1269
Degree	1435	24841	3.19585	55.3227
Certificate	2039	26880	4.54100	59.8637
Post Graduate	431	27311	0.95987	60.8236
Technikon	1313	28624	2.92415	63.7477
Diploma	3368	31992	7.50078	71.2485
Missing	12910	44902	28.75150	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	6380	6380	14.20872	14.2087
Afrikaans	3718	10098	8.28025	22.4890
isiXhosa	3490	13588	7.77248	30.2615
siSwati	540	14128	1.20262	31.4641
Sesotho	2629	16757	5.85497	37.3191
Setswana	3619	20376	8.05977	45.3788
Sepedi	2483	22859	5.52982	50.9086
Xitsonga	733	23592	1.63244	52.5411
Tshivenda	583	24175	1.29838	53.8395
English	7408	31583	16.49815	70.3376
isiNdebele	307	31890	0.68371	71.0213
Missing	13012	44902	28.97866	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	20764	20764	46.24293	46.2429
English	7408	28172	16.49815	62.7411
Afrikaans	3718	31890	8.28025	71.0213
Missing	13012	44902	28.97866	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6811	6811	15.16859	15.1686
European	1717	8528	3.82388	18.9925
Asian	3059	11587	6.81261	25.8051
African	21824	33411	48.60363	74.4087
Missing	11491	44902	25.59129	100.0000

Variable	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.75128	7.027092	2.000000	99.00000	44488	414



Biographical composition of the sample: Spelling test (SP2)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	1251	1251	61.56496	61.5650
M	727	1978	35.77756	97.3425
U	54	2032	2.65748	100.0000
Missing	0	2032	0.00000	100.0000

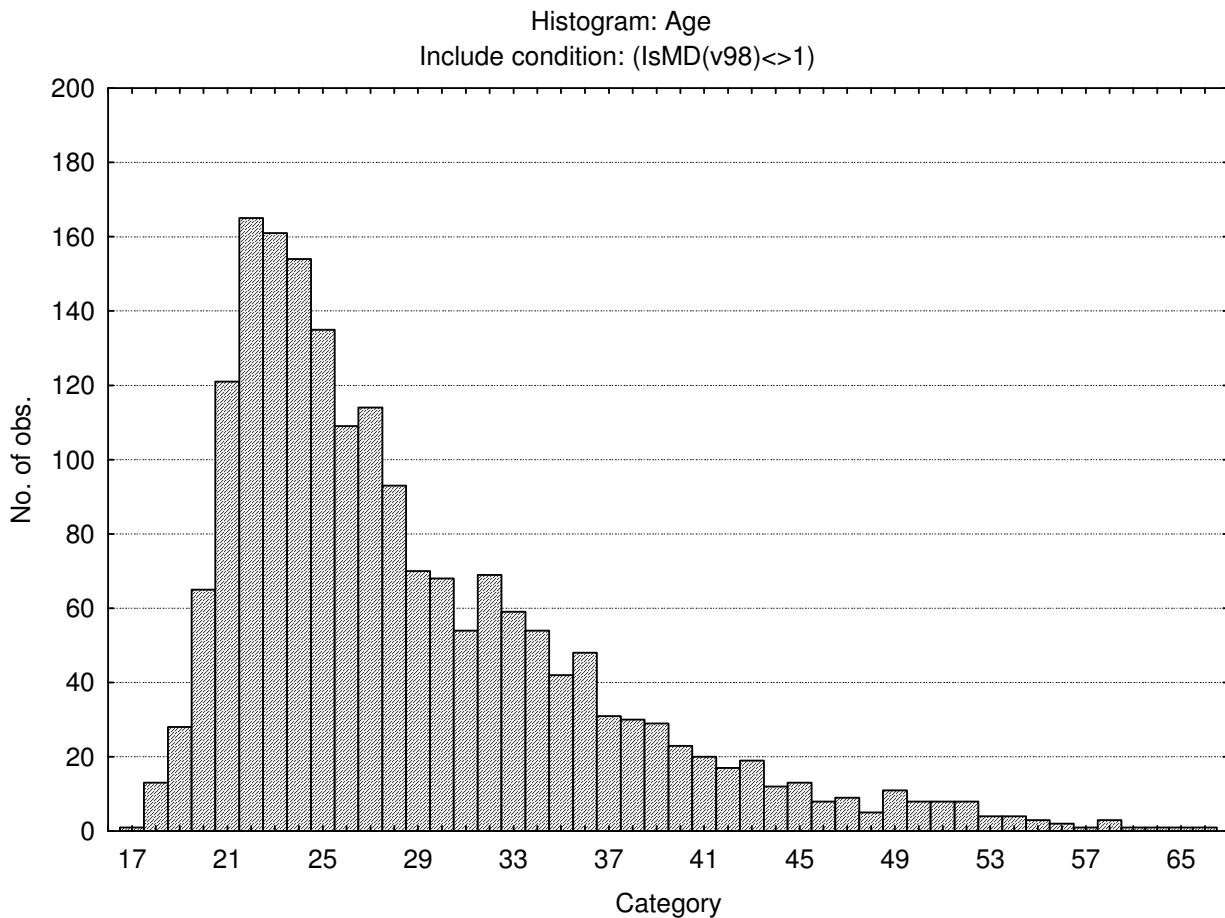
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	409	409	20.12795	20.1280
Under Gr 12	46	455	2.26378	22.3917
Degree	143	598	7.03740	29.4291
Certificate	13	611	0.63976	30.0689
Post Graduate	26	637	1.27953	31.3484
Technikon	86	723	4.23228	35.5807
Diploma	234	957	11.51575	47.0965
Missing	1075	2032	52.90354	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	176	176	8.66142	8.6614
Afrikaans	132	308	6.49606	15.1575
isiXhosa	92	400	4.52756	19.6850
siSwati	7	407	0.34449	20.0295
Sesotho	118	525	5.80709	25.8366
Setswana	126	651	6.20079	32.0374
Sepedi	41	692	2.01772	34.0551
Xitsonga	26	718	1.27953	35.3346
Tshivenda	25	743	1.23031	36.5650
English	194	937	9.54724	46.1122
isiNdebele	8	945	0.39370	46.5059
Missing	1087	2032	53.49409	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	619	619	30.46260	30.4626
English	194	813	9.54724	40.0098
Afrikaans	132	945	6.49606	46.5059
Missing	1087	2032	53.49409	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	122	122	6.00394	6.0039
European	116	238	5.70866	11.7126
Asian	55	293	2.70669	14.4193
African	684	977	33.66142	48.0807
Missing	1055	2032	51.91929	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	28.65224	7.770257	17.00000	99.00000	1895	137



Biographical composition of the sample: Clerical Checking test (CC2)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	31754	31754	65.59795	65.5980
M	16483	48237	34.05086	99.6488
U	170	48407	0.35119	100.0000
Missing	0	48407	0.00000	100.0000

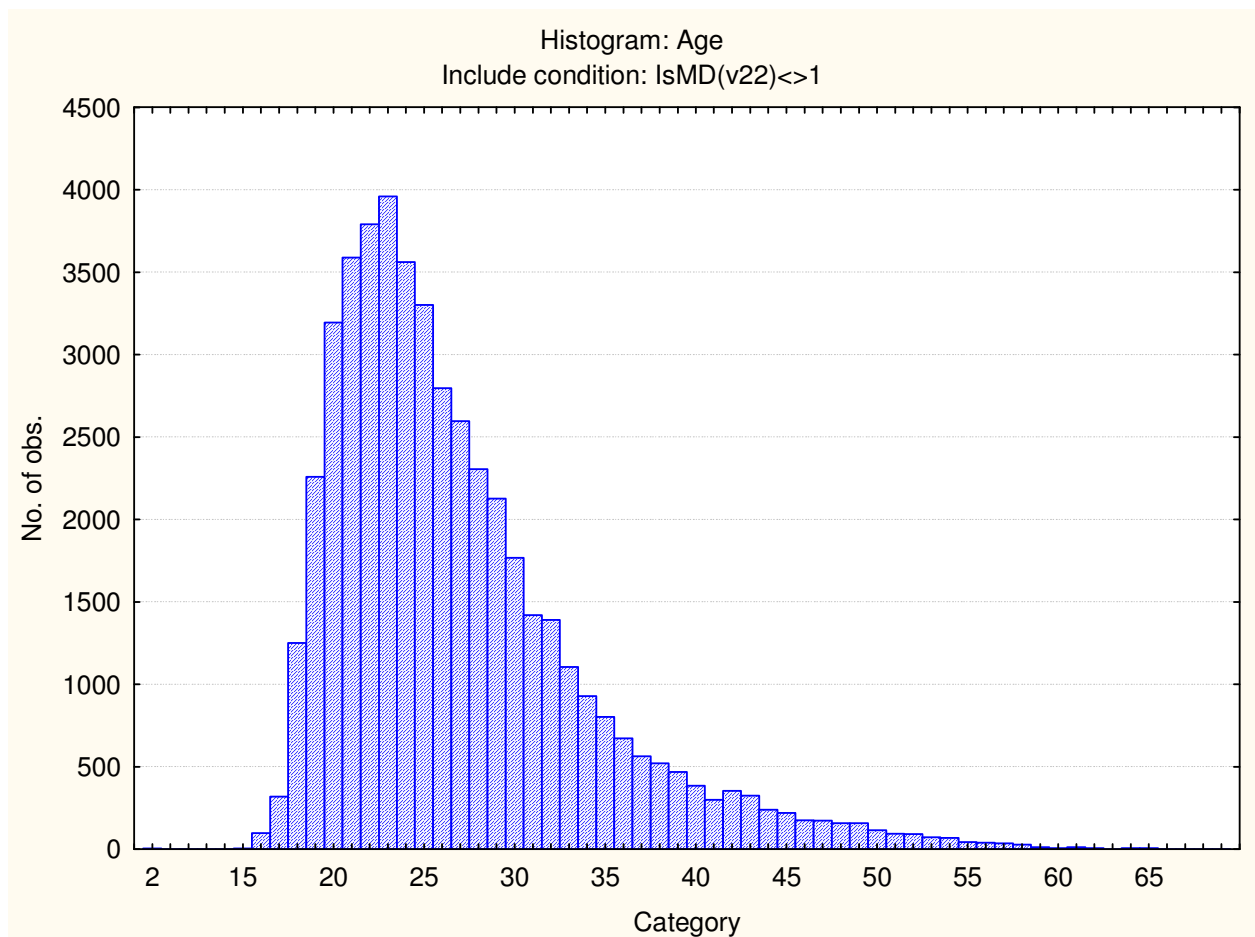
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	21710	21710	44.84889	44.8489
Under Gr 12	3014	24724	6.22637	51.0753
Degree	1635	26359	3.37761	54.4529
Certificate	2118	28477	4.37540	58.8283
Post Graduate	482	28959	0.99572	59.8240
Technikon	1585	30544	3.27432	63.0983
Diploma	3779	34323	7.80672	70.9050
Missing	14084	48407	29.09497	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	7010	7010	14.48138	14.4814
Afrikaans	4133	11143	8.53802	23.0194
isiXhosa	3802	14945	7.85424	30.8736
siSwati	562	15507	1.16099	32.0346
Sesotho	2862	18369	5.91237	37.9470
Setswana	3884	22253	8.02363	45.9706
Sepedi	2571	24824	5.31122	51.2818
Xitsonga	771	25595	1.59274	52.8746
Tshivenda	619	26214	1.27874	54.1533
English	7891	34105	16.30136	70.4547
isiNdebele	326	34431	0.67346	71.1281
Missing	13976	48407	28.87186	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	22407	22407	46.28876	46.2888
English	7891	30298	16.30136	62.5901
Afrikaans	4133	34431	8.53802	71.1281
Missing	13976	48407	28.87186	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	7233	7233	14.94205	14.9421
European	1918	9151	3.96224	18.9043
Asian	3306	12457	6.82959	25.7339
African	23532	35989	48.61280	74.3467
Missing	12418	48407	25.65331	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.86123	7.121651	2.000000	99.00000	47956	451



Internal Consistency Reliabilities and Standard Error of Measurement for Clerical Test Battery subtests

Subtest	SEM	Cronbach coefficient alpha
Verbal Reasoning Test	2.46	.82
Numerical Ability Test	1.57	.73
Clerical Checking Test: Numerical	1.46	.80
Clerical Checking Test: Verbal	1.68	.75
Clerical Checking Test: Total score	2.20	.88
Spelling Test	2.18	.85

Clerical Test Battery Reliabilities: South Africans, race African, updated 2012

Composition of the sample

The sample consisted of South Africans who declared their race to be African, tested in the period up to February 2012 by Psytech SA and collaborators. Not all respondents completed the entire Clerical Test Battery, therefore the biographical composition of the sample is reported separately for the different subtests of the Clerical Test Battery.

Composition of the sample: Verbal Reasoning Test (VR2)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	1423	1423	57.12565	57.1257
M	1061	2484	42.59334	99.7190
U	7	2491	0.28101	100.0000
Missing	0	2491	0.00000	100.0000

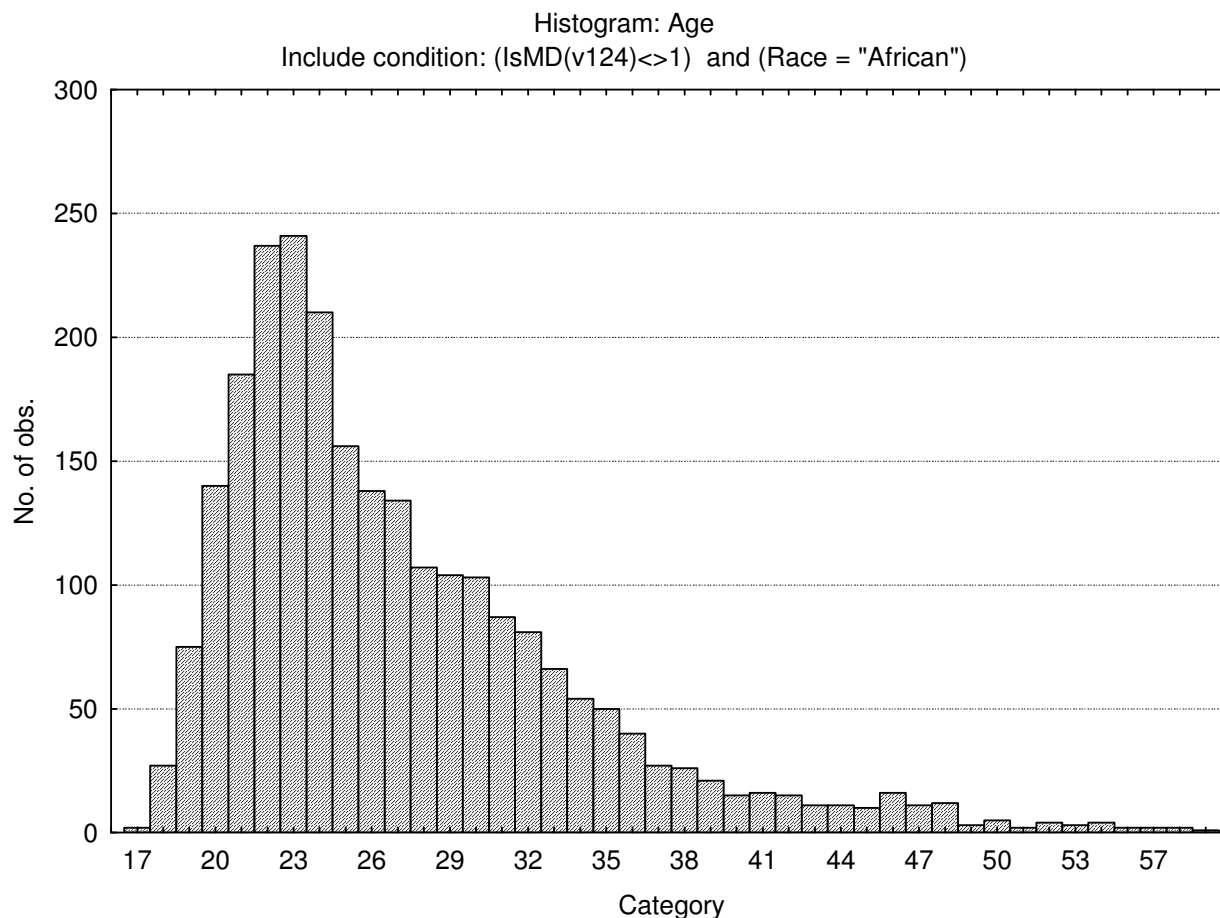
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1344	1344	53.95424	53.9542
Under Gr 12	101	1445	4.05460	58.0088
Degree	182	1627	7.30630	65.3151
Certificate	94	1721	3.77358	69.0887
Post Graduate	27	1748	1.08390	70.1726
Technikon	378	2126	15.17463	85.3473
Diploma	211	2337	8.47049	93.8177
Missing	154	2491	6.18226	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	772	772	30.99157	30.9916
Afrikaans	22	794	0.88318	31.8747
isiXhosa	352	1146	14.13087	46.0056
siSwati	87	1233	3.49257	49.4982
Sesotho	342	1575	13.72943	63.2276
Setswana	403	1978	16.17824	79.4059
Sepedi	155	2133	6.22240	85.6283
Xitsonga	80	2213	3.21156	88.8398
Tshivenda	51	2264	2.04737	90.8872

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	84	2348	3.37214	94.2593
isiNdebele	33	2381	1.32477	95.5841
Missing	110	2491	4.41590	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	2275	2275	91.32878	91.3288
English	84	2359	3.37214	94.7009
Afrikaans	22	2381	0.88318	95.5841
Missing	110	2491	4.41590	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.09406	6.737598	17.00000	61.00000	2456	35



Composition of the sample: Numerical Ability Test

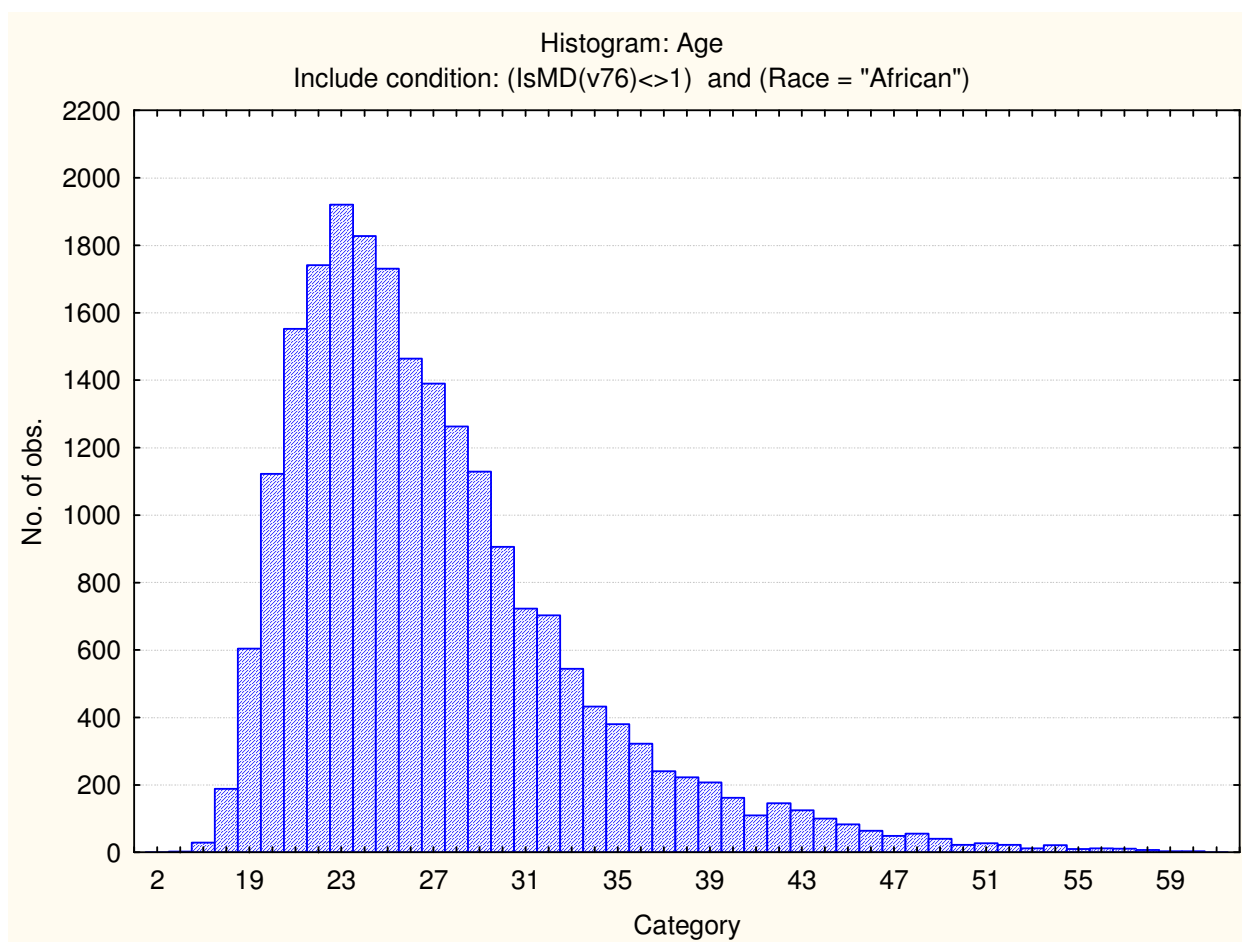
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	14233	14233	65.21719	65.2172
M	7563	21796	34.65451	99.8717
U	28	21824	0.12830	100.0000
Missing	0	21824	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	12715	12715	58.26155	58.2615
Under Gr 12	1321	14036	6.05297	64.3145
Degree	1106	15142	5.06782	69.3823
Certificate	1722	16864	7.89040	77.2727
Post Graduate	313	17177	1.43420	78.7069
Technikon	1076	18253	4.93035	83.6373
Diploma	2674	20927	12.25257	95.8898
Missing	897	21824	4.11015	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	6320	6320	28.95894	28.9589
Afrikaans	146	6466	0.66899	29.6279
isiXhosa	3425	9891	15.69373	45.3217
siSwati	535	10426	2.45143	47.7731
Sesotho	2617	13043	11.99139	59.7645
Setswana	3598	16641	16.48644	76.2509
Sepedi	2439	19080	11.17577	87.4267
Xitsonga	732	19812	3.35411	90.7808
Tshivenda	580	20392	2.65762	93.4384
English	320	20712	1.46628	94.9047
isiNdebele	303	21015	1.38838	96.2931
Missing	809	21824	3.70693	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	20549	20549	94.15781	94.1578
English	320	20869	1.46628	95.6241
Afrikaans	146	21015	0.66899	96.2931
Missing	809	21824	3.70693	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.03023	6.238588	2.000000	62.00000	21733	91



Sample composition: Clerical Checking Test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	15224	15224	64.69488	64.6949
M	8278	23502	35.17763	99.8725
U	30	23532	0.12749	100.0000
Missing	0	23532	0.00000	100.0000

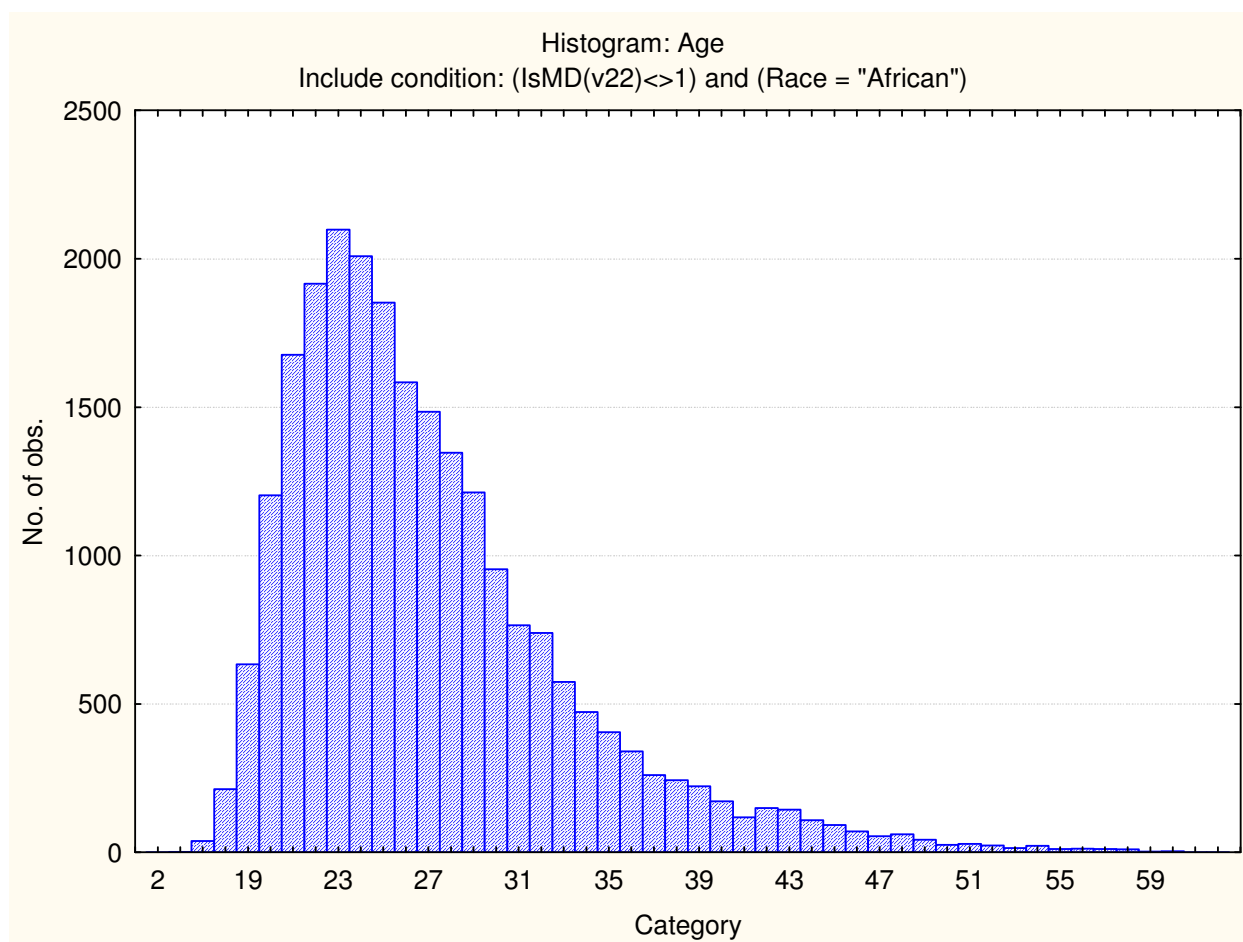
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	13342	13342	56.69726	56.6973
Under Gr 12	1421	14763	6.03859	62.7358
Degree	1268	16031	5.38841	68.1243
Certificate	1787	17818	7.59391	75.7182
Post Graduate	351	18169	1.49159	77.2098
Technikon	1264	19433	5.37141	82.5812
Diploma	3020	22453	12.83359	95.4148

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Missing	1079	23532	4.58525	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	6946	6946	29.51725	29.5173
Afrikaans	163	7109	0.69267	30.2099
isiXhosa	3724	10833	15.82526	46.0352
siSwati	557	11390	2.36699	48.4022
Sesotho	2849	14239	12.10692	60.5091
Setswana	3859	18098	16.39895	76.9080
Sepedi	2526	20624	10.73432	87.6424
Xitsonga	770	21394	3.27214	90.9145
Tshivenda	616	22010	2.61771	93.5322
English	348	22358	1.47884	95.0110
isiNdebele	321	22679	1.36410	96.3751
Missing	853	23532	3.62485	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	22168	22168	94.20364	94.2036
English	348	22516	1.47884	95.6825
Afrikaans	163	22679	0.69267	96.3751
Missing	853	23532	3.62485	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.01314	6.266124	2.000000	65.00000	23432	100



Sample composition: Spelling test

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	385	385	56.28655	56.2865
M	299	684	43.71345	100.0000
Missing	0	684	0.00000	100.0000

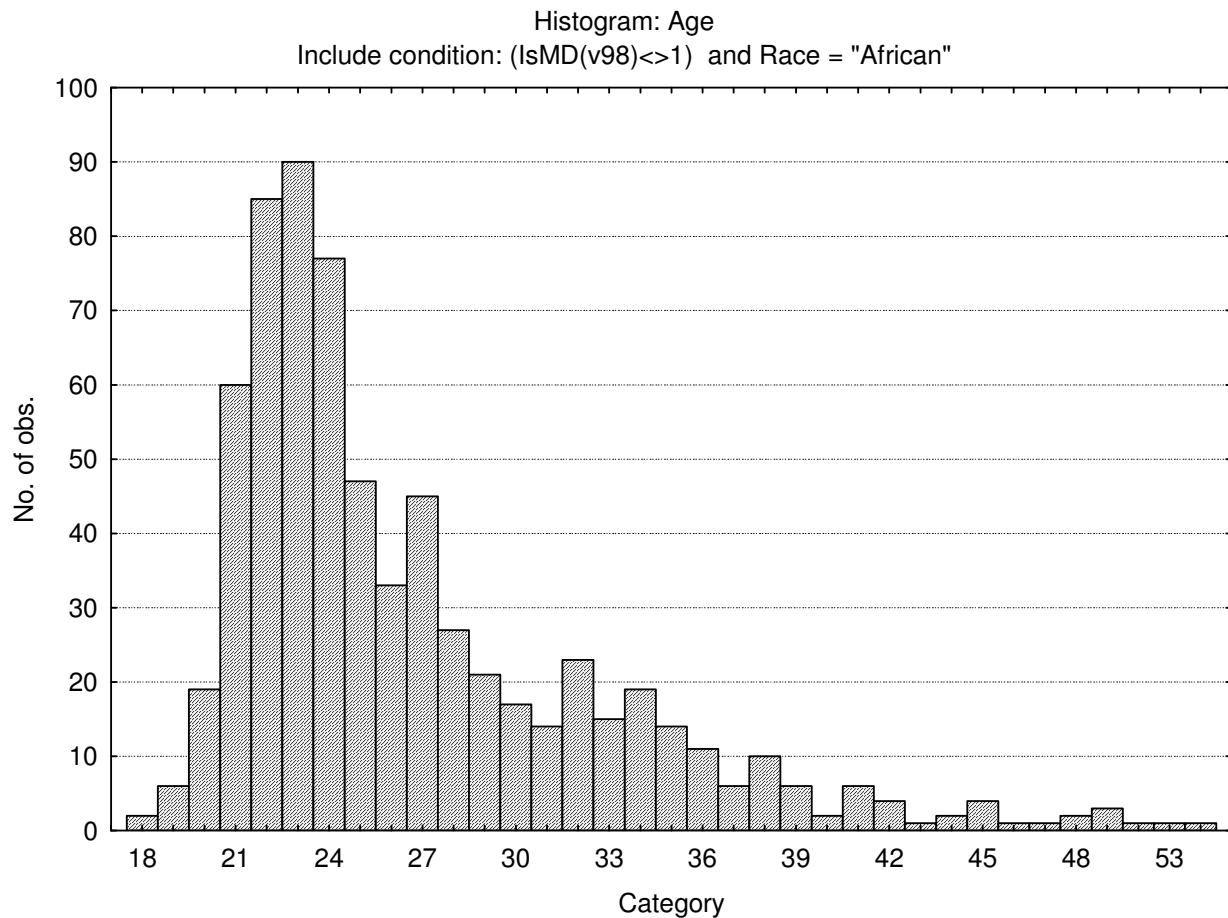
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	196	196	28.65497	28.6550
Under Gr 12	22	218	3.21637	31.8713
Degree	120	338	17.54386	49.4152
Certificate	9	347	1.31579	50.7310
Post Graduate	23	370	3.36257	54.0936
Technikon	71	441	10.38012	64.4737
Diploma	205	646	29.97076	94.4444
Missing	38	684	5.55556	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	174	174	25.43860	25.4386
Afrikaans	9	183	1.31579	26.7544
isiXhosa	88	271	12.86550	39.6199
siSwati	7	278	1.02339	40.6433
Sesotho	117	395	17.10526	57.7485
Setswana	126	521	18.42105	76.1696
Sepedi	38	559	5.55556	81.7251
Xitsonga	26	585	3.80117	85.5263
Tshivenda	25	610	3.65497	89.1813
English	23	633	3.36257	92.5439
isiNdebele	8	641	1.16959	93.7135
Missing	43	684	6.28655	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	609	609	89.03509	89.0351
English	23	632	3.36257	92.3977
Afrikaans	9	641	1.31579	93.7135
Missing	43	684	6.28655	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	684	684	100.0000	100.0000
Missing	0	684	0.0000	100.0000

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	26.68491	6.080922	18.00000	56.00000	676	8



Internal Consistency Reliabilities and Standard Errors of Measurement for Clerical Test Battery subtests

ScaleName	SEM	Reliability
Verbal Reasoning	2.45105	0.75
Numerical Ability	3.896	0.61
Checking Numerical	1.45686	0.79
Checking Verbal	1.66376	0.74
Checking Total	2.20607	0.87
Spelling	1.97397	0.78

Clerical test battery reliabilities: South Africans, race Coloured, updated 2012

Composition of the sample

The sample consisted of South Africans who declared their racial classification as Coloured, tested by Psytech SA and collaborators in the period leading up to February 2012. Not all respondents completed the full test battery, therefore the biographical composition of the sample is given separately for each subtest.

Sample composition: Verbal reasoning test

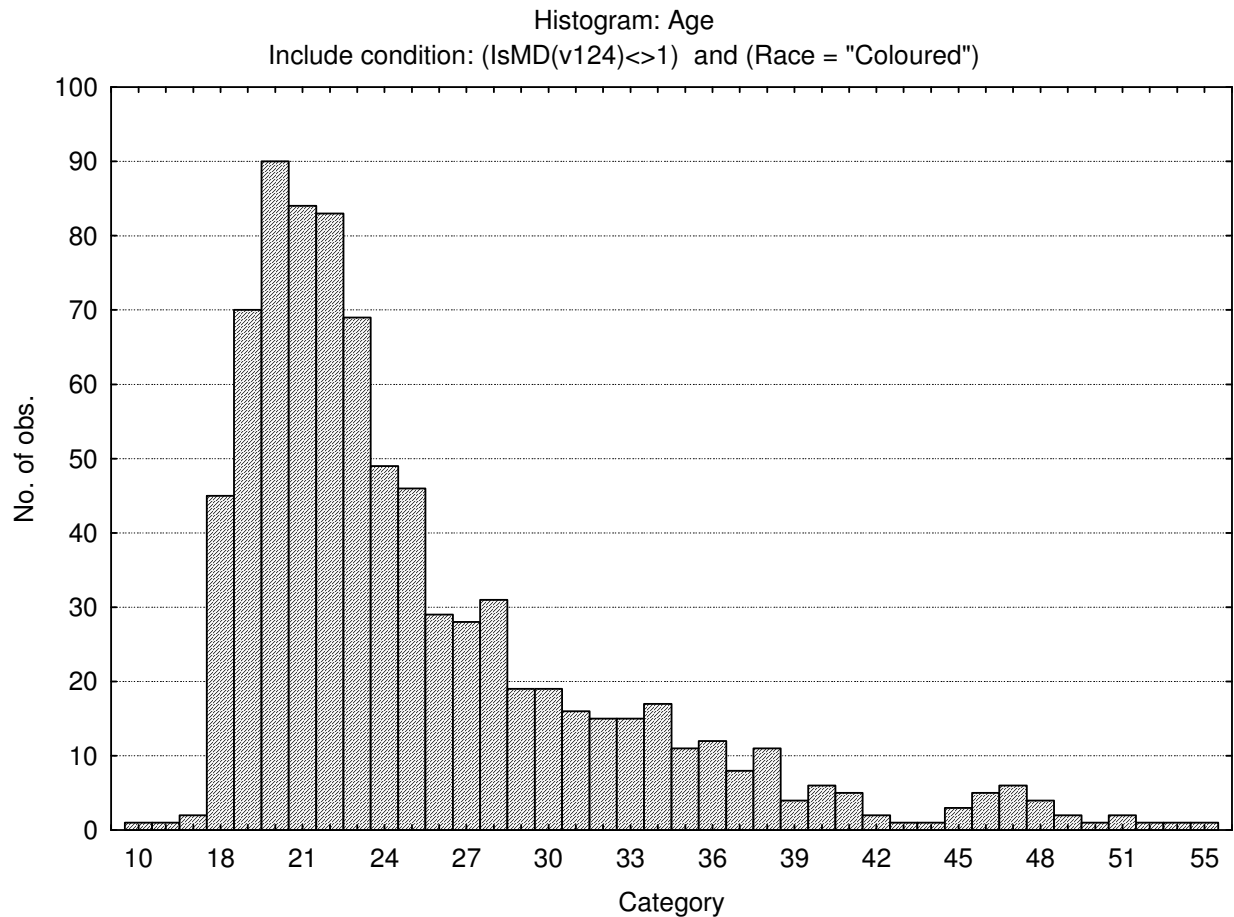
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	512	512	61.61252	61.6125
M	317	829	38.14681	99.7593
U	2	831	0.24067	100.0000
Missing	0	831	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	625	625	75.21059	75.2106
Under Gr 12	62	687	7.46089	82.6715
Degree	28	715	3.36943	86.0409
Certificate	9	724	1.08303	87.1239
Technikon	51	775	6.13718	93.2611
Diploma	26	801	3.12876	96.3899
Missing	30	831	3.61011	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	5	5	0.60168	0.6017
Afrikaans	401	406	48.25511	48.8568
isiXhosa	2	408	0.24067	49.0975
siSwati	1	409	0.12034	49.2178
Sepedi	2	411	0.24067	49.4585
English	397	808	47.77377	97.2323
Missing	23	831	2.76775	100.0000

a	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	10	10	1.20337	1.2034
English	397	407	47.77377	48.9771
Afrikaans	401	808	48.25511	97.2323
Missing	23	831	2.76775	100.0000

Variable	Descriptive Statistics: Age					No.cases Missing
	Mean	Std.Dev	Minimum	Maximum	N	
Age	25.24877	6.902342	10.00000	55.00000	816	15



Sample composition: Numerical ability test

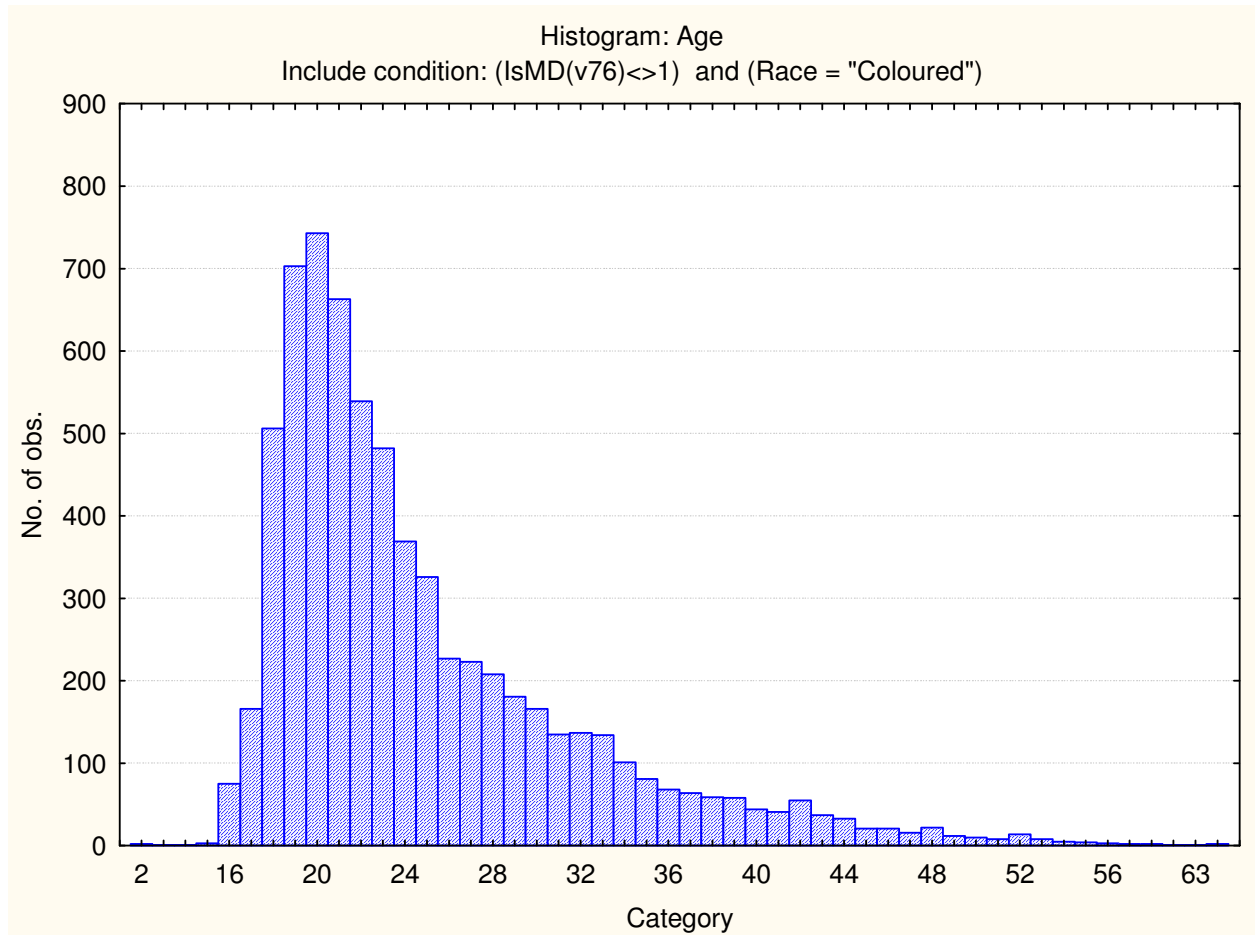
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	4766	4766	69.97504	69.9750
M	2039	6805	29.93687	99.9119
U	6	6811	0.08809	100.0000
Missing	0	6811	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	4586	4586	67.33226	67.3323
Under Gr 12	1031	5617	15.13728	82.4695
Degree	93	5710	1.36544	83.8350
Certificate	228	5938	3.34753	87.1825
Post Graduate	34	5972	0.49919	87.6817
Technikon	81	6053	1.18925	88.8709
Diploma	256	6309	3.75863	92.6296
Missing	502	6811	7.37043	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	19	19	0.27896	0.2790
Afrikaans	2644	2663	38.81956	39.0985
isiXhosa	47	2710	0.69006	39.7886
siSwati	2	2712	0.02936	39.8179
Sesotho	4	2716	0.05873	39.8767
Setswana	10	2726	0.14682	40.0235
Sepedi	18	2744	0.26428	40.2878
Tshivenda	2	2746	0.02936	40.3171
English	3518	6264	51.65174	91.9689
isiNdebele	1	6265	0.01468	91.9836
Missing	546	6811	8.01644	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	103	103	1.51226	1.5123
English	3518	3621	51.65174	53.1640
Afrikaans	2644	6265	38.81956	91.9836
Missing	546	6811	8.01644	100.0000

Variable	Descriptive Statistics: Age					No.cases Missing
	Mean	Std.Dev	Minimum	Maximum	N	
Age	24.78992	7.109184	2.000000	64.00000	6783	28



Sample composition: Clerical Checking

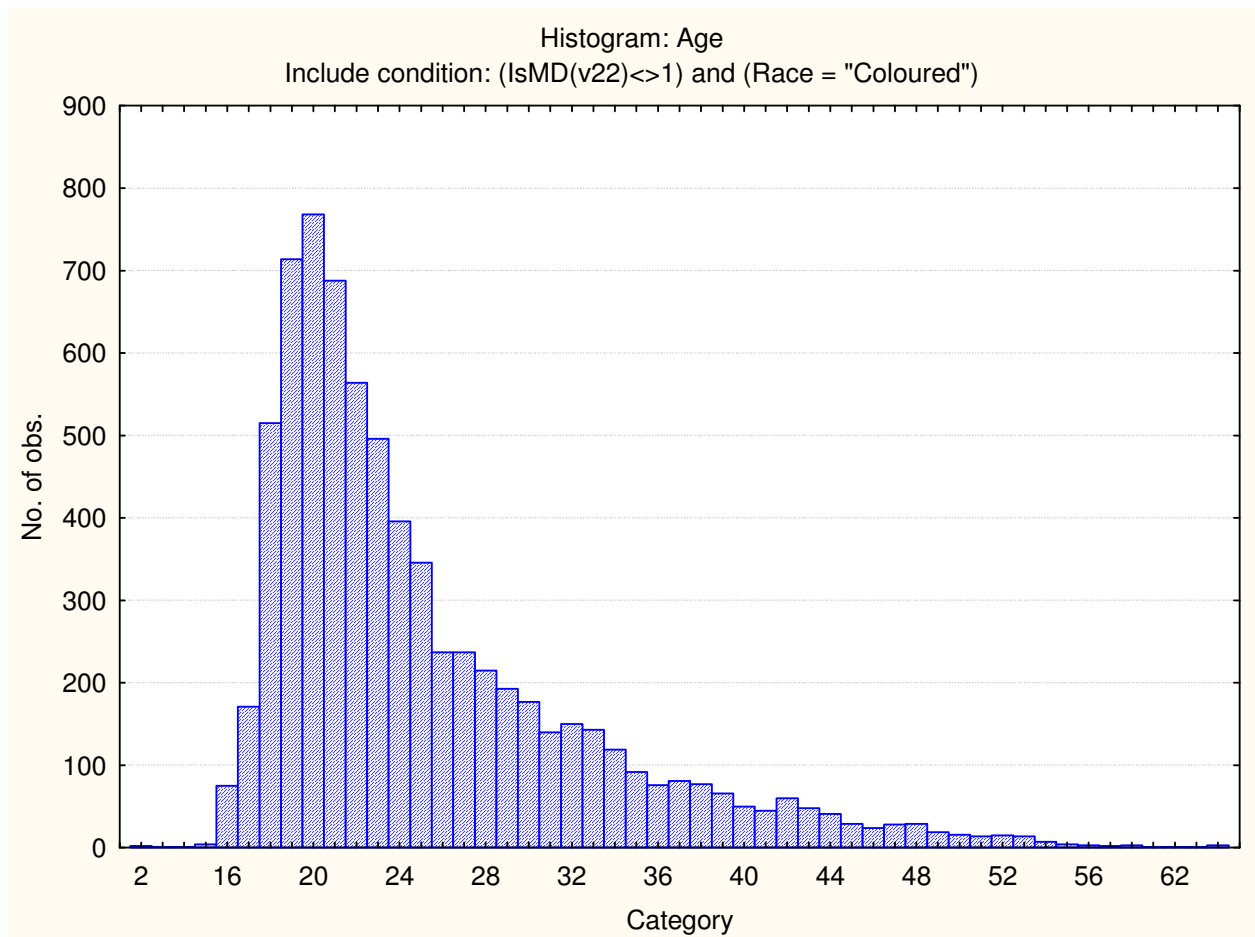
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	4892	4892	67.63445	67.6345
M	2335	7227	32.28259	99.9170
U	6	7233	0.08295	100.0000
Missing	0	7233	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	4753	4753	65.71271	65.7127
Under Gr 12	1161	5914	16.05143	81.7641
Degree	104	6018	1.43785	83.2020
Certificate	236	6254	3.26282	86.4648
Post Graduate	36	6290	0.49772	86.9625
Technikon	122	6412	1.68671	88.6492
Diploma	275	6687	3.80202	92.4513
Missing	546	7233	7.54873	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	19	19	0.26268	0.2627
Afrikaans	2903	2922	40.13549	40.3982
isiXhosa	49	2971	0.67745	41.0756
siSwati	2	2973	0.02765	41.1033
Sesotho	5	2978	0.06913	41.1724
Setswana	10	2988	0.13826	41.3107
Sepedi	18	3006	0.24886	41.5595
Tshivenda	2	3008	0.02765	41.5872
English	3668	6676	50.71201	92.2992
isiNdebele	1	6677	0.01383	92.3130
Missing	556	7233	7.68699	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	106	106	1.46551	1.4655
English	3668	3774	50.71201	52.1775
Afrikaans	2903	6677	40.13549	92.3130
Missing	556	7233	7.68699	100.0000

Variable	Descriptive Statistics : Age					No.cases Missing
	Mean	Std.Dev	Minimum	Maximum	N	
Age	25.19150	7.501860	2.000000	64.00000	7201	32



Sample composition: Spelling test

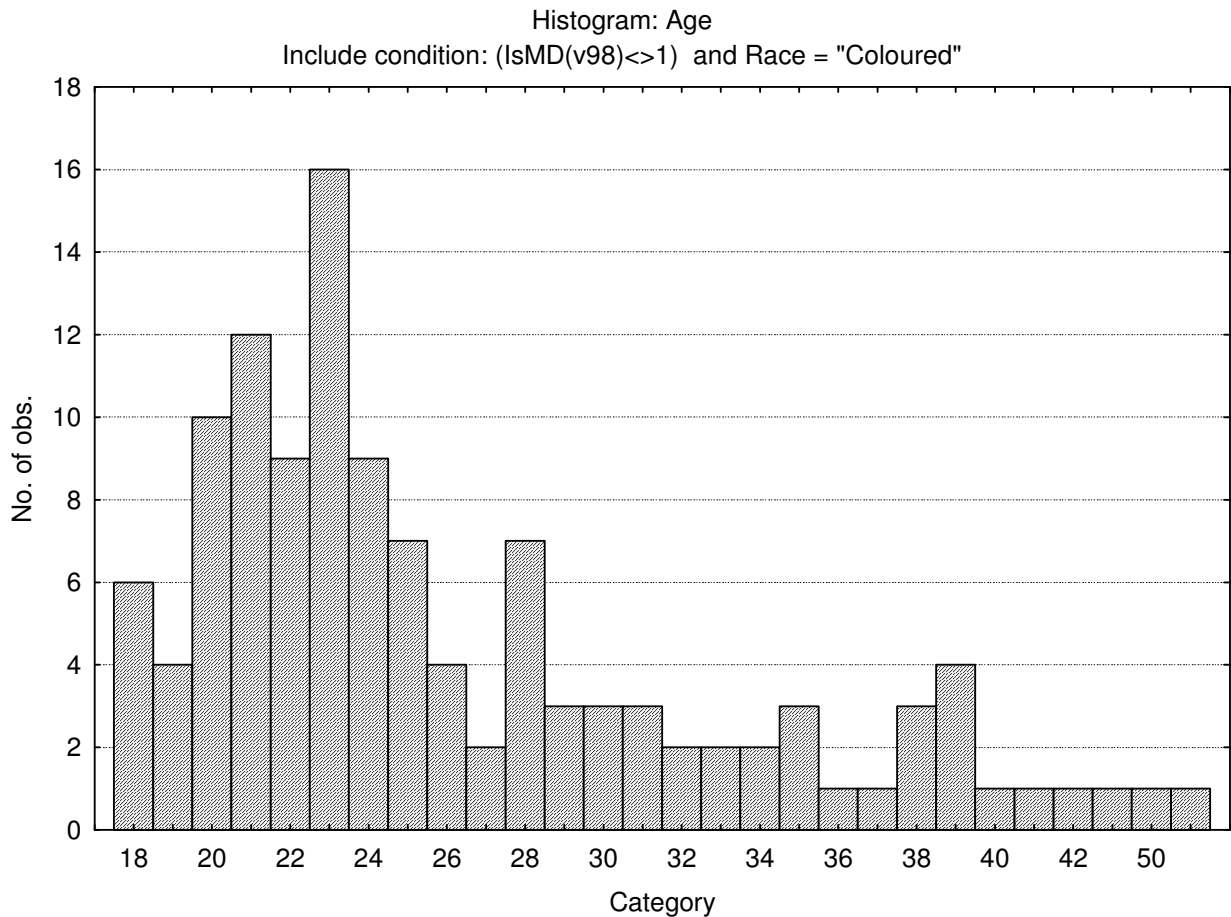
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	71	71	58.19672	58.1967
M	51	122	41.80328	100.0000
Missing	0	122	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	81	81	66.39344	66.3934
Under Gr 12	9	90	7.37705	73.7705
Degree	10	100	8.19672	81.9672
Technikon	6	106	4.91803	86.8852
Diploma	11	117	9.01639	95.9016
Missing	5	122	4.09836	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	51	51	41.80328	41.8033
Sepedi	2	53	1.63934	43.4426
English	61	114	50.00000	93.4426
Missing	8	122	6.55738	100.0000

a	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	2	2	1.63934	1.6393
English	61	63	50.00000	51.6393
Afrikaans	51	114	41.80328	93.4426
Missing	8	122	6.55738	100.0000

Variable	Descriptive Statistics : Age					No.cases Missing
	Mean	Std.Dev	Minimum	Maximum	N	
Age	26.33613	7.086963	18.00000	51.00000	119	3



Internal consistency reliabilities and standard errors of measurement for Clerical test battery subtests

ScaleName	SEM	Reliability
Verbal Reasoning	2.40	.77
Numerical Ability	1.55	.74
Checking Numerical	1.36	.79
Checking Verbal	1.14	.86
Checking Total	1.81	.90
Spelling	2.14	.84

Clerical test battery reliabilities: South Africans, race European, updated 2012

Composition of the sample

The sample consisted of South Africans who declared their race as European, tested by Psytech South Africa and collaborators in the period leading up to February 2012.

Not all the respondents completed the complete Clerical Test Battery, therefore the details of the sample composition are reported separately for every subtest.

Sample composition: Verbal Reasoning Test

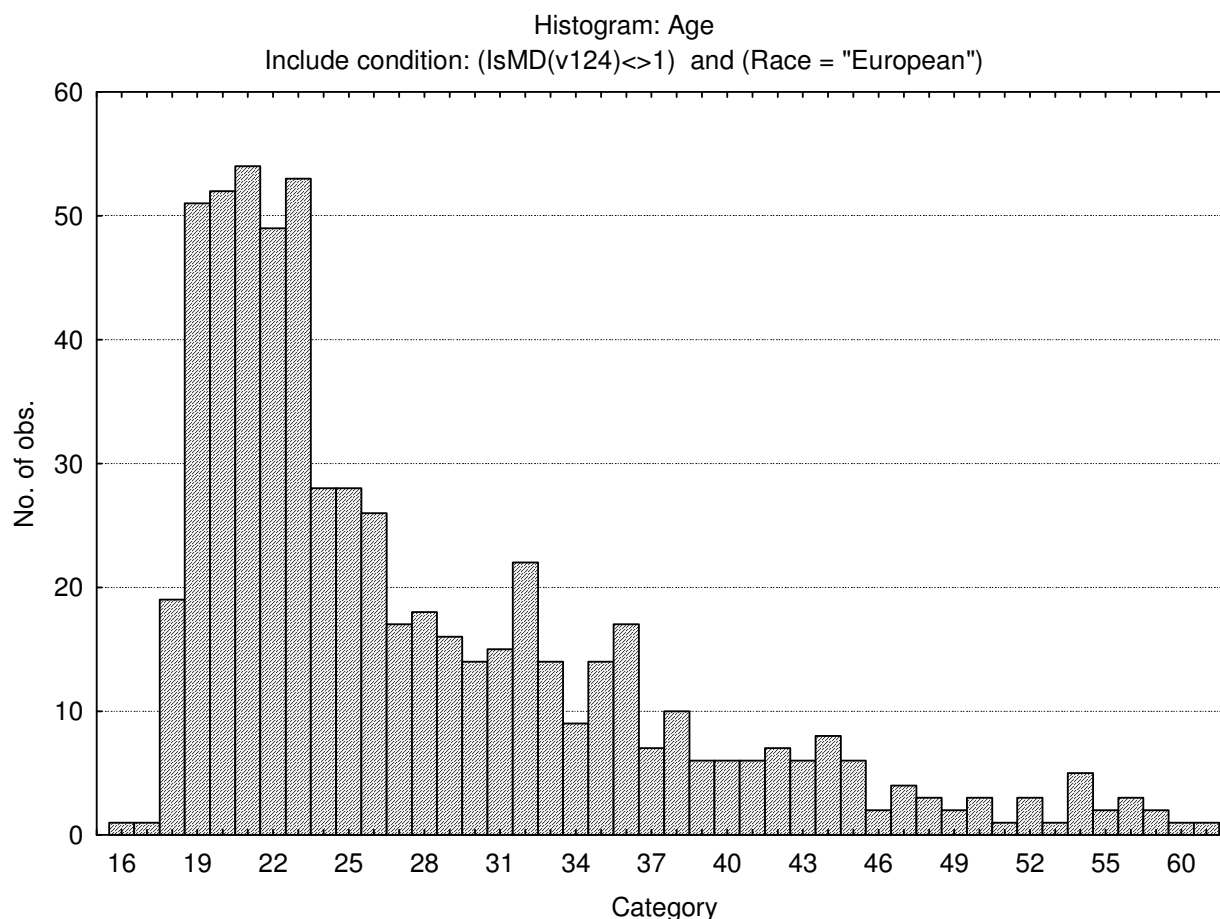
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	353	353	55.76619	55.7662
M	276	629	43.60190	99.3681
U	4	633	0.63191	100.0000
Missing	0	633	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	419	419	66.19273	66.1927
Under Gr 12	44	463	6.95103	73.1438
Degree	43	506	6.79305	79.9368
Certificate	9	515	1.42180	81.3586
Post Graduate	11	526	1.73776	83.0964
Technikon	29	555	4.58136	87.6777
Diploma	27	582	4.26540	91.9431
Missing	51	633	8.05687	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	281	281	44.39179	44.3918
isiXhosa	2	283	0.31596	44.7077
Sesotho	1	284	0.15798	44.8657
Sepedi	1	285	0.15798	45.0237
English	337	622	53.23855	98.2622
Missing	11	633	1.73776	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	4	4	0.63191	0.6319
English	337	341	53.23855	53.8705
Afrikaans	281	622	44.39179	98.2622
Missing	11	633	1.73776	100.0000

Descriptive Statistics : Age						
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	27.74225	9.028212	16.00000	65.00000	613	20



Sample composition: Numerical Ability test

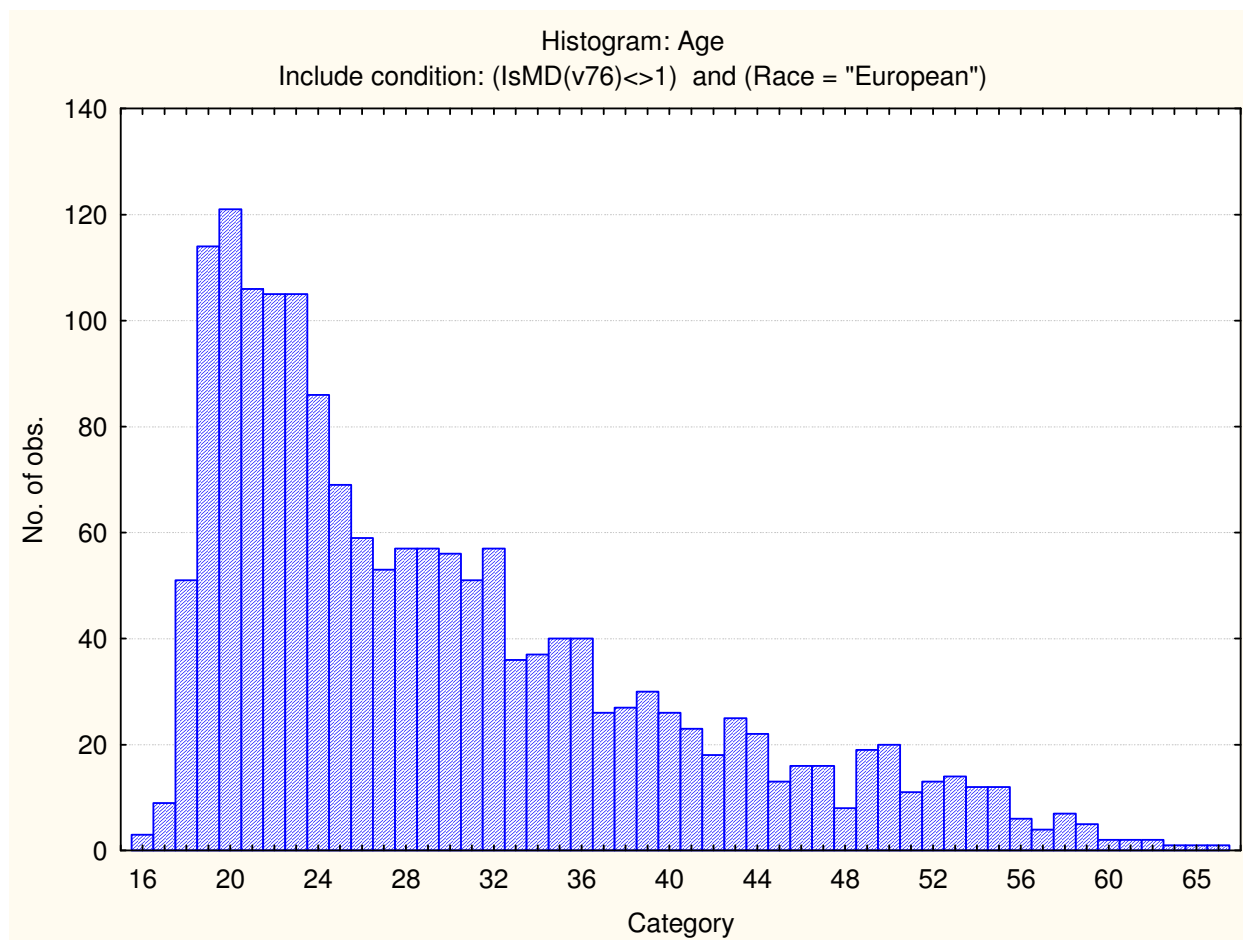
Frequency table: Sex				
Category	Count	Cumulative Count	Percent	Cumulative Percent
F	1163	1163	67.73442	67.7344
M	548	1711	31.91613	99.6506
U	6	1717	0.34945	100.0000
Missing	0	1717	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1091	1091	63.54106	63.5411
Under Gr 12	226	1317	13.16249	76.7036
Degree	79	1396	4.60105	81.3046
Certificate	56	1452	3.26150	84.5661
Post Graduate	25	1477	1.45603	86.0221
Technikon	41	1518	2.38789	88.4100
Diploma	111	1629	6.46476	94.8748
Missing	88	1717	5.12522	100.0000

a	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	890	890	51.83460	51.8346
isiXhosa	5	895	0.29121	52.1258
Sesotho	1	896	0.05824	52.1840
Sepedi	9	905	0.52417	52.7082
English	742	1647	43.21491	95.9231
isiNdebele	1	1648	0.05824	95.9814
Missing	69	1717	4.01864	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	16	16	0.93186	0.9319
English	742	758	43.21491	44.1468
Afrikaans	890	1648	51.83460	95.9814
Missing	69	1717	4.01864	100.0000

a	Descriptive Statistics : Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.79811	10.21207	16.00000	73.00000	1694	23



Sample composition: Clerical Checking test

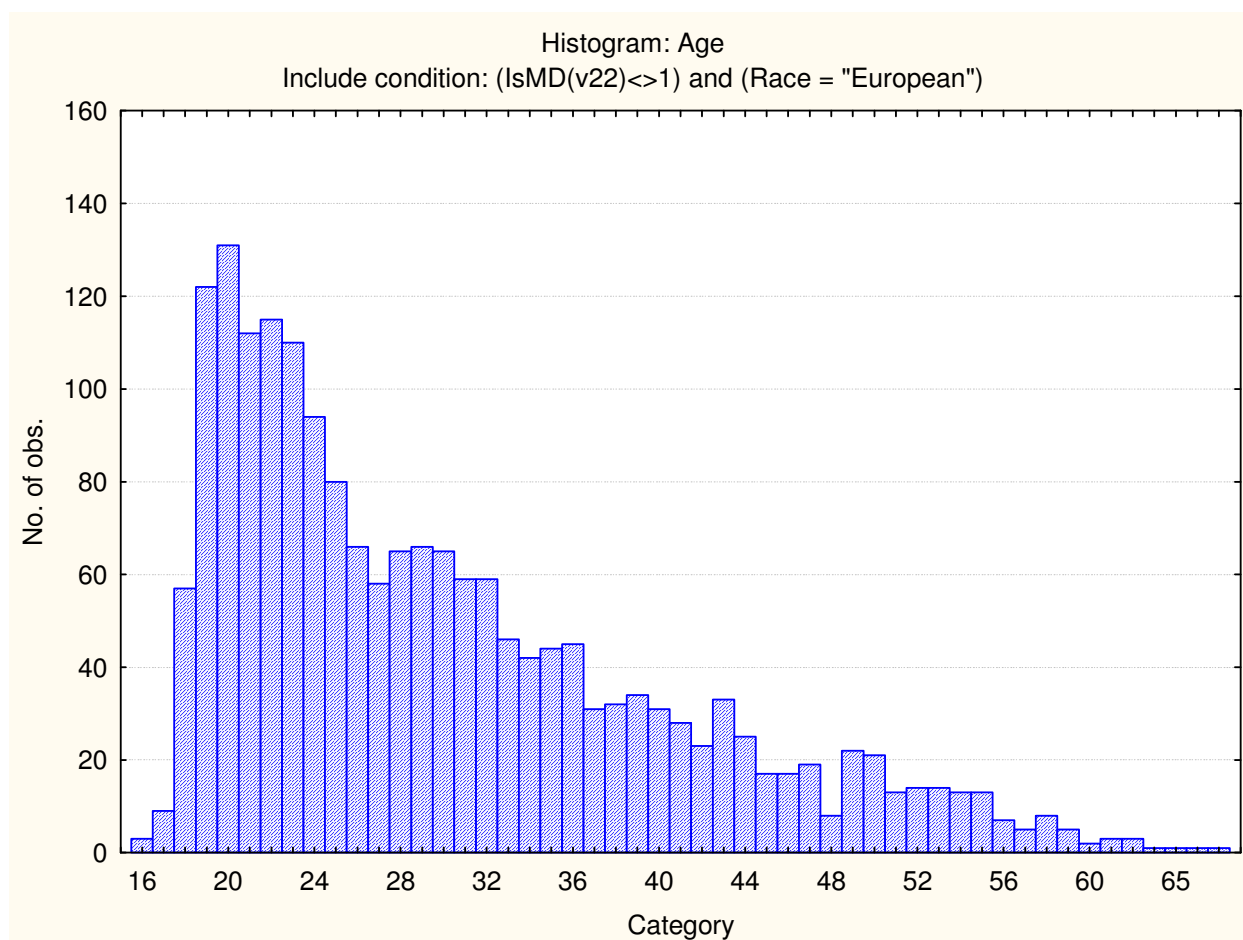
	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	1235	1235	64.38999	64.3900
M	676	1911	35.24505	99.6350
U	7	1918	0.36496	100.0000
Missing	0	1918	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1182	1182	61.62669	61.6267
Under Gr 12	239	1421	12.46090	74.0876
Degree	91	1512	4.74453	78.8321
Certificate	57	1569	2.97185	81.8040
Post Graduate	35	1604	1.82482	83.6288
Technikon	72	1676	3.75391	87.3827
Diploma	123	1799	6.41293	93.7956
Missing	119	1918	6.20438	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	1022	1022	53.28467	53.2847
isiXhosa	7	1029	0.36496	53.6496
Sesotho	1	1030	0.05214	53.7018
Sepedi	9	1039	0.46924	54.1710
English	806	1845	42.02294	96.1940
isiNdebele	1	1846	0.05214	96.2461
Missing	72	1918	3.75391	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	18	18	0.93848	0.9385
English	806	824	42.02294	42.9614
Afrikaans	1022	1846	53.28467	96.2461
Missing	72	1918	3.75391	100.0000

Variable	Descriptive Statistics : Age					No.cases Missing
	Mean	Std.Dev	Minimum	Maximum	N	
Age	30.04807	10.24016	16.00000	73.00000	1893	25



Sample composition: Spelling test

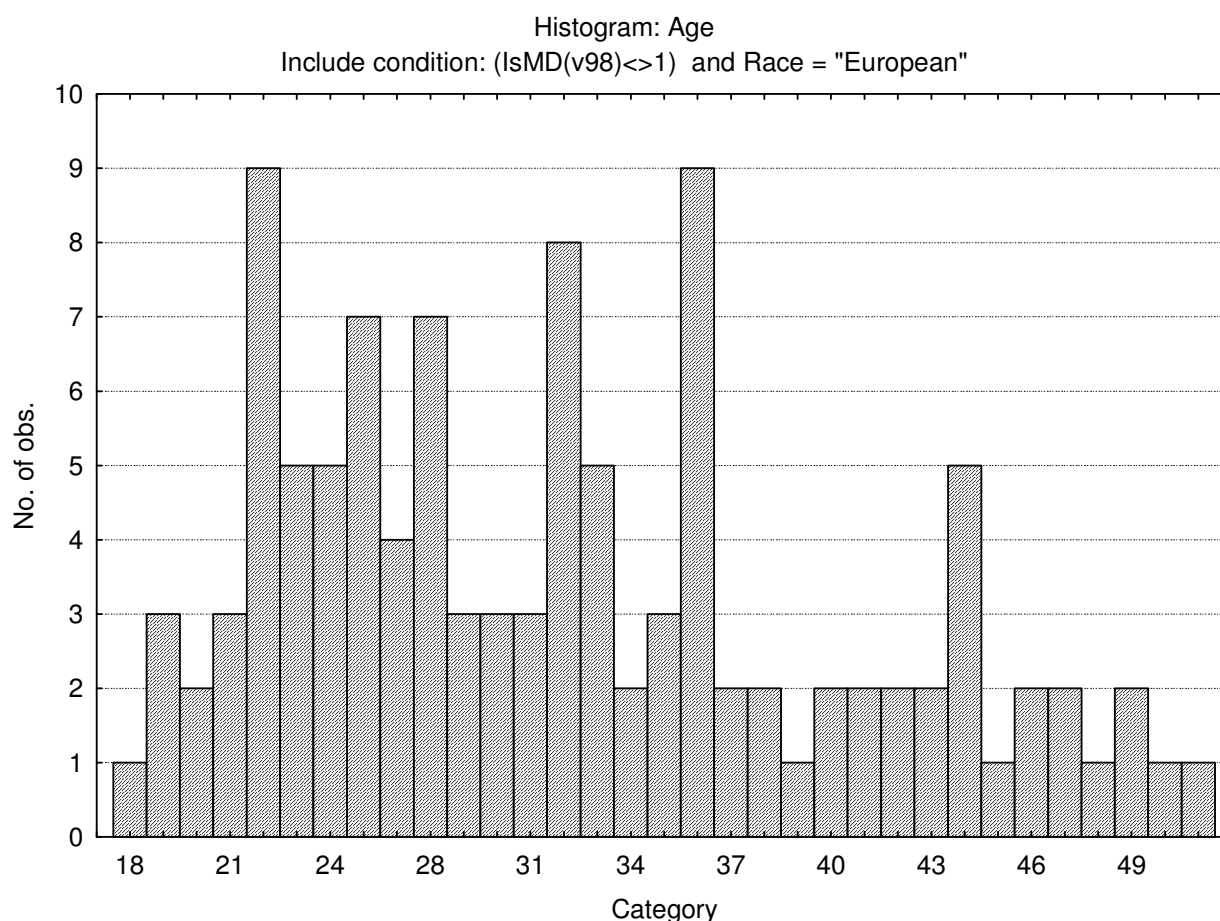
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	70	70	60.34483	60.3448
M	44	114	37.93103	98.2759
U	2	116	1.72414	100.0000
Missing	0	116	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	70	70	60.34483	60.3448
Under Gr 12	11	81	9.48276	69.8276
Degree	7	88	6.03448	75.8621
Certificate	4	92	3.44828	79.3103
Post Graduate	1	93	0.86207	80.1724
Technikon	5	98	4.31034	84.4828
Diploma	12	110	10.34483	94.8276
Missing	6	116	5.17241	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	61	61	52.58621	52.5862
Sesotho	1	62	0.86207	53.4483
English	50	112	43.10345	96.5517
Missing	4	116	3.44828	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1	1	0.86207	0.8621
English	50	51	43.10345	43.9655
Afrikaans	61	112	52.58621	96.5517
Missing	4	116	3.44828	100.0000

Variable	Descriptive Statistics : Age					No.cases Missing
	Mean	Std.Dev	Minimum	Maximum	N	
Age	31.85455	8.687053	18.00000	58.00000	110	6



Internal consistency reliabilities and standard errors of measurement for Clerical test battery subtests

ScaleName	SEM	Reliability
Verbal Reasoning	2.43	.82
Numerical Ability	1.70	.85
Checking Numerical	1.41	.86
Checking Verbal	1.65	.82
Checking Total	2.23	.91
Spelling	1.98	.84

Clerical Test Battery (CTB2)

Reliability: South Africans, Aggregate Population, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	8722	8722	56.40926	56.4093
M	6676	15398	43.17682	99.5861
Missing	64	15462	0.41392	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	3437	3437	22.22869	22.2287
Tertiary Cert / Trade	2654	6091	17.16466	39.3934
Tertiary	2025	8116	13.09662	52.4900
Post Graduate	585	8701	3.78347	56.2734
< Matric	47	8748	0.30397	56.5774
Missing	6714	15462	43.42258	100.0000

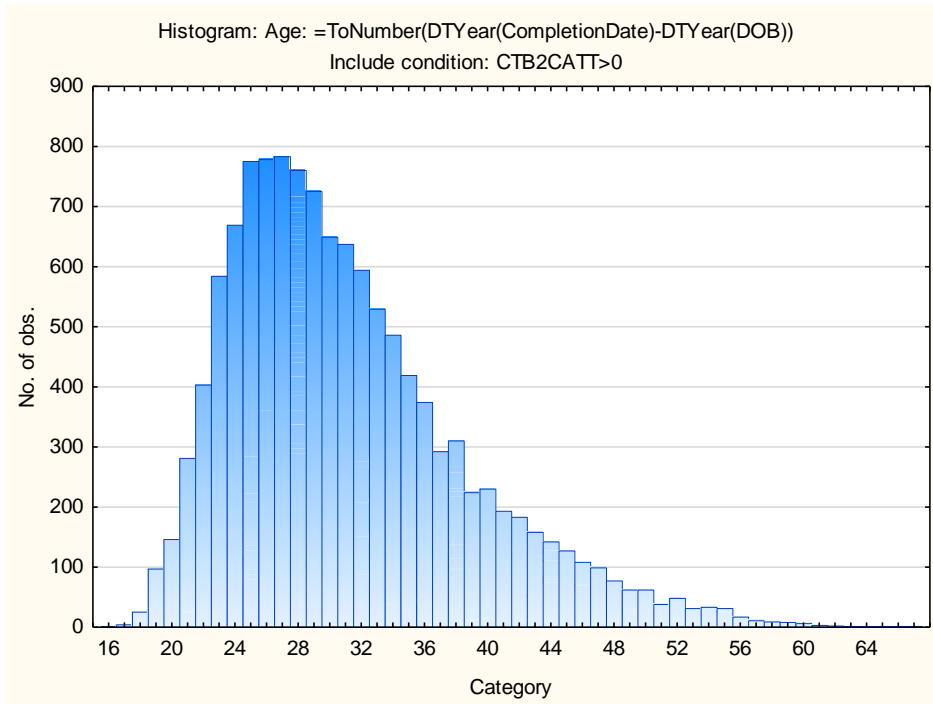
Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1153	1153	7.45699	7.4570
African	5961	7114	38.55258	46.0096
Indian	309	7423	1.99845	48.0080
Asian	145	7568	0.93778	48.9458
European	784	8352	5.07050	54.0163

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Missing	7110	15462	45.98370	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3938	3938	25.46889	25.4689
Afrikaans	761	4699	4.92174	30.3906
Setswana	528	5227	3.41482	33.8055
isiXhosa	1046	6273	6.76497	40.5704
Xitsonga	176	6449	1.13827	41.7087
Tshivenda	165	6614	1.06713	42.7758
isiZulu	1045	7659	6.75850	49.5343
Sepedi	483	8142	3.12379	52.6581
isiNdebele	75	8217	0.48506	53.1432
siSwati	54	8271	0.34924	53.4924
Sesotho	386	8657	2.49644	55.9889
Missing	6805	15462	44.01112	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3938	3938	25.46889	25.4689
Afrikaans	761	4699	4.92174	30.3906
Indigenous	3958	8657	25.59824	55.9889
Missing	6805	15462	44.01112	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.10901	7.460513	16.00000	69.00000	12228	3234



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	8479	8479	56.44013	56.4401
M	6487	14966	43.18046	99.6206
Missing	57	15023	0.37942	100.0000

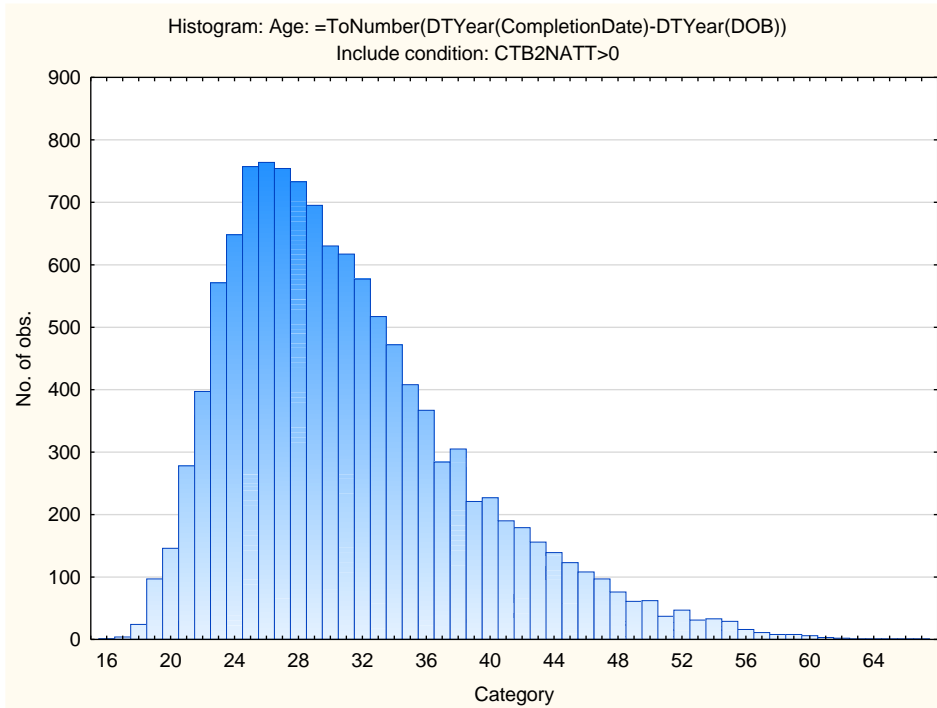
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	3416	3416	22.73847	22.7385
Tertiary Cert / Trade	2636	6052	17.54643	40.2849
Tertiary	2011	8063	13.38614	53.6710
Post Graduate	575	8638	3.82746	57.4985
< Matric	47	8685	0.31285	57.8114
Missing	6338	15023	42.18864	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1143	1143	7.60833	7.6083
African	5929	7072	39.46615	47.0745
Indian	305	7377	2.03022	49.1047
Asian	143	7520	0.95187	50.0566
European	769	8289	5.11882	55.1754
Missing	6734	15023	44.82460	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3915	3915	26.06004	26.0600
Afrikaans	743	4658	4.94575	31.0058
Setswana	524	5182	3.48799	34.4938
isiXhosa	1043	6225	6.94269	41.4365
Xitsonga	175	6400	1.16488	42.6013
Tshivenda	164	6564	1.09166	43.6930
isiZulu	1040	7604	6.92272	50.6157
Sepedi	479	8083	3.18844	53.8042
isiNdebele	75	8158	0.49923	54.3034
siSwati	54	8212	0.35945	54.6629
Sesotho	385	8597	2.56274	57.2256
Missing	6426	15023	42.77441	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3915	3915	26.06004	26.0600
Afrikaans	743	4658	4.94575	31.0058
Indigenous	3939	8597	26.21980	57.2256
Missing	6426	15023	42.77441	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.12063	7.483273	16.00000	69.00000	11921	3102



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	7349	7349	58.50183	58.5018
M	5164	12513	41.10810	99.6099
Missing	49	12562	0.39007	100.0000

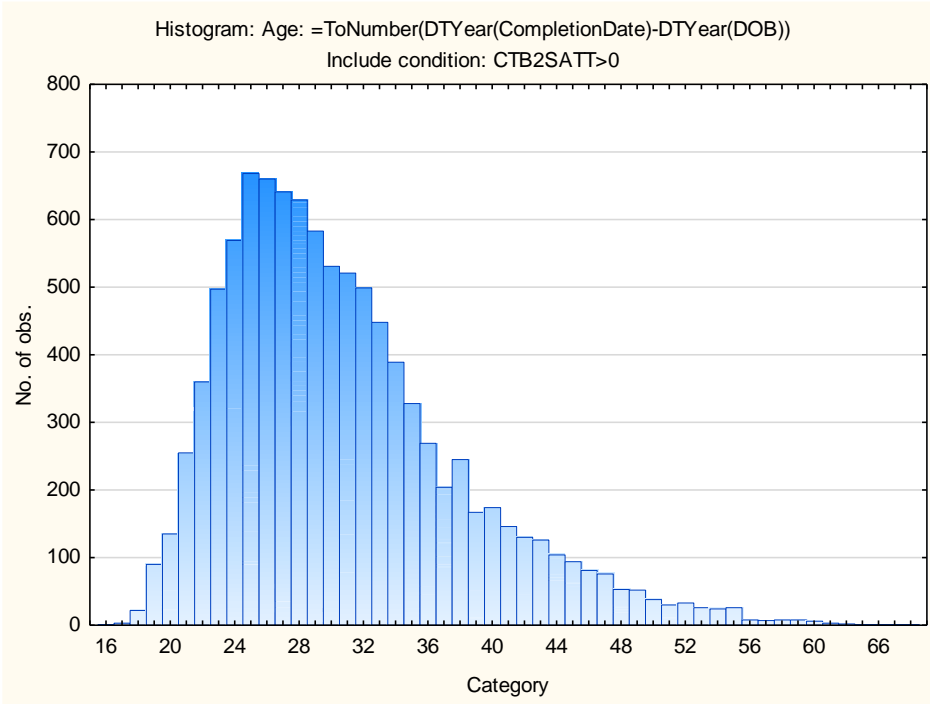
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	3124	3124	24.86865	24.8687
Tertiary Cert / Trade	2326	5450	18.51616	43.3848
Tertiary	1894	7344	15.07722	58.4620
Post Graduate	543	7887	4.32256	62.7846
< Matric	26	7913	0.20697	62.9916
Missing	4649	12562	37.00844	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	877	877	6.98137	6.9814
African	5521	6398	43.95001	50.9314
Indian	295	6693	2.34835	53.2797
Asian	118	6811	0.93934	54.2191
European	636	7447	5.06289	59.2820
Missing	5115	12562	40.71804	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3549	3549	28.25187	28.2519
Afrikaans	586	4135	4.66486	32.9167
Setswana	488	4623	3.88473	36.8015
isiXhosa	931	5554	7.41124	44.2127
Xitsonga	164	5718	1.30552	45.5182
Tshivenda	156	5874	1.24184	46.7601
isiZulu	958	6832	7.62617	54.3862
Sepedi	453	7285	3.60611	57.9924
isiNdebele	72	7357	0.57316	58.5655
siSwati	48	7405	0.38210	58.9476
Sesotho	328	7733	2.61105	61.5587
Missing	4829	12562	38.44133	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3549	3549	28.25187	28.2519
Afrikaans	586	4135	4.66486	32.9167
Indigenous	3598	7733	28.64194	61.5587
Missing	4829	12562	38.44133	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age:	30.73318	7.359916	16.00000	69.00000	9973	2589



Cronbach Coefficient Alpha for Clerical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.85
Numerical Reasoning Test	0.81
Spelling Test	0.79
Verbal Reasoning Test	0.97

Clerical Test Battery 2 (CTB2)

Reliability: SA English Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2493	2493	63.30625	63.3062
M	1432	3925	36.36364	99.6699
Missing	13	3938	0.33012	100.0000

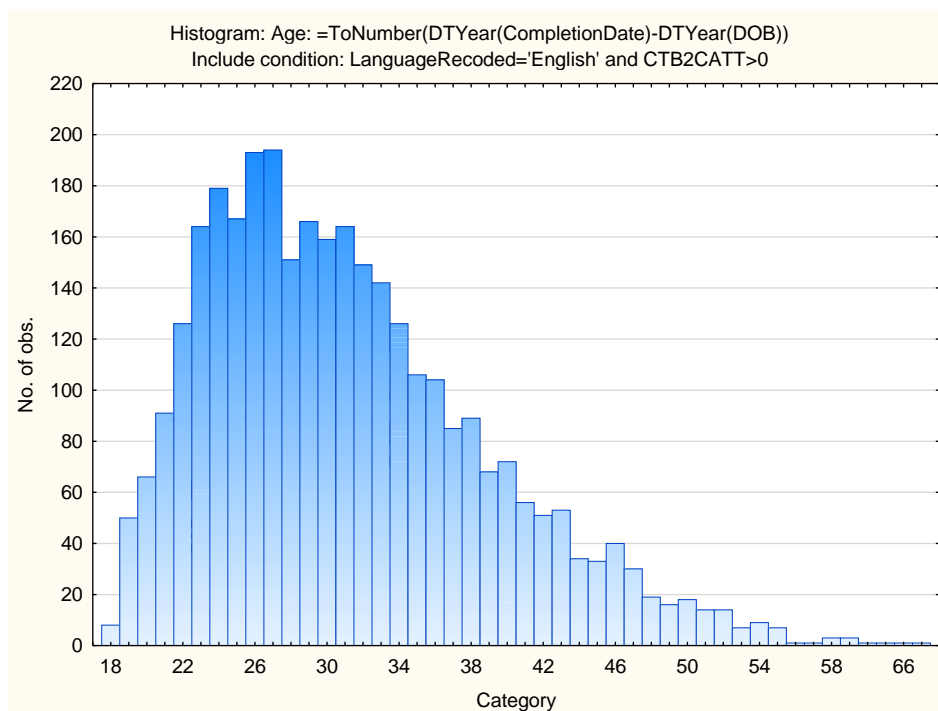
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1552	1552	39.41087	39.4109
Tertiary Cert / Trade	1054	2606	26.76486	66.1757
Tertiary	898	3504	22.80345	88.9792
Post Graduate	260	3764	6.60234	95.5815
< Matric	14	3778	0.35551	95.9370
Missing	160	3938	4.06298	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	890	890	22.60030	22.6003
African	1884	2774	47.84154	70.4418
Indian	303	3077	7.69426	78.1361
Asian	142	3219	3.60589	81.7420
European	353	3572	8.96394	90.7059
Missing	366	3938	9.29406	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3938	3938	100.0000	100.0000
Missing	0	3938	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3938	3938	100.0000	100.0000
Missing	0	3938	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.15563	7.764698	18.00000	68.00000	3232	706



Sample Composition: Numerical Subtest (CTB2N)

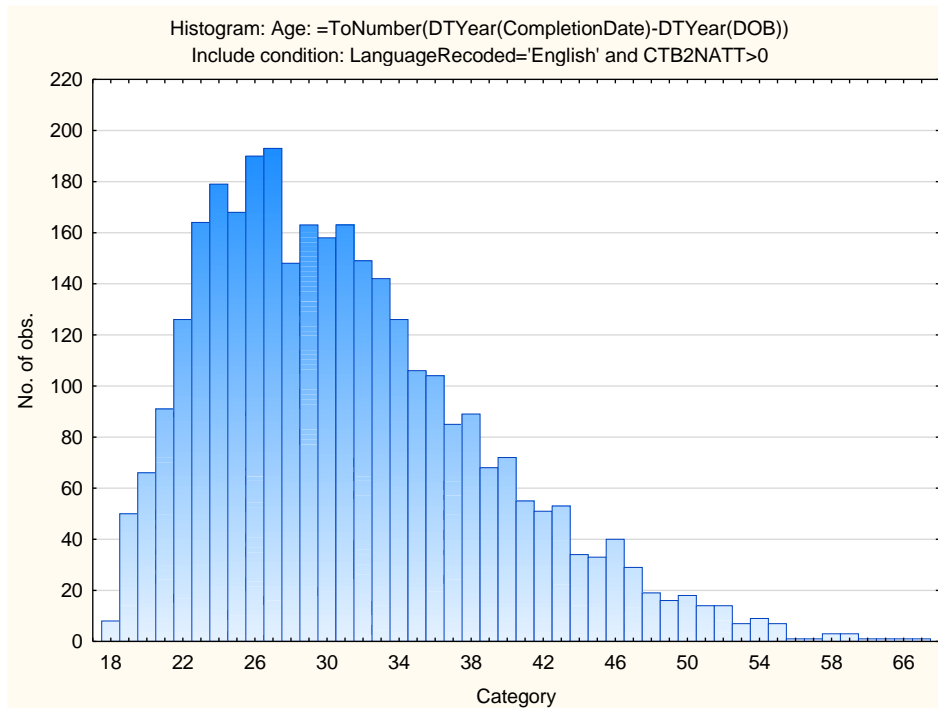
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2483	2483	63.42273	63.4227
M	1420	3903	36.27075	99.6935
Missing	12	3915	0.30651	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1547	1547	39.51469	39.5147
Tertiary Cert / Trade	1048	2595	26.76884	66.2835
Tertiary	890	3485	22.73308	89.0166
Post Graduate	256	3741	6.53895	95.5556
< Matric	14	3755	0.35760	95.9132
Missing	160	3915	4.08685	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	887	887	22.65645	22.6564
African	1874	2761	47.86718	70.5236
Indian	299	3060	7.63729	78.1609
Asian	140	3200	3.57599	81.7369
European	349	3549	8.91443	90.6513
Missing	366	3915	9.34866	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3915	3915	100.0000	100.0000
Missing	0	3915	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.15719	7.771329	18.00000	68.00000	3219	696



Sample Composition: Clerical Spelling Subtest (CTB2S)

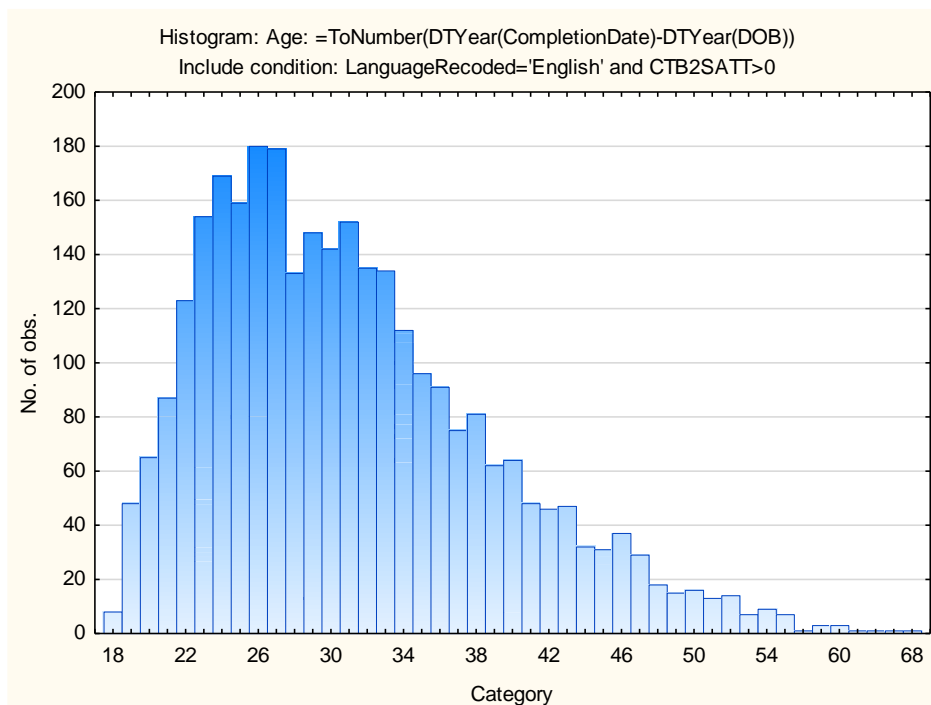
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2278	2278	64.18709	64.1871
M	1260	3538	35.50296	99.6901
Missing	11	3549	0.30995	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1403	1403	39.53226	39.5323
Tertiary Cert / Trade	933	2336	26.28910	65.8214
Tertiary	857	3193	24.14765	89.9690
Post Graduate	243	3436	6.84700	96.8160
< Matric	5	3441	0.14088	96.9569
Missing	108	3549	3.04311	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	689	689	19.41392	19.4139
African	1819	2508	51.25387	70.6678
Indian	290	2798	8.17132	78.8391
Asian	116	2914	3.26853	82.1076
European	287	3201	8.08679	90.1944
Missing	348	3549	9.80558	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3549	3549	100.0000	100.0000
Missing	0	3549	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.06080	7.837350	18.00000	68.00000	2977	572



Sample Composition: Verbal Subtest (CTB2V)

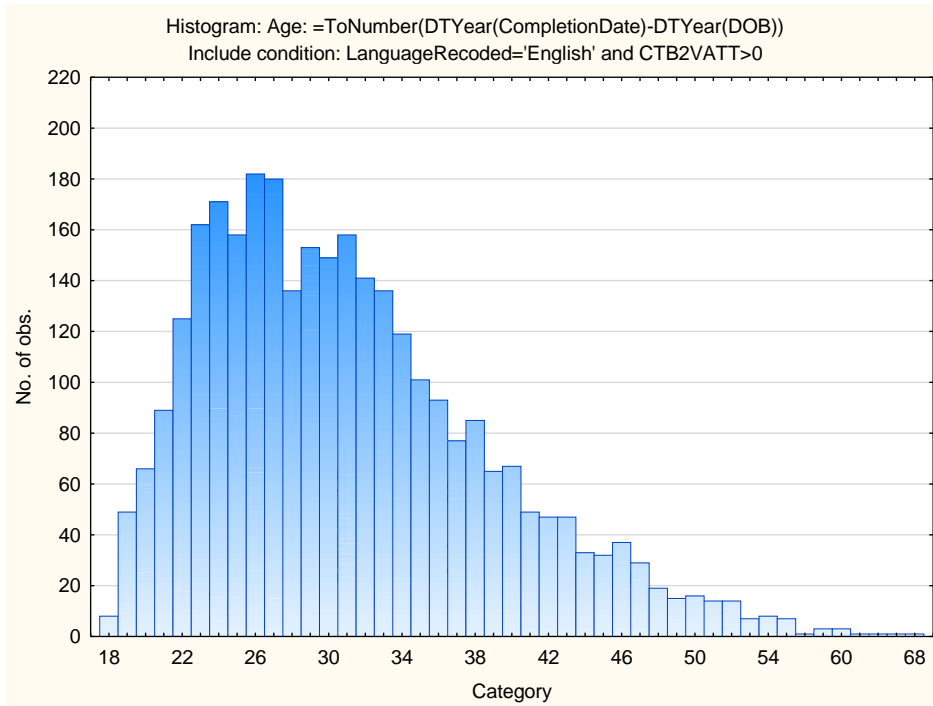
Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2341	2341	62.76139	62.7614
M	1377	3718	36.91689	99.6783
Missing	12	3730	0.32172	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1460	1460	39.14209	39.1421
Tertiary Cert / Trade	983	2443	26.35389	65.4960
Tertiary	870	3313	23.32440	88.8204
Post Graduate	244	3557	6.54155	95.3619
< Matric	13	3570	0.34853	95.7105
Missing	160	3730	4.28954	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	739	739	19.81233	19.8123
African	1864	2603	49.97319	69.7855
Indian	290	2893	7.77480	77.5603
Asian	132	3025	3.53887	81.0992
European	342	3367	9.16890	90.2681
Missing	363	3730	9.73190	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
English	3730	3730	100.0000	100.0000
Missing	0	3730	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.07267	7.799255	18.00000	68.00000	3055	675



Cronbach Coefficient Alpha for Clerical Test Battery Subtests

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.84
Numerical Reasoning Test	0.82
Spelling Test	0.77
Verbal Reasoning Test	0.94

Clerical Test Battery 2 (CTB2)

Reliability: SA Afrikaans Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	496	496	65.17740	65.1774
M	264	760	34.69120	99.8686
Missing	1	761	0.13141	100.0000

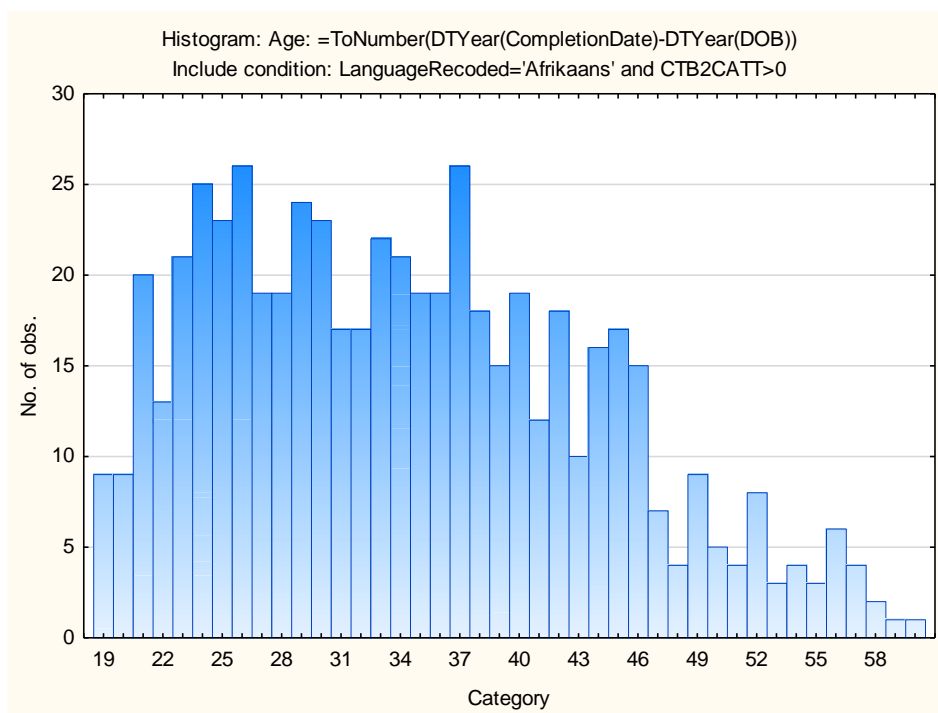
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	373	373	49.01445	49.0145
Tertiary Cert / Trade	208	581	27.33246	76.3469
Tertiary	93	674	12.22076	88.5677
Post Graduate	41	715	5.38765	93.9553
< Matric	10	725	1.31406	95.2694
Missing	36	761	4.73062	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	228	228	29.96058	29.9606
African	102	330	13.40342	43.3640
European	389	719	51.11695	94.4809
Missing	42	761	5.51905	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	761	761	100.0000	100.0000
Missing	0	761	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	761	761	100.0000	100.0000
Missing	0	761	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	34.34729	9.433971	19.00000	60.00000	573	188



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	485	485	65.27591	65.2759
M	257	742	34.58950	99.8654
Missing	1	743	0.13459	100.0000

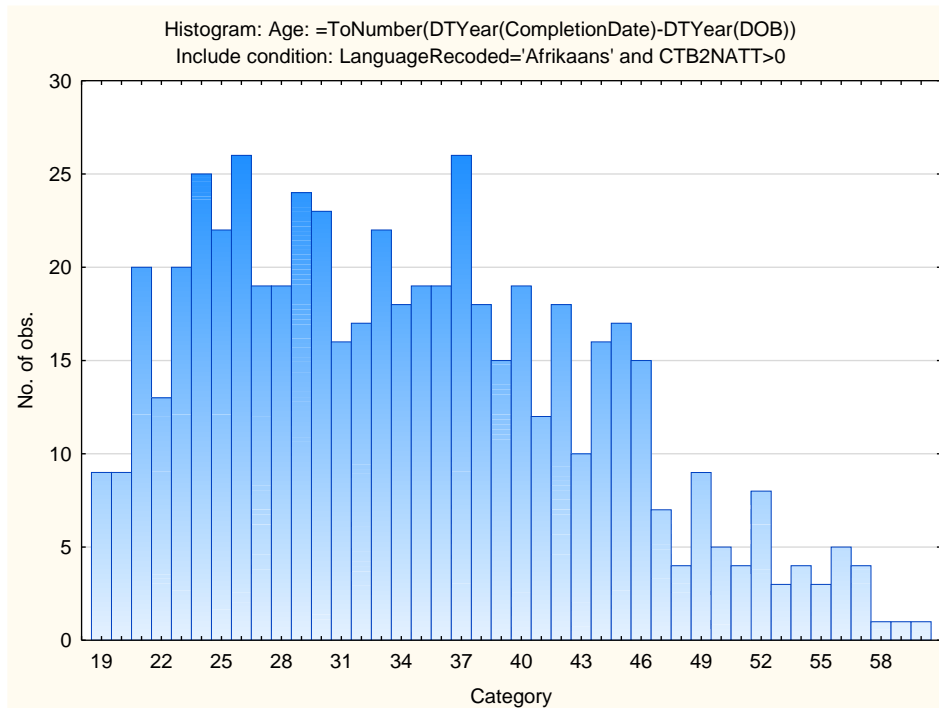
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	367	367	49.39435	49.3943
Tertiary Cert / Trade	202	569	27.18708	76.5814
Tertiary	89	658	11.97847	88.5599
Post Graduate	39	697	5.24899	93.8089
< Matric	10	707	1.34590	95.1548
Missing	36	743	4.84522	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	221	221	29.74428	29.7443
African	102	323	13.72813	43.4724
European	378	701	50.87483	94.3472
Missing	42	743	5.65276	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	743	743	100.0000	100.0000
Missing	0	743	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	743	743	100.0000	100.0000
Missing	0	743	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	34.31150	9.382643	19.00000	60.00000	565	178



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	401	401	68.43003	68.4300
M	184	585	31.39932	99.8294
Missing	1	586	0.17065	100.0000

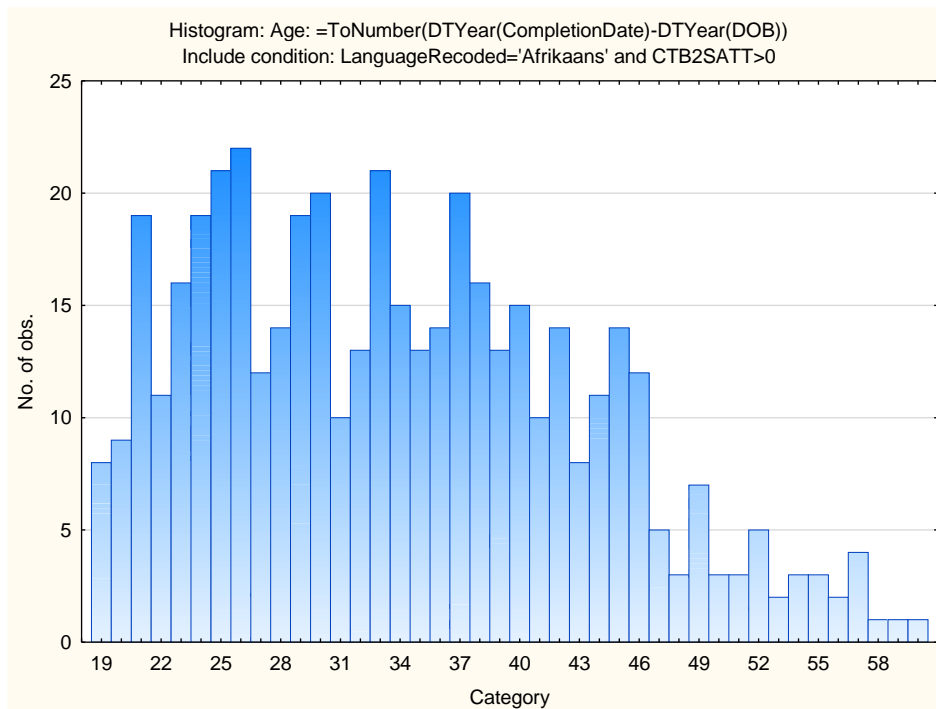
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	297	297	50.68259	50.6826
Tertiary Cert / Trade	138	435	23.54949	74.2321
Tertiary	78	513	13.31058	87.5427
Post Graduate	37	550	6.31399	93.8567
< Matric	6	556	1.02389	94.8805
Missing	30	586	5.11945	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	153	153	26.10922	26.1092
African	82	235	13.99317	40.1024
European	310	545	52.90102	93.0034
Missing	41	586	6.99659	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	586	586	100.0000	100.0000
Missing	0	586	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	586	586	100.0000	100.0000
Missing	0	586	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	33.95354	9.387923	19.00000	60.00000	452	134



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	417	417	64.55108	64.5511
M	228	645	35.29412	99.8452
Missing	1	646	0.15480	100.0000

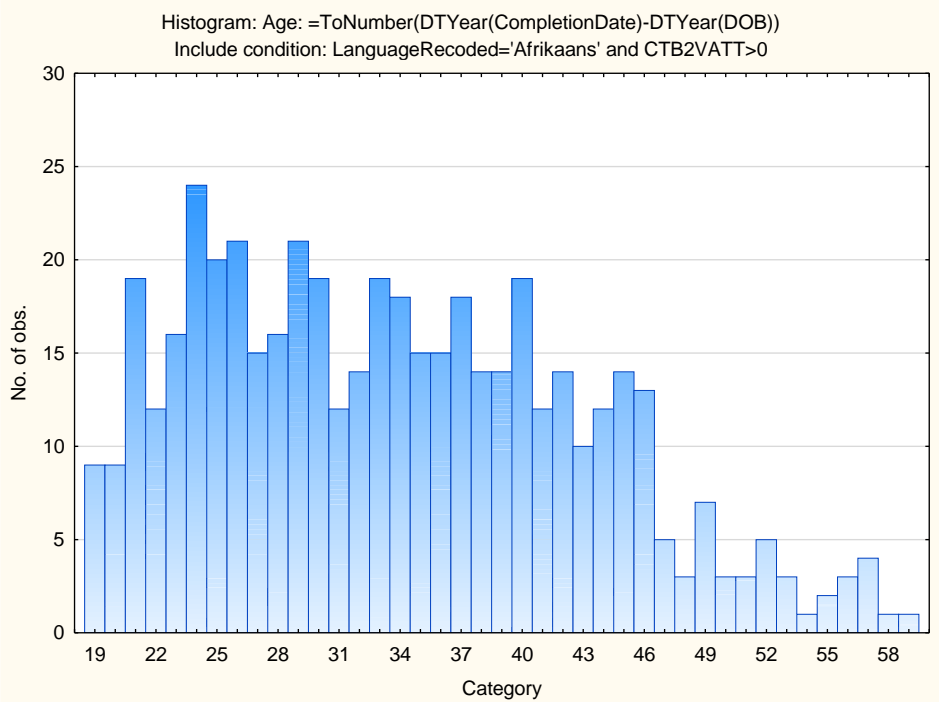
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	315	315	48.76161	48.7616
Tertiary Cert / Trade	171	486	26.47059	75.2322
Tertiary	82	568	12.69350	87.9257
Post Graduate	34	602	5.26316	93.1889
< Matric	8	610	1.23839	94.4272
Missing	36	646	5.57276	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	165	165	25.54180	25.5418
African	98	263	15.17028	40.7121
European	343	606	53.09598	93.8080
Missing	40	646	6.19195	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	646	646	100.0000	100.0000
Missing	0	646	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Afrikaans	646	646	100.0000	100.0000
Missing	0	646	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	33.79368	9.224552	19.00000	60.00000	475	171



Cronbach Coefficient Alpha for Clerical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.85
Numerical Reasoning Test	0.83
Spelling Test	0.80
Verbal Reasoning Test	0.97

Clerical Test Battery (CTB2)

Reliability: South Africans, Indigenous Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately for the three tests.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2449	2449	61.87468	61.8747
M	1505	3954	38.02425	99.8989
Missing	4	3958	0.10106	100.0000

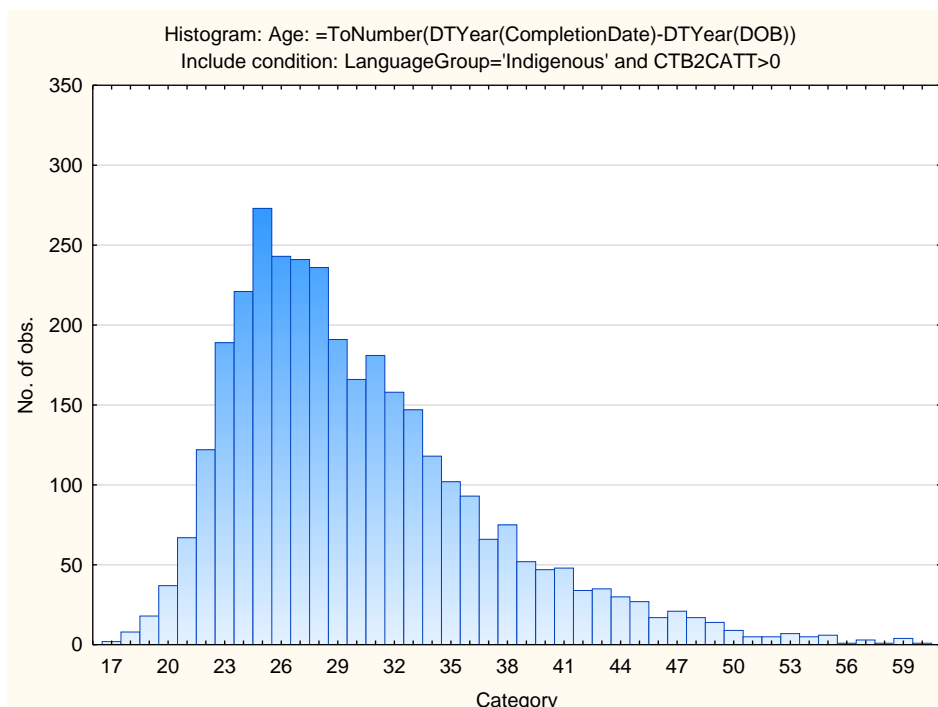
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1411	1411	35.64932	35.6493
Tertiary Cert / Trade	1274	2685	32.18797	67.8373
Tertiary	893	3578	22.56190	90.3992
Post Graduate	240	3818	6.06367	96.4629
< Matric	23	3841	0.58110	97.0440
Missing	117	3958	2.95604	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	21	21	0.53057	0.5306
African	3821	3842	96.53866	97.0692
Asian	2	3844	0.05053	97.1198
European	2	3846	0.05053	97.1703
Missing	112	3958	2.82971	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	528	528	13.34007	13.3401
isiXhosa	1046	1574	26.42749	39.7676
Xitsonga	176	1750	4.44669	44.2142
Tshivenda	165	1915	4.16877	48.3830
isiZulu	1045	2960	26.40222	74.7852
Sepedi	483	3443	12.20313	86.9884
isiNdebele	75	3518	1.89490	88.8833
siSwati	54	3572	1.36433	90.2476
Sesotho	386	3958	9.75240	100.0000
Missing	0	3958	0.00000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	3958	3958	100.0000	100.0000
Missing	0	3958	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.10859	6.806191	17.00000	62.00000	3343	615



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2436	2436	61.84311	61.8431
M	1499	3935	38.05534	99.8985
Missing	4	3939	0.10155	100.0000

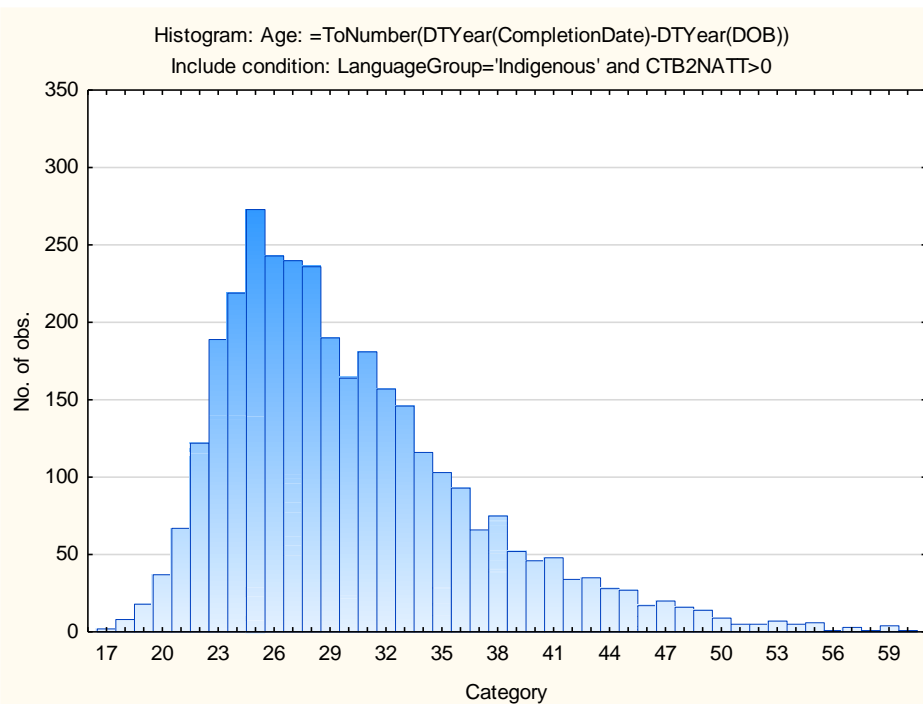
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1402	1402	35.59279	35.5928
Tertiary Cert / Trade	1269	2671	32.21630	67.8091
Tertiary	892	3563	22.64534	90.4544
Post Graduate	237	3800	6.01676	96.4712
< Matric	23	3823	0.58390	97.0551
Missing	116	3939	2.94491	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	21	21	0.53313	0.5331
African	3802	3823	96.52196	97.0551
Asian	2	3825	0.05077	97.1059
European	2	3827	0.05077	97.1566
Missing	112	3939	2.84336	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	524	524	13.30287	13.3029
isiXhosa	1043	1567	26.47880	39.7817
Xitsonga	175	1742	4.44275	44.2244
Tshivenda	164	1906	4.16349	48.3879
isiZulu	1040	2946	26.40264	74.7906
Sepedi	479	3425	12.16045	86.9510
isiNdebele	75	3500	1.90404	88.8550
siSwati	54	3554	1.37091	90.2259
Sesotho	385	3939	9.77405	100.0000
Missing	0	3939	0.00000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	3939	3939	100.0000	100.0000
Missing	0	3939	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.08952	6.794134	17.00000	62.00000	3329	610



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2213	2213	61.50639	61.5064
M	1381	3594	38.38243	99.8888
Missing	4	3598	0.11117	100.0000

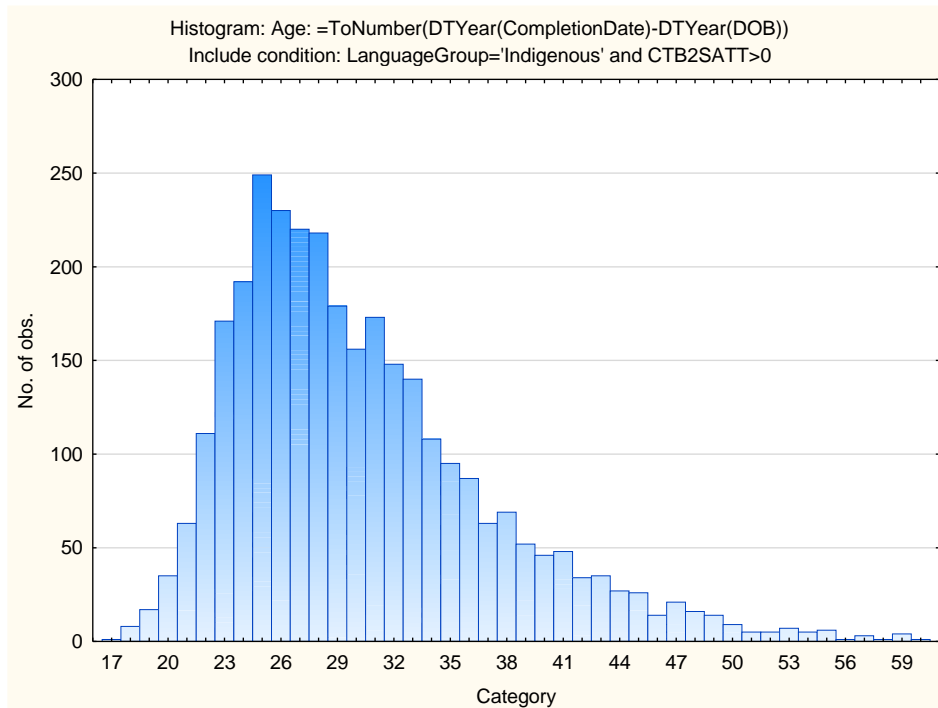
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1324	1324	36.79822	36.7982
Tertiary Cert / Trade	1142	2466	31.73986	68.5381
Tertiary	820	3286	22.79044	91.3285
Post Graduate	220	3506	6.11451	97.4430
< Matric	15	3521	0.41690	97.8599
Missing	77	3598	2.14008	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	21	21	0.58366	0.5837
African	3470	3491	96.44247	97.0261
Asian	2	3493	0.05559	97.0817
European	2	3495	0.05559	97.1373
Missing	103	3598	2.86270	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	488	488	13.56309	13.5631
isiXhosa	931	1419	25.87549	39.4386
Xitsonga	164	1583	4.55809	43.9967
Tshivenda	156	1739	4.33574	48.3324
isiZulu	958	2697	26.62590	74.9583
Sepedi	453	3150	12.59033	87.5486
isiNdebele	72	3222	2.00111	89.5497
siSwati	48	3270	1.33407	90.8838
Sesotho	328	3598	9.11618	100.0000
Missing	0	3598	0.00000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	3598	3598	100.0000	100.0000
Missing	0	3598	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.24157	6.871721	17.00000	62.00000	3113	485



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	2302	2302	61.60021	61.6002
M	1431	3733	38.29275	99.8930
Missing	4	3737	0.10704	100.0000

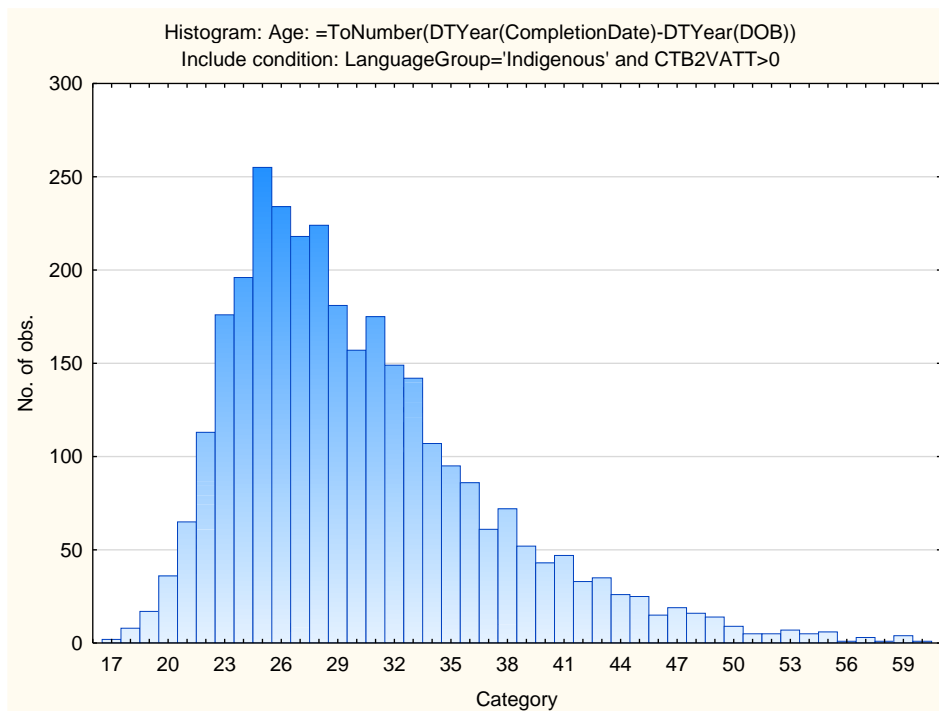
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	1351	1351	36.15199	36.1520
Tertiary Cert / Trade	1193	2544	31.92400	68.0760
Tertiary	835	3379	22.34413	90.4201
Post Graduate	222	3601	5.94059	96.3607
< Matric	20	3621	0.53519	96.8959
Missing	116	3737	3.10409	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	21	21	0.56195	0.5619
African	3600	3621	96.33396	96.8959
Asian	2	3623	0.05352	96.9494
European	2	3625	0.05352	97.0029
Missing	112	3737	2.99706	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	499	499	13.35296	13.3530
isiXhosa	962	1461	25.74257	39.0955
Xitsonga	168	1629	4.49558	43.5911
Tshivenda	153	1782	4.09419	47.6853
isiZulu	1012	2794	27.08055	74.7659
Sepedi	458	3252	12.25582	87.0217
isiNdebele	73	3325	1.95344	88.9751
siSwati	52	3377	1.39149	90.3666
Sesotho	360	3737	9.63340	100.0000
Missing	0	3737	0.00000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	3737	3737	100.0000	100.0000
Missing	0	3737	0.0000	100.0000

Variable	Descriptive Statistics					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.15664	6.841773	17.00000	62.00000	3141	596



Cronbach Coefficient Alpha for Clerical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.82
Numerical Reasoning Test	0.75
Spelling Test	0.75
Verbal Reasoning Test	0.94

Clerical Test Battery (CTB2)

Reliability: SA isiXhosa Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	692	692	66.15679	66.1568
M	354	1046	33.84321	100.0000
Missing	0	1046	0.00000	100.0000

Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	393	393	37.57170	37.5717
Tertiary Cert / Trade	329	722	31.45315	69.0249
Tertiary	253	975	24.18738	93.2122
Post Graduate	46	1021	4.39771	97.6099
< Matric	5	1026	0.47801	98.0880
Missing	20	1046	1.91205	100.0000

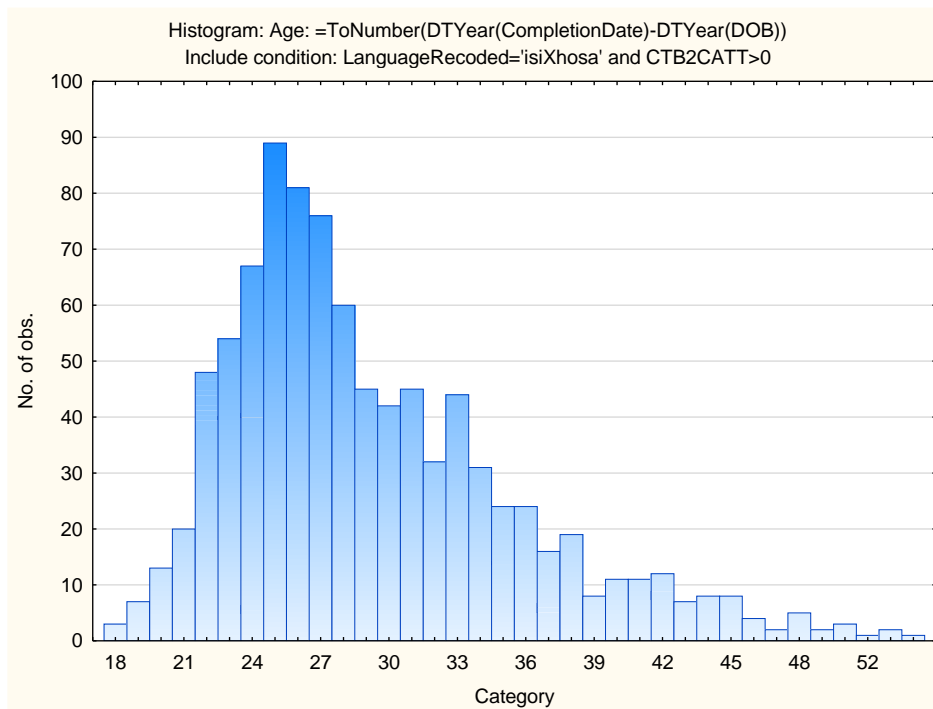
Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	0.57361	0.5736
African	1002	1008	95.79350	96.3671
Asian	2	1010	0.19120	96.5583
European	1	1011	0.09560	96.6539
Missing	35	1046	3.34608	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	1046	1046	100.0000	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Missing	0	1046	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1046	1046	100.0000	100.0000
Missing	0	1046	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.23568	6.368604	18.00000	55.00000	925	121



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	689	689	66.05944	66.0594
M	354	1043	33.94056	100.0000
Missing	0	1043	0.00000	100.0000

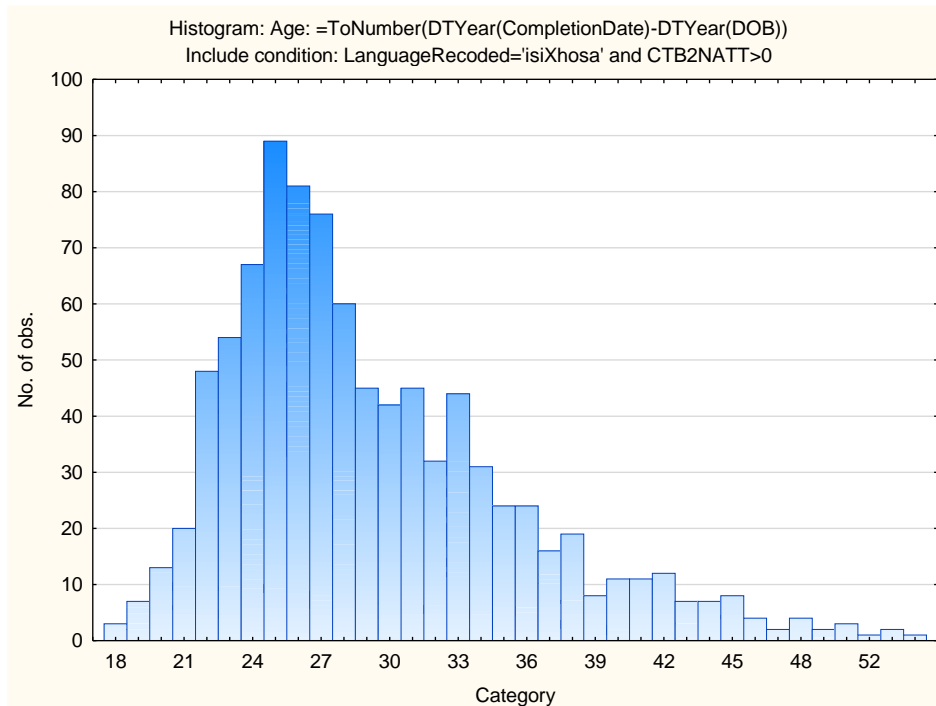
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	391	391	37.48802	37.4880
Tertiary Cert / Trade	329	720	31.54362	69.0316
Tertiary	253	973	24.25695	93.2886
Post Graduate	45	1018	4.31448	97.6031
< Matric	5	1023	0.47939	98.0825
Missing	20	1043	1.91755	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	0.57526	0.5753
African	999	1005	95.78140	96.3567
Asian	2	1007	0.19175	96.5484
European	1	1008	0.09588	96.6443
Missing	35	1043	3.35570	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	1043	1043	100.0000	100.0000
Missing	0	1043	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1043	1043	100.0000	100.0000
Missing	0	1043	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.19935	6.326726	18.00000	55.00000	923	120



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	605	605	64.98389	64.9839
M	326	931	35.01611	100.0000
Missing	0	931	0.00000	100.0000

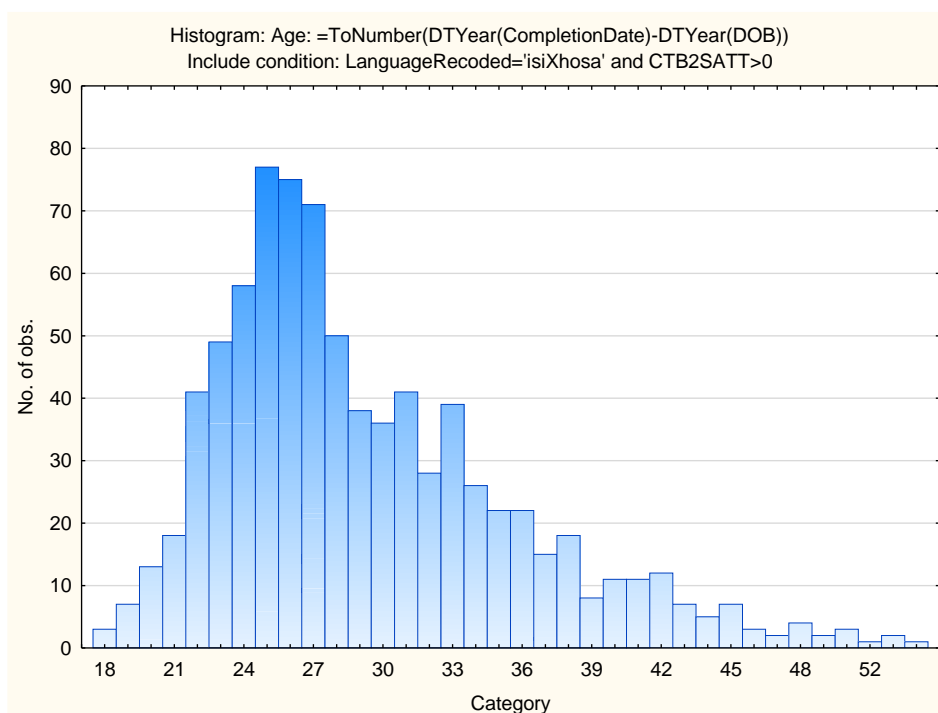
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	364	364	39.09774	39.0977
Tertiary Cert / Trade	290	654	31.14930	70.2470
Tertiary	220	874	23.63050	93.8776
Post Graduate	39	913	4.18904	98.0666
< Matric	4	917	0.42965	98.4962
Missing	14	931	1.50376	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	0.64447	0.6445
African	895	901	96.13319	96.7777
Asian	2	903	0.21482	96.9925
European	1	904	0.10741	97.0999
Missing	27	931	2.90011	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	931	931	100.0000	100.0000
Missing	0	931	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	931	931	100.0000	100.0000
Missing	0	931	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age:	29.28208	6.433932	18.00000	55.00000	826	105



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	626	626	65.07277	65.0728
M	336	962	34.92723	100.0000
Missing	0	962	0.00000	100.0000

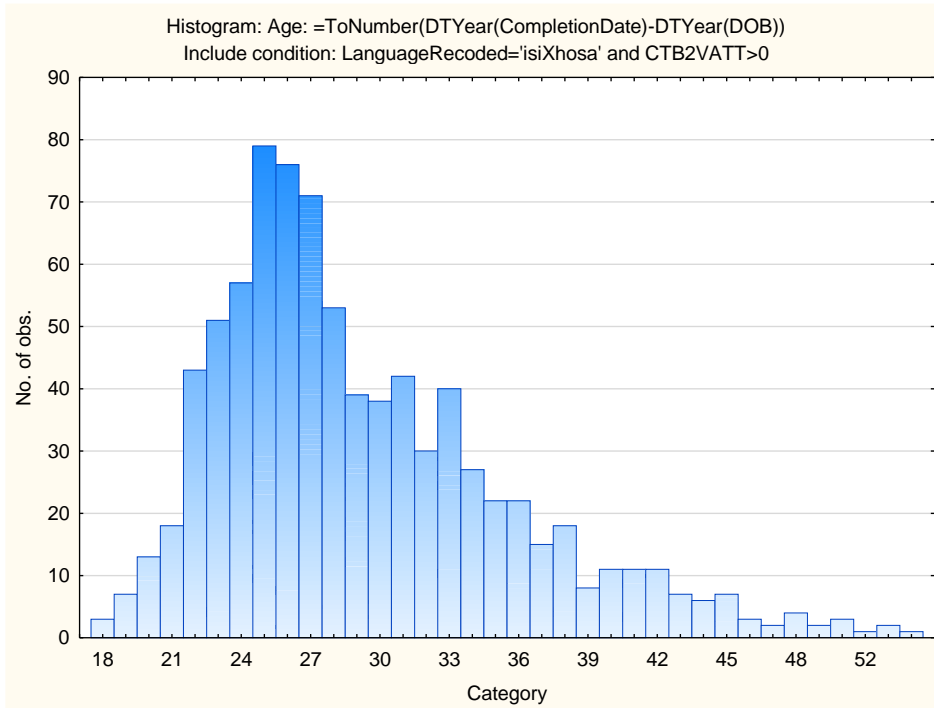
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	374	374	38.87734	38.8773
Tertiary Cert / Trade	300	674	31.18503	70.0624
Tertiary	224	898	23.28482	93.3472
Post Graduate	40	938	4.15800	97.5052
< Matric	4	942	0.41580	97.9210
Missing	20	962	2.07900	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	0.62370	0.6237
African	918	924	95.42620	96.0499
Asian	2	926	0.20790	96.2578
European	1	927	0.10395	96.3617
Missing	35	962	3.63825	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiXhosa	962	962	100.0000	100.0000
Missing	0	962	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	962	962	100.0000	100.0000
Missing	0	962	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.25979	6.398310	18.00000	55.00000	843	119



Cronbach Coefficient Alpha for Clerical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.82
Numerical Reasoning Test	0.74
Spelling Test	0.72
Verbal Reasoning Test	0.93

Clerical Test Battery (CTB2)

Reliability: SA isiZulu Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	681	681	65.16746	65.1675
M	364	1045	34.83254	100.0000
Missing	0	1045	0.00000	100.0000

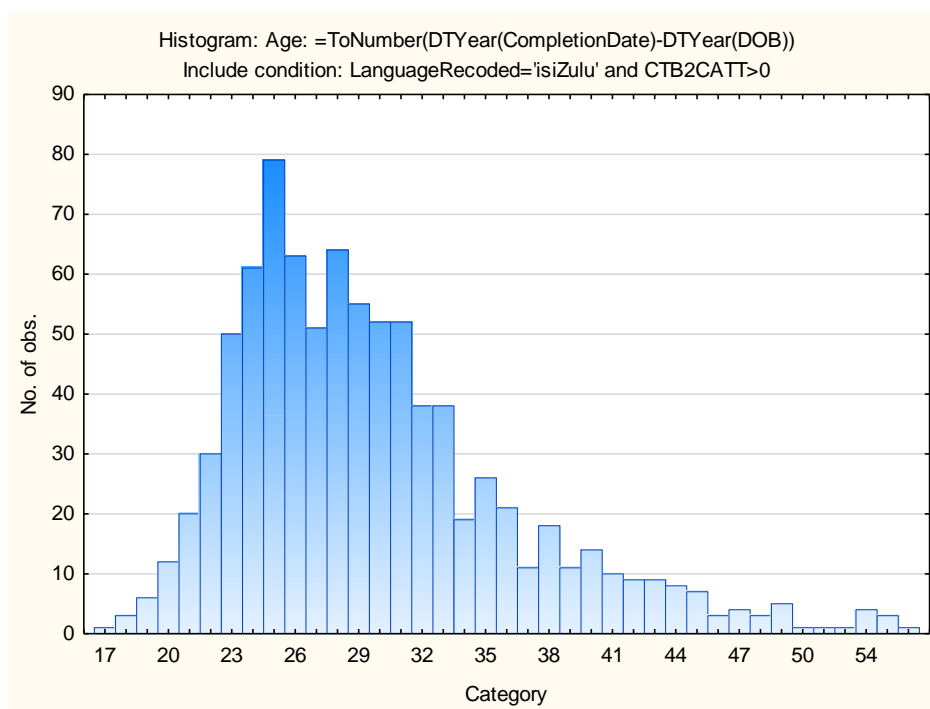
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	417	417	39.90431	39.9043
Tertiary Cert / Trade	312	729	29.85646	69.7608
Tertiary	208	937	19.90431	89.6651
Post Graduate	67	1004	6.41148	96.0766
< Matric	7	1011	0.66986	96.7464
Missing	34	1045	3.25359	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	5	5	0.47847	0.4785
African	1001	1006	95.78947	96.2679
Missing	39	1045	3.73206	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	1045	1045	100.0000	100.0000
Missing	0	1045	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1045	1045	100.0000	100.0000
Missing	0	1045	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.72454	6.717477	17.00000	59.00000	864	181



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	677	677	65.09615	65.0962
M	363	1040	34.90385	100.0000
Missing	0	1040	0.00000	100.0000

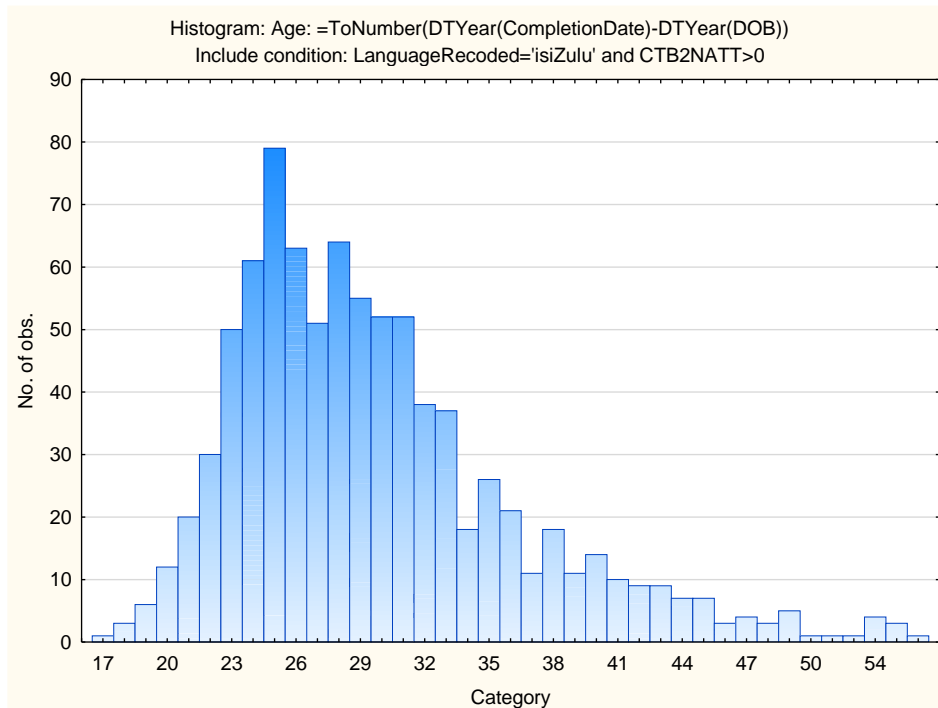
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	414	414	39.80769	39.8077
Tertiary Cert / Trade	310	724	29.80769	69.6154
Tertiary	208	932	20.00000	89.6154
Post Graduate	67	999	6.44231	96.0577
< Matric	7	1006	0.67308	96.7308
Missing	34	1040	3.26923	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	5	5	0.48077	0.4808
African	996	1001	95.76923	96.2500
Missing	39	1040	3.75000	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	1040	1040	100.0000	100.0000
Missing	0	1040	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1040	1040	100.0000	100.0000
Missing	0	1040	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.69919	6.708992	17.00000	59.00000	861	179



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	620	620	64.71816	64.7182
M	338	958	35.28184	100.0000
Missing	0	958	0.00000	100.0000

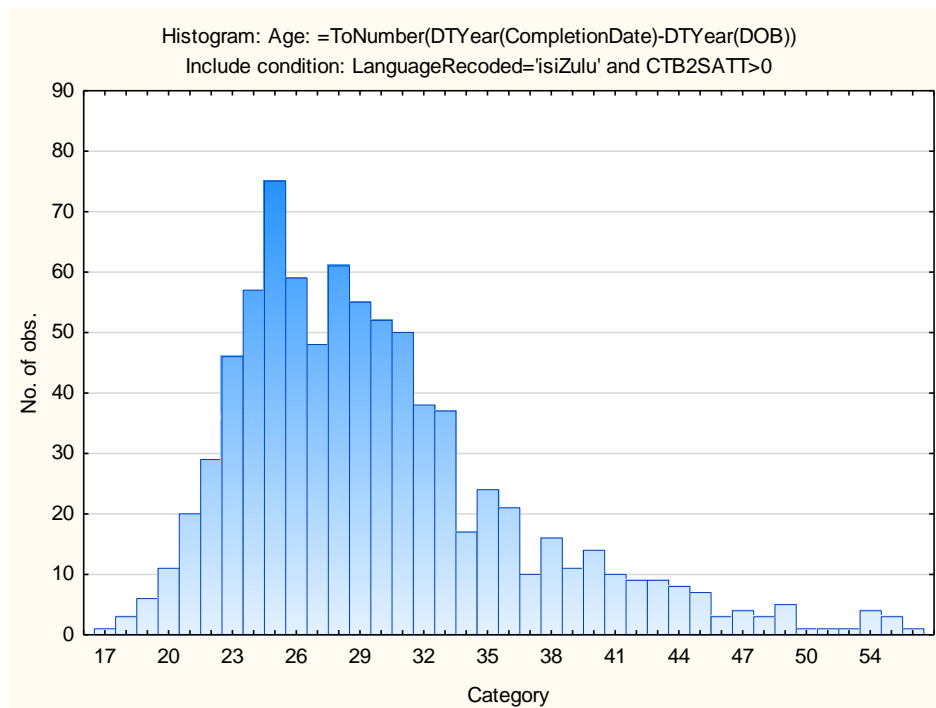
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	392	392	40.91858	40.9186
Tertiary Cert / Trade	282	674	29.43633	70.3549
Tertiary	203	877	21.18998	91.5449
Post Graduate	60	937	6.26305	97.8079
< Matric	2	939	0.20877	98.0167
Missing	19	958	1.98330	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	5	5	0.52192	0.5219
African	914	919	95.40710	95.9290
Missing	39	958	4.07098	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	958	958	100.0000	100.0000
Missing	0	958	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	958	958	100.0000	100.0000
Missing	0	958	0.0000	100.0000

Variable	Descriptive Statistics: Ae					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.80361	6.770313	17.00000	59.00000	830	128



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	657	657	64.92095	64.9209
M	355	1012	35.07905	100.0000
Missing	0	1012	0.00000	100.0000

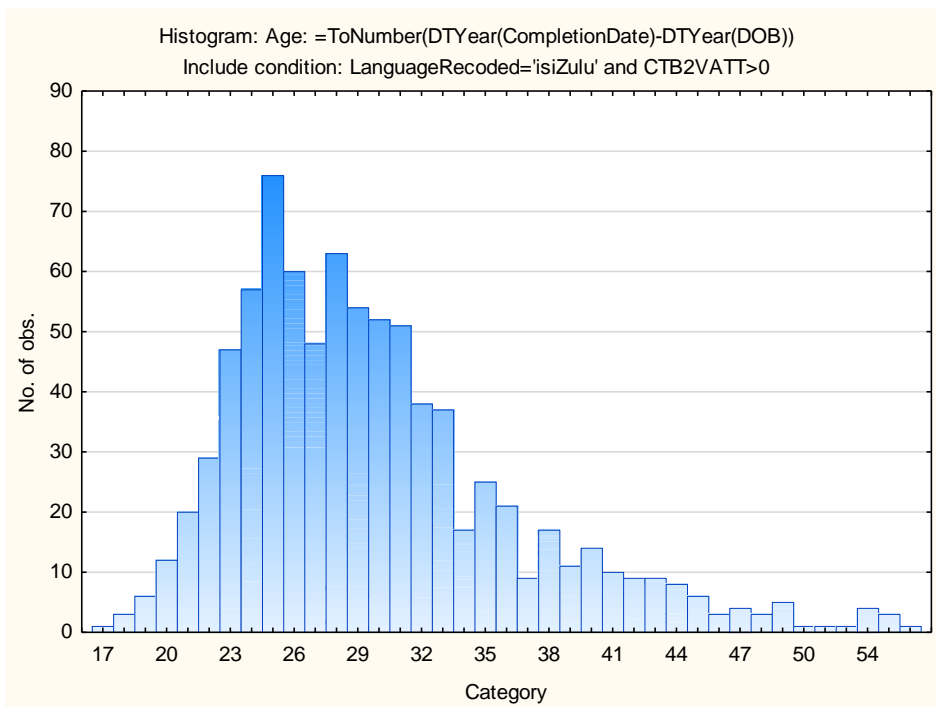
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	412	412	40.71146	40.7115
Tertiary Cert / Trade	294	706	29.05138	69.7628
Tertiary	204	910	20.15810	89.9209
Post Graduate	61	971	6.02767	95.9486
< Matric	7	978	0.69170	96.6403
Missing	34	1012	3.35968	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	5	5	0.49407	0.4941
African	968	973	95.65217	96.1462
Missing	39	1012	3.85375	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
isiZulu	1012	1012	100.0000	100.0000
Missing	0	1012	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	1012	1012	100.0000	100.0000
Missing	0	1012	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	29.76077	6.745693	17.00000	59.00000	836	176



Cronbach Coefficient Alpha for Clerical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.83
Numerical Reasoning Test	0.77
Spelling Test	0.74
Verbal Reasoning Test	0.95

Clerical Test Battery (CTB2)

Reliability: SA Sepedi Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	270	270	55.90062	55.9006
M	210	480	43.47826	99.3789
Missing	3	483	0.62112	100.0000

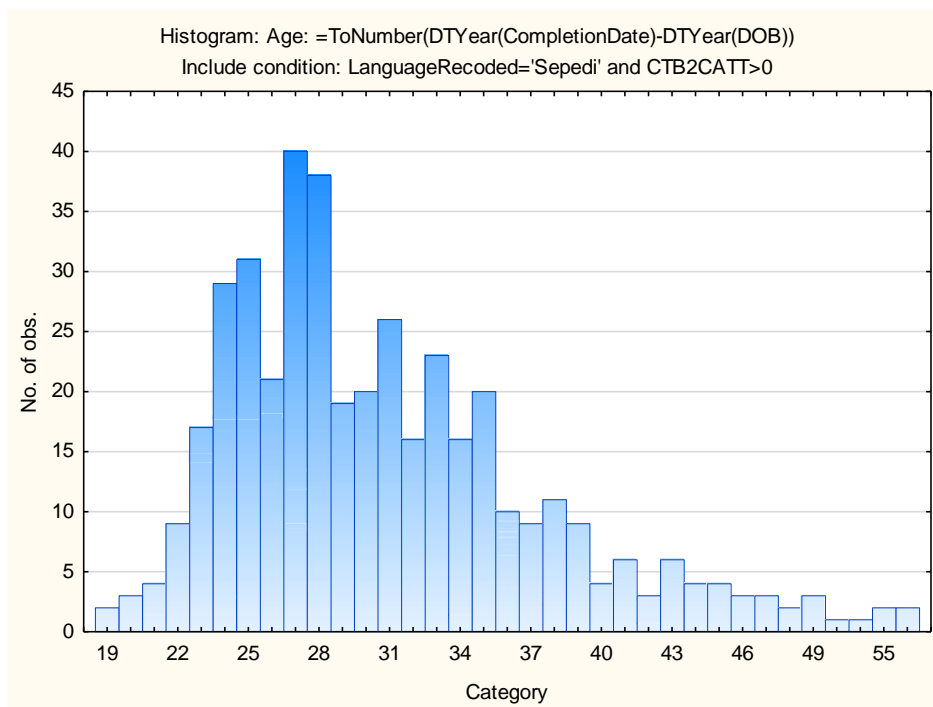
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	105	105	21.73913	21.7391
Tertiary Cert / Trade	179	284	37.06004	58.7992
Tertiary	140	424	28.98551	87.7847
Post Graduate	42	466	8.69565	96.4803
< Matric	1	467	0.20704	96.6874
Missing	16	483	3.31263	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.20704	0.2070
African	471	472	97.51553	97.7226
Missing	11	483	2.27743	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	483	483	100.0000	100.0000
Missing	0	483	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	483	483	100.0000	100.0000
Missing	0	483	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.85132	6.833314	19.00000	59.00000	417	66



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	268	268	55.94990	55.9499
M	208	476	43.42380	99.3737
Missing	3	479	0.62630	100.0000

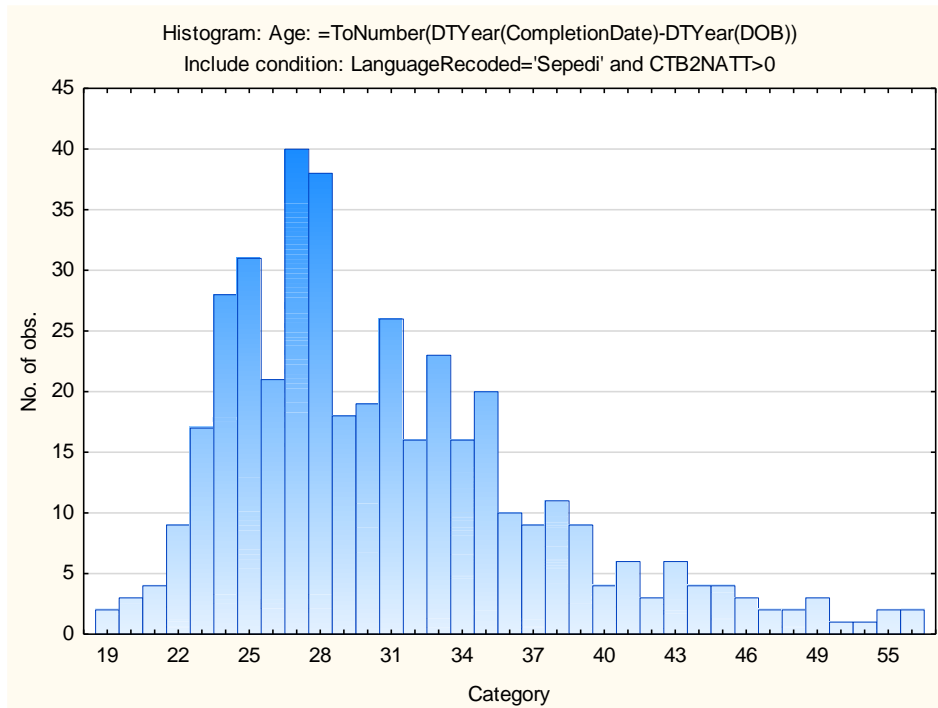
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	104	104	21.71190	21.7119
Tertiary Cert / Trade	179	283	37.36952	59.0814
Tertiary	139	422	29.01879	88.1002
Post Graduate	41	463	8.55950	96.6597
< Matric	1	464	0.20877	96.8685
Missing	15	479	3.13152	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.20877	0.2088
African	467	468	97.49478	97.7035
Missing	11	479	2.29645	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	479	479	100.0000	100.0000
Missing	0	479	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	479	479	100.0000	100.0000
Missing	0	479	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.83535	6.811043	19.00000	59.00000	413	66



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	253	253	55.84989	55.8499
M	197	450	43.48786	99.3377
Missing	3	453	0.66225	100.0000

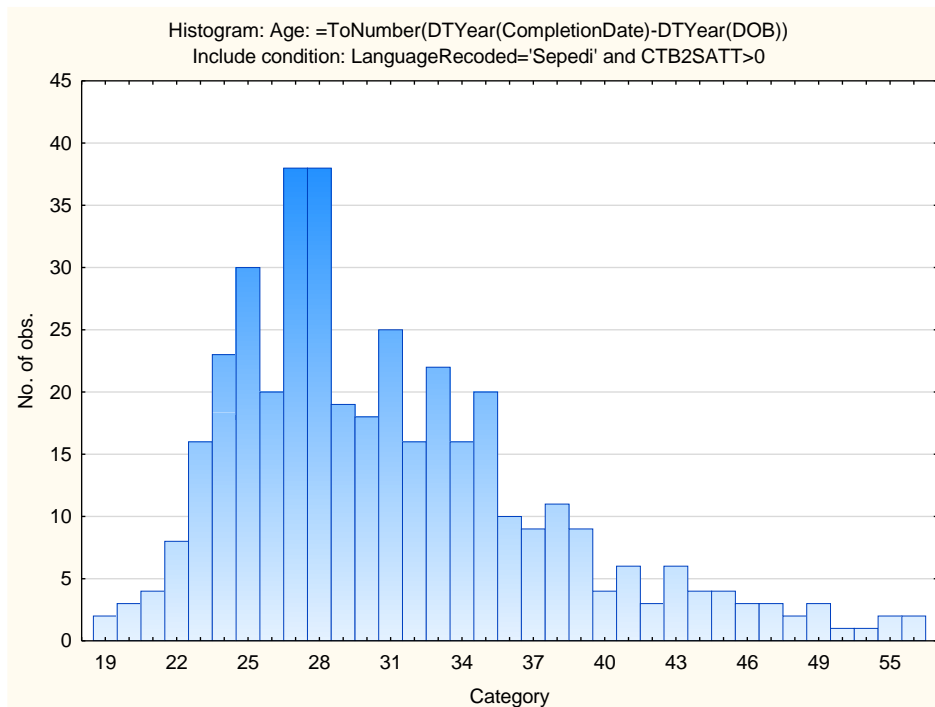
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	101	101	22.29581	22.2958
Tertiary Cert / Trade	169	270	37.30684	59.6026
Tertiary	130	400	28.69757	88.3002
Post Graduate	41	441	9.05077	97.3510
< Matric	1	442	0.22075	97.5717
Missing	11	453	2.42826	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.22075	0.2208
African	441	442	97.35099	97.5717
Missing	11	453	2.42826	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	453	453	100.0000	100.0000
Missing	0	453	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	453	453	100.0000	100.0000
Missing	0	453	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.03990	6.873020	19.00000	59.00000	401	52



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	256	256	55.89520	55.8952
M	199	455	43.44978	99.3450
Missing	3	458	0.65502	100.0000

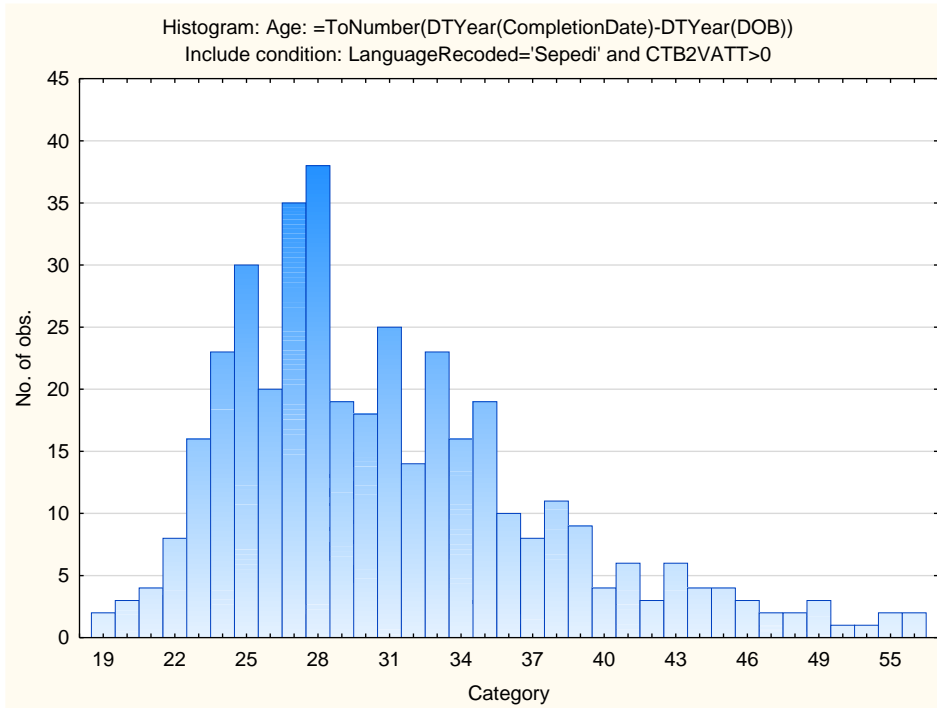
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	99	99	21.61572	21.6157
Tertiary Cert / Trade	171	270	37.33624	58.9520
Tertiary	132	402	28.82096	87.7729
Post Graduate	41	443	8.95197	96.7249
Missing	15	458	3.27511	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.21834	0.2183
African	446	447	97.37991	97.5983
Missing	11	458	2.40175	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sepedi	458	458	100.0000	100.0000
Missing	0	458	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	458	458	100.0000	100.0000
Missing	0	458	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.00508	6.868816	19.00000	59.00000	394	64



Cronbach Coefficient Alpha for Clerical Test Battery Subtests

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.80
Numerical Reasoning Test	0.74
Spelling Test	0.74
Verbal Reasoning Test	0.92

Clerical Test Battery (CTB2)

Reliability: SA Sesotho Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	222	222	57.51295	57.5130
M	164	386	42.48705	100.0000
Missing	0	386	0.00000	100.0000

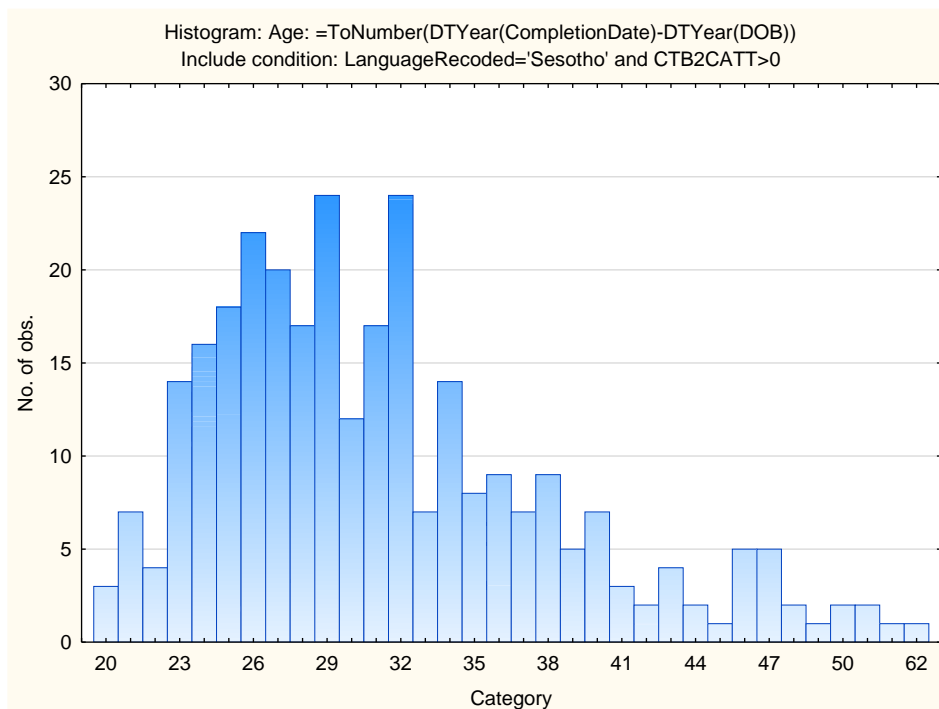
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	161	161	41.70984	41.7098
Tertiary Cert / Trade	107	268	27.72021	69.4301
Tertiary	60	328	15.54404	84.9741
Post Graduate	20	348	5.18135	90.1554
< Matric	6	354	1.55440	91.7098
Missing	32	386	8.29016	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2	2	0.51813	0.5181
African	380	382	98.44560	98.9637
Missing	4	386	1.03627	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sesotho	386	386	100.0000	100.0000
Missing	0	386	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	386	386	100.0000	100.0000
Missing	0	386	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.27458	7.220709	20.00000	62.00000	295	91



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	223	223	57.92208	57.9221
M	162	385	42.07792	100.0000
Missing	0	385	0.00000	100.0000

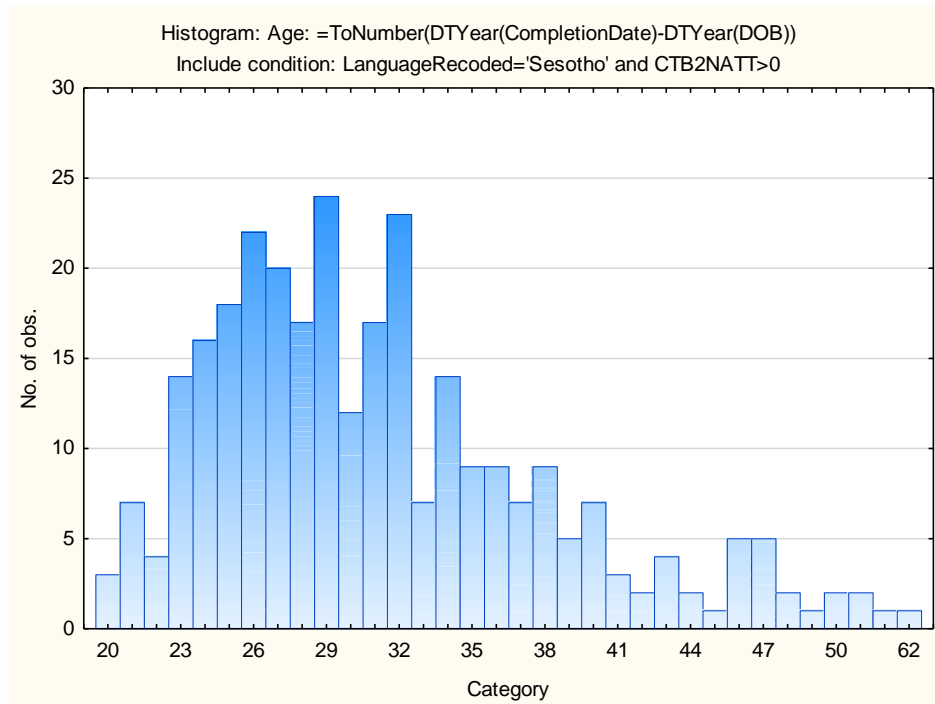
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	160	160	41.55844	41.5584
Tertiary Cert / Trade	107	267	27.79221	69.3506
Tertiary	61	328	15.84416	85.1948
Post Graduate	19	347	4.93506	90.1299
< Matric	6	353	1.55844	91.6883
Missing	32	385	8.31169	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2	2	0.51948	0.5195
African	379	381	98.44156	98.9610
Missing	4	385	1.03896	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sesotho	385	385	100.0000	100.0000
Missing	0	385	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	385	385	100.0000	100.0000
Missing	0	385	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.28475	7.223846	20.00000	62.00000	295	90



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	189	189	57.62195	57.6220
M	139	328	42.37805	100.0000
Missing	0	328	0.00000	100.0000

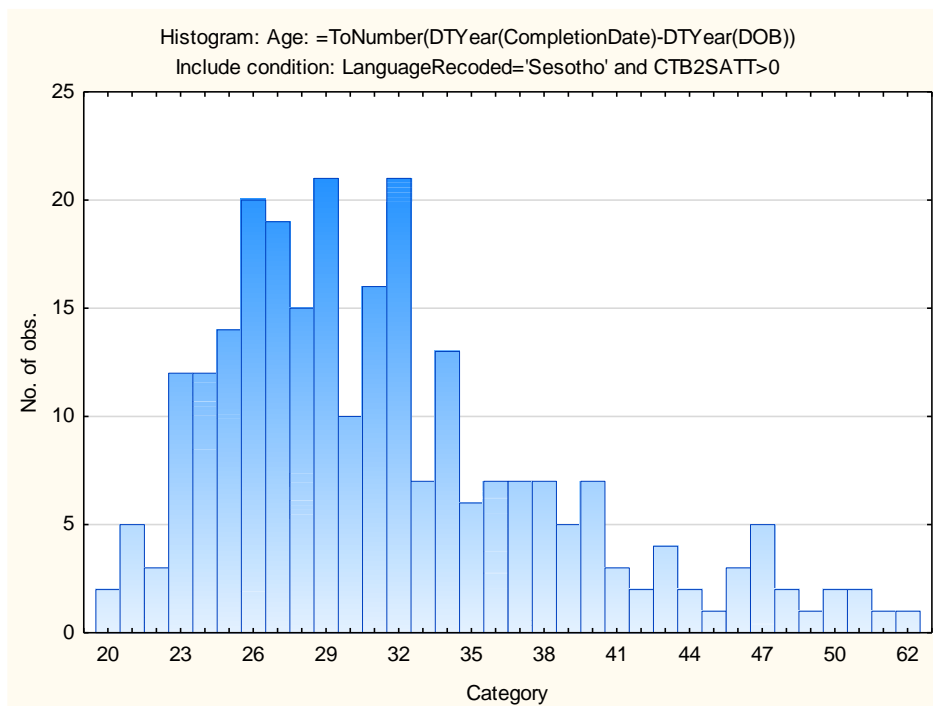
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	148	148	45.12195	45.1220
Tertiary Cert / Trade	82	230	25.00000	70.1220
Tertiary	50	280	15.24390	85.3659
Post Graduate	19	299	5.79268	91.1585
< Matric	5	304	1.52439	92.6829
Missing	24	328	7.31707	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2	2	0.60976	0.6098
African	322	324	98.17073	98.7805
Missing	4	328	1.21951	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sesotho	328	328	100.0000	100.0000
Missing	0	328	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	328	328	100.0000	100.0000
Missing	0	328	0.0000	100.0000

Variable	Descriptive Statistics: Age					No.cases Missing
	Mean	Std.Dev	Minimum	Maximum	N	
Age	31.57752	7.289177	20.00000	62.00000	258	70



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	213	213	59.16667	59.1667
M	147	360	40.83333	100.0000
Missing	0	360	0.00000	100.0000

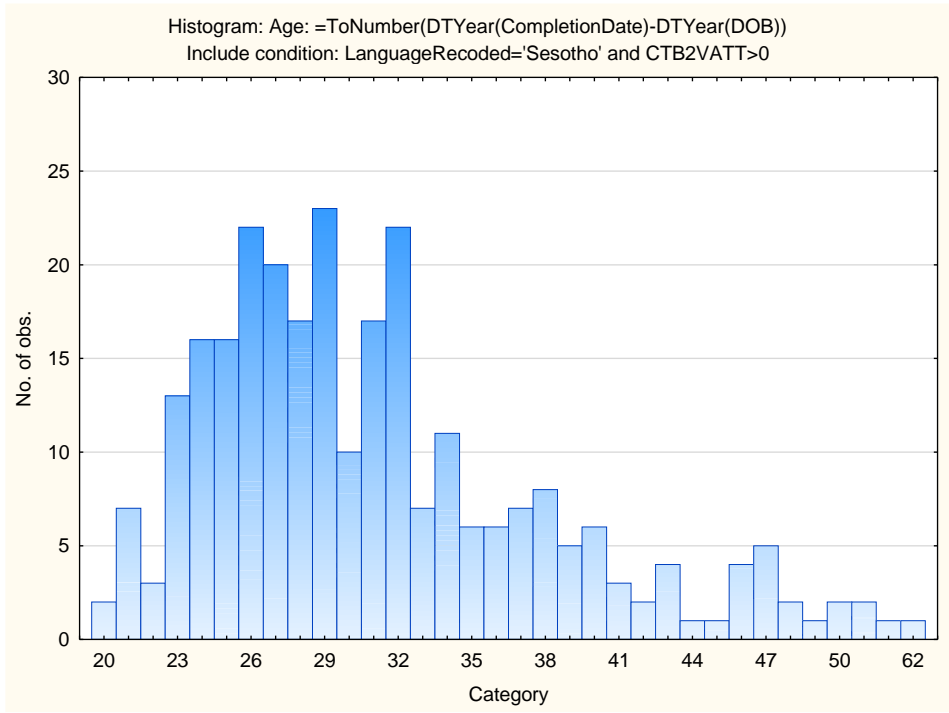
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	143	143	39.72222	39.7222
Tertiary Cert / Trade	102	245	28.33333	68.0556
Tertiary	58	303	16.11111	84.1667
Post Graduate	19	322	5.27778	89.4444
< Matric	6	328	1.66667	91.1111
Missing	32	360	8.88889	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	2	2	0.55556	0.5556
African	354	356	98.33333	98.8889
Missing	4	360	1.11111	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Sesotho	360	360	100.0000	100.0000
Missing	0	360	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	360	360	100.0000	100.0000
Missing	0	360	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.17216	7.260618	20.00000	62.00000	273	87



Cronbach Coefficient Alpha for Clerical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.87
Numerical Reasoning Test	0.78
Spelling Test	0.78
Verbal Reasoning Test	0.97

Clerical Test Battery (CTB2)

Reliability: SA Setswana Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	328	328	62.12121	62.1212
M	200	528	37.87879	100.0000
Missing	0	528	0.00000	100.0000

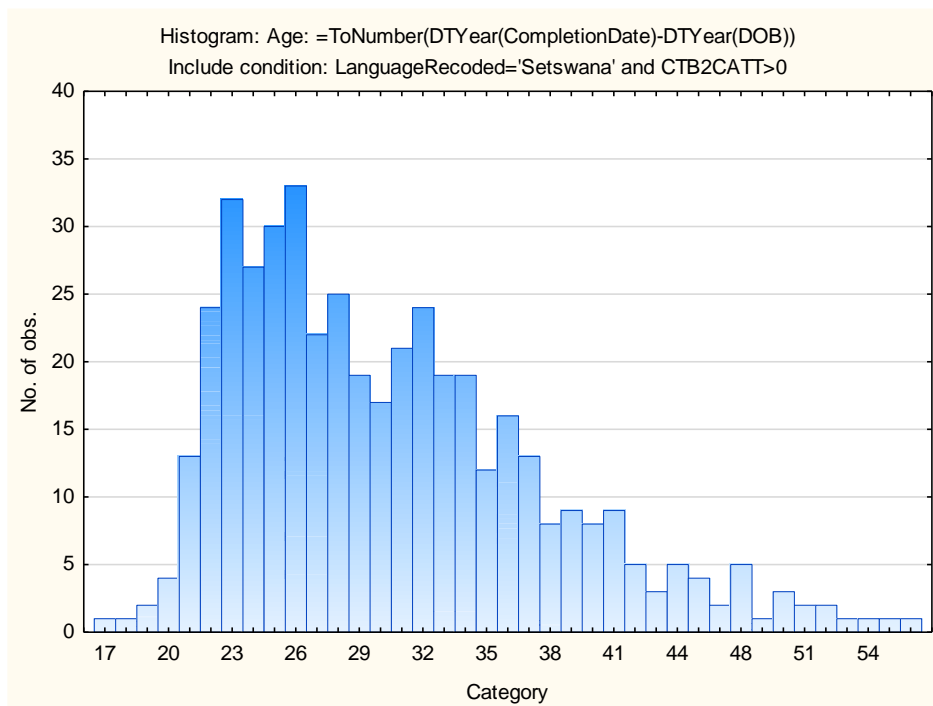
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	199	199	37.68939	37.6894
Tertiary Cert / Trade	186	385	35.22727	72.9167
Tertiary	106	491	20.07576	92.9924
Post Graduate	26	517	4.92424	97.9167
< Matric	3	520	0.56818	98.4848
Missing	8	528	1.51515	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	1.13636	1.1364
African	510	516	96.59091	97.7273
Missing	12	528	2.27273	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	528	528	100.0000	100.0000
Missing	0	528	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	528	528	100.0000	100.0000
Missing	0	528	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.43468	7.377457	17.00000	58.00000	444	84



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	325	325	62.02290	62.0229
M	199	524	37.97710	100.0000
Missing	0	524	0.00000	100.0000

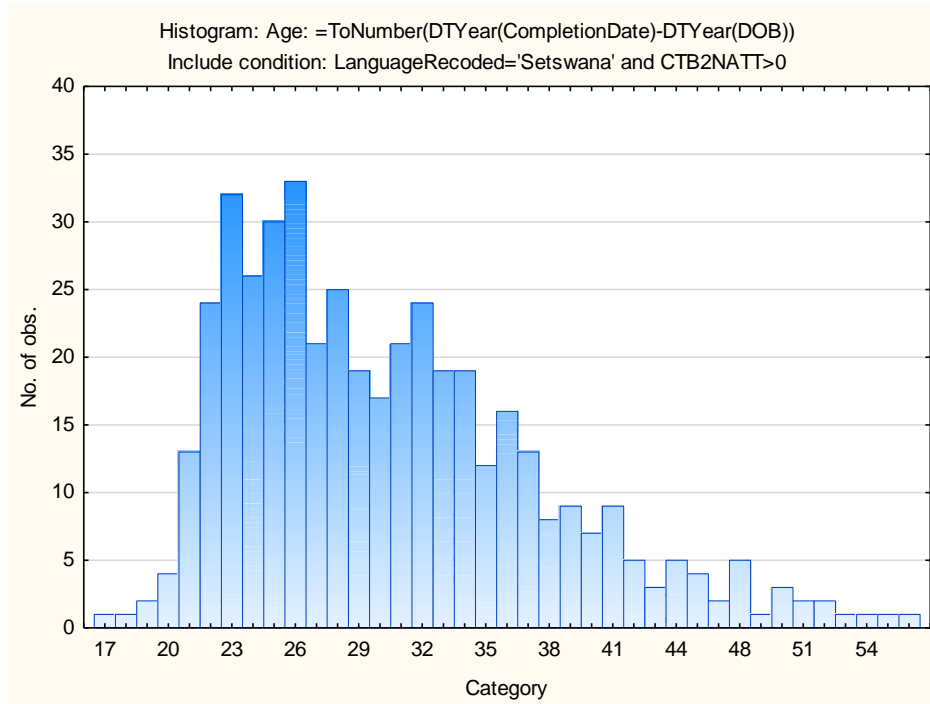
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	197	197	37.59542	37.5954
Tertiary Cert / Trade	184	381	35.11450	72.7099
Tertiary	106	487	20.22901	92.9389
Post Graduate	26	513	4.96183	97.9008
< Matric	3	516	0.57252	98.4733
Missing	8	524	1.52672	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	1.14504	1.1450
African	506	512	96.56489	97.7099
Missing	12	524	2.29008	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	524	524	100.0000	100.0000
Missing	0	524	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	524	524	100.0000	100.0000
Missing	0	524	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.43537	7.380319	17.00000	58.00000	441	83



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	305	305	62.50000	62.5000
M	183	488	37.50000	100.0000
Missing	0	488	0.00000	100.0000

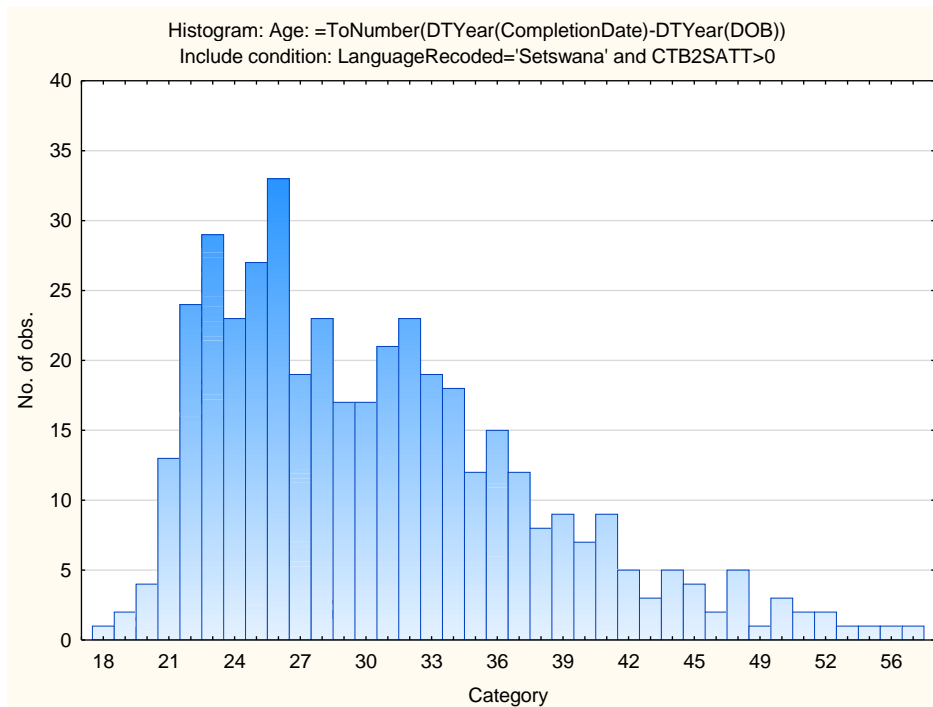
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	187	187	38.31967	38.3197
Tertiary Cert / Trade	169	356	34.63115	72.9508
Tertiary	100	456	20.49180	93.4426
Post Graduate	25	481	5.12295	98.5656
< Matric	3	484	0.61475	99.1803
Missing	4	488	0.81967	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	1.22951	1.2295
African	470	476	96.31148	97.5410
Missing	12	488	2.45902	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	488	488	100.0000	100.0000
Missing	0	488	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	488	488	100.0000	100.0000
Missing	0	488	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.59857	7.442983	18.00000	58.00000	421	67



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	310	310	62.12425	62.1242
M	189	499	37.87575	100.0000
Missing	0	499	0.00000	100.0000

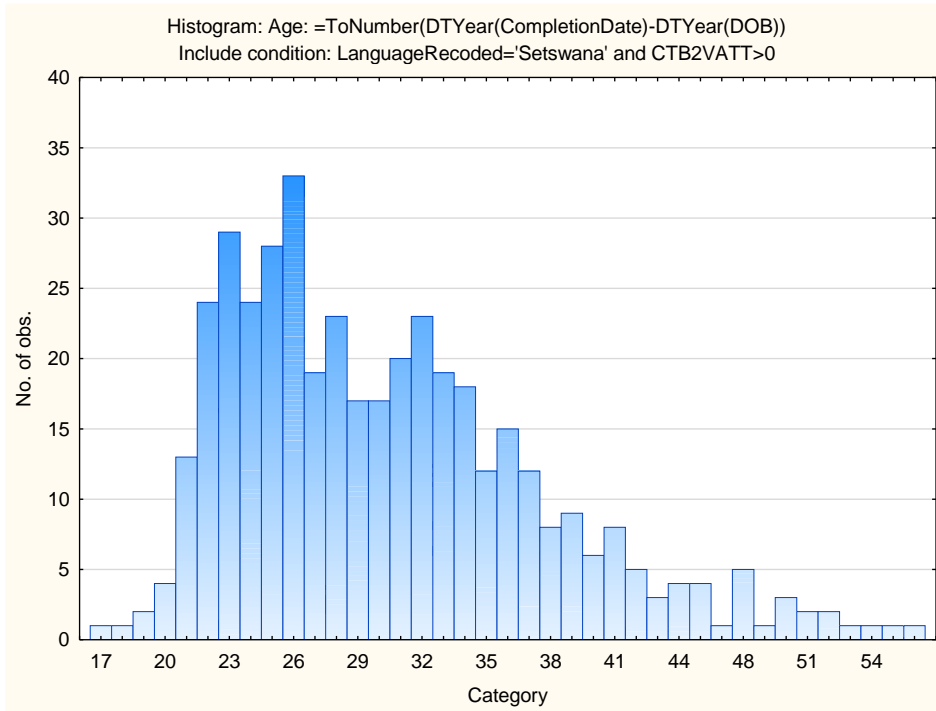
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	189	189	37.87575	37.8758
Tertiary Cert / Trade	174	363	34.86974	72.7455
Tertiary	101	464	20.24048	92.9860
Post Graduate	25	489	5.01002	97.9960
< Matric	2	491	0.40080	98.3968
Missing	8	499	1.60321	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	6	6	1.20240	1.2024
African	481	487	96.39279	97.5952
Missing	12	499	2.40481	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Setswana	499	499	100.0000	100.0000
Missing	0	499	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	499	499	100.0000	100.0000
Missing	0	499	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.41766	7.396480	17.00000	58.00000	419	80



Cronbach Coefficient Alpha for Clerical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.82
Numerical Reasoning Test	0.75
Spelling Test	0.77
Verbal Reasoning Test	0.93

Clerical Test Battery (CTB2)

Reliability: SA Tshivenda Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	92	92	55.75758	55.7576
M	73	165	44.24242	100.0000
Missing	0	165	0.00000	100.0000

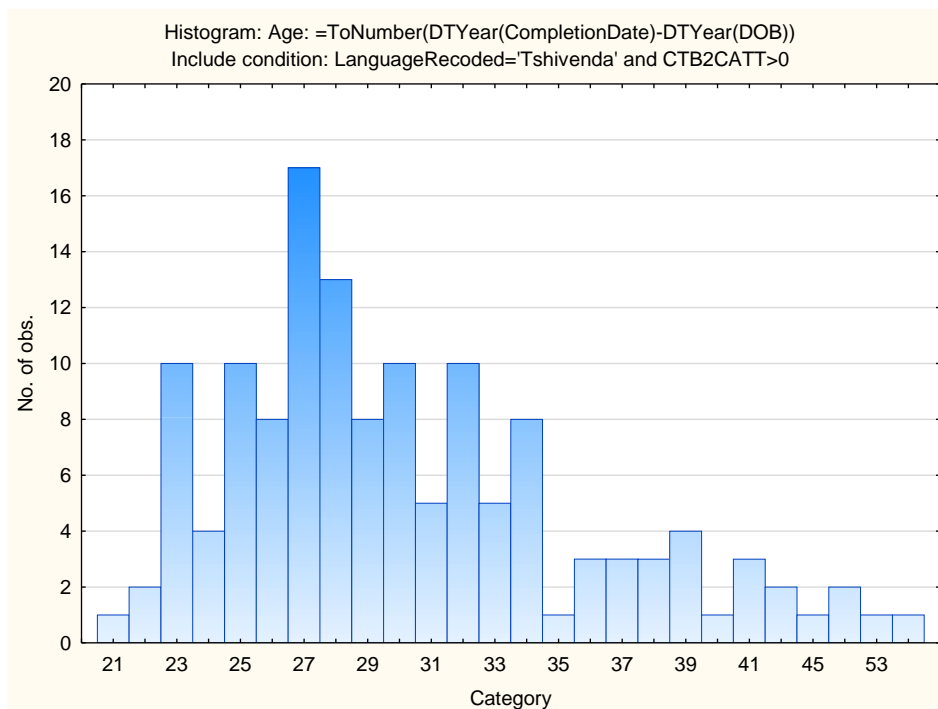
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	38	38	23.03030	23.0303
Tertiary Cert / Trade	52	90	31.51515	54.5455
Tertiary	53	143	32.12121	86.6667
Post Graduate	18	161	10.90909	97.5758
Missing	4	165	2.42424	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.60606	0.6061
African	158	159	95.75758	96.3636
Missing	6	165	3.63636	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Tshivenda	165	165	100.0000	100.0000
Missing	0	165	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	165	165	100.0000	100.0000
Missing	0	165	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.44118	6.287866	21.00000	57.00000	136	29



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	91	91	55.48780	55.4878
M	73	164	44.51220	100.0000
Missing	0	164	0.00000	100.0000

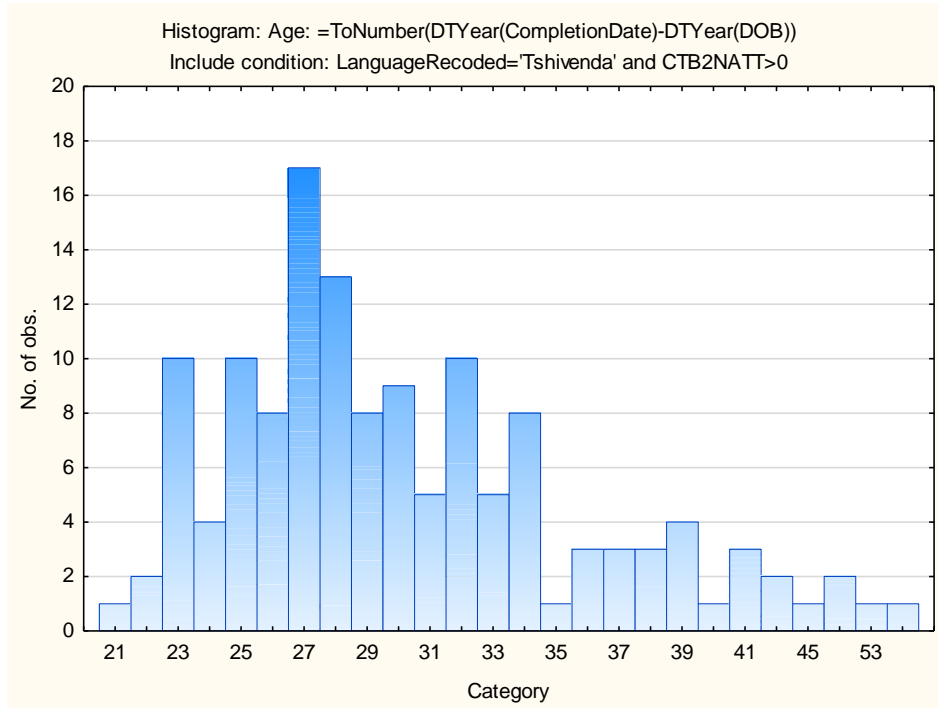
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	38	38	23.17073	23.1707
Tertiary Cert / Trade	52	90	31.70732	54.8780
Tertiary	52	142	31.70732	86.5854
Post Graduate	18	160	10.97561	97.5610
Missing	4	164	2.43902	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.60976	0.6098
African	157	158	95.73171	96.3415
Missing	6	164	3.65854	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Tshivenda	164	164	100.0000	100.0000
Missing	0	164	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	164	164	100.0000	100.0000
Missing	0	164	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.44444	6.311168	21.00000	57.00000	135	29



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	86	86	55.12821	55.1282
M	70	156	44.87179	100.0000
Missing	0	156	0.00000	100.0000

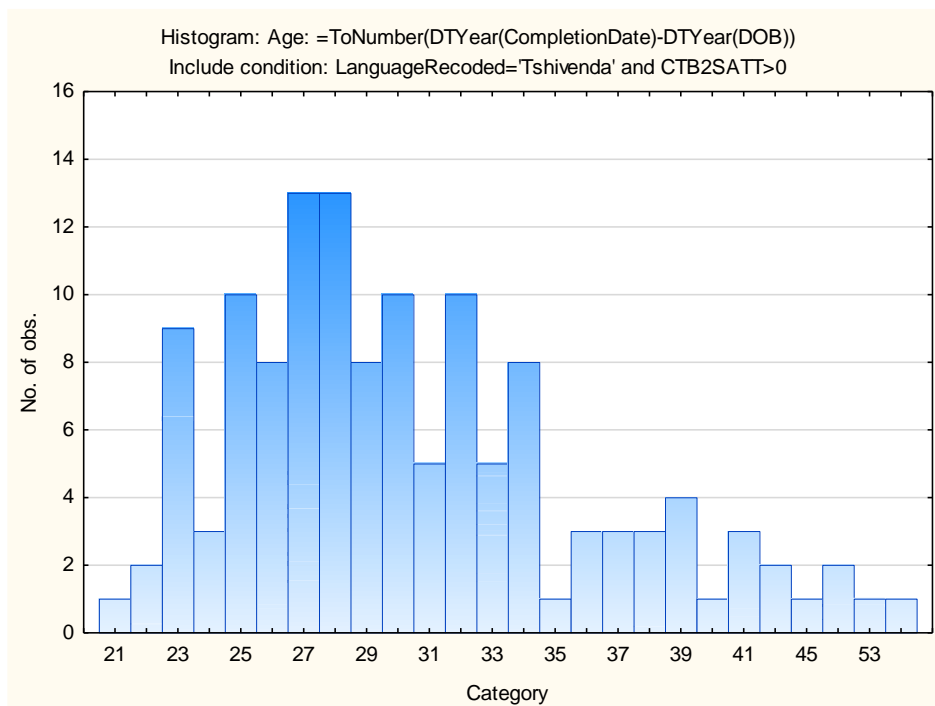
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	37	37	23.71795	23.7179
Tertiary Cert / Trade	50	87	32.05128	55.7692
Tertiary	50	137	32.05128	87.8205
Post Graduate	16	153	10.25641	98.0769
Missing	3	156	1.92308	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.64103	0.6410
African	150	151	96.15385	96.7949
Missing	5	156	3.20513	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Tshivenda	156	156	100.0000	100.0000
Missing	0	156	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	156	156	100.0000	100.0000
Missing	0	156	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.65385	6.341339	21.00000	57.00000	130	26



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	83	83	54.24837	54.2484
M	70	153	45.75163	100.0000
Missing	0	153	0.00000	100.0000

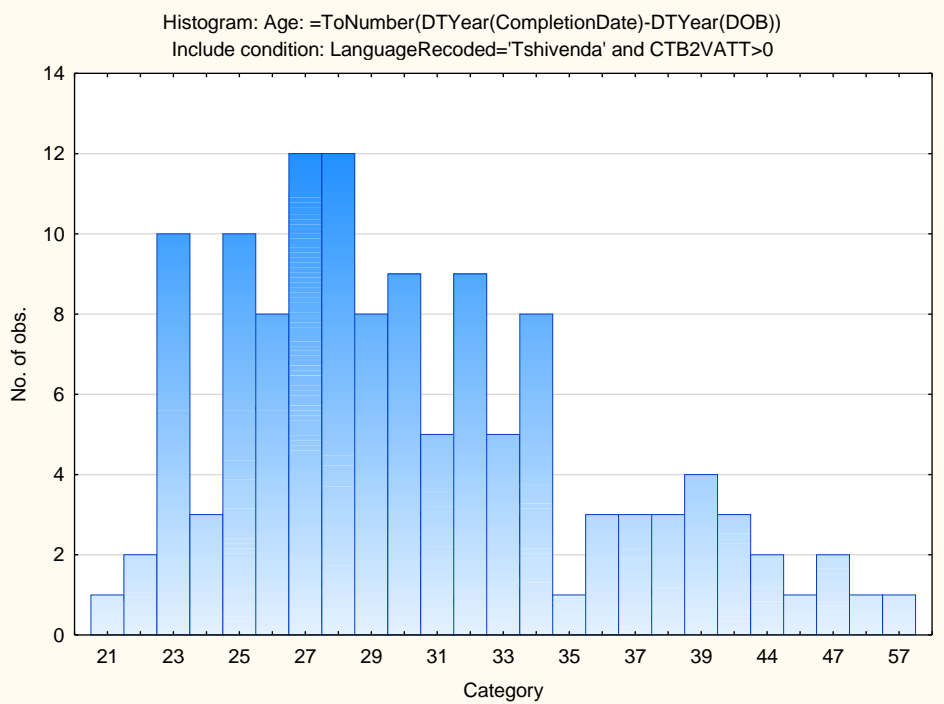
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	37	37	24.18301	24.1830
Tertiary Cert / Trade	48	85	31.37255	55.5556
Tertiary	48	133	31.37255	86.9281
Post Graduate	16	149	10.45752	97.3856
Missing	4	153	2.61438	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
Coloured	1	1	0.65359	0.6536
African	146	147	95.42484	96.0784
Missing	6	153	3.92157	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Tshivenda	153	153	100.0000	100.0000
Missing	0	153	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	153	153	100.0000	100.0000
Missing	0	153	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	30.56349	6.409363	21.00000	57.00000	126	27



Cronbach Coefficient Alpha for Clerical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.80
Numerical Reasoning Test	0.71
Spelling Test	0.73
Verbal Reasoning Test	0.91

Clerical Test Battery (CTB2)

Reliability: SA Xitsonga Language Speakers, Updated 2022

Sample Composition

The sample consisted of respondents who had completed any of the subtests of the Clerical Test Battery (CTB2) battery in the period March 2013 to March 2022. Since not all the respondents completed all the subtests, biographical information is reported separately.

Sample Composition: Clerical Checking Subtest (CTB2C)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	81	81	46.02273	46.0227
M	94	175	53.40909	99.4318
Missing	1	176	0.56818	100.0000

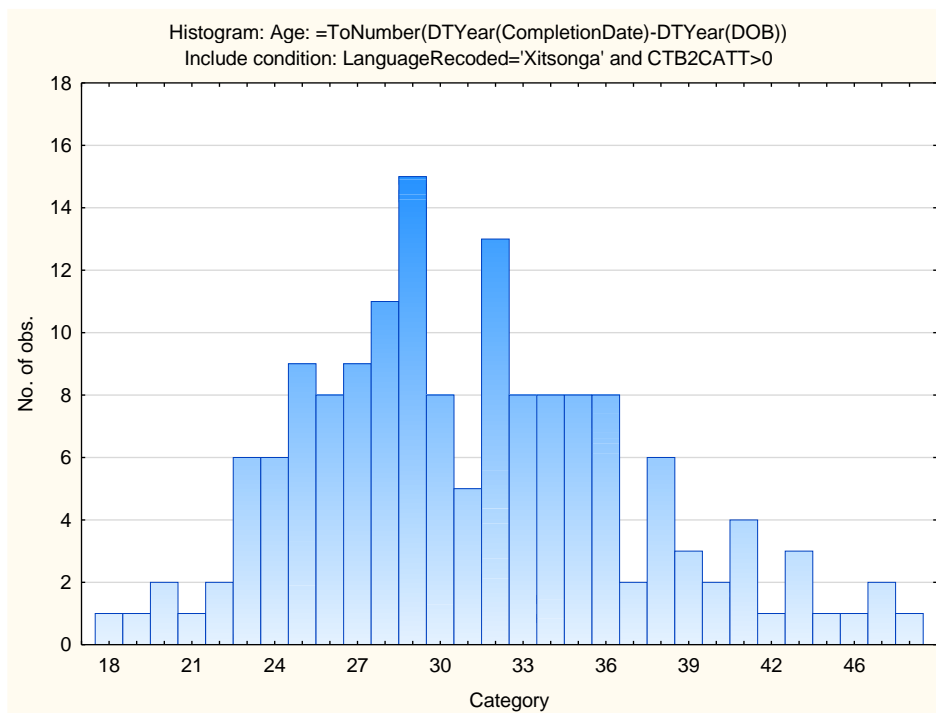
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	51	51	28.97727	28.9773
Tertiary Cert / Trade	69	120	39.20455	68.1818
Tertiary	42	162	23.86364	92.0455
Post Graduate	11	173	6.25000	98.2955
< Matric	1	174	0.56818	98.8636
Missing	2	176	1.13636	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	173	173	98.29545	98.2955
European	1	174	0.56818	98.8636
Missing	2	176	1.13636	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Xitsonga	176	176	100.0000	100.0000
Missing	0	176	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	176	176	100.0000	100.0000
Missing	0	176	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.14194	6.110921	18.00000	51.00000	155	21



Sample Composition: Numerical Subtest (CTB2N)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	80	80	45.71429	45.7143
M	94	174	53.71429	99.4286
Missing	1	175	0.57143	100.0000

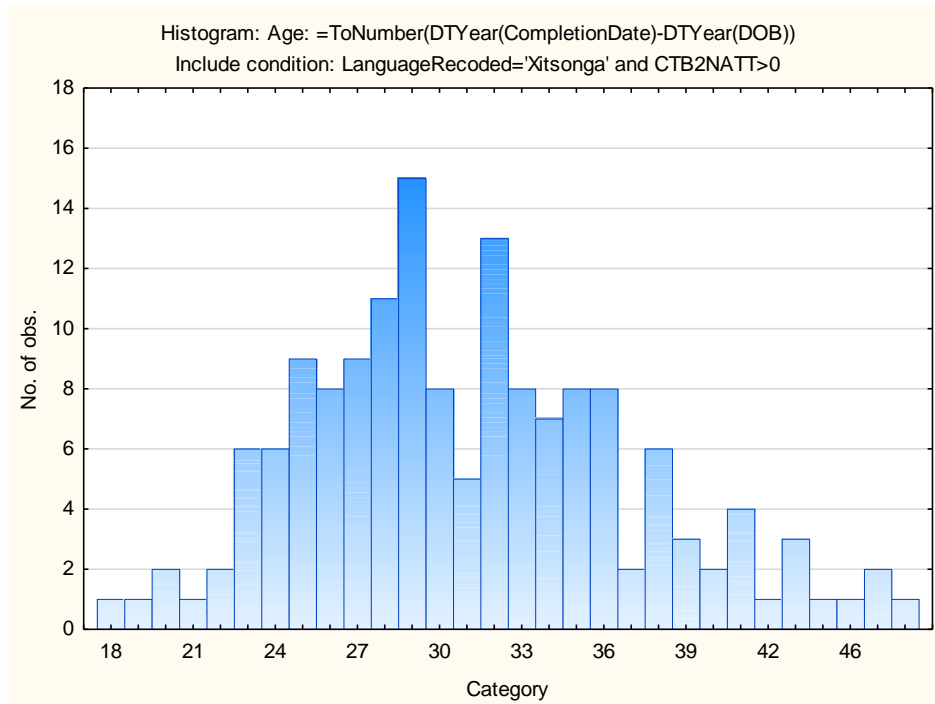
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	51	51	29.14286	29.1429
Tertiary Cert / Trade	68	119	38.85714	68.0000
Tertiary	42	161	24.00000	92.0000
Post Graduate	11	172	6.28571	98.2857
< Matric	1	173	0.57143	98.8571
Missing	2	175	1.14286	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	172	172	98.28571	98.2857
European	1	173	0.57143	98.8571
Missing	2	175	1.14286	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Xitsonga	175	175	100.0000	100.0000
Missing	0	175	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	175	175	100.0000	100.0000
Missing	0	175	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.12338	6.126475	18.00000	51.00000	154	21



Sample Composition: Clerical Spelling Subtest (CTB2S)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	76	76	46.34146	46.3415
M	87	163	53.04878	99.3902
Missing	1	164	0.60976	100.0000

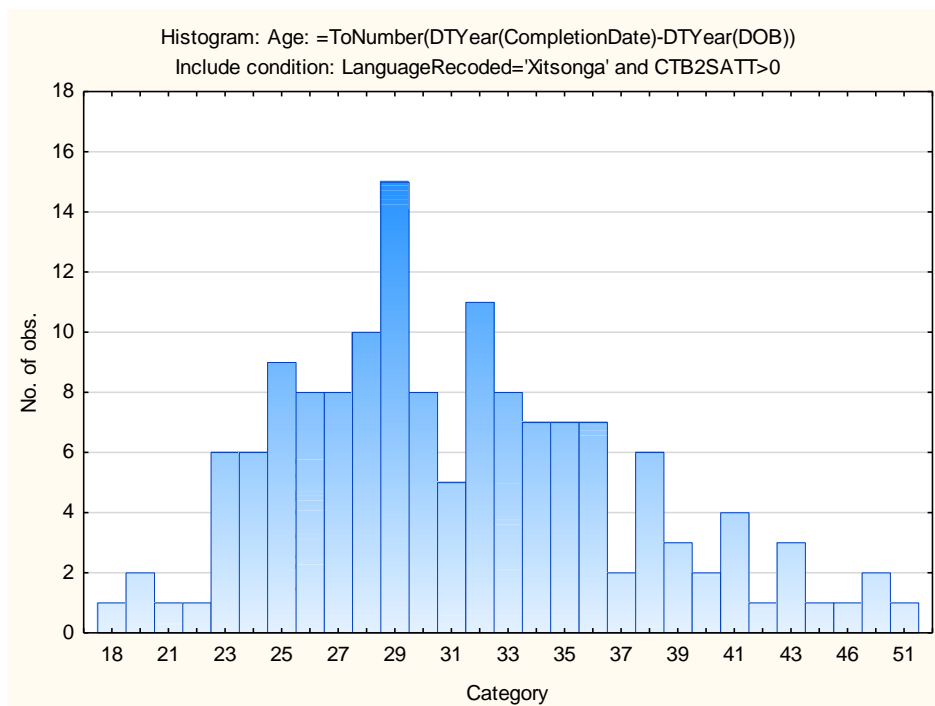
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	50	50	30.48780	30.4878
Tertiary Cert / Trade	63	113	38.41463	68.9024
Tertiary	40	153	24.39024	93.2927
Post Graduate	10	163	6.09756	99.3902
Missing	1	164	0.60976	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	161	161	98.17073	98.1707
European	1	162	0.60976	98.7805
Missing	2	164	1.21951	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Xitsonga	164	164	100.0000	100.0000
Missing	0	164	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	164	164	100.0000	100.0000
Missing	0	164	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.24658	6.126890	18.00000	51.00000	146	18



Sample Composition: Clerical Verbal Subtest (CTB2V)

Category	Frequency table: Sex			
	Count	Cumulative Count	Percent	Cumulative Percent
F	76	76	45.23810	45.2381
M	91	167	54.16667	99.4048
Missing	1	168	0.59524	100.0000

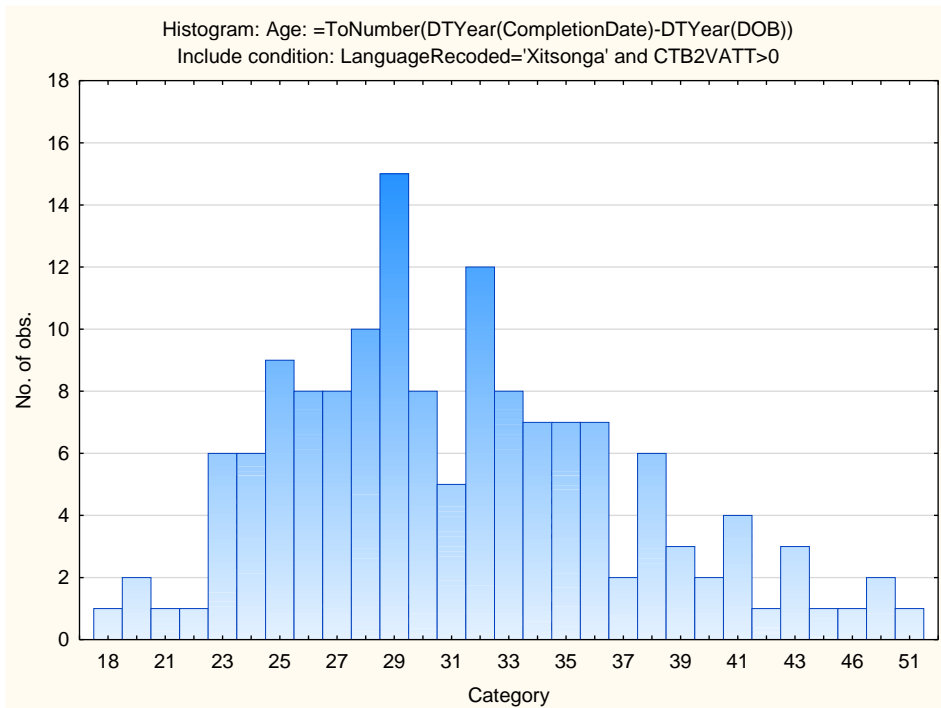
Category	Frequency table: Education			
	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12	50	50	29.76190	29.7619
Tertiary Cert / Trade	65	115	38.69048	68.4524
Tertiary	40	155	23.80952	92.2619
Post Graduate	10	165	5.95238	98.2143
< Matric	1	166	0.59524	98.8095
Missing	2	168	1.19048	100.0000

Category	Frequency table: Race			
	Count	Cumulative Count	Percent	Cumulative Percent
African	165	165	98.21429	98.2143
European	1	166	0.59524	98.8095
Missing	2	168	1.19048	100.0000

Category	Frequency table: Language			
	Count	Cumulative Count	Percent	Cumulative Percent
Xitsonga	168	168	100.0000	100.0000
Missing	0	168	0.0000	100.0000

Category	Frequency table: Language Group			
	Count	Cumulative Count	Percent	Cumulative Percent
Indigenous	168	168	100.0000	100.0000
Missing	0	168	0.0000	100.0000

Variable	Descriptive Statistics: Age					
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	31.25170	6.106188	18.00000	51.00000	147	21



Cronbach Coefficient Alpha for Clerical Test Battery Subtests:

Subtest	Cronbach Coefficient Alpha
Clerical Checking Test	0.79
Numerical Reasoning Test	0.71
Spelling Test	0.77
Verbal Reasoning Test	0.90

CTB2 Validity Introduction

Recommendations

Users are strongly encouraged to do validation studies on the instruments they use within their organisations or within their industry sectors, by co-operating with other organisations in the same industry. In some cases this may mean sharing information with organisations that are potential competitors. In the interest of professionalism, users are encouraged to overcome their reservations in this regard, since co-operation is in their interest. Psytech South Africa provides extensive support for validation studies done on its instruments, and users are welcome to contact their representatives in this regard.

For construct validation studies, it is necessary to assess a particular ability with more than one instrument on the same respondents. This may seem like an unnecessary expense at first, but it is worthwhile to verify how ability measures relate to one another, particularly if one is still introducing a new measure.

Predictive validation studies can be done against competency ratings, or against 'hard' data like production or sales figures. It is preferable to use both types of criterion information, because that enables one to validate the competency ratings as well.

At the time of writing, there was still a shortage of validity information regarding the CTB2 in South Africa. More information is being sought, and this section will shortly be updated.

Listing of validity studies:

Study	Type of validity	Tests	Number
Correlations with LPCAT	Construct	Clerical Checking Numerical Ability	V1
CTB2 Intercorrelations	Construct	Verbal Reasoning Clerical Checking Numerical Ability Spelling	V2

CTB2 validity: Correlations with LPCAT (Learning Potential Computer Adaptive Test)

The sample consisted of 899 candidates for various positions, including temporary and casual work, in the retail clothing industry, tested in 2002 in Kwazulu-Natal.

Sample composition

Frequency table: Race				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Asian	301	301	33.48165	33.4816
Coloured:	32	333	3.55951	37.0412
African	495	828	55.06118	92.1023
European:	16	844	1.77976	93.8821
Unknown	1	845	0.11123	93.9933
Missing	54	899	6.00667	100.0000

Frequency table: Sex				
Category	Count	Cumulative Count	Percent	Cumulative Percent
M	272	272	30.25584	30.2558
F	627	899	69.74416	100.0000
Missing	0	899	0.00000	100.0000

Frequency table: Education				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Grade 12:	161	161	17.90879	17.9088
University entrance matri:	64	225	7.11902	25.0278
University diploma:	29	254	3.22581	28.2536
Grade 10 or 11:	5	259	0.55617	28.8098
Technikon:	5	264	0.55617	29.3660
Degree	7	271	0.77864	30.1446
Post Graduate:	19	290	2.11346	32.2581
Missing	609	899	67.74194	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
Age	25.66143	6.242549	16.00000	56.00000	892	7

Correlations between CTB2 subtests and LPCat composite score

Variable	Correlations
	Composite Score
Checking numerical	0.31
Checking verbal	0.37
Checking total	0.35
Numerical ability	0.40

All the correlations between the CTB2 subtests that the candidates completed, and the LPCAT composite score, were positive and statistically significant, possibly reflective of an underlying general ability, such as mental alertness or general intelligence.

CTB2 validity: Intercorrelations of CTB2 tests

The sample consisted of applicants to a call centre operator (selling insurance). Testing took place in 2001.

Sample composition

Frequency table: RACE				
Category	Count	Cumulative Count	Percent	Cumulative Percent
WC	74	74	38.14433	38.1443
A	38	112	19.58763	57.7320
B	80	192	41.23711	98.9691
Missing	2	194	1.03093	100.0000

Frequency table: GENDER				
Category	Count	Cumulative Count	Percent	Cumulative Percent
F	95	95	48.96907	48.9691
M	96	191	49.48454	98.4536
U	3	194	1.54639	100.0000
Missing	0	194	0.00000	100.0000

Descriptive Statistics AGE						
Variable	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
AGE	25.97917	7.175408	0.00	57.00000	192	2

Correlations

Correlations						
Marked correlations are significant at $p < .05000$						
N=193 (Casewise deletion of missing data)						
Variable	VER	NA	CCV	CCN	CCT	SP
VER	1.00	0.61	0.30	0.26	0.28	0.41
NA	0.61	1.00	0.43	0.44	0.45	0.28
CCV	0.30	0.43	1.00	0.92	0.98	0.14
CCN	0.26	0.44	0.92	1.00	0.98	0.11
CCT	0.28	0.45	0.98	0.98	1.00	0.13
SP	0.41	0.28	0.14	0.11	0.13	1.00

Verbal Reasoning and Numerical Ability are highly correlated, probably because both tests rely on a reasoning ability to a considerable extent.

The subscales of the Checking test correlate very highly indeed.

The Spelling test had a higher correlation with Verbal Reasoning, probably because both tests rely on verbal or language ability. Its correlations with the Checking tests were low, indicating that Spelling involves more than simply attending to detail.

Clerical Test Battery (CTB2)

Differential Item Functioning

Introduction

<i>Differential Item Functioning</i> _____	1
<i>Introduction</i> _____	1
What is differential item functioning? _____	2
Ways of calculatng Differential Item Functioning _____	2
Dividing the samples into score levels _____	2
Grouping respondents _____	2
Statistical significance with large samples _____	3
Direction and magnitude of differences _____	3
List of Differential item functioning studies reported: _____	4

What is Differential Item Functioning?

Differential item functioning is found when a test item behaves differently for different population groups. Normally this means that the item shows a different relationship to the construct in question for different population groups. Normally one groups the respondents in terms of their level of score achieved on the construct, and then compares the likelihood of getting an item correct for the different population groups and the different score levels.

There are two different forms of Differential Item Functioning that are of interest to us:

Uniform bias means that one population group consistently has a better chance of answering an item correctly, irrespective of their total score.

Non-uniform bias means that the relative chance of answering the item correctly is not the same across all score levels, for different groups. This can be seen clearly on a graph, when the lines plotting the mean item score for a group are not parallel and may cross in places.

Ways of calculating Differential Item Functioning

There are many different ways of investigating Differential Item Functioning.

For the purpose of this manual, **Factorial Analysis of Variance** was used. This technique allows us to investigate the effect of combinations of continuous and categorical variables on predictor variables. It produces a particularly informative graph which is useful for visualising the effect of non-uniform bias.

The Factorial Analysis of Variance can also indicate uniform bias when a significant effect for the race group variable is found. Non-uniform bias is indicated by a significant interaction effect for the race group variable and score level.

In addition, the **Mantel-Haenszel index** was calculated. The Mantel Haenszel index quantifies the relative probability of answering an item correctly for two population groups, across a number of score levels. Its significance is tested with a Chi-square test. The Mantel-Haenszel index is particularly sensitive to uniform bias, but unable to indicate when non-uniform bias exists.

Dividing the samples into score levels

For every group that was analysed, the sample was normed and stanines calculated. The sample was divided as follows:

Stanines 1-2: Level 1
 Stanines 3-4: Level 2
 Stanine 5: Level 3
 Stanine 6-7 Level 4
 Stanine 8-9 Level 5

Grouping respondents

For the analyses, the respondents were grouped in two ways when there was sufficient information:

Grouping according to race category: In this case, Blacks were placed in one group, and all other races in the other group.

Grouping according to disadvantage status: For this analysis, Whites were considered advantaged and all other race groups disadvantaged.

Statistical significance with large samples

With some very large samples, even minute differences are statistically significant. The differences do not necessarily have any practical meaning though. In future, Psytech SA will supplement its analyses by calculating effect sizes, but at present, the significance levels are reported as they were found. They must be interpreted with caution.

Direction and magnitude of differences

If DIF is found, the bias is not necessarily in favour of the White or Advantaged group. The size of the differences in item means scores must also be considered. In some cases the differences are very small. For every study, a summary of the findings is given, as well as a detailed report of the findings for every item.

List of Differential item functioning studies reported:

Test	Grouping	Number
Clerical Checking	Race	D1
Clerical Checking	Disadvantaged status	D2
Numerical Ability	Race	D3
Numerical Ability	Disadvantaged status	D4
Spelling	Race	D5
Verbal Reasoning	Race	D6

CTB2 Differential Item Functioning – Clerical Checking (Race)

The sample consisted of 27126 Black respondents, and 4517 respondents from other race groups. The aim of the study was to investigate differential item functioning in the Clerical Checking test. Factorial analysis of variance was used, and the Mantel-Haenszel statistic was also computed for every item.

It must be remembered that with such a large sample, even very small differences will be statistically significant. Therefore, the magnitude of obtained differences in means must be taken into account.

Summary of results

Item	Uniform bias /Factorial Anova	Uniform bias/Mantel-Haenszel	Mean item score difference	In favour of (group)	Non-uniform bias
1	Y	Y	.02	Non-Black	N
2	Y	Y	.05	Black	Y
3	Y	Y	.05	Non-Black	N
4	N	Y	.03	Non-Black	N
5	Y	Y	.02	Black	Y
6	Y	N	.01	Black	Y
7	Y	Y	.06	Non-Black	Y
8	N	Y	.002	Black	Y
9	Y	Y	.03	Non-black	N
10	N	Y	.01	Black	Y
11	Y	Y	.06	Non-Black	Y
12	Y	Y	.11	Non-Black	Y
13	Y	Y	.03	Non-Black	Y
14	Y	Y	.04	Non-Black	Y
15	Y	Y	.03	Non-Black	Y
16	Y	Y	.03	Non-Black	Y
17	Y	Y	.06	Non-Black	Y
18	Y	Y	.10	Non-Black	Y
19	Y	Y	.04	Non-Black	Y
20	Y	Y	.08	Non-Black	Y
21	Y	Y	.05	Non-Black	Y
22	Y	N	.02	Non-Black	Y
23	Y	Y	.03	Non-Black	Y
24	Y	Y	.05	Non-Black	Y
25	Y	N	.02	Non-Black	Y
26	N	N	.01		Y
27	N	Y	.001	Non-Black	Y
28	Y	N	.02	Non-Black	Y
29	Y	Y	.03	Black	Y
30	Y	Y	.02	Black	Y
31	Y	Y	.04	Black	Y
32	Y	Y	.07	Black	Y
33	Y	Y	.03	Black	Y

Item	Uniform bias /Factorial Anova	Uniform bias/Mantel-Haenszel	Mean item score difference	In favour of (group)	Non-uniform bias
34	Y	Y	.04	Black	Y
35	Y	Y	.06	Black	Y
36	Y	Y	.02	Black	Y
37	Y	Y	.02	Black	Y
38	Y	Y	.06	Black	Y
39	Y	Y	.07	Black	Y
40	Y	Y	.05	Black	Y
41	Y	Y	.04	Black	Y
42	Y	Y	.03	Black	Y
43	Y	Y	.05	Black	Y
44	Y	Y	.04	Black	Y
45	Y	Y	.02	Black	Y
46	Y	Y	.03	Black	Y
47	Y	Y	.04	Black	Y
48	Y	Y	.04	Black	Y
49	Y	Y	.03	Black	Y
50	Y	Y	.02	Black	Y
51	Y	Y	.02	Black	Y
52	Y	Y	.01	Non-Black	Y

23 items biased in favour of Non-Black group.

28 items biased in favour of the Black group.

The differences in mean item score are small.

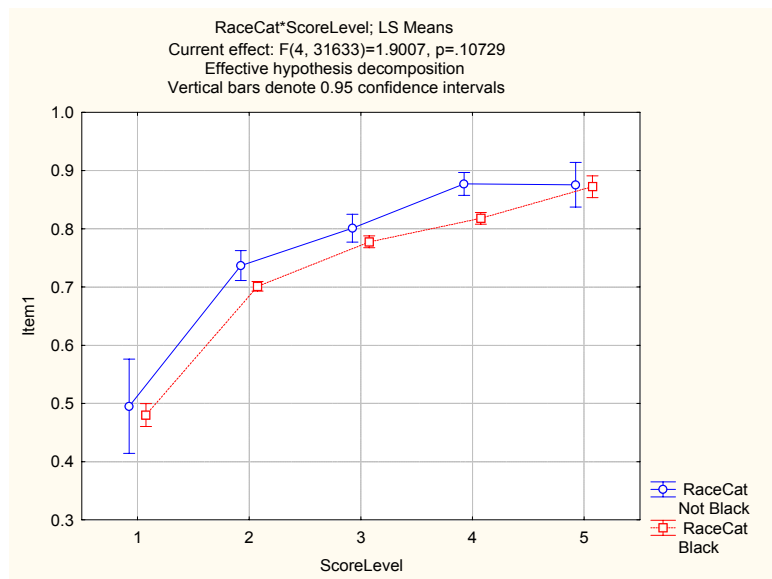
The seriousness of the non-uniform item bias is best judged by looking at the graphs that follow. In the overwhelming majority of cases, the differences are very small.

Item 1

Univariate Tests of Significance for Item1					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	3501.807	1	3501.807	19926.83	0.000000
RaceCat	1.180	1	1.180	6.72	0.009557
ScoreLevel	82.860	4	20.715	117.88	0.000000
RaceCat*ScoreLevel	1.336	4	0.334	1.90	0.107287
Error	5558.971	31633	0.176		

RaceCat; LS Means						
Current effect: F(1, 31633)=6.7164, p=.00956						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item1 Mean	Item1 Std.Err.	Item1 -95.00%	Item1 +95.00%	N
1	Not Black	0.757102	0.010023	0.737457	0.776746	4517
2	Black	0.729804	0.003240	0.723453	0.736155	27126

Mantel Haenszel: .78894 Chi-square(1)= 32.07866 p=0.

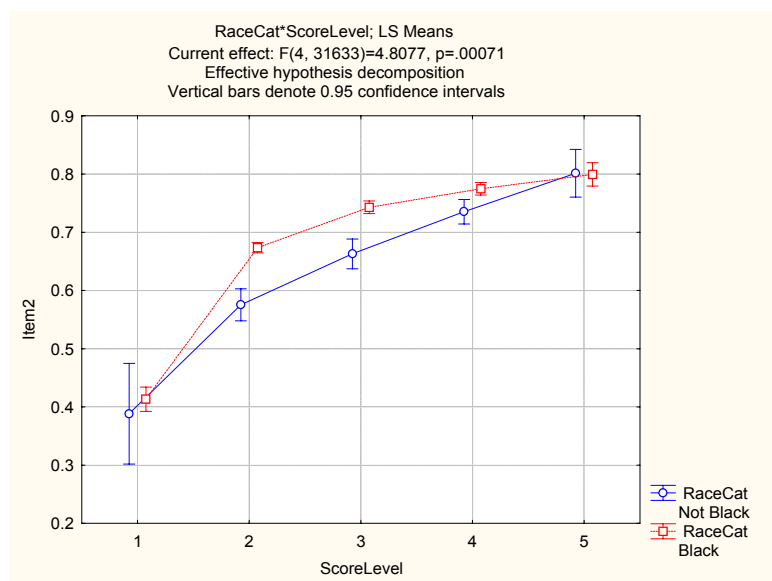


Item 2

Univariate Tests of Significance for Item2					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2732.681	1	2732.681	13634.39	0.000000
RaceCat	3.657	1	3.657	18.25	0.000019
ScoreLevel	87.384	4	21.846	109.00	0.000000
RaceCat*ScoreLevel	3.854	4	0.964	4.81	0.000710
Error	6340.062	31633	0.200		

RaceCat; LS Means						
Current effect: F(1, 31633)=18.245, p=.00002						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item2 Mean	Item2 Std.Err.	Item2 -95.00%	Item2 +95.00%	N
1	Not Black	0.632728	0.010704	0.611749	0.653707	4517
2	Black	0.680777	0.003460	0.673995	0.687560	27126

MANTEL-HAENSZEL= 1.35105 Chi-square(1)= 72.04052 p=0

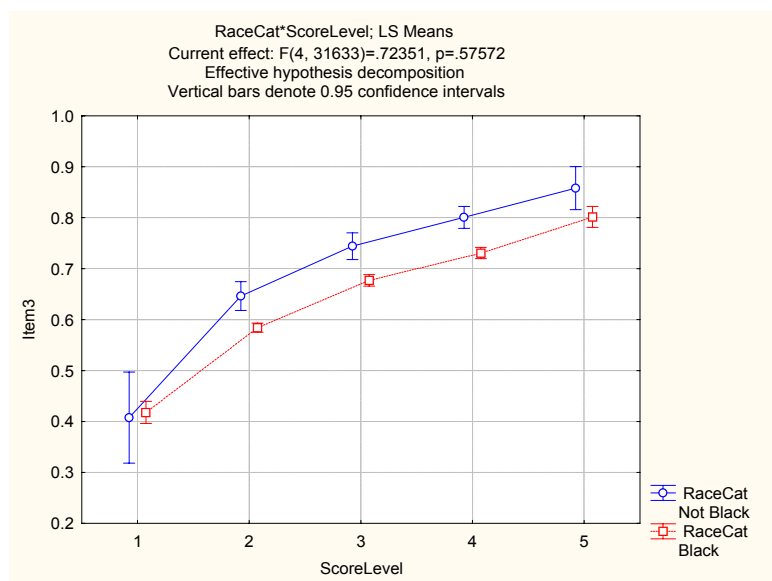


Item 3

Univariate Tests of Significance for Item3					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2817.793	1	2817.793	13166.06	0.000000
RaceCat	3.821	1	3.821	17.85	0.000024
ScoreLevel	106.056	4	26.514	123.89	0.000000
RaceCat*ScoreLevel	0.619	4	0.155	0.72	0.575719
Error	6770.080	31633	0.214		

RaceCat; LS Means						
Current effect: F(1, 31633)=17.851, p=.00002						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item3 Mean	Item3 Std.Err.	Item3 -95.00%	Item3 +95.00%	N
1	Not Black	0.691458	0.011061	0.669779	0.713138	4517
2	Black	0.642345	0.003576	0.635337	0.649354	27126

MANTEL-HAENSZEL = .72346 Chi-square(1) = 74.88992 p = 0

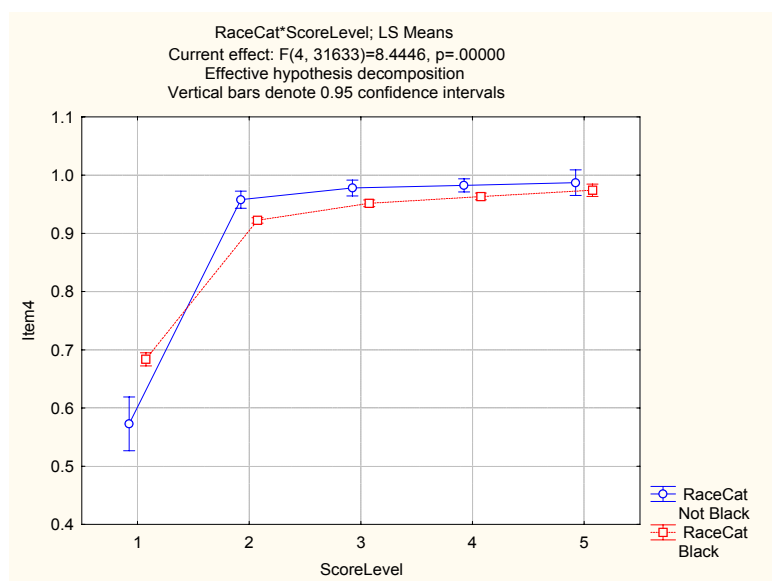


Item 4

Univariate Tests of Significance for Item4 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	5100.711	1	5100.711	88849.25	0.000000
RaceCat	0.018	1	0.018	0.32	0.570936
ScoreLevel	45.488	4	11.372	198.09	0.000000
RaceCat*ScoreLevel	1.939	4	0.485	8.44	0.000001
Error	1816.006	31633	0.057		

RaceCat; LS Means Current effect: F(1, 31633)=.32113, p=.57094 Effective hypothesis decomposition						
Cell No.	RaceCat	Item4 Mean	Item4 Std.Err.	Item4 -95.00%	Item4 +95.00%	N
1	Not Black	0.895563	0.005728	0.884335	0.906791	4517
2	Black	0.898975	0.001852	0.895345	0.902605	27126

MANTEL-HAENSZEL= .5881 Chi-square(1)= 35.29083 p= 0

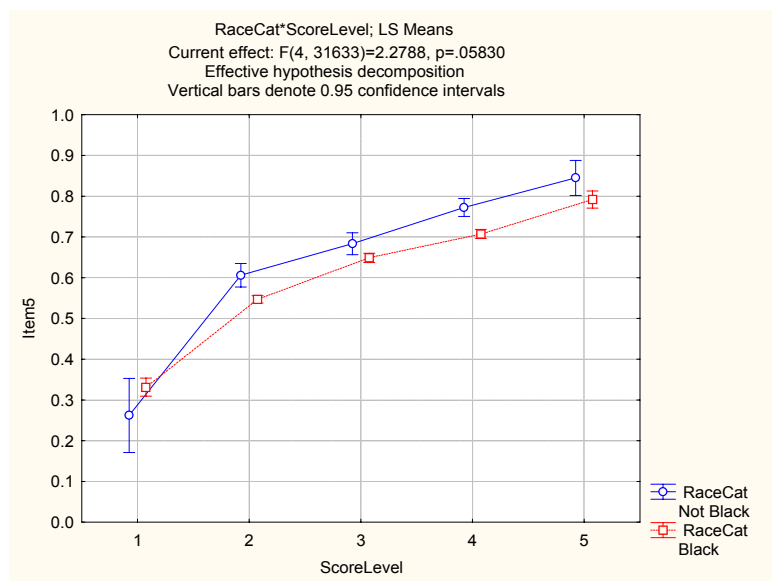


Item 5

Univariate Tests of Significance for Item5					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2431.469	1	2431.469	10998.26	0.000000
RaceCat	1.290	1	1.290	5.84	0.015696
ScoreLevel	145.686	4	36.421	164.74	0.000000
RaceCat*ScoreLevel	2.015	4	0.504	2.28	0.058305
Error	6993.346	31633	0.221		

RaceCat; LS Means						
Current effect: F(1, 31633)=5.8373, p=.01570						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item5 Mean	Item5 Std.Err.	Item5 -95.00%	Item5 +95.00%	N
1	Not Black	0.633773	0.011241	0.611739	0.655806	4517
2	Black	0.605229	0.003634	0.598105	0.612352	27126

MANTEL-HAENSZEL= .78352 Chi-square(1)= 45.68223 p= 0

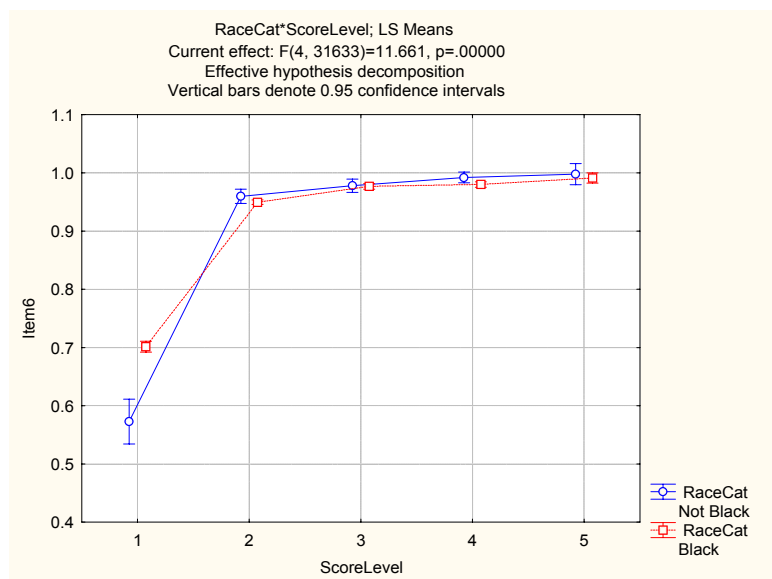


Item 6

Univariate Tests of Significance for Item6 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	5245.682	1	5245.682	132827.9	0.000000
RaceCat	0.615	1	0.615	15.6	0.000079
ScoreLevel	46.443	4	11.611	294.0	0.000000
RaceCat*ScoreLevel	1.842	4	0.461	11.7	0.000000
Error	1249.260	31633	0.039		

RaceCat; LS Means Current effect: F(1, 31633)=15.584, p=.00008 Effective hypothesis decomposition						
Cell No.	RaceCat	Item6 Mean	Item6 Std.Err.	Item6 -95.00%	Item6 +95.00%	N
1	Not Black	0.900075	0.004751	0.890762	0.909387	4517
2	Black	0.919787	0.001536	0.916776	0.922797	27126

MANTEL-HAENSZEL= .84897 Chi-square(1)= 2.66139 p= .1028

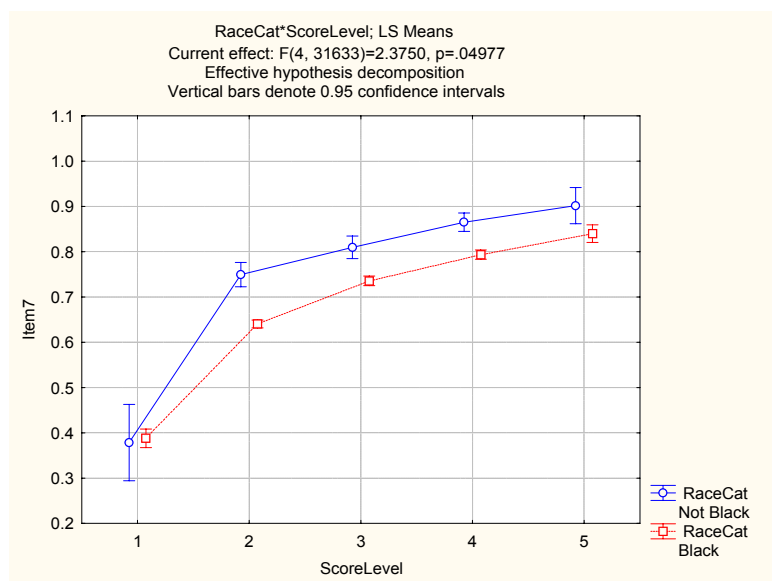


Item 7

Univariate Tests of Significance for Item7					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	3195.529	1	3195.529	16773.88	0.000000
RaceCat	5.972	1	5.972	31.35	0.000000
ScoreLevel	113.538	4	28.384	148.99	0.000000
RaceCat*ScoreLevel	1.810	4	0.452	2.38	0.049768
Error	6026.283	31633	0.191		

RaceCat; LS Means						
Current effect: F(1, 31633)=31.347, p=.00000						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item7 Mean	Item7 Std.Err.	Item7 -95.00%	Item7 +95.00%	N
1	Not Black	0.740898	0.010435	0.720445	0.761352	4517
2	Black	0.679495	0.003374	0.672883	0.686108	27126

MANTEL-HAENSZEL= .62386 Chi-square(1)= 128.38292 p=0

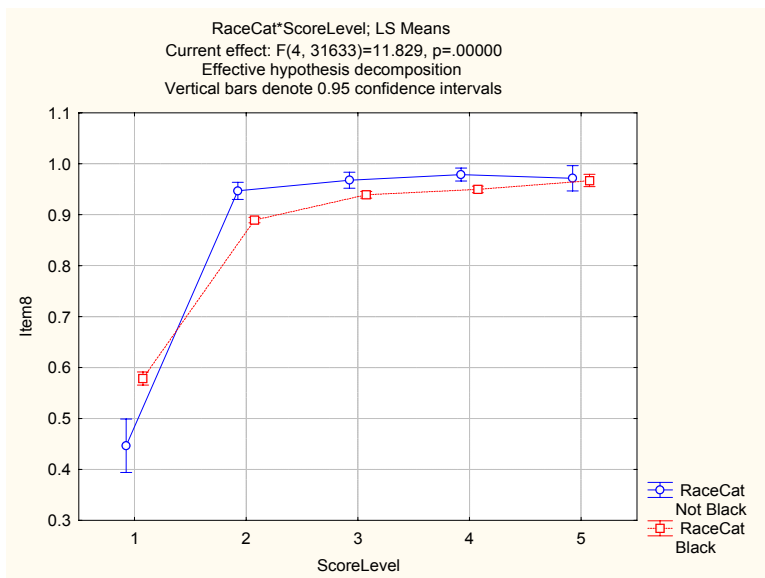


Item 8

Univariate Tests of Significance for Item8					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	4725.476	1	4725.476	64015.61	0.000000
RaceCat	0.010	1	0.010	0.13	0.714821
ScoreLevel	78.100	4	19.525	264.50	0.000000
RaceCat*ScoreLevel	3.493	4	0.873	11.83	0.000000
Error	2335.071	31633	0.074		

RaceCat; LS Means						
Current effect: F(1, 31633)=.13351, p=.71482						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item8 Mean	Item8 Std.Err.	Item8 -95.00%	Item8 +95.00%	N
1	Not Black	0.862388	0.006496	0.849656	0.875120	4517
2	Black	0.864882	0.002100	0.860766	0.868998	27126

MANTEL-HAENSZEL= .56248 Chi-square(1)= 52.79052 p=0

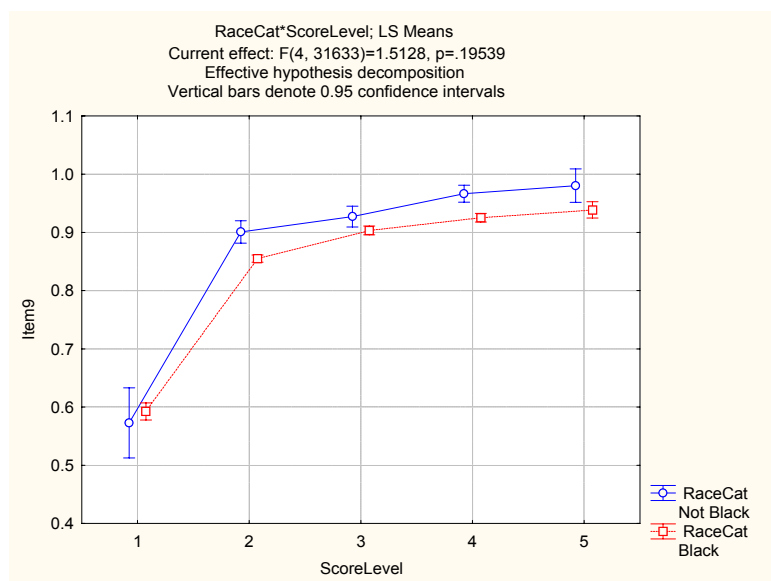


Item 9

Univariate Tests of Significance for Item9					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	4644.861	1	4644.861	47647.34	0.000000
RaceCat	1.116	1	1.116	11.45	0.000715
ScoreLevel	56.244	4	14.061	144.24	0.000000
RaceCat*ScoreLevel	0.590	4	0.147	1.51	0.195387
Error	3083.717	31633	0.097		

RaceCat; LS Means						
Current effect: F(1, 31633)=11.451, p=.00072						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item9 Mean	Item9 Std.Err.	Item9 -95.00%	Item9 +95.00%	N
1	Not Black	0.869510	0.007465	0.854879	0.884142	4517
2	Black	0.842963	0.002413	0.838233	0.847693	27126

MANTEL-HAENSZEL= .61483 Chi-square(1)= 57.96329 p=0

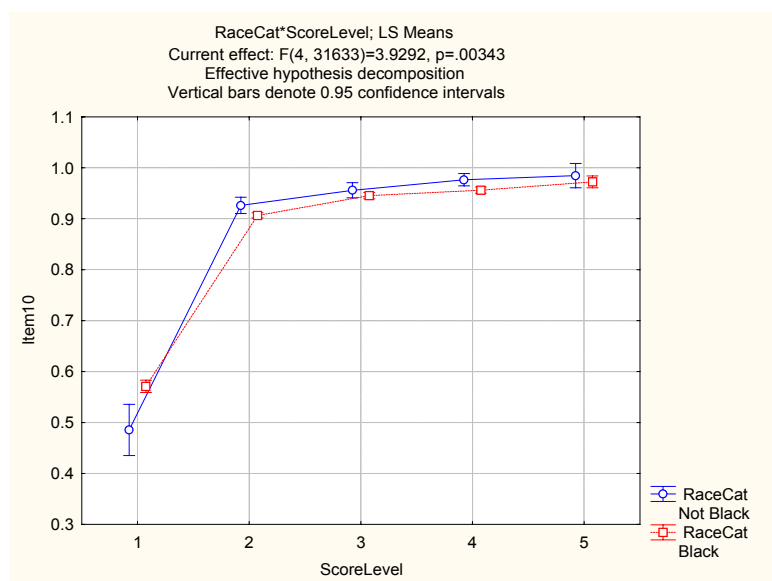


Item 10

Univariate Tests of Significance for Item10					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	4774.752	1	4774.752	70498.81	0.000000
RaceCat	0.034	1	0.034	0.50	0.481151
ScoreLevel	74.539	4	18.635	275.14	0.000000
RaceCat*ScoreLevel	1.064	4	0.266	3.93	0.003429
Error	2142.444	31633	0.068		

RaceCat; LS Means						
Current effect: F(1, 31633)=.49627, p=.48115						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item10 Mean	Item10 Std.Err.	Item10 -95.00%	Item10 +95.00%	N
1	Not Black	0.865823	0.006222	0.853627	0.878018	4517
2	Black	0.870429	0.002012	0.866487	0.874372	27126

MANTEL-HAENSZEL= .75991 Chi-square(1)= 13.33043 p= .0002

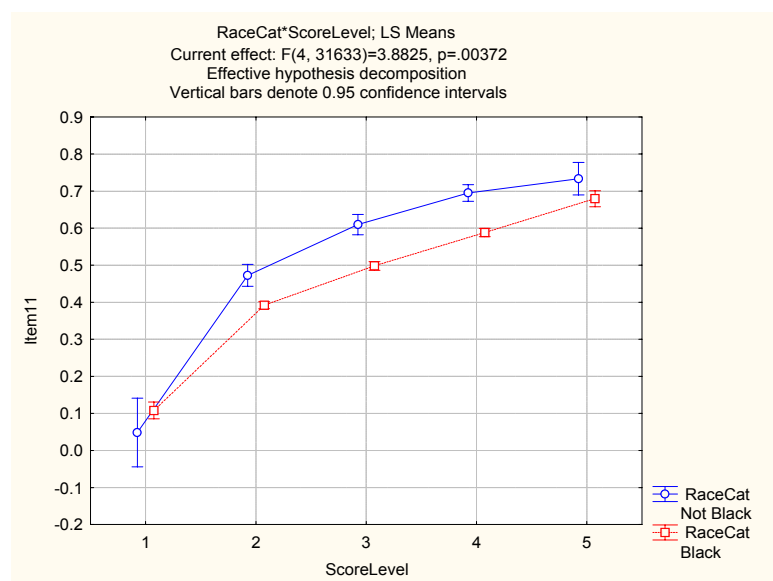


Item 11

Univariate Tests of Significance for Item11 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1475.333	1	1475.333	6406.879	0.000000
RaceCat	5.435	1	5.435	23.602	0.000001
ScoreLevel	219.747	4	54.937	238.572	0.000000
RaceCat*ScoreLevel	3.576	4	0.894	3.882	0.003725
Error	7284.237	31633	0.230		

RaceCat; LS Means Current effect: F(1, 31633)=23.602, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item11 Mean	Item11 Std.Err.	Item11 -95.00%	Item11 +95.00%	N
1	Not Black	0.511850	0.011473	0.489363	0.534337	4517
2	Black	0.453272	0.003709	0.446002	0.460542	27126

MANTEL-HAENSZEL = .67146 Chi-square(1)= 136.62919 p=0

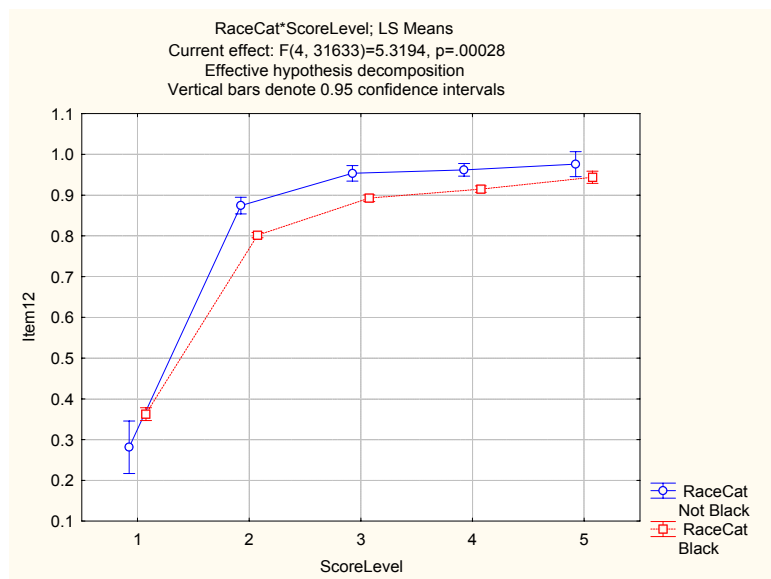


Item 12

Univariate Tests of Significance for Item12 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	4016.475	1	4016.475	36032.25	0.000000
RaceCat	1.105	1	1.105	9.91	0.001645
ScoreLevel	159.509	4	39.877	357.74	0.000000
RaceCat*ScoreLevel	2.372	4	0.593	5.32	0.000280
Error	3526.096	31633	0.111		

RaceCat; LS Means Current effect: F(1, 31633)=9.9107, p=.00164 Effective hypothesis decomposition						
Cell No.	RaceCat	Item12 Mean	Item12 Std.Err.	Item12 -95.00%	Item12 +95.00%	N
1	Not Black	0.809419	0.007982	0.793773	0.825065	4517
2	Black	0.783009	0.002581	0.777951	0.788067	27126

MANTEL-HAENSZEL= .52273 Chi-square(1)= 106.39039 p=0

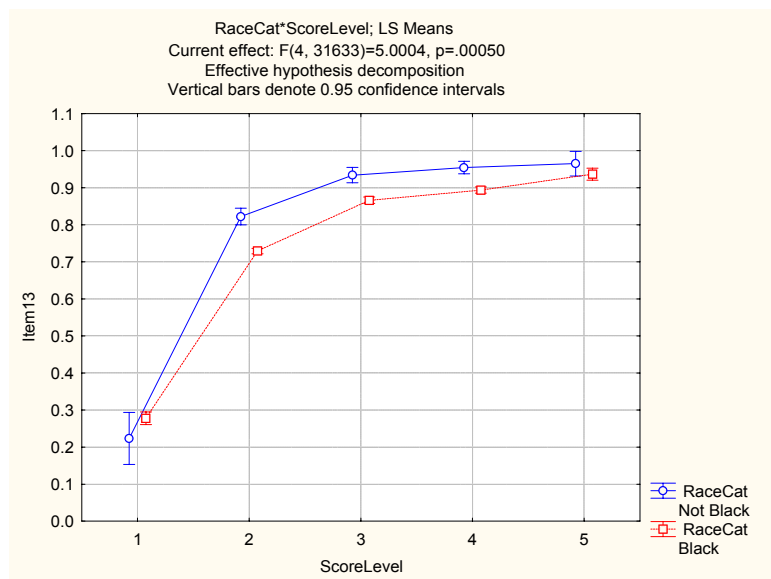


Item 13

Univariate Tests of Significance for Item13 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	3661.860	1	3661.860	27654.38	0.000000
RaceCat	2.420	1	2.420	18.28	0.000019
ScoreLevel	211.727	4	52.932	399.74	0.000000
RaceCat*ScoreLevel	2.649	4	0.662	5.00	0.000500
Error	4188.689	31633	0.132		

RaceCat; LS Means Current effect: F(1, 31633)=18.277, p=.00002 Effective hypothesis decomposition						
Cell No.	RaceCat	Item13 Mean	Item13 Std.Err.	Item13 -95.00%	Item13 +95.00%	N
1	Not Black	0.779798	0.008700	0.762745	0.796850	4517
2	Black	0.740708	0.002813	0.735196	0.746221	27126

MANTEL-HAENSZEL= .49854 Chi-square(1)= 155.5013 p=0

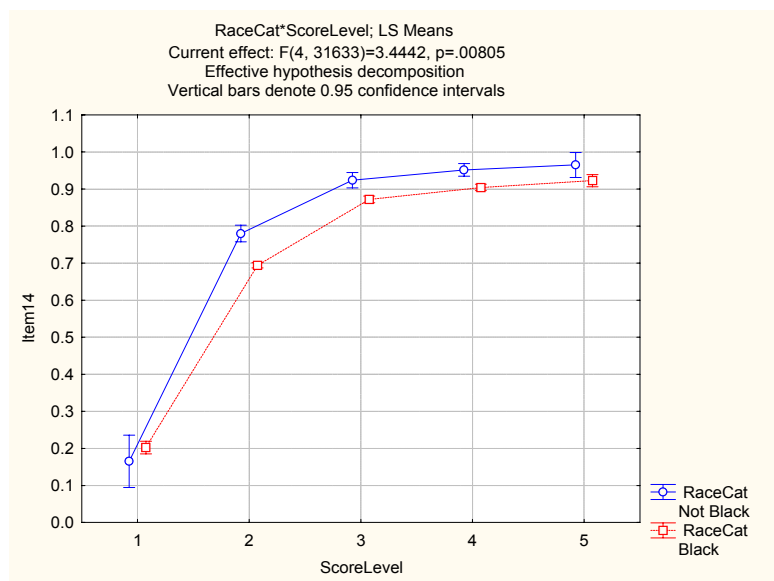


Item 14

Univariate Tests of Significance for Item14 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	3451.439	1	3451.439	25726.95	0.000000
RaceCat	2.290	1	2.290	17.07	0.000036
ScoreLevel	275.453	4	68.863	513.31	0.000000
RaceCat*ScoreLevel	1.848	4	0.462	3.44	0.008051
Error	4243.775	31633	0.134		

RaceCat; LS Means Current effect: F(1, 31633)=17.068, p=.00004 Effective hypothesis decomposition						
Cell No.	RaceCat	Item14 Mean	Item14 Std.Err.	Item14 -95.00%	Item14 +95.00%	N
1	Not Black	0.757098	0.008757	0.739934	0.774262	4517
2	Black	0.719076	0.002831	0.713527	0.724625	27126

MANTEL-HAENSZEL = .58663 Chi-square(1) = 97.78537 p=0

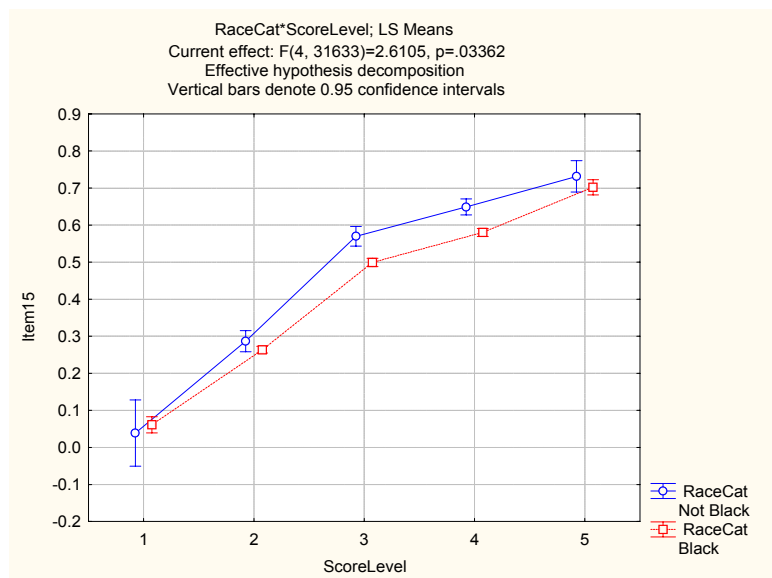


Item 15

Univariate Tests of Significance for Item15					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1216.434	1	1216.434	5695.553	0.000000
RaceCat	1.827	1	1.827	8.554	0.003450
ScoreLevel	412.467	4	103.117	482.810	0.000000
RaceCat*ScoreLevel	2.230	4	0.558	2.611	0.033622
Error	6756.053	31633	0.214		

RaceCat; LS Means						
Current effect: F(1, 31633)=8.5542, p=.00345						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item15 Mean	Item15 Std.Err.	Item15 -95.00%	Item15 +95.00%	N
1	Not Black	0.455160	0.011049	0.433504	0.476817	4517
2	Black	0.421198	0.003572	0.414196	0.428199	27126

MANTEL-HAENSZEL = .79111 Chi-square(1) = 46.00188 p=0

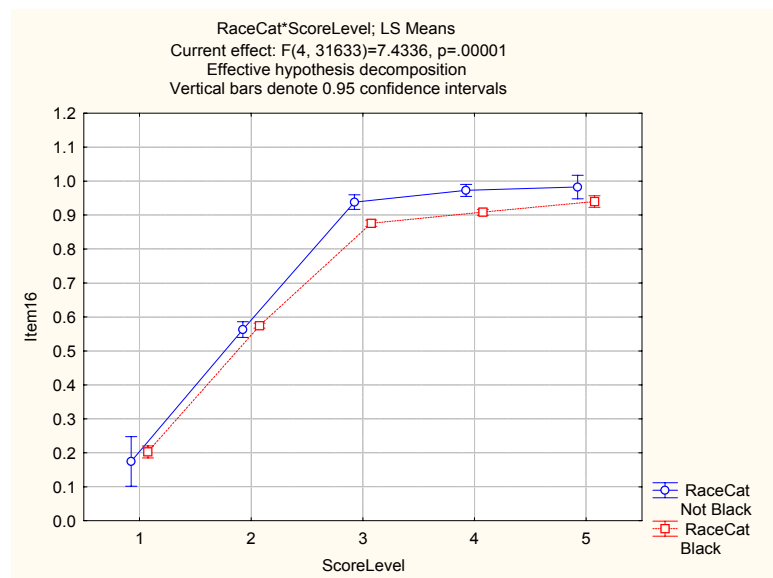


Item 16

Univariate Tests of Significance for Item16 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	3223.025	1	3223.025	22572.15	0.000000
RaceCat	1.064	1	1.064	7.45	0.006340
ScoreLevel	529.279	4	132.320	926.69	0.000000
RaceCat*ScoreLevel	4.246	4	1.061	7.43	0.000006
Error	4516.802	31633	0.143		

RaceCat; LS Means Current effect: F(1, 31633)=7.4522, p=.00634 Effective hypothesis decomposition						
Cell No.	RaceCat	Item16 Mean	Item16 Std.Err.	Item16 -95.00%	Item16 +95.00%	N
1	Not Black	0.726205	0.009034	0.708498	0.743913	4517
2	Black	0.700286	0.002921	0.694561	0.706011	27126

MANTEL-HAENSZEL= .68948 Chi-square(1)= 51.67443 p=0

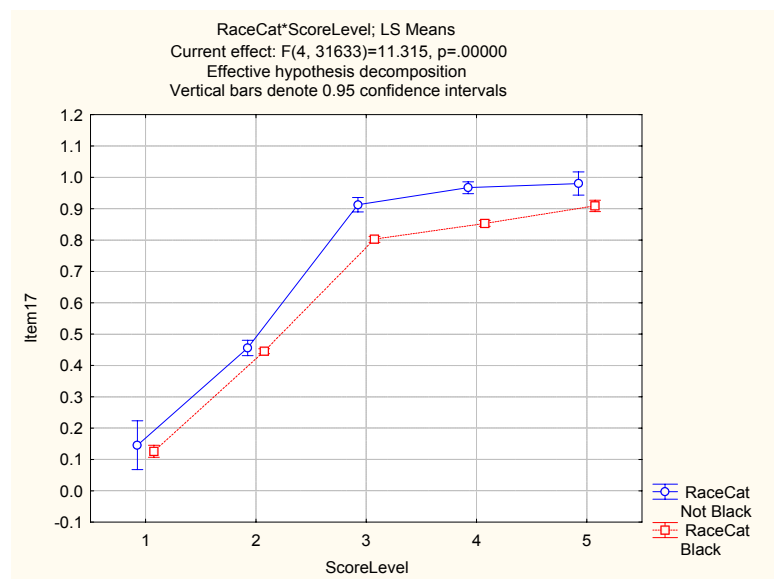


Item 17

Univariate Tests of Significance for Item17					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2757.724	1	2757.724	16921.00	0.000000
RaceCat	6.715	1	6.715	41.20	0.000000
ScoreLevel	719.252	4	179.813	1103.31	0.000000
RaceCat*ScoreLevel	7.376	4	1.844	11.31	0.000000
Error	5155.434	31633	0.163		

RaceCat; LS Means (Merged.sta)						
Current effect: F(1, 31633)=41.200, p=.00000						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item17 Mean	Item17 Std.Err.	Item17 -95.00%	Item17 +95.00%	N
1	Not Black	0.692310	0.009652	0.673392	0.711228	4517
2	Black	0.627200	0.003120	0.621084	0.633316	27126

MANTEL-HAENSZEL= .53238 Chi-square(1)= 167.59232 p=0

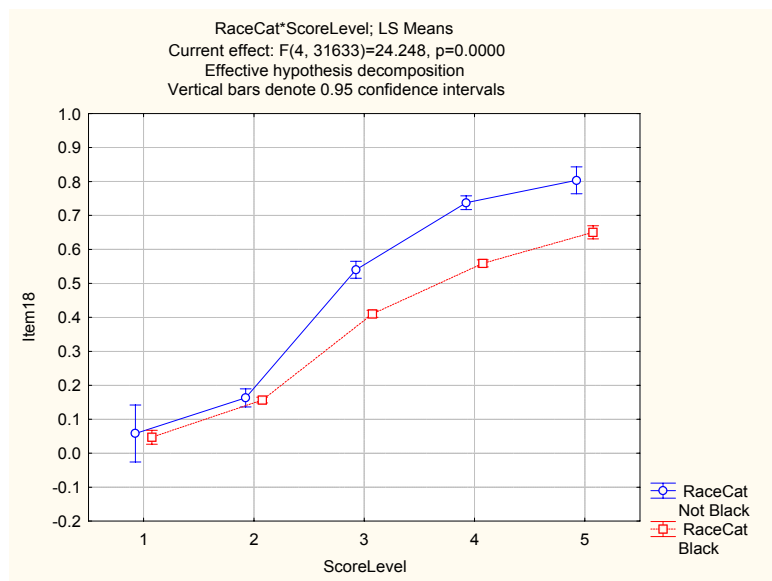


Item 18

Univariate Tests of Significance for Item18 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1078.751	1	1078.751	5714.743	0.00
RaceCat	14.533	1	14.533	76.987	0.00
ScoreLevel	698.792	4	174.698	925.473	0.00
RaceCat*ScoreLevel	18.309	4	4.577	24.248	0.00
Error	5971.243	31633	0.189		

RaceCat; LS Means (Merged.sta) Current effect: F(1, 31633)=76.987, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item18 Mean	Item18 Std.Err.	Item18 -95.00%	Item18 +95.00%	N
1	Not Black	0.460530	0.010388	0.440170	0.480890	4517
2	Black	0.364743	0.003358	0.358161	0.371325	27126

MANTEL-HAENSZEL= .56104 Chi-square(1)= 248.96305 p=0

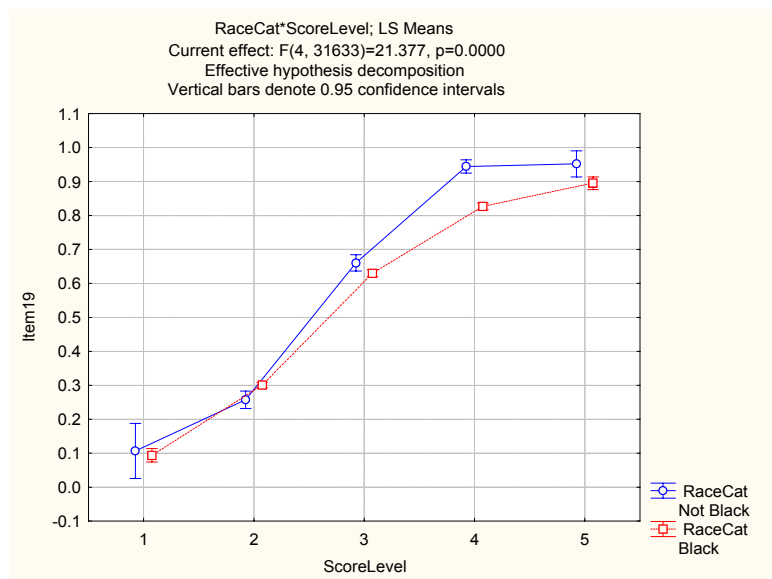


Item 19

Univariate Tests of Significance for Item19 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2034.762	1	2034.762	11625.68	0.000000
RaceCat	1.929	1	1.929	11.02	0.000903
ScoreLevel	1046.053	4	261.513	1494.16	0.000000
RaceCat*ScoreLevel	14.966	4	3.742	21.38	0.000000
Error	5536.503	31633	0.175		

RaceCat; LS Means Current effect: F(1, 31633)=11.019, p=.00090 Effective hypothesis decomposition						
Cell No.	RaceCat	Item19 Mean	Item19 Std.Err.	Item19 -95.00%	Item19 +95.00%	N
1	Not Black	0.584162	0.010002	0.564557	0.603767	4517
2	Black	0.549267	0.003234	0.542929	0.555605	27126

MANTEL-HAENSZEL = .74172 Chi-square(1) = 48.893 p=0

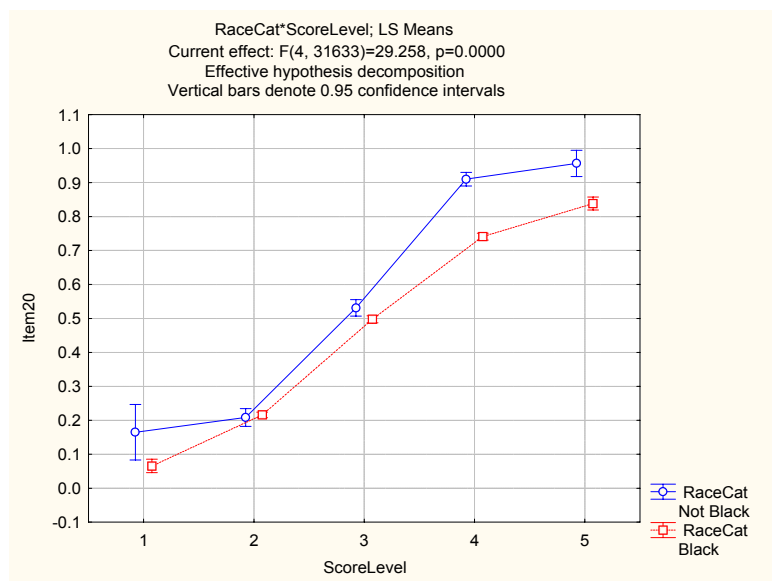


Item 20

Univariate Tests of Significance for Item20 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1666.658	1	1666.658	9307.125	0.000000
RaceCat	10.767	1	10.767	60.128	0.000000
ScoreLevel	1087.751	4	271.938	1518.583	0.000000
RaceCat*ScoreLevel	20.958	4	5.239	29.258	0.000000
Error	5664.626	31633	0.179		

RaceCat; LS Means Current effect: F(1, 31633)=60.128, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item20 Mean	Item20 Std.Err.	Item20 -95.00%	Item20 +95.00%	N
1	Not Black	0.554122	0.010117	0.534292	0.573953	4517
2	Black	0.471673	0.003271	0.465262	0.478083	27126

MANTEL-HAENSZEL= .61412 Chi-square(1)= 142.90404 p=0

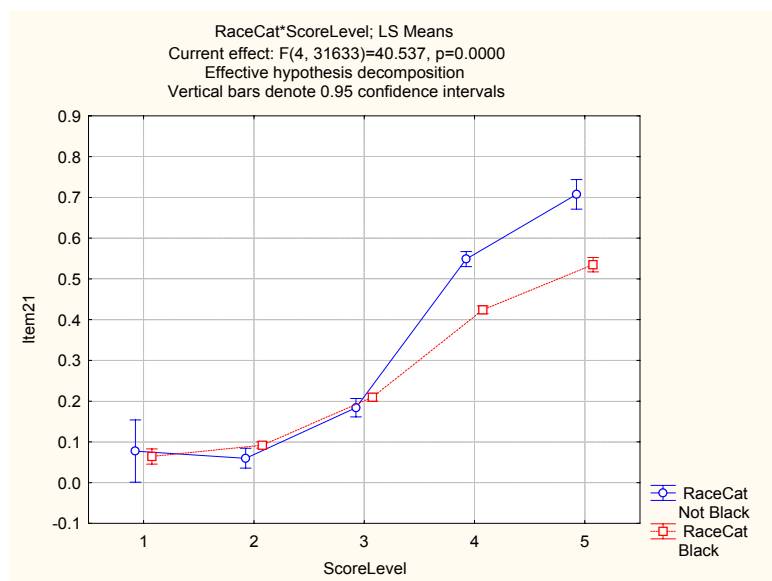


Item 21

Univariate Tests of Significance for Item21 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	533.960	1	533.9596	3405.051	0.000000
RaceCat	4.015	1	4.0151	25.604	0.000000
ScoreLevel	593.422	4	148.3554	946.060	0.000000
RaceCat*ScoreLevel	25.427	4	6.3568	40.537	0.000000
Error	4960.497	31633	0.1568		

RaceCat; LS Means Current effect: F(1, 31633)=25.604, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item21 Mean	Item21 Std.Err.	Item21 -95.00%	Item21 +95.00%	N
1	Not Black	0.315484	0.009468	0.296927	0.334041	4517
2	Black	0.265135	0.003061	0.259136	0.271135	27126

MANTEL-HAENSZEL= .76067 Chi-square(1)= 49.35022 p=0

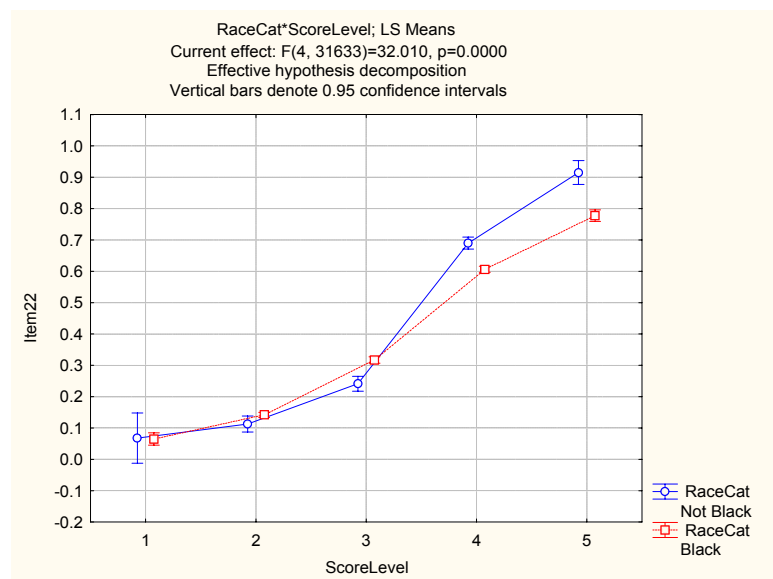


Item 22

Univariate Tests of Significance for Item22 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	981.132	1	981.1317	5687.012	0.000000
RaceCat	0.891	1	0.8908	5.164	0.023072
ScoreLevel	1003.434	4	250.8585	1454.071	0.000000
RaceCat*ScoreLevel	22.090	4	5.5224	32.010	0.000000
Error	5457.372	31633	0.1725		

RaceCat; LS Means Current effect: F(1, 31633)=5.1636, p=.02307 Effective hypothesis decomposition						
Cell No.	RaceCat	Item22 Mean	Item22 Std.Err.	Item22 -95.00%	Item22 +95.00%	N
1	Not Black	0.405382	0.009931	0.385917	0.424846	4517
2	Black	0.381666	0.003210	0.375373	0.387959	27126

MANTEL-HAENSZEL= .94921 Chi-square(1)= 1.74561 p= .1864

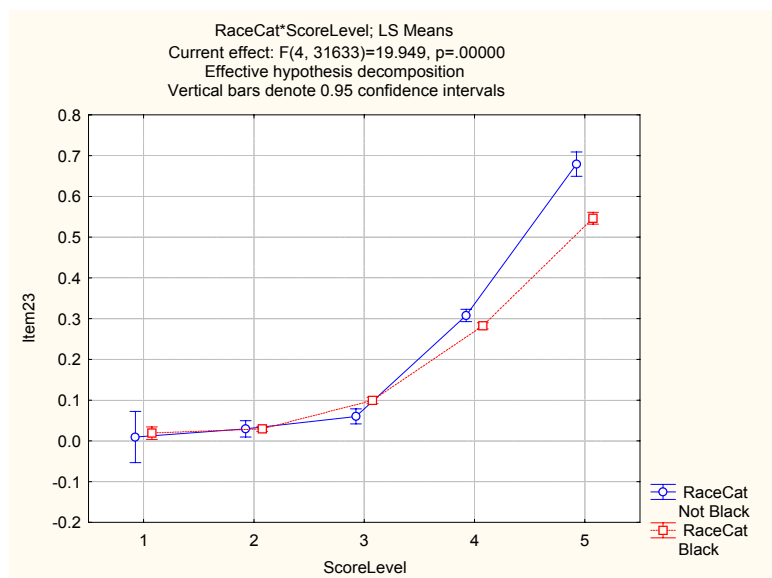


Item 23

Univariate Tests of Significance for Item23					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	269.657	1	269.6575	2547.215	0.000000
RaceCat	0.759	1	0.7586	7.166	0.007433
ScoreLevel	481.230	4	120.3075	1136.438	0.000000
RaceCat*ScoreLevel	8.447	4	2.1119	19.949	0.000000
Error	3348.784	31633	0.1059		

RaceCat; LS Means						
Current effect: F(1, 31633)=7.1661, p=.00743						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item23 Mean	Item23 Std.Err.	Item23 -95.00%	Item23 +95.00%	N
1	Not Black	0.217249	0.007779	0.202002	0.232497	4517
2	Black	0.195364	0.002515	0.190435	0.200293	27126

MANTEL-HAENSZEL= .91166 Chi-square(1)= 4.05384 p= .0440

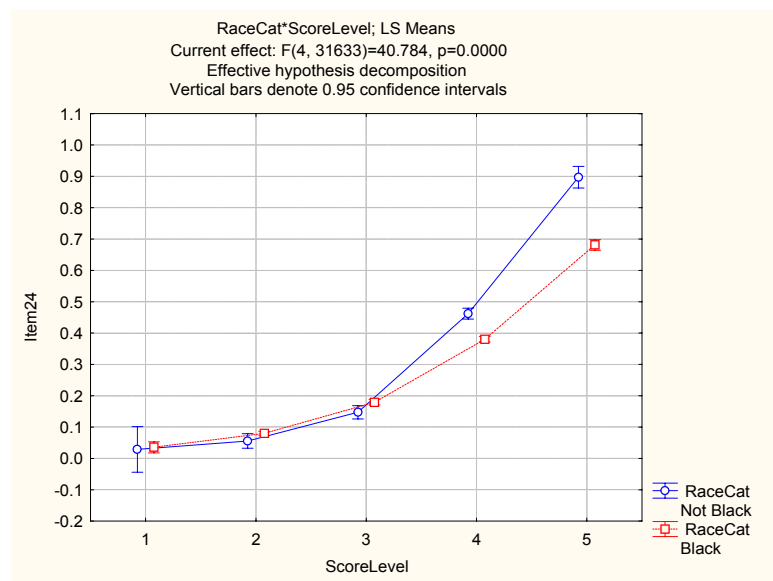


Item 24

Univariate Tests of Significance for Item24 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	550.777	1	550.7774	3885.744	0.000000
RaceCat	3.514	1	3.5138	24.790	0.000001
ScoreLevel	737.348	4	184.3369	1300.500	0.000000
RaceCat*ScoreLevel	23.124	4	5.7809	40.784	0.000000
Error	4483.760	31633	0.1417		

RaceCat; LS Means Current effect: F(1, 31633)=24.790, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item24 Mean	Item24 Std.Err.	Item24 -95.00%	Item24 +95.00%	N
1	Not Black	0.318396	0.009001	0.300754	0.336039	4517
2	Black	0.271296	0.002910	0.265592	0.276999	27126

MANTEL-HAENSZEL= .79405 Chi-square(1)= 31.29283 p=0

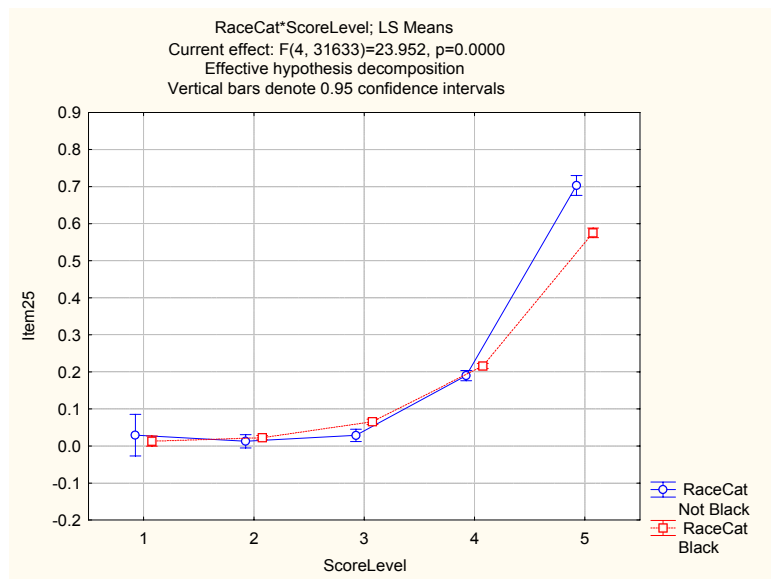


Item 25

Univariate Tests of Significance for Item25					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	218.198	1	218.1980	2564.112	0.000000
RaceCat	0.327	1	0.3273	3.846	0.049880
ScoreLevel	483.005	4	120.7513	1418.986	0.000000
RaceCat*ScoreLevel	8.153	4	2.0382	23.952	0.000000
Error	2691.870	31633	0.0851		

RaceCat; LS Means						
Current effect: F(1, 31633)=3.8458, p=.04988						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item25 Mean	Item25 Std.Err.	Item25 -95.00%	Item25 +95.00%	N
1	Not Black	0.192768	0.006974	0.179098	0.206438	4517
2	Black	0.178393	0.002255	0.173974	0.182813	27126

MANTEL-HAENSZEL= 1.09062 Chi-square(1)= 2.67533 p= .1019

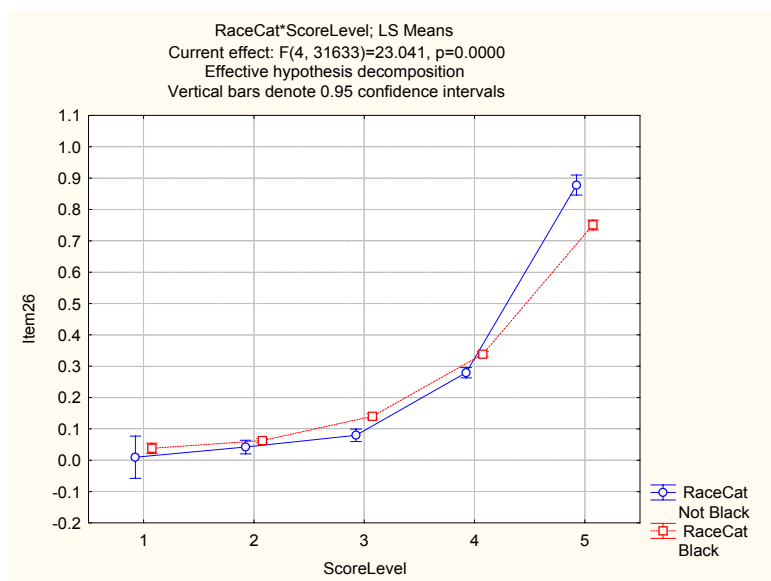


Item 26

Univariate Tests of Significance for Item26 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	434.600	1	434.6001	3545.083	0.000000
RaceCat	0.110	1	0.1099	0.897	0.343712
ScoreLevel	729.876	4	182.4690	1488.421	0.000000
RaceCat*ScoreLevel	11.299	4	2.8247	23.041	0.000000
Error	3877.964	31633	0.1226		

RaceCat; LS Means Current effect: F(1, 31633)=.89656, p=.34371 Effective hypothesis decomposition						
Cell No.	RaceCat	Item26 Mean	Item26 Std.Err.	Item26 -95.00%	Item26 +95.00%	N
1	Not Black	0.257745	0.008371	0.241337	0.274153	4517
2	Black	0.266075	0.002706	0.260771	0.271380	27126

MANTEL-HAENSZEL= 1.26503 Chi-square(1)= 25.71018 p=0

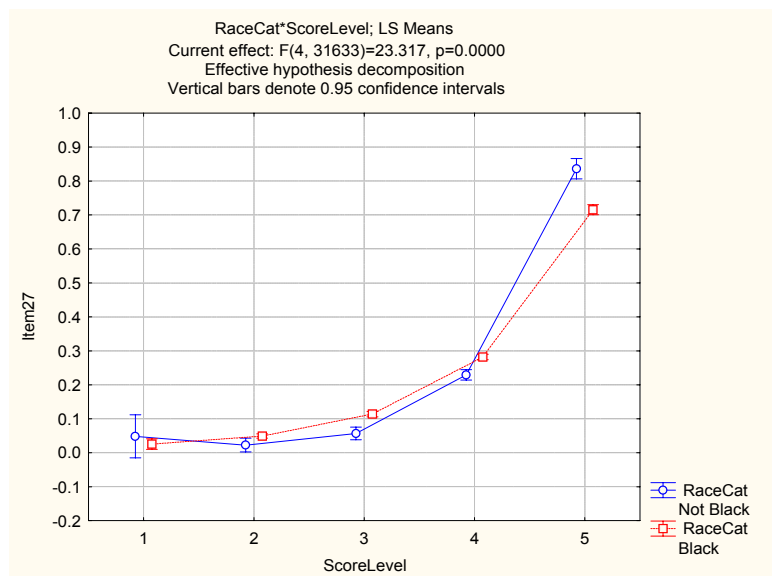


Item 27

Univariate Tests of Significance for Item27 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	359.064	1	359.0641	3317.268	0.000000
RaceCat	0.003	1	0.0025	0.023	0.878382
ScoreLevel	670.726	4	167.6815	1549.151	0.000000
RaceCat*ScoreLevel	10.096	4	2.5239	23.317	0.000000
Error	3423.984	31633	0.1082		

RaceCat; LS Means Current effect: F(1, 31633)=.02342, p=.87838 Effective hypothesis decomposition						
Cell No.	RaceCat	Item27 Mean	Item27 Std.Err.	Item27 -95.00%	Item27 +95.00%	N
1	Not Black	0.238696	0.007866	0.223279	0.254114	4517
2	Black	0.237431	0.002543	0.232447	0.242416	27126

MANTEL-HAENSZEL= 1.27723 Chi-square(1)= 24.42543 p=0

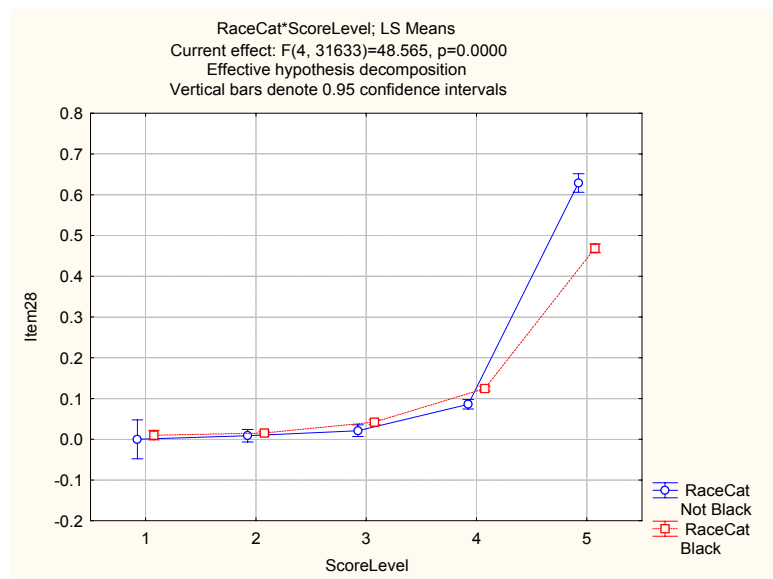


Item 28

Univariate Tests of Significance for Item28 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	125.165	1	125.1649	2040.565	0.000000
RaceCat	0.447	1	0.4469	7.286	0.006954
ScoreLevel	348.617	4	87.1543	1420.878	0.000000
RaceCat*ScoreLevel	11.915	4	2.9789	48.565	0.000000
Error	1940.316	31633	0.0613		

RaceCat; LS Means Current effect: F(1, 31633)=7.2859, p=.00695 Effective hypothesis decomposition						
Cell No.	RaceCat	Item28 Mean	Item28 Std.Err.	Item28 -95.00%	Item28 +95.00%	N
1	Not Black	0.148954	0.005921	0.137348	0.160560	4517
2	Black	0.132157	0.001914	0.128405	0.135909	27126

MANTEL-HAENSZEL= 1.08719 Chi-square(1)= 1.74461 p= .1865

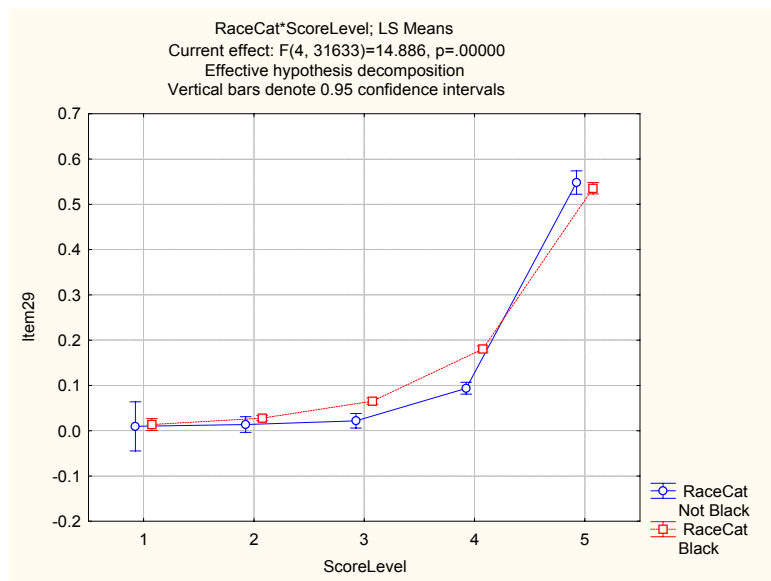


Item 29

Univariate Tests of Significance for Item29 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	144.609	1	144.6093	1832.980	0.000000
RaceCat	1.171	1	1.1710	14.843	0.000117
ScoreLevel	329.178	4	82.2946	1043.116	0.000000
RaceCat*ScoreLevel	4.698	4	1.1744	14.886	0.000000
Error	2495.623	31633	0.0789		

RaceCat; LS Means Current effect: F(1, 31633)=14.843, p=.00012 Effective hypothesis decomposition						
Cell No.	RaceCat	Item29 Mean	Item29 Std.Err.	Item29 -95.00%	Item29 +95.00%	N
1	Not Black	0.137484	0.006715	0.124322	0.150647	4517
2	Black	0.164675	0.002171	0.160419	0.168930	27126

MANTEL-HAENSZEL= 1.7367 Chi-square(1)= 82.9486 p=0

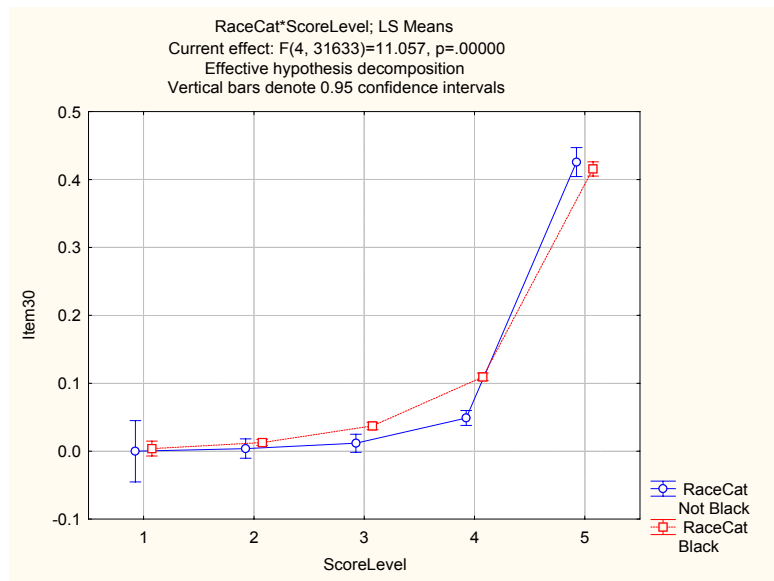


Item 30

Univariate Tests of Significance for Item30 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	72.520	1	72.51975	1333.886	0.000000
RaceCat	0.501	1	0.50061	9.208	0.002412
ScoreLevel	205.349	4	51.33737	944.270	0.000000
RaceCat*ScoreLevel	2.405	4	0.60114	11.057	0.000000
Error	1719.800	31633	0.05437		

RaceCat; LS Means Current effect: F(1, 31633)=9.2080, p=.00241 Effective hypothesis decomposition						
Cell No.	RaceCat	Item30 Mean	Item30 Std.Err.	Item30 -95.00%	Item30 +95.00%	N
1	Not Black	0.098099	0.005575	0.087172	0.109026	4517
2	Black	0.115877	0.001802	0.112345	0.119410	27126

MANTEL-HAENSZEL = 1.68557 Chi-square(1)= 51.73212 p=0

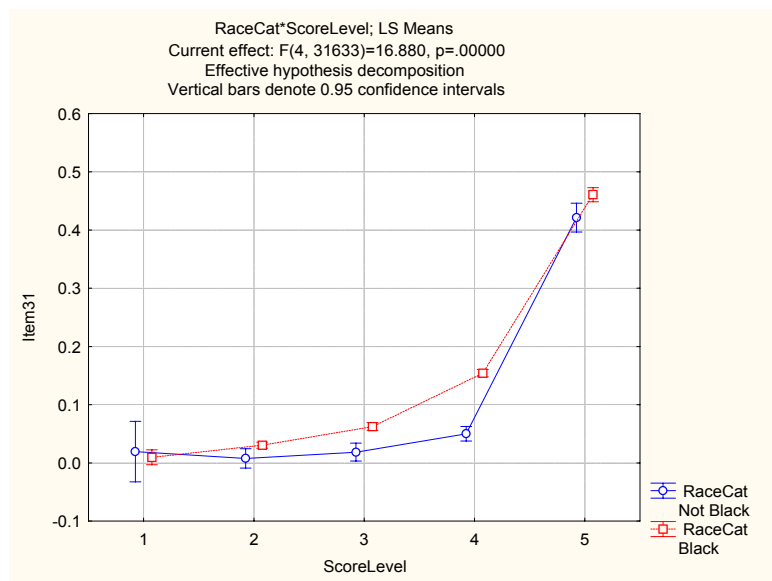


Item 31

Univariate Tests of Significance for Item31 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	96.674	1	96.67362	1329.962	0.000000
RaceCat	2.547	1	2.54677	35.036	0.000000
ScoreLevel	213.135	4	53.28378	733.038	0.000000
RaceCat*ScoreLevel	4.908	4	1.22696	16.880	0.000000
Error	2299.372	31633	0.07269		

RaceCat; LS Means Current effect: F(1, 31633)=35.036, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item31 Mean	Item31 Std.Err.	Item31 -95.00%	Item31 +95.00%	N
1	Not Black	0.103477	0.006446	0.090843	0.116112	4517
2	Black	0.143576	0.002084	0.139492	0.147661	27126

MANTEL-HAENSZEL = 2.32142 Chi-square(1) = 151.31803 p=0

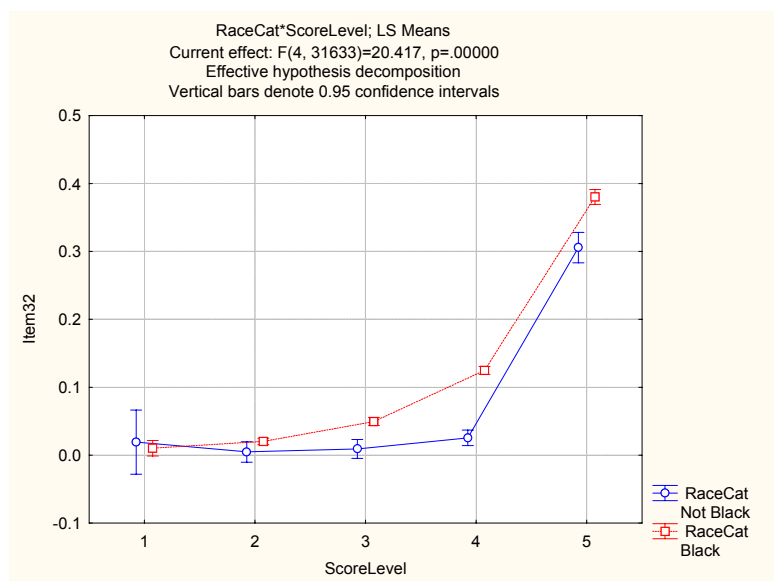


Item 32

Univariate Tests of Significance for Item32					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	57.233	1	57.23269	957.3697	0.000000
RaceCat	3.083	1	3.08278	51.5678	0.000000
ScoreLevel	130.218	4	32.55459	544.5625	0.000000
RaceCat*ScoreLevel	4.882	4	1.22055	20.4170	0.000000
Error	1891.058	31633	0.05978		

RaceCat; LS Means						
Current effect: F(1, 31633)=51.568, p=.00000						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item32 Mean	Item32 Std.Err.	Item32 -95.00%	Item32 +95.00%	N
1	Not Black	0.072986	0.005846	0.061529	0.084444	4517
2	Black	0.117104	0.001890	0.113400	0.120808	27126

MANTEL-HAENSZEL= 2.88792 Chi-square(1)= 175.11345 p=0

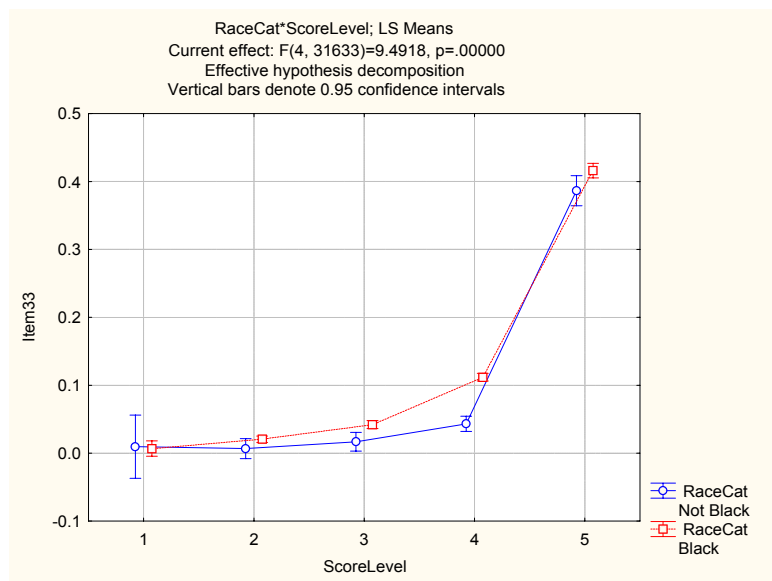


Item 33

Univariate Tests of Significance for Item33 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	71.329	1	71.32857	1226.610	0.000000
RaceCat	1.148	1	1.14751	19.733	0.000009
ScoreLevel	181.177	4	45.29432	778.909	0.000000
RaceCat*ScoreLevel	2.208	4	0.55196	9.492	0.000000
Error	1839.489	31633	0.05815		

RaceCat; LS Means Current effect: F(1, 31633)=19.733, p=.00001 Effective hypothesis decomposition						
Cell No.	RaceCat	Item33 Mean	Item33 Std.Err.	Item33 -95.00%	Item33 +95.00%	N
1	Not Black	0.092648	0.005765	0.081347	0.103948	4517
2	Black	0.119564	0.001864	0.115911	0.123217	27126

MANTEL-HAENSZEL= 1.90156 Chi-square(1)= 78.14573 p=0

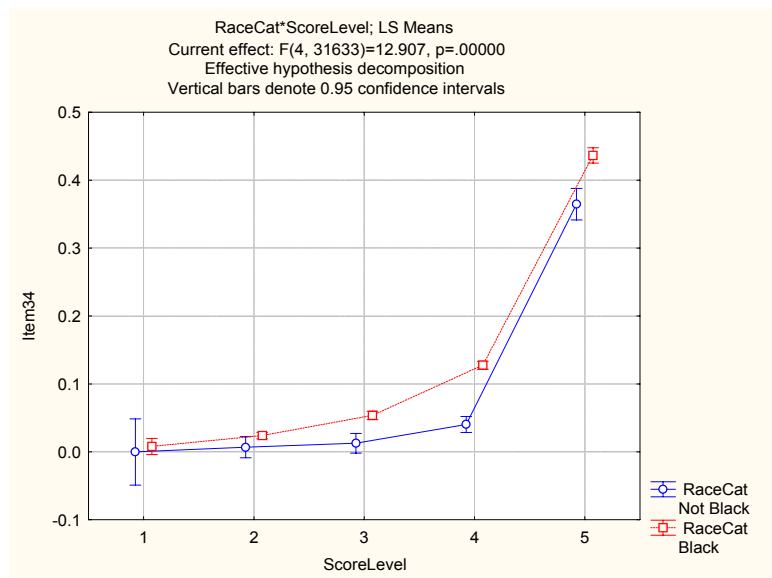


Item 34

Univariate Tests of Significance for Item34 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	73.133	1	73.13310	1147.124	0.000000
RaceCat	3.212	1	3.21206	50.382	0.000000
ScoreLevel	178.410	4	44.60255	699.610	0.000000
RaceCat*ScoreLevel	3.291	4	0.82287	12.907	0.000000
Error	2016.713	31633	0.06375		

RaceCat; LS Means Current effect: F(1, 31633)=50.382, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item34 Mean	Item34 Std.Err.	Item34 -95.00%	Item34 +95.00%	N
1	Not Black	0.084923	0.006037	0.073091	0.096755	4517
2	Black	0.129956	0.001952	0.126131	0.133781	27126

MANTEL-HAENSZEL= 2.43628 Chi-square(1)= 144.96621 p=0

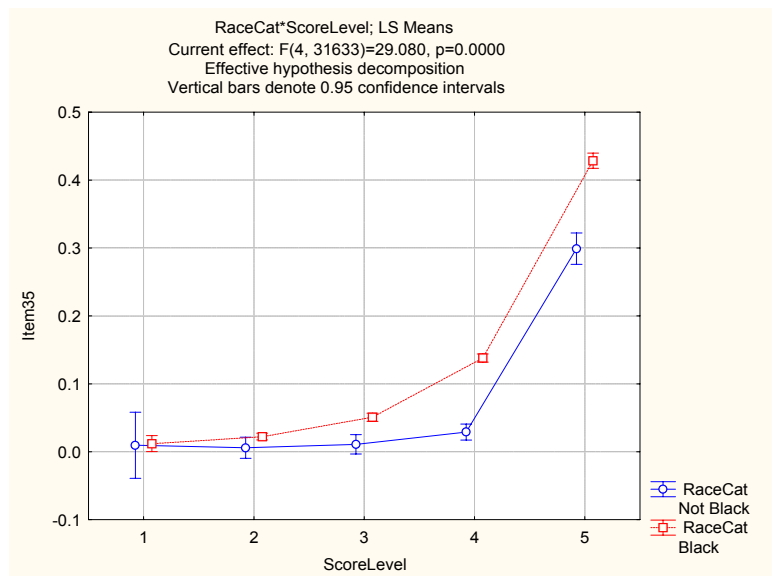


Item 35

Univariate Tests of Significance for Item35 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	64.218	1	64.21758	1009.807	0.00
RaceCat	5.598	1	5.59803	88.028	0.00
ScoreLevel	146.761	4	36.69033	576.947	0.00
RaceCat*ScoreLevel	7.397	4	1.84929	29.080	0.00
Error	2011.666	31633	0.06359		

RaceCat; LS Means Current effect: F(1, 31633)=88.028, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item35 Mean	Item35 Std.Err.	Item35 -95.00%	Item35 +95.00%	N
1	Not Black	0.070953	0.006029	0.059135	0.082770	4517
2	Black	0.130403	0.001949	0.126583	0.134224	27126

MANTEL-HAENSZEL= 3.22512 Chi-square(1)= 221.58807 p=0

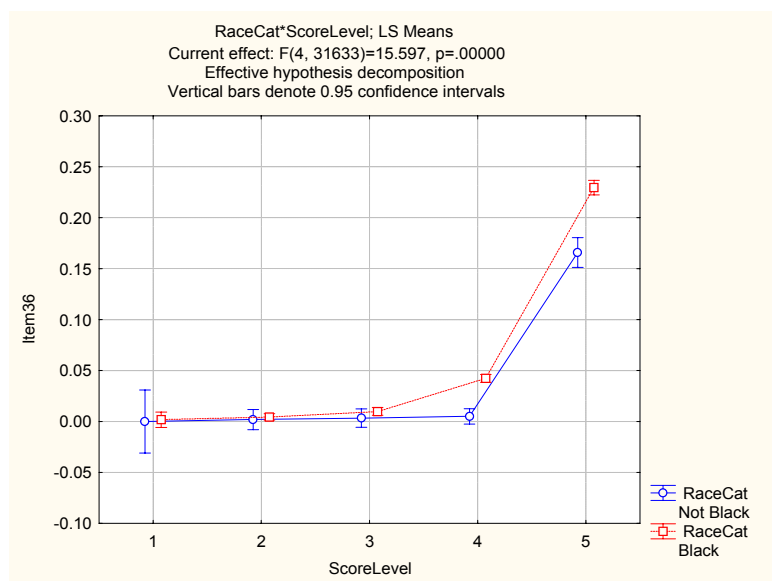


Item 36

Univariate Tests of Significance for Item36					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	13.6698	1	13.66983	534.0725	0.000000
RaceCat	0.7902	1	0.79017	30.8714	0.000000
ScoreLevel	47.0333	4	11.75832	459.3907	0.000000
RaceCat*ScoreLevel	1.5968	4	0.39921	15.5969	0.000000
Error	809.6614	31633	0.02560		

RaceCat; LS Means						
Current effect: F(1, 31633)=30.871, p=.00000						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item36 Mean	Item36 Std.Err.	Item36 -95.00%	Item36 +95.00%	N
1	Not Black	0.035283	0.003825	0.027785	0.042780	4517
2	Black	0.057618	0.001237	0.055194	0.060042	27126

MANTEL-HAENSZEL= 2.42739 Chi-square(1)= 58.36693 p=0

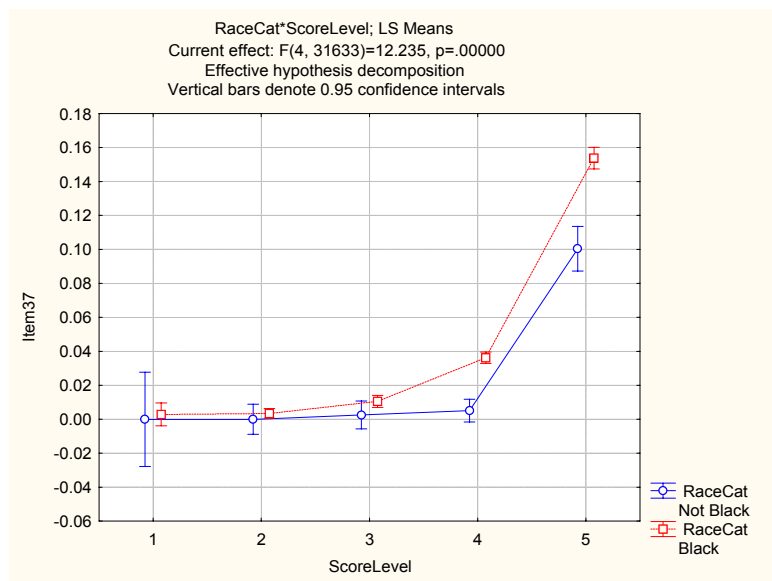


Item 37

Univariate Tests of Significance for Item37 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	6.2865	1	6.286474	305.0351	0.000000
RaceCat	0.6185	1	0.618464	30.0094	0.000000
ScoreLevel	18.9954	4	4.748846	230.4257	0.000000
RaceCat*ScoreLevel	1.0086	4	0.252143	12.2346	0.000000
Error	651.9250	31633	0.020609		

RaceCat; LS Means Current effect: F(1, 31633)=30.009, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item37 Mean	Item37 Std.Err.	Item37 -95.00%	Item37 +95.00%	N
1	Not Black	0.021620	0.003432	0.014892	0.028347	4517
2	Black	0.041380	0.001110	0.039205	0.043555	27126

MANTEL-HAENSZEL= 2.82942 Chi-square(1)= 56.74934 p=0

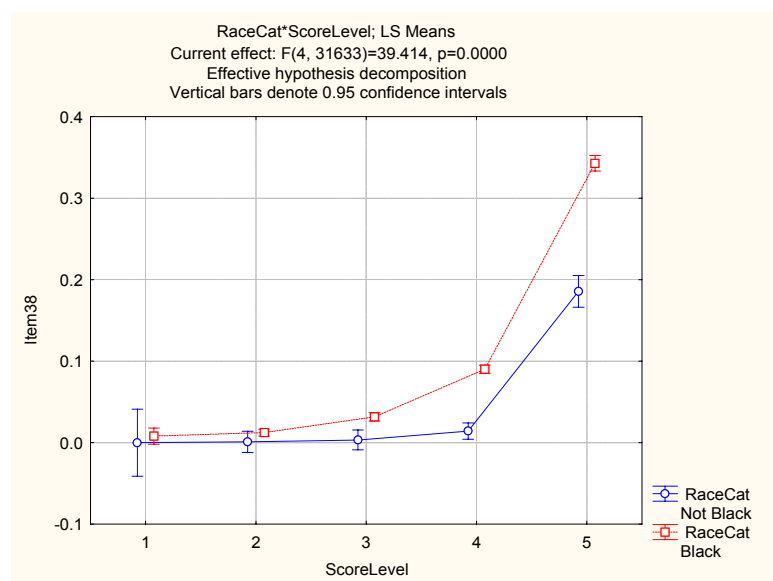


Item 38

Univariate Tests of Significance for Item38 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	30.110	1	30.11014	663.9607	0.00
RaceCat	5.003	1	5.00308	110.3233	0.00
ScoreLevel	79.871	4	19.96783	440.3119	0.00
RaceCat*ScoreLevel	7.150	4	1.78741	39.4143	0.00
Error	1434.534	31633	0.04535		

RaceCat; LS Means Current effect: F(1, 31633)=110.32, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item38 Mean	Item38 Std.Err.	Item38 -95.00%	Item38 +95.00%	N
1	Not Black	0.040838	0.005091	0.030858	0.050817	4517
2	Black	0.097040	0.001646	0.093814	0.100266	27126

MANTEL-HAENSZEL= 4.01842 Chi-square(1)= 193.85889 p=0

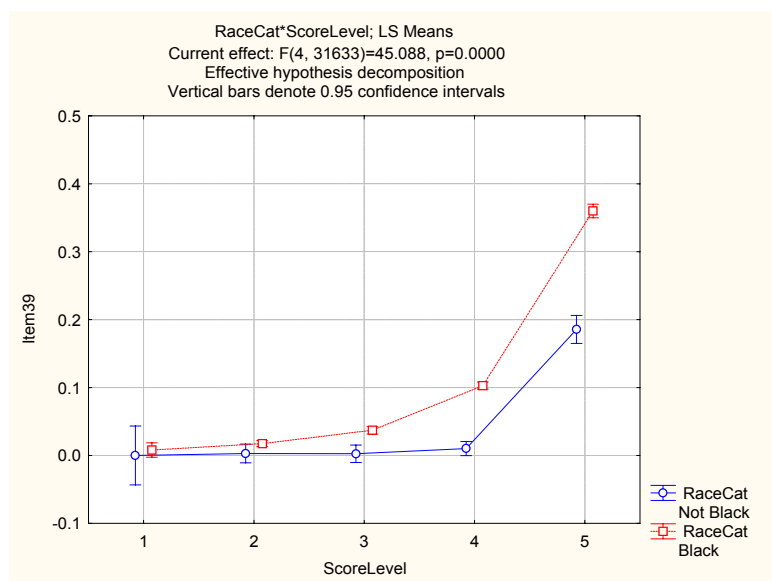


Item 39

Univariate Tests of Significance for Item39					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	33.484	1	33.48448	665.1045	0.00
RaceCat	6.665	1	6.66513	132.3899	0.00
ScoreLevel	83.569	4	20.89232	414.9855	0.00
RaceCat*ScoreLevel	9.080	4	2.26996	45.0883	0.00
Error	1592.554	31633	0.05034		

RaceCat; LS Means (Merged.sta)						
Current effect: F(1, 31633)=132.39, p=0.0000						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item39 Mean	Item39 Std.Err.	Item39 -95.00%	Item39 +95.00%	N
1	Not Black	0.040264	0.005364	0.029750	0.050779	4517
2	Black	0.105134	0.001734	0.101735	0.108533	27126

MANTEL-HAENSZEL= 4.92522 Chi-square(1)= 250.9595 p=0

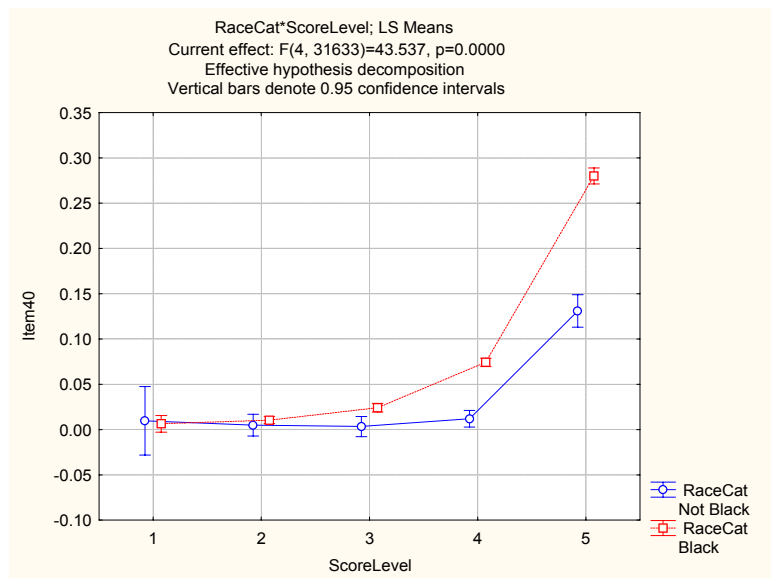


Item 40

Univariate Tests of Significance for Item40 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	19.592	1	19.59209	511.3127	0.00
RaceCat	3.474	1	3.47402	90.6646	0.00
ScoreLevel	47.565	4	11.89116	310.3345	0.00
RaceCat*ScoreLevel	6.673	4	1.66821	43.5367	0.00
Error	1212.089	31633	0.03832		

RaceCat; LS Means (Merged.sta) Current effect: F(1, 31633)=90.665, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item40 Mean	Item40 Std.Err.	Item40 -95.00%	Item40 +95.00%	N
1	Not Black	0.032193	0.004680	0.023020	0.041366	4517
2	Black	0.079026	0.001513	0.076060	0.081991	27126

MANTEL-HAENSZEL= 3.83825 Chi-square(1)= 155.7771 p=0

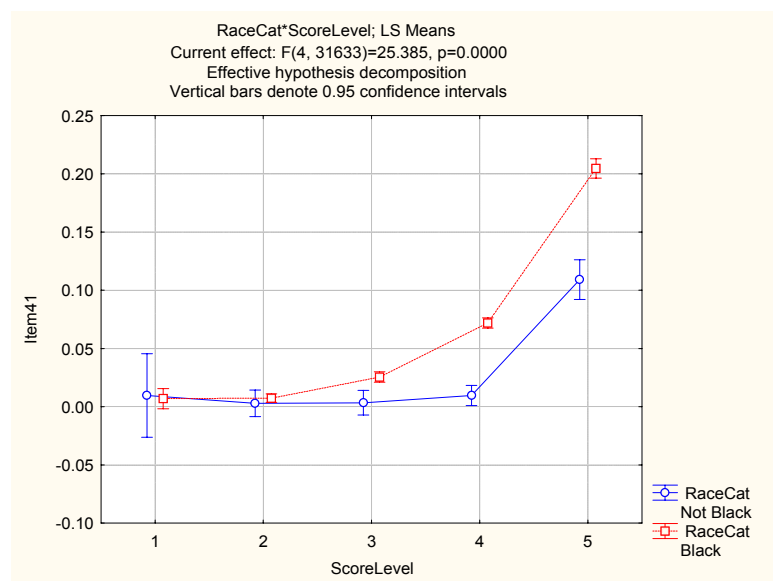


Item 41

Univariate Tests of Significance for Item41 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	12.900	1	12.89958	374.5998	0.000000
RaceCat	2.086	1	2.08593	60.5747	0.000000
ScoreLevel	27.442	4	6.86061	199.2300	0.000000
RaceCat*ScoreLevel	3.497	4	0.87414	25.3848	0.000000
Error	1089.302	31633	0.03444		

RaceCat; LS Means Current effect: F(1, 31633)=60.575, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item41 Mean	Item41 Std.Err.	Item41 -95.00%	Item41 +95.00%	N
1	Not Black	0.026978	0.004437	0.018282	0.035674	4517
2	Black	0.063268	0.001434	0.060456	0.066079	27126

MANTEL-HAENSZEL= 3.87261 Chi-square(1)= 135.13158 p=0

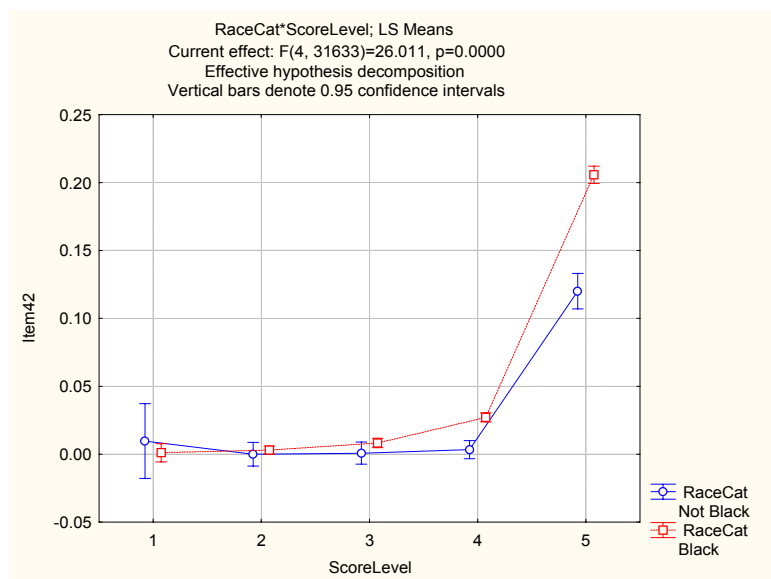


Item 42

Univariate Tests of Significance for Item42					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	9.1350	1	9.135046	450.6365	0.000000
RaceCat	0.7891	1	0.789122	38.9278	0.000000
ScoreLevel	32.4607	4	8.115172	400.3256	0.000000
RaceCat*ScoreLevel	2.1091	4	0.527271	26.0105	0.000000
Error	641.2461	31633	0.020271		

RaceCat; LS Means						
Current effect: F(1, 31633)=38.928, p=.00000						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item42 Mean	Item42 Std.Err.	Item42 -95.00%	Item42 +95.00%	N
1	Not Black	0.026812	0.003404	0.020140	0.033484	4517
2	Black	0.049132	0.001100	0.046975	0.051289	27126

MANTEL-HAENSZEL= 2.78919 Chi-square(1)= 57.20007 p=0

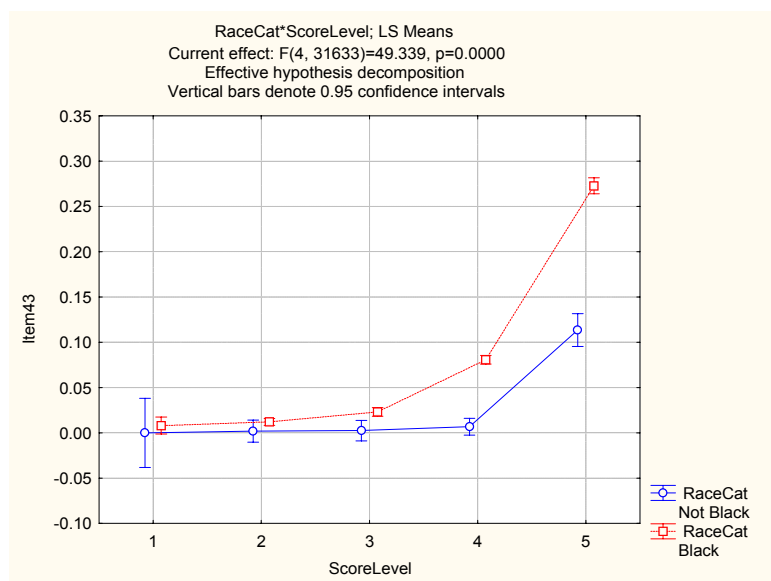


Item 43

Univariate Tests of Significance for Item43 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	17.239	1	17.23907	440.8733	0.00
RaceCat	4.683	1	4.68346	119.7752	0.00
ScoreLevel	42.262	4	10.56549	270.2026	0.00
RaceCat*ScoreLevel	7.717	4	1.92925	49.3389	0.00
Error	1236.917	31633	0.03910		

RaceCat; LS Means (Merged.sta) Current effect: F(1, 31633)=119.78, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item43 Mean	Item43 Std.Err.	Item43 -95.00%	Item43 +95.00%	N
1	Not Black	0.024974	0.004728	0.015708	0.034241	4517
2	Black	0.079352	0.001528	0.076356	0.082348	27126

MANTEL-HAENSZEL= 5.4271 Chi-square(1)= 202.20546 p=0

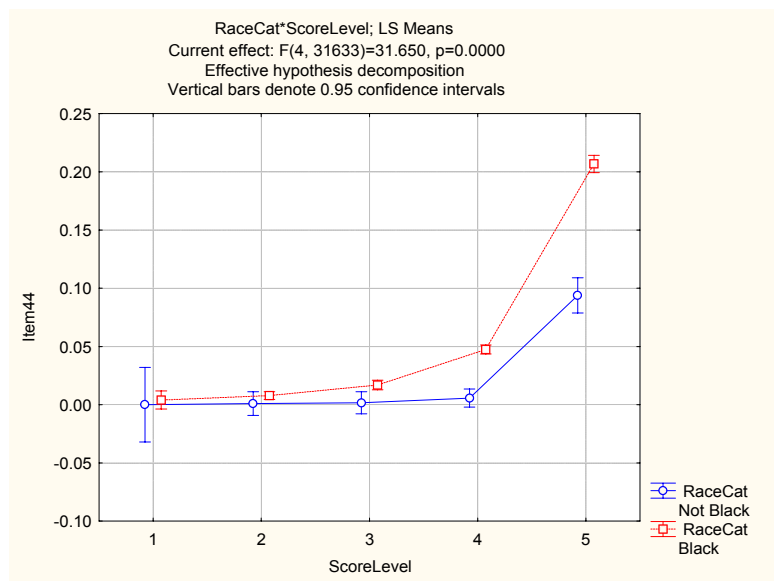


Item 44

Univariate Tests of Significance for Item44 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	9.4051	1	9.405110	340.9421	0.00
RaceCat	2.0706	1	2.070639	75.0622	0.00
ScoreLevel	25.8687	4	6.467183	234.4401	0.00
RaceCat*ScoreLevel	3.4924	4	0.873096	31.6504	0.00
Error	872.6168	31633	0.027586		

RaceCat; LS Means Current effect: F(1, 31633)=75.062, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item44 Mean	Item44 Std.Err.	Item44 -95.00%	Item44 +95.00%	N
1	Not Black	0.020451	0.003971	0.012668	0.028234	4517
2	Black	0.056608	0.001284	0.054091	0.059124	27126

MANTEL-HAENSZEL= 4.24057 Chi-square(1)= 115.19642 p=0

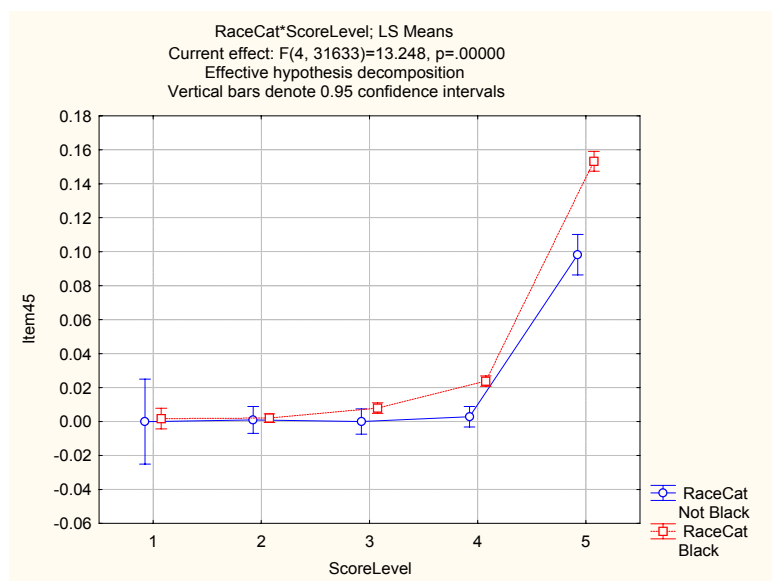


Item 45

Univariate Tests of Significance for Item45 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	5.3595	1	5.359548	319.2915	0.000000
RaceCat	0.4761	1	0.476115	28.3642	0.000000
ScoreLevel	19.2069	4	4.801718	286.0592	0.000000
RaceCat*ScoreLevel	0.8895	4	0.222384	13.2484	0.000000
Error	530.9836	31633	0.016786		

RaceCat; LS Means Current effect: F(1, 31633)=28.364, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item45 Mean	Item45 Std.Err.	Item45 -95.00%	Item45 +95.00%	N
1	Not Black	0.020416	0.003098	0.014345	0.026488	4517
2	Black	0.037754	0.001001	0.035791	0.039717	27126

MANTEL-HAENSZEL= 2.65297 Chi-square(1)= 42.82421 p=0

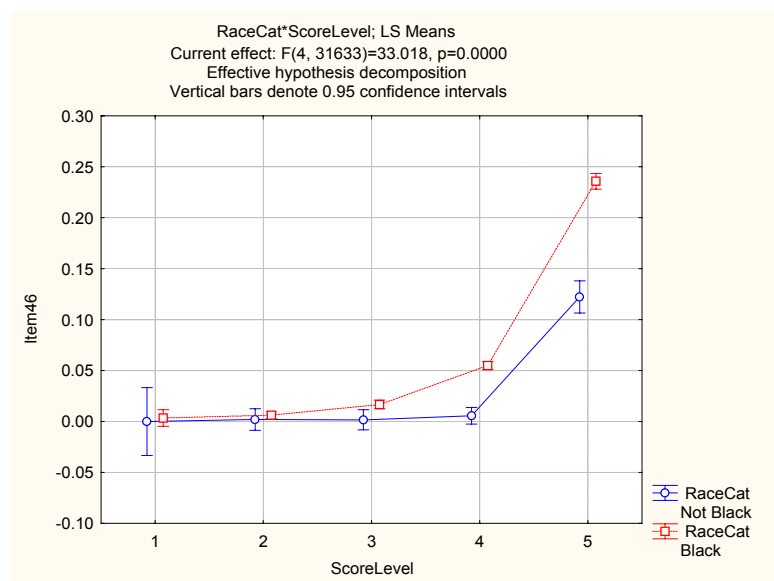


Item 46

Univariate Tests of Significance for Item46 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	12.7583	1	12.75831	428.3961	0.00
RaceCat	2.1803	1	2.18029	73.2092	0.00
ScoreLevel	37.3348	4	9.33369	313.4050	0.00
RaceCat*ScoreLevel	3.9333	4	0.98333	33.0179	0.00
Error	942.0802	31633	0.02978		

RaceCat; LS Means Current effect: F(1, 31633)=73.209, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item46 Mean	Item46 Std.Err.	Item46 -95.00%	Item46 +95.00%	N
1	Not Black	0.026324	0.004126	0.018237	0.034411	4517
2	Black	0.063426	0.001334	0.060811	0.066040	27126

MANTEL-HAENSZEL= 3.85644 Chi-square(1)= 119.19092 p=0

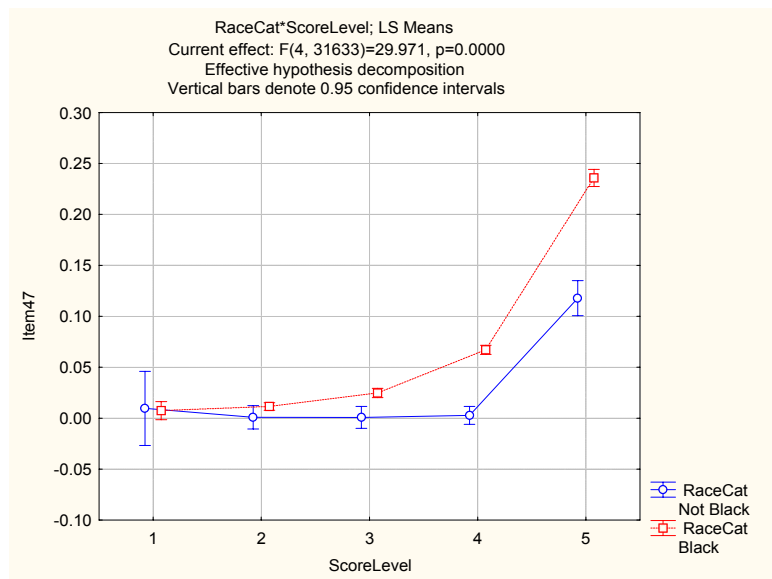


Item 47

Univariate Tests of Significance for Item47 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	14.554	1	14.55378	411.0612	0.00
RaceCat	2.921	1	2.92076	82.4948	0.00
ScoreLevel	35.072	4	8.76792	247.6436	0.00
RaceCat*ScoreLevel	4.244	4	1.06112	29.9707	0.00
Error	1119.978	31633	0.03541		

RaceCat; LS Means Current effect: F(1, 31633)=82.495, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item47 Mean	Item47 Std.Err.	Item47 -95.00%	Item47 +95.00%	N
1	Not Black	0.026457	0.004499	0.017640	0.035275	4517
2	Black	0.069400	0.001454	0.066549	0.072250	27126

MANTEL-HAENSZEL= 5.21396 Chi-square(1)= 169.78709 p=0

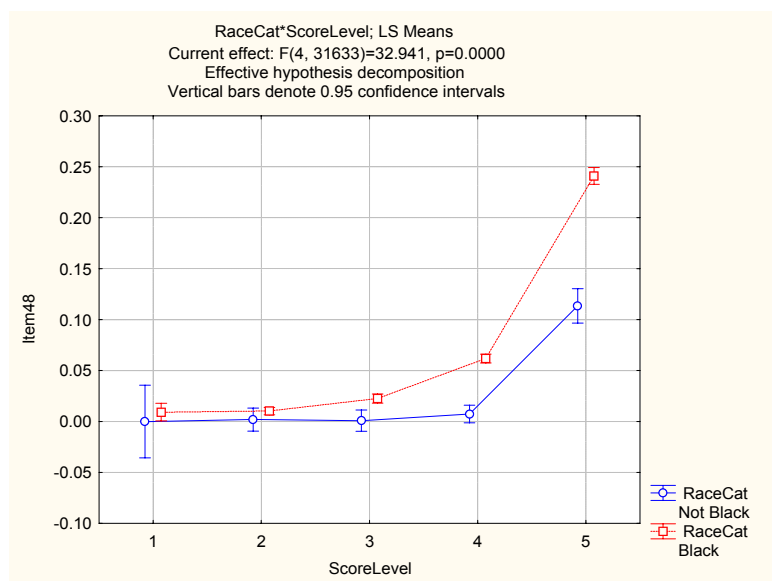


Item 48

Univariate Tests of Significance for Item48 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	13.918	1	13.91807	409.4324	0.00
RaceCat	3.100	1	3.10016	91.1983	0.00
ScoreLevel	35.577	4	8.89424	261.6448	0.00
RaceCat*ScoreLevel	4.479	4	1.11979	32.9413	0.00
Error	1075.319	31633	0.03399		

RaceCat; LS Means (Merged.sta) Current effect: F(1, 31633)=91.198, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item48 Mean	Item48 Std.Err.	Item48 -95.00%	Item48 +95.00%	N
1	Not Black	0.024749	0.004408	0.016109	0.033390	4517
2	Black	0.068991	0.001425	0.066198	0.071784	27126

MANTEL-HAENSZEL= 4.47542 Chi-square(1)= 148.8492 p=0

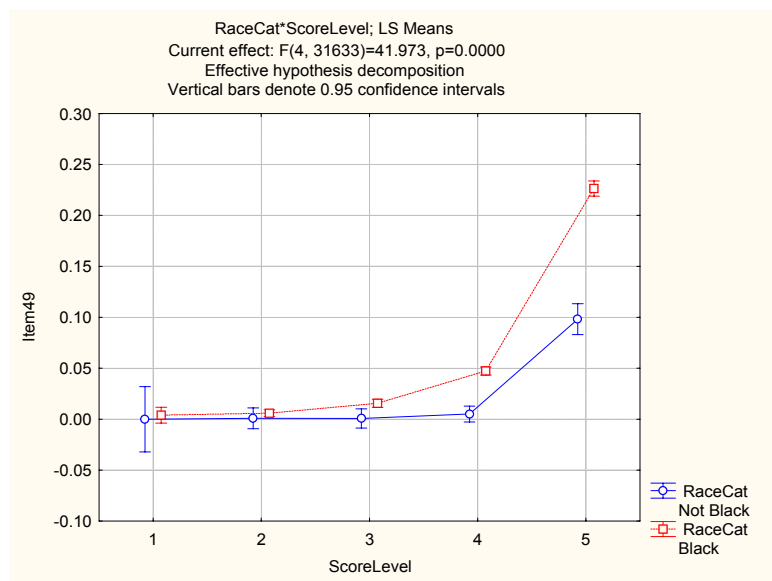


Item 49

Univariate Tests of Significance for Item49 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	10.3829	1	10.38287	378.6548	0.00
RaceCat	2.3946	1	2.39465	87.3309	0.00
ScoreLevel	30.7665	4	7.69162	280.5074	0.00
RaceCat*ScoreLevel	4.6037	4	1.15093	41.9735	0.00
Error	867.3894	31633	0.02742		

RaceCat; LS Means Current effect: F(1, 31633)=87.331, p=0.0000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item49 Mean	Item49 Std.Err.	Item49 -95.00%	Item49 +95.00%	N
1	Not Black	0.021041	0.003959	0.013281	0.028801	4517
2	Black	0.059924	0.001280	0.057415	0.062432	27126

MANTEL-HAENSZEL= 4.44686 Chi-square(1)= 122.50428 p=0

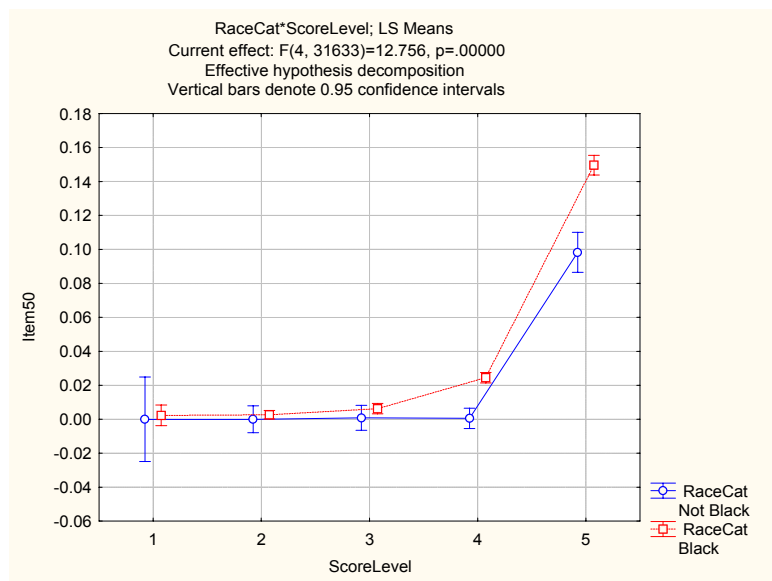


Item 50

Univariate Tests of Significance for Item50 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	5.1454	1	5.145352	311.1843	0.000000
RaceCat	0.4647	1	0.464685	28.1036	0.000000
ScoreLevel	18.7471	4	4.686776	283.4502	0.000000
RaceCat*ScoreLevel	0.8437	4	0.210919	12.7561	0.000000
Error	523.0434	31633	0.016535		

RaceCat; LS Means Current effect: F(1, 31633)=28.104, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item50 Mean	Item50 Std.Err.	Item50 -95.00%	Item50 +95.00%	N
1	Not Black	0.019934	0.003074	0.013908	0.025960	4517
2	Black	0.037062	0.000994	0.035114	0.039010	27126

MANTEL-HAENSZEL= 2.8609 Chi-square(1)= 46.25325 p=0

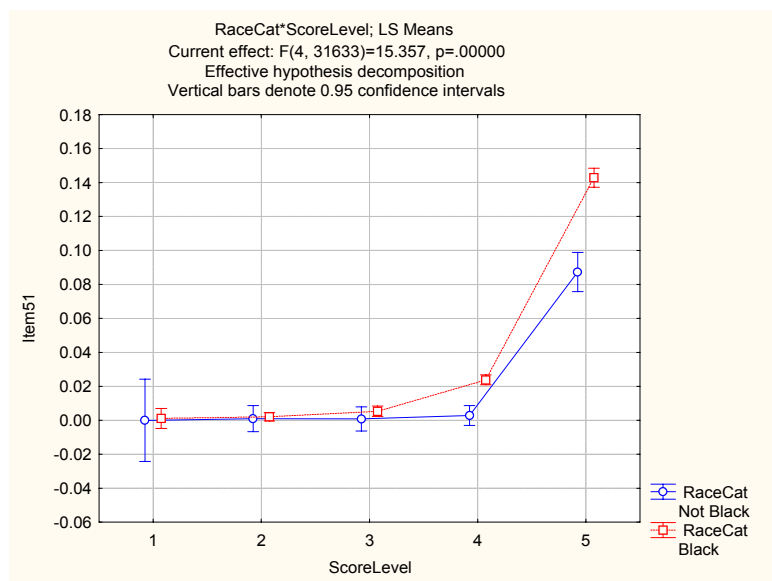


Item 51

Univariate Tests of Significance for Item51 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	4.5274	1	4.527429	288.1281	0.000000
RaceCat	0.4396	1	0.439607	27.9768	0.000000
ScoreLevel	16.0763	4	4.019066	255.7756	0.000000
RaceCat*ScoreLevel	0.9653	4	0.241313	15.3573	0.000000
Error	497.0572	31633	0.015713		

RaceCat; LS Means Current effect: F(1, 31633)=27.977, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item51 Mean	Item51 Std.Err.	Item51 -95.00%	Item51 +95.00%	N
1	Not Black	0.018402	0.002997	0.012528	0.024276	4517
2	Black	0.035062	0.000969	0.033163	0.036961	27126

MANTEL-HAENSZEL= 2.66778 Chi-square(1)= 40.71011 p=0

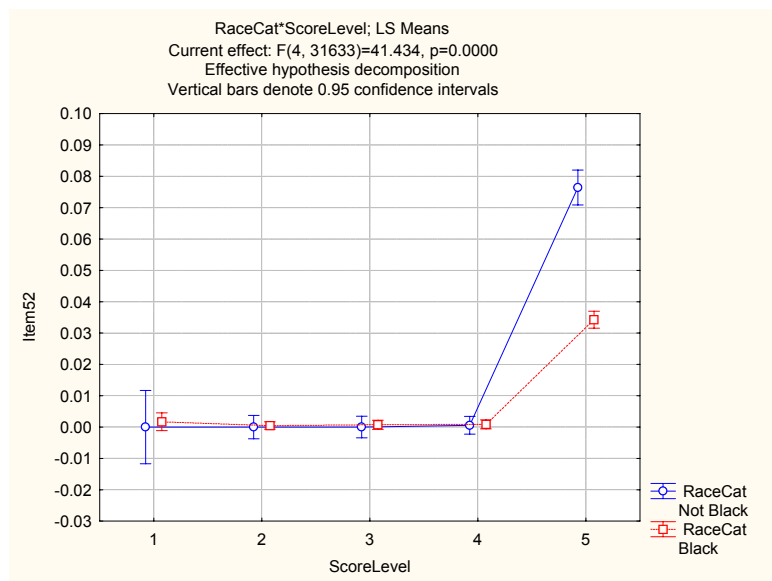


Item 52

Univariate Tests of Significance for Item52					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.8399	1	0.839880	228.9447	0.000000
RaceCat	0.0956	1	0.095572	26.0522	0.000000
ScoreLevel	4.0191	4	1.004765	273.8910	0.000000
RaceCat*ScoreLevel	0.6080	4	0.152001	41.4342	0.000000
Error	116.0452	31633	0.003668		

RaceCat; LS Means						
Current effect: F(1, 31633)=26.052, p=.00000						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item52 Mean	Item52 Std.Err.	Item52 -95.00%	Item52 +95.00%	N
1	Not Black	0.015398	0.001448	0.012559	0.018236	4517
2	Black	0.007630	0.000468	0.006712	0.008547	27126

MANTEL-HAENSZEL= .50992 Chi-square(1)= 10.9117 p= .0009



CTB2 Differential item functioning: Clerical Checking (Formerly Disadvantaged group vs. non-disadvantaged)

The sample consisted of 30131 respondents from Formerly Disadvantaged groups (Black, White, Coloured and Asian), and 1512 respondents from the formerly Advantaged group (White).

The aim of the study was to investigate differential item functioning in the Clerical Checking test. Factorial analysis of variance was used, and the Mantel-Haenszel statistic was also computed for every item.

It must be remembered that with such a large sample, even very small differences will be statistically significant. Therefore, the magnitude of obtained differences in means must be taken into account.

Summary of results

Item	Uniform bias /Factorial Anova	Uniform bias/Mantel-Haenszel	Mean item score difference	In favour of (group)	Non-uniform bias
1	N	N	.001		N
2	Y	Y	.08	D	N
3	Y	Y	.05	ND	N
4	N	Y	.0001	ND	N
5	N	N	.02		N
6	N	Y	.005	D	N
7	N	Y	.03	ND	N
8	N	Y	.007	D	Y
9	Y	Y	.02	ND	Y
10	N	Y	.02	D	Y
11	N	Y	.01	ND	N
12	N	Y	.03	ND	Y
13	Y	Y	.06	ND	N
14	Y	Y	.07	ND	Y
15	N	N	.01		N
16	Y	Y	.06	ND	N
17	Y	Y	.06	ND	N
18	Y	Y	.07	ND	Y
19	Y	Y	.05	ND	Y
20	Y	Y	.11	ND	Y
21	Y	Y	.05	ND	Y
22	Y	Y	.06	ND	Y
23	N	N	.004		Y
24	Y	N	.09	ND	Y
25	N	N	.02	ND	Y
26	N	Y	.003	D	Y
27	N	Y	.01	ND	Y
28	N	N	.008		Y
29	N	Y	.02	D	Y
30	N	Y	.02	D	Y
31	Y	Y	.05	D	Y

Item	Uniform bias /Factorial Anova	Uniform bias/Mantel-Haenszel	Mean item score difference	In favour of (group)	Non-uniform bias
32	Y	Y	.08	D	Y
33	Y	Y	.04	D	Y
34	Y	Y	.06	D	Y
35	Y	Y	.07	D	Y
36	Y	Y	.03	D	Y
37	Y	Y	.03	D	Y
38	Y	Y	.08	D	Y
39	Y	Y	.08	D	Y
40	Y	Y	.05	D	Y
41	Y	Y	.04	D	Y
42	Y	Y	.04	D	Y
43	Y	Y	.06	D	Y
44	Y	Y	.05	D	Y
45	Y	Y	.03	D	Y
46	Y	Y	.05	D	Y
47	Y	Y	.05	D	Y
48	Y	Y	.06	D	Y
49	Y	Y	.05	D	Y
50	Y	Y	.03	D	Y
51	Y	Y	.03	D	Y
52	Y	Y	.009	D	Y

29 items biased in favour of the disadvantaged group.
 18 items biased in favour of the non-disadvantaged group.
 5 items exhibited no uniform bias.

The differences in mean item score are small.

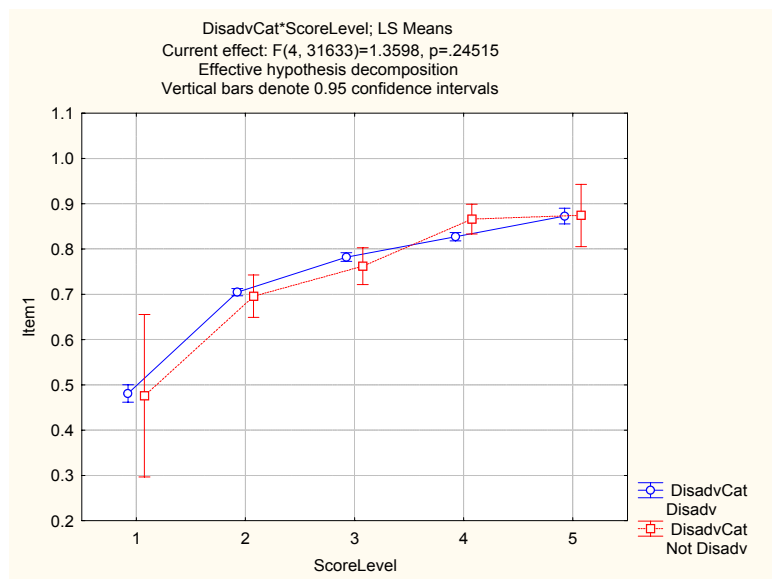
The seriousness of the non-uniform item bias is best judged by looking at the graphs that follow. In the earlier items, the differences are very small. Non-uniform biased in the later items of the test is more marked, and appears to be largely due to the fact that very few non-disadvantaged respondents completed the test.

Item 1

Univariate Tests of Significance for Item 1					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	852.666	1	852.6656	4847.182	0.000000
DisadvCat	0.001	1	0.0006	0.004	0.951537
ScoreLevel	29.375	4	7.3437	41.747	0.000000
DisadvCat*ScoreLevel	0.957	4	0.2392	1.360	0.245147
Error	5564.546	31633	0.1759		

DisadvCat; LS Means						
Current effect: F(1, 31633)=.00369, p=.95154						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item1 Mean	Item1 Std.Err.	Item1 -95.00%	Item1 +95.00%	N
1	Disadv	0.733573	0.003084	0.727529	0.739617	30131
2	Not Disadv	0.734855	0.020865	0.693959	0.775751	1512

MANTEL-HAENSZEL= 1.07177 Chi-square(1)= 1.07293 p= .30028

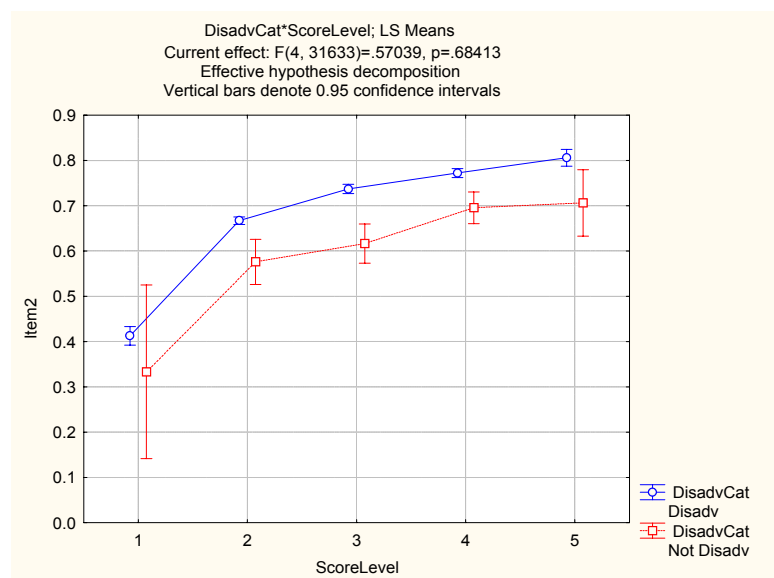


Item 2

Univariate Tests of Significance for Item2					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	632.304	1	632.3043	3152.614	0.000000
DisadvCat	3.457	1	3.4568	17.236	0.000033
ScoreLevel	21.041	4	5.2603	26.228	0.000000
DisadvCat*ScoreLevel	0.458	4	0.1144	0.570	0.684130
Error	6344.475	31633	0.2006		

DisadvCat; LS Means						
Current effect: F(1, 31633)=17.236, p=.00003						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item2 Mean	Item2 Std.Err.	Item2 -95.00%	Item2 +95.00%	N
1	Disadv	0.679010	0.003293	0.672556	0.685464	30131
2	Not Disadv	0.585512	0.022279	0.541844	0.629180	1512

MANTEL-HAENSZEL= .63702 Chi-square(1)= 65.58488 p= 0

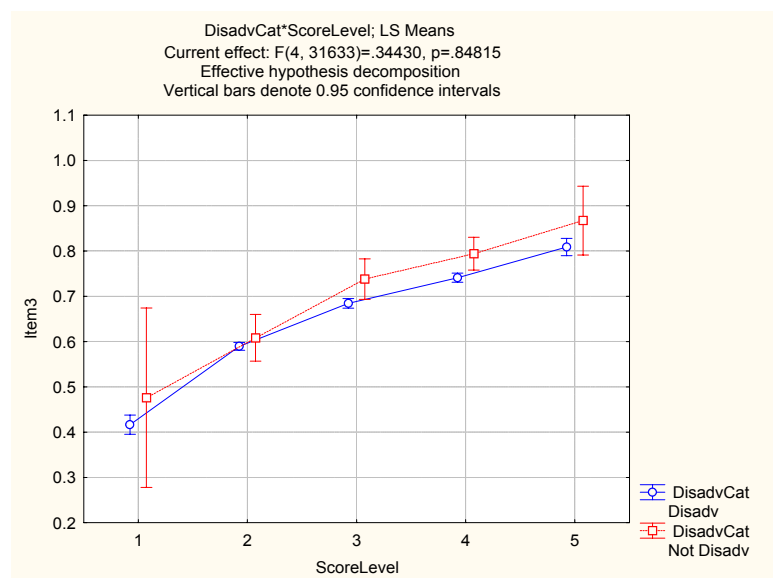


Item 3

Univariate Tests of Significance for Item3					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	715.286	1	715.2863	3335.880	0.000000
DisadvCat	0.934	1	0.9341	4.356	0.036876
ScoreLevel	36.702	4	9.1755	42.792	0.000000
DisadvCat*ScoreLevel	0.295	4	0.0738	0.344	0.848149
Error	6782.813	31633	0.2144		

DisadvCat; LS Means						
Current effect: F(1, 31633)=4.3565, p=.03688						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item3 Mean	Item3 Std.Err.	Item3 -95.00%	Item3 +95.00%	N
1	Disadv	0.648169	0.003404	0.641496	0.654842	30131
2	Not Disadv	0.696772	0.023036	0.651621	0.741923	1512

MANTEL-HAENSZEL= 1.26879 Chi-square(1)= 15.06685 p= .0001

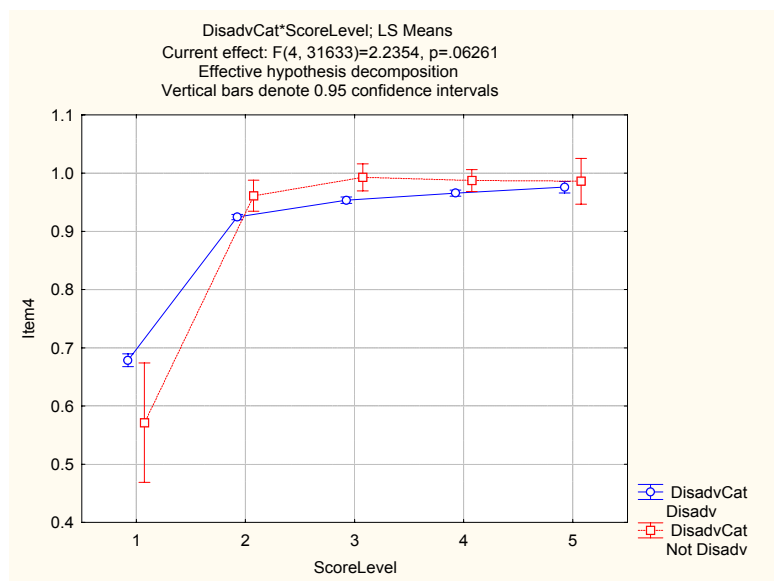


Item 4

Univariate Tests of Significance for Item4					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1280.297	1	1280.297	22275.81	0.000000
DisadvCat	0.000	1	0.000	0.00	1.000000
ScoreLevel	10.724	4	2.681	46.65	0.000000
DisadvCat*ScoreLevel	0.514	4	0.128	2.24	0.062605
Error	1818.099	31633	0.057		

DisadvCat; LS Means						
Current effect: F(1, 31633)=0.0000, p=1.0000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item4 Mean	Item4 Std.Err.	Item4 -95.00%	Item4 +95.00%	N
1	Disadv	0.899648	0.001763	0.896194	0.903103	30131
2	Not Disadv	0.899713	0.011926	0.876337	0.923090	1512

MANTEL-HAENSZEL= 2.33081 Chi-square(1)= 22.77338 p= 0

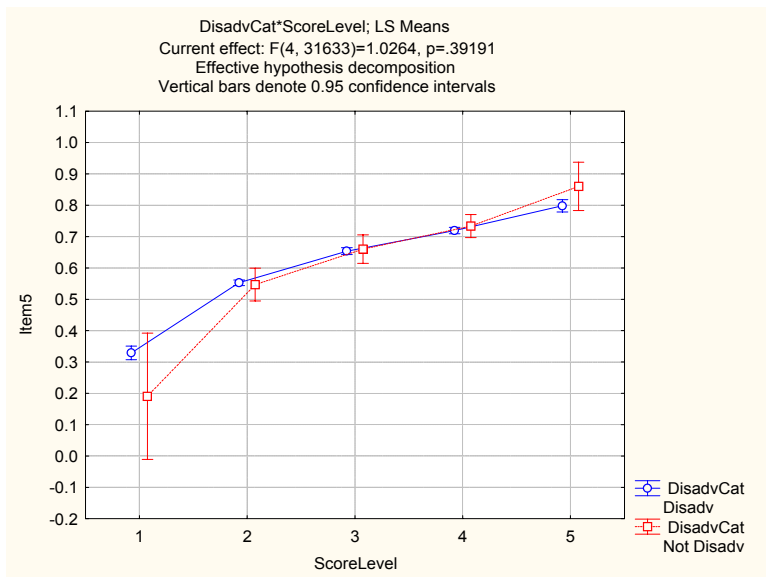


Item 5

Univariate Tests of Significance for Item5					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	577.903	1	577.9029	2609.996	0.000000
DisadvCat	0.060	1	0.0603	0.272	0.601871
ScoreLevel	52.628	4	13.1571	59.422	0.000000
DisadvCat*ScoreLevel	0.909	4	0.2273	1.026	0.391905
Error	7004.149	31633	0.2214		

DisadvCat; LS Means						
Current effect: F(1, 31633)=.27219, p=.60187						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item5 Mean	Item5 Std.Err.	Item5 -95.00%	Item5 +95.00%	N
1	Disadv	0.610623	0.003460	0.603842	0.617404	30131
2	Not Disadv	0.598278	0.023409	0.552395	0.644160	1512

MANTEL-HAENSZEL= 1.04971 Chi-square(1)= .69773 p= .4035

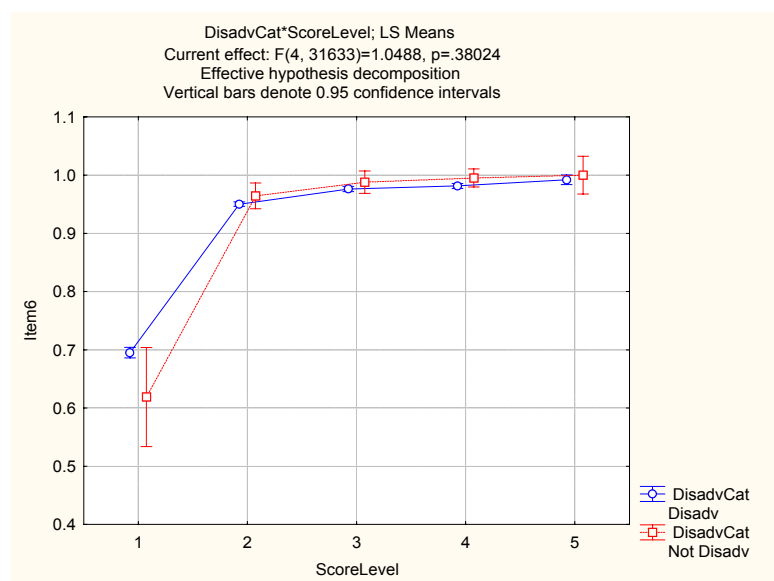


Item 6

Univariate Tests of Significance for Item6					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1327.592	1	1327.592	33574.26	0.000000
DisadvCat	0.013	1	0.013	0.32	0.569776
ScoreLevel	9.495	4	2.374	60.03	0.000000
DisadvCat*ScoreLevel	0.166	4	0.041	1.05	0.380242
Error	1250.830	31633	0.040		

DisadvCat; LS Means						
Current effect: F(1, 31633)=.32307, p=.56978						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item6 Mean	Item6 Std.Err.	Item6 -95.00%	Item6 +95.00%	N
1	Disadv	0.918989	0.001462	0.916124	0.921855	30131
2	Not Disadv	0.913306	0.009892	0.893916	0.932695	1512

MANTEL-HAENSZEL= 1.70811 Chi-square(1)= 6.92026 p= .0085

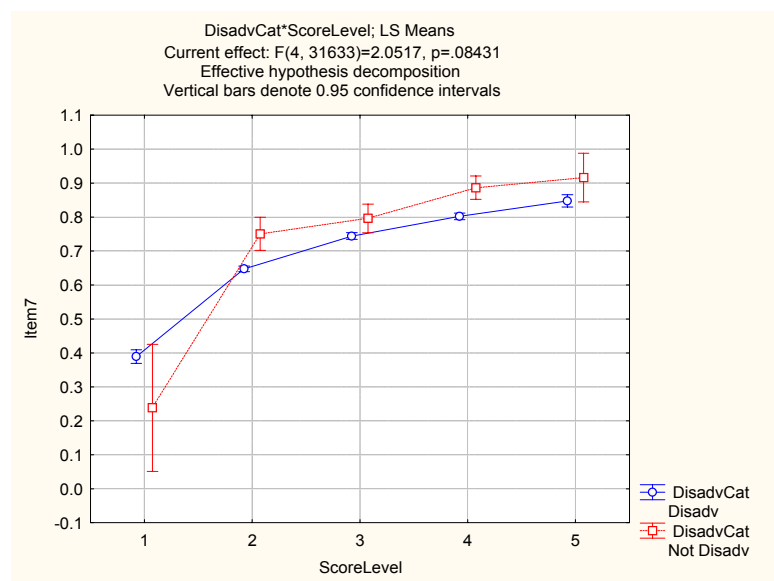


Item 7

Univariate Tests of Significance for Item7					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	779.128	1	779.1280	4079.280	0.000000
DisadvCat	0.392	1	0.3916	2.050	0.152194
ScoreLevel	40.798	4	10.1995	53.402	0.000000
DisadvCat*ScoreLevel	1.567	4	0.3919	2.052	0.084313
Error	6041.791	31633	0.1910		

DisadvCat; LS Means						
Current effect: F(1, 31633)=2.0502, p=.15219						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item7 Mean	Item7 Std.Err.	Item7 -95.00%	Item7 +95.00%	N
1	Disadv	0.686105	0.003213	0.679807	0.692403	30131
2	Not Disadv	0.717573	0.021741	0.674960	0.760187	1512

MANTEL-HAENSZEL= 1.60528 Chi-square(1)= 44.74547 p= 0

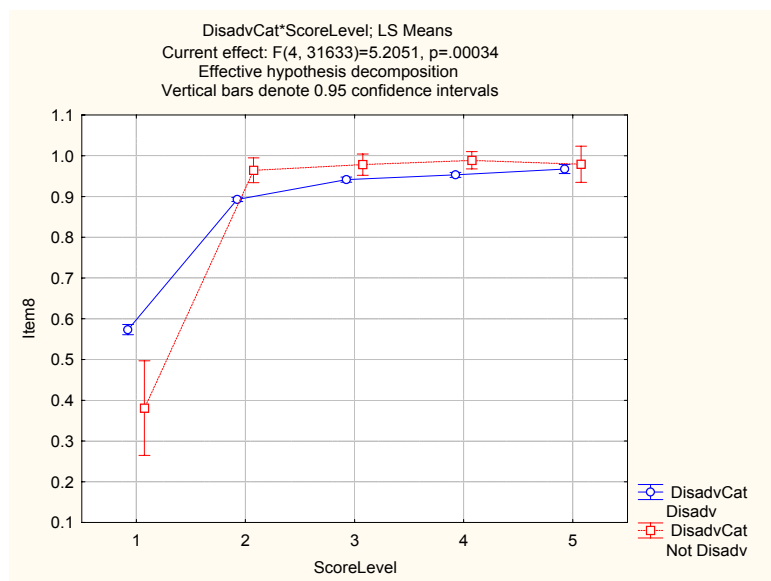


Item 8

Univariate Tests of Significance for Item8					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1175.236	1	1175.236	15899.22	0.000000
DisadvCat	0.022	1	0.022	0.29	0.587941
ScoreLevel	20.552	4	5.138	69.51	0.000000
DisadvCat*ScoreLevel	1.539	4	0.385	5.21	0.000345
Error	2338.243	31633	0.074		

DisadvCat; LS Means						
Current effect: F(1, 31633)=.29358, p=.58794						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item8 Mean	Item8 Std.Err.	Item8 -95.00%	Item8 +95.00%	N
1	Disadv	0.865681	0.001999	0.861763	0.869599	30131
2	Not Disadv	0.858273	0.013525	0.831763	0.884783	1512

MANTEL-HAENSZEL = 2.59789 Chi-square(1)= 35.29672 p= 0

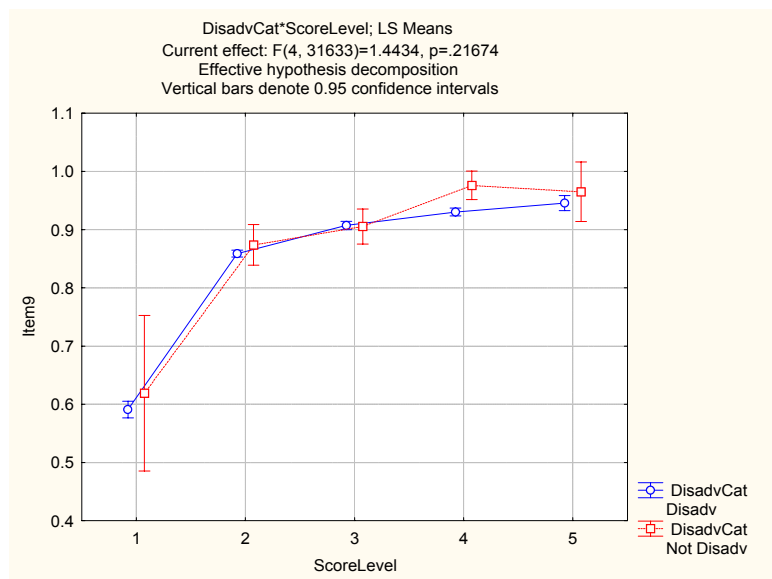


Item 9

Univariate Tests of Significance for Item9					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1162.272	1	1162.272	11906.44	0.000000
DisadvCat	0.179	1	0.179	1.84	0.175319
ScoreLevel	15.181	4	3.795	38.88	0.000000
DisadvCat*ScoreLevel	0.564	4	0.141	1.44	0.216738
Error	3087.921	31633	0.098		

DisadvCat; LS Means						
Current effect: F(1, 31633)=1.8369, p=.17532						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item9 Mean	Item9 Std.Err.	Item9 -95.00%	Item9 +95.00%	N
1	Disadv	0.846562	0.002297	0.842060	0.851065	30131
2	Not Disadv	0.867857	0.015543	0.837392	0.898322	1512

MANTEL-HAENSZEL= 1.38183 Chi-square(1)= 9.66674 p= .0018

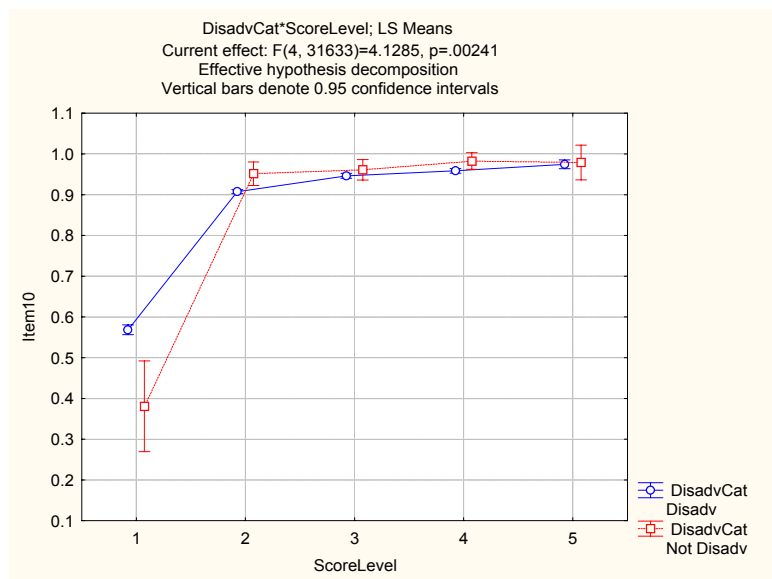


Item 10

Univariate Tests of Significance for Item10					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1172.689	1	1172.689	17313.99	0.000000
DisadvCat	0.159	1	0.159	2.35	0.125257
ScoreLevel	20.658	4	5.165	76.25	0.000000
DisadvCat*ScoreLevel	1.119	4	0.280	4.13	0.002406
Error	2142.526	31633	0.068		

DisadvCat; LS Means						
Current effect: F(1, 31633)=2.3504, p=.12526						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item10 Mean	Item10 Std.Err.	Item10 -95.00%	Item10 +95.00%	N
1	Disadv	0.871075	0.001913	0.867324	0.874825	30131
2	Not Disadv	0.851010	0.012947	0.825634	0.876387	1512

MANTEL-HAENSZEL= 1.72157 chi-square(1)= 13.92719 p= .00019

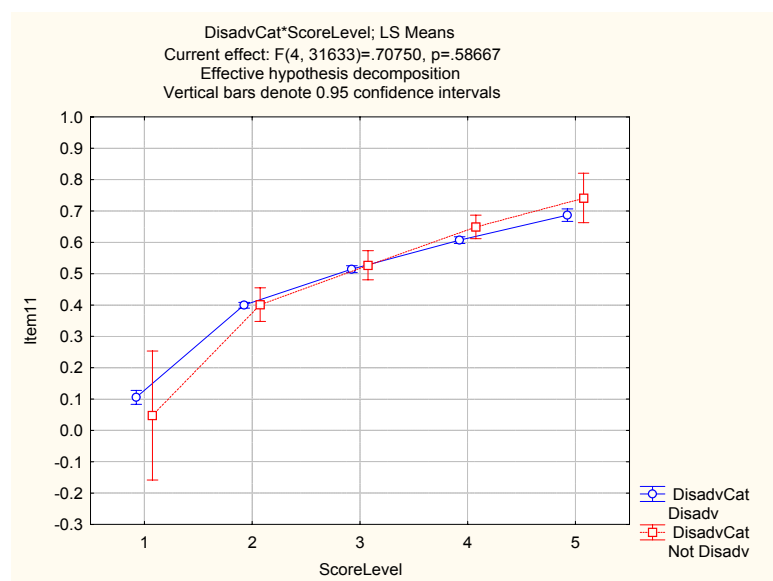


Item 11

Univariate Tests of Significance for Item11					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	346.315	1	346.3146	1496.902	0.000000
DisadvCat	0.044	1	0.0441	0.191	0.662296
ScoreLevel	75.486	4	18.8716	81.570	0.000000
DisadvCat*ScoreLevel	0.655	4	0.1637	0.708	0.586670
Error	7318.431	31633	0.2314		

DisadvCat; LS Means						
Current effect: F(1, 31633)=.19075, p=.66230						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item11 Mean	Item11 Std.Err.	Item11 -95.00%	Item11 +95.00%	N
1	Disadv	0.462635	0.003536	0.455703	0.469566	30131
2	Not Disadv	0.473199	0.023928	0.426299	0.520099	1512

MANTEL-HAENSZEL= 1.2396 Chi-square(1)= 15.29473 p= .0000

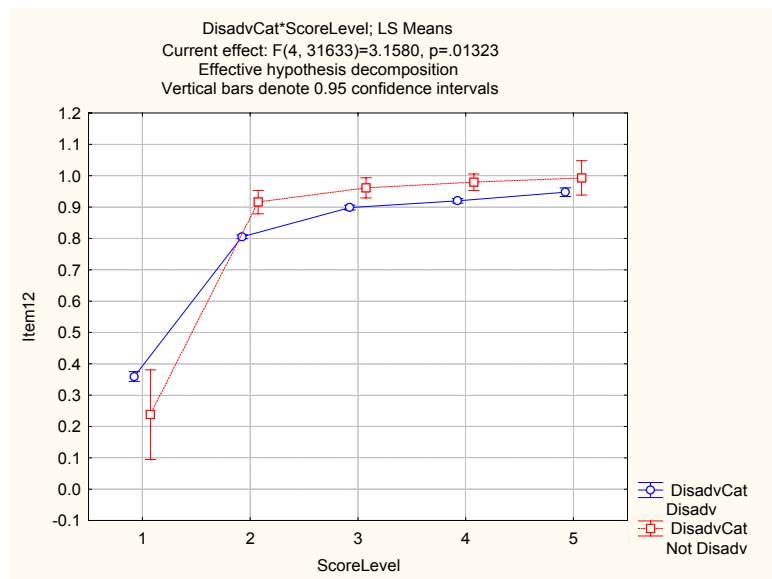


Item 12

Univariate Tests of Significance for Item12					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1016.767	1	1016.767	9108.875	0.000000
DisadvCat	0.391	1	0.391	3.501	0.061331
ScoreLevel	39.811	4	9.953	89.163	0.000000
DisadvCat*ScoreLevel	1.410	4	0.353	3.158	0.013234
Error	3530.996	31633	0.112		

DisadvCat; LS Means						
Current effect: F(1, 31633)=3.5013, p=.06133						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item12 Mean	Item12 Std.Err.	Item12 -95.00%	Item12 +95.00%	N
1	Disadv	0.786040	0.002456	0.781226	0.790855	30131
2	Not Disadv	0.817478	0.016621	0.784901	0.850056	1512

MANTEL-HAENSZEL= 2.85734 Chi-square(1)= 69.11571 p= 0

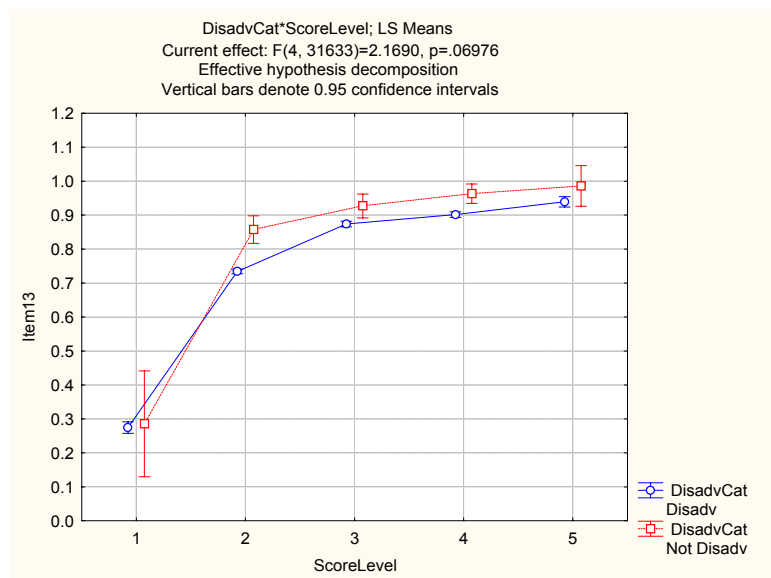


Item 13

Univariate Tests of Significance for Item13					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	948.399	1	948.3993	7145.003	0.000000
DisadvCat	1.389	1	1.3889	10.463	0.001219
ScoreLevel	48.718	4	12.1794	91.756	0.000000
DisadvCat*ScoreLevel	1.152	4	0.2879	2.169	0.069760
Error	4198.838	31633	0.1327		

DisadvCat; LS Means						
Current effect: F(1, 31633)=10.463, p=.00122						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item13 Mean	Item13 Std.Err.	Item13 -95.00%	Item13 +95.00%	N
1	Disadv	0.744703	0.002679	0.739452	0.749953	30131
2	Not Disadv	0.803967	0.018124	0.768442	0.839492	1512

MANTEL-HAENSZEL= 2.23358 Chi-square(1)= 62.34993 p= 0

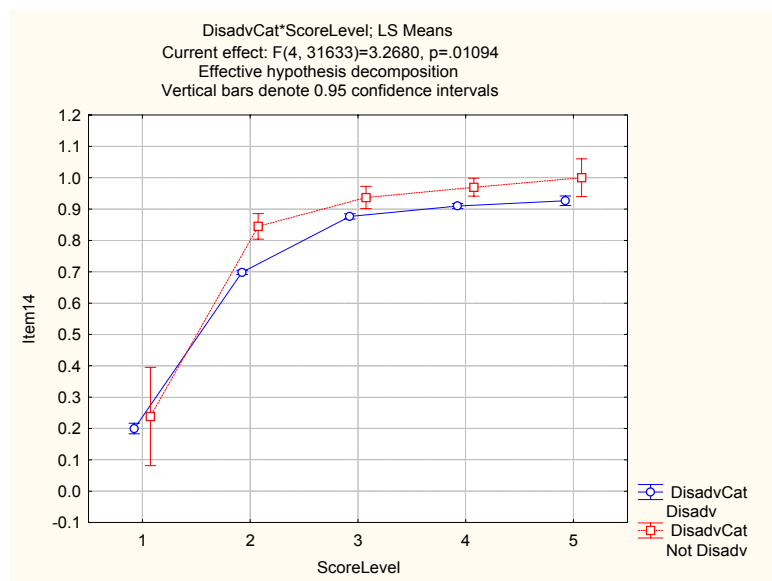


Item 14

Univariate Tests of Significance for Item14					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	913.541	1	913.5408	6805.208	0.000000
DisadvCat	2.272	1	2.2718	16.923	0.000039
ScoreLevel	63.296	4	15.8241	117.878	0.000000
DisadvCat*ScoreLevel	1.755	4	0.4387	3.268	0.010939
Error	4246.459	31633	0.1342		

DisadvCat; LS Means						
Current effect: F(1, 31633)=16.923, p=.00004						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item14 Mean	Item14 Std.Err.	Item14 -95.00%	Item14 +95.00%	N
1	Disadv	0.722073	0.002694	0.716794	0.727353	30131
2	Not Disadv	0.797869	0.018227	0.762144	0.833595	1512

MANTEL-HAENSZEL= 2.54842 Chi-square(1)= 79.5436 p= 0

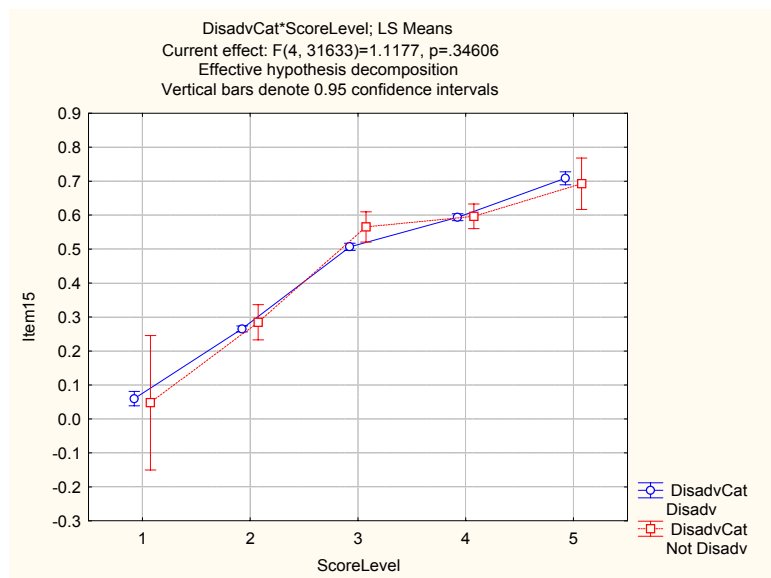


Item 15

Univariate Tests of Significance for Item15					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	295.372	1	295.3724	1380.743	0.000000
DisadvCat	0.043	1	0.0430	0.201	0.653871
ScoreLevel	120.977	4	30.2442	141.379	0.000000
DisadvCat*ScoreLevel	0.956	4	0.2391	1.118	0.346062
Error	6767.020	31633	0.2139		

DisadvCat; LS Means						
Current effect: F(1, 31633)=.20106, p=.65387						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item15 Mean	Item15 Std.Err.	Item15 -95.00%	Item15 +95.00%	N
1	Disadv	0.426919	0.003400	0.420254	0.433584	30131
2	Not Disadv	0.437348	0.023009	0.392250	0.482447	1512

MANTEL-HAENSZEL= 1.09791 Chi-square(1)= 2.85138 p= .091

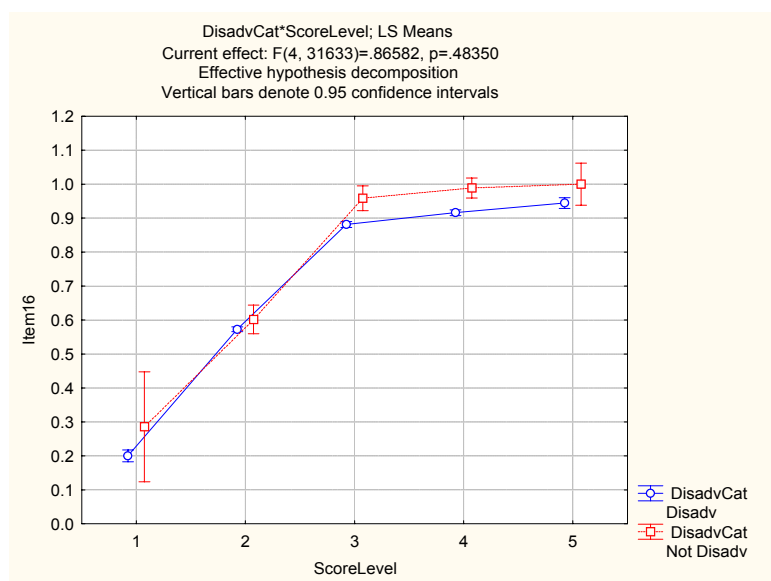


Item 16

Univariate Tests of Significance for Item16					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	854.567	1	854.5675	5979.161	0.000000
DisadvCat	1.621	1	1.6211	11.342	0.000759
ScoreLevel	153.244	4	38.3109	268.050	0.000000
DisadvCat*ScoreLevel	0.495	4	0.1237	0.866	0.483495
Error	4521.125	31633	0.1429		

DisadvCat; LS Means						
Current effect: F(1, 31633)=11.342, p=.00076						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item16 Mean	Item16 Std.Err.	Item16 -95.00%	Item16 +95.00%	N
1	Disadv	0.703019	0.002780	0.697571	0.708466	30131
2	Not Disadv	0.767046	0.018807	0.730183	0.803909	1512

MANTEL-HAENSZEL= 1.98803 Chi-square(1)= 49.57349 p= 0

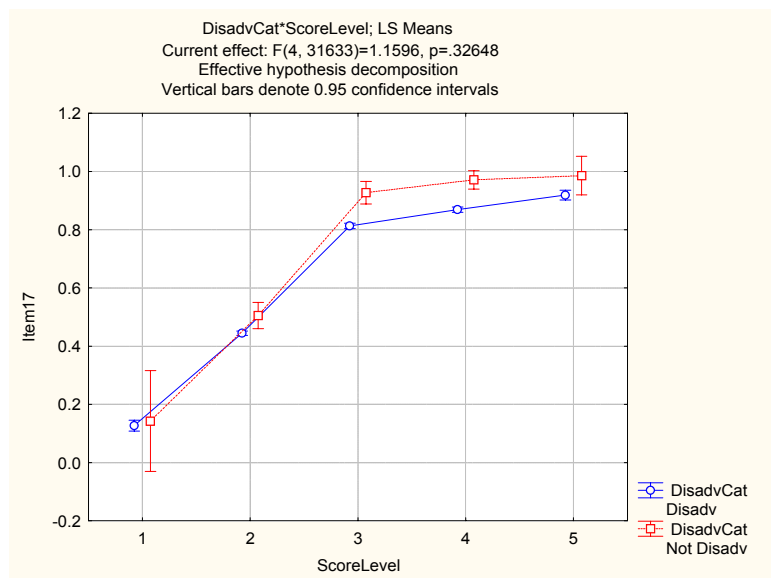


Item 17

Univariate Tests of Significance for Item17					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	711.014	1	711.0136	4346.245	0.000000
DisadvCat	2.048	1	2.0478	12.518	0.000404
ScoreLevel	217.449	4	54.3624	332.303	0.000000
DisadvCat*ScoreLevel	0.759	4	0.1897	1.160	0.326475
Error	5174.926	31633	0.1636		

DisadvCat; LS Means						
Current effect: F(1, 31633)=12.518, p=.00040						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item17 Mean	Item17 Std.Err.	Item17 -95.00%	Item17 +95.00%	N
1	Disadv	0.634477	0.002974	0.628649	0.640306	30131
2	Not Disadv	0.706440	0.020121	0.667002	0.745879	1512

MANTEL-HAENSZEL= 2.22128 Chi-square(1)= 83.6084 p= 0

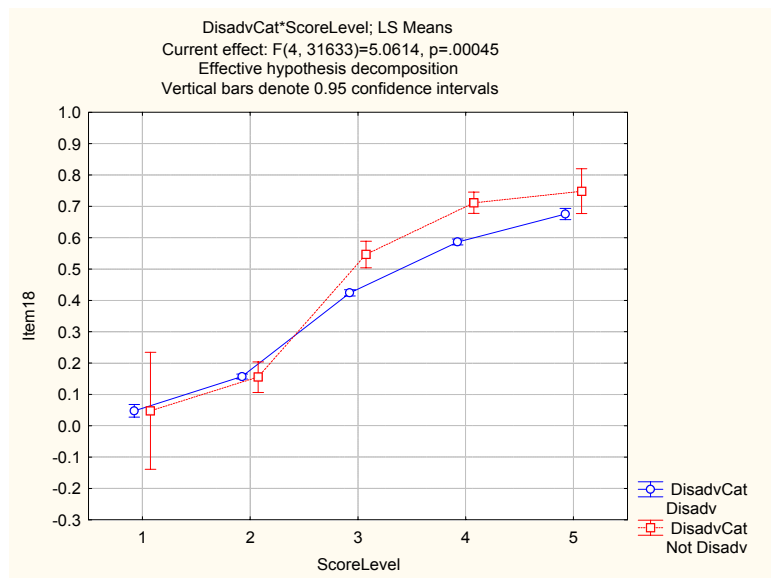


Item 18

Univariate Tests of Significance for Item18					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	265.794	1	265.7944	1395.316	0.000000
DisadvCat	1.600	1	1.5999	8.399	0.003758
ScoreLevel	234.924	4	58.7311	308.315	0.000000
DisadvCat*ScoreLevel	3.857	4	0.9641	5.061	0.000448
Error	6025.787	31633	0.1905		

DisadvCat; LS Means						
Current effect: F(1, 31633)=8.3987, p=.00376						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item18 Mean	Item18 Std.Err.	Item18 -95.00%	Item18 +95.00%	N
1	Disadv	0.378123	0.003209	0.371834	0.384413	30131
2	Not Disadv	0.441730	0.021712	0.399173	0.484287	1512

MANTEL-HAENSZEL= 1.54666 Chi-square(1)= 54.96072 p= 0

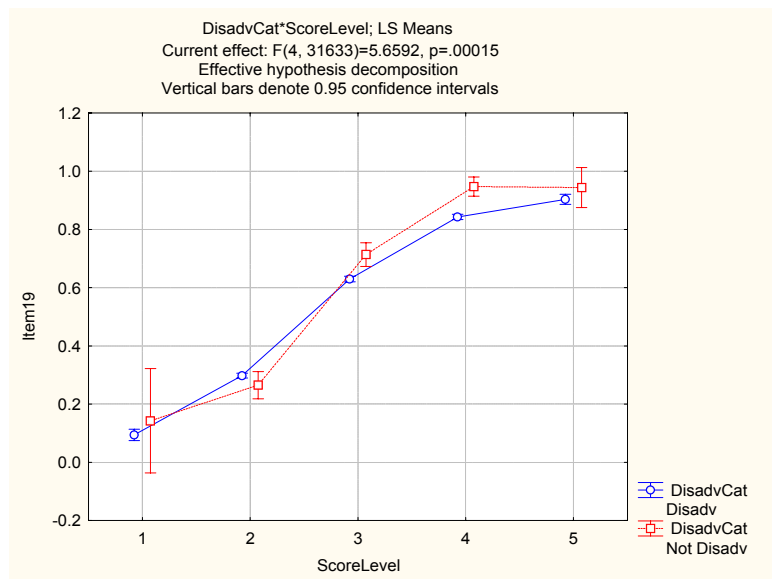


Item 19

Univariate Tests of Significance for Item19					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	528.751	1	528.7507	3013.628	0.000000
DisadvCat	0.948	1	0.9475	5.400	0.020140
ScoreLevel	355.106	4	88.7765	505.984	0.000000
DisadvCat*ScoreLevel	3.972	4	0.9929	5.659	0.000150
Error	5550.111	31633	0.1755		

DisadvCat; LS Means						
Current effect: F(1, 31633)=5.4003, p=.02014						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item19 Mean	Item19 Std.Err.	Item19 -95.00%	Item19 +95.00%	N
1	Disadv	0.553699	0.003080	0.547663	0.559735	30131
2	Not Disadv	0.602649	0.020838	0.561806	0.643492	1512

MANTEL-HAENSZEL= 1.52827 Chi-square(1)= 33.70404 p= 0

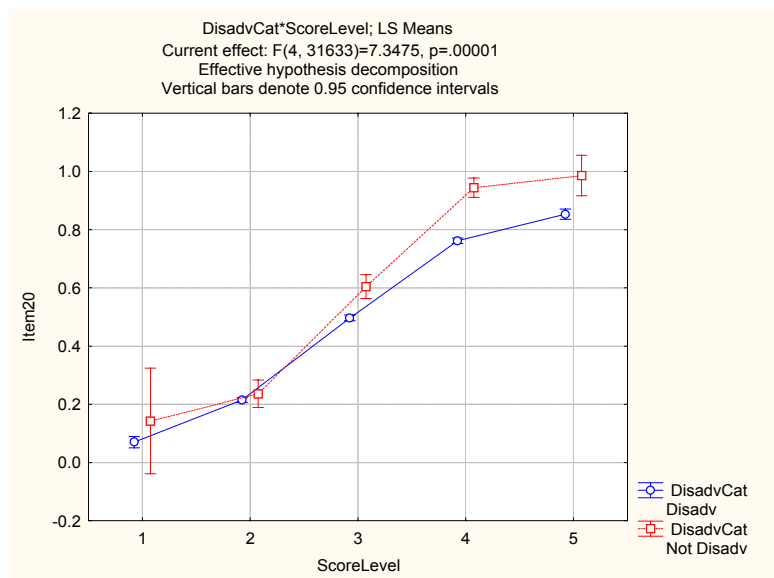


Item 20

Univariate Tests of Significance for Item20					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	446.114	1	446.1141	2482.059	0.000000
DisadvCat	4.221	1	4.2209	23.484	0.000001
ScoreLevel	389.967	4	97.4919	542.418	0.000000
DisadvCat*ScoreLevel	5.282	4	1.3206	7.348	0.000007
Error	5685.574	31633	0.1797		

DisadvCat; LS Means						
Current effect: F(1, 31633)=23.484, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item20 Mean	Item20 Std.Err.	Item20 -95.00%	Item20 +95.00%	N
1	Disadv	0.479418	0.003117	0.473308	0.485527	30131
2	Not Disadv	0.582733	0.021091	0.541395	0.624071	1512

MANTEL-HAENSZEL= 2.13063 Chi-square(1)= 112.87376 p= 0

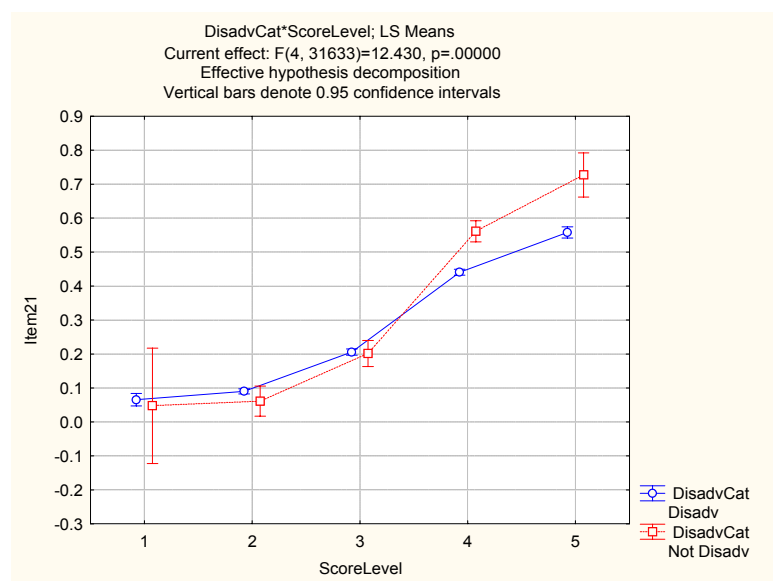


Item 21

Univariate Tests of Significance for Item21					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	138.540	1	138.5401	879.6137	0.000000
DisadvCat	0.903	1	0.9032	5.7347	0.016639
ScoreLevel	229.118	4	57.2796	363.6774	0.000000
DisadvCat*ScoreLevel	7.831	4	1.9577	12.4295	0.000000
Error	4982.232	31633	0.1575		

DisadvCat; LS Means						
Current effect: F(1, 31633)=5.7347, p=.01664						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item21 Mean	Item21 Std.Err.	Item21 -95.00%	Item21 +95.00%	N
1	Disadv	0.272056	0.002918	0.266337	0.277775	30131
2	Not Disadv	0.319848	0.019743	0.281151	0.358545	1512

MANTEL-HAENSZEL= 1.36746 Chi-square(1)= 25.36838 p= 0

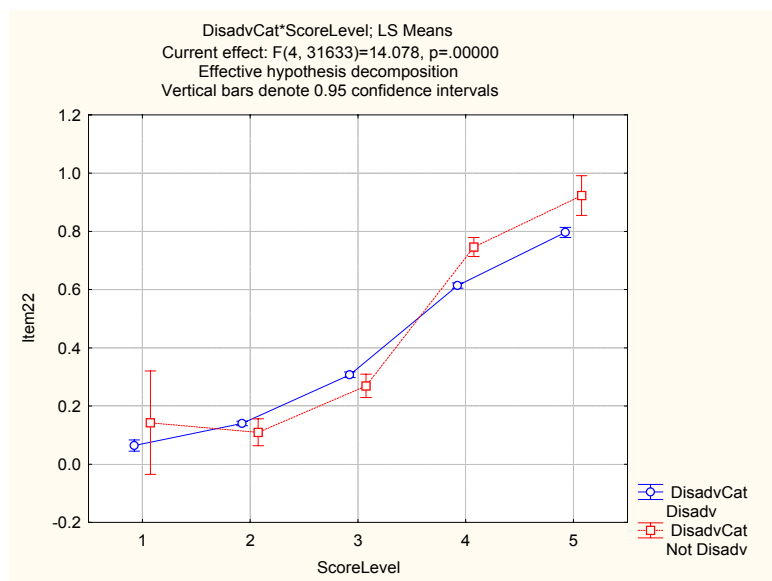


Item 22

Univariate Tests of Significance for Item22					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	267.725	1	267.7247	1549.037	0.000000
DisadvCat	1.149	1	1.1485	6.645	0.009946
ScoreLevel	389.663	4	97.4157	563.641	0.000000
DisadvCat*ScoreLevel	9.732	4	2.4331	14.078	0.000000
Error	5467.228	31633	0.1728		

DisadvCat; LS Means						
Current effect: F(1, 31633)=6.6453, p=.00995						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item22 Mean	Item22 Std.Err.	Item22 -95.00%	Item22 +95.00%	N
1	Disadv	0.384466	0.003057	0.378475	0.390457	30131
2	Not Disadv	0.438359	0.020682	0.397822	0.478896	1512

MANTEL-HAENSZEL= 1.31929 Chi-square(1)= 18.57937 p= .00002

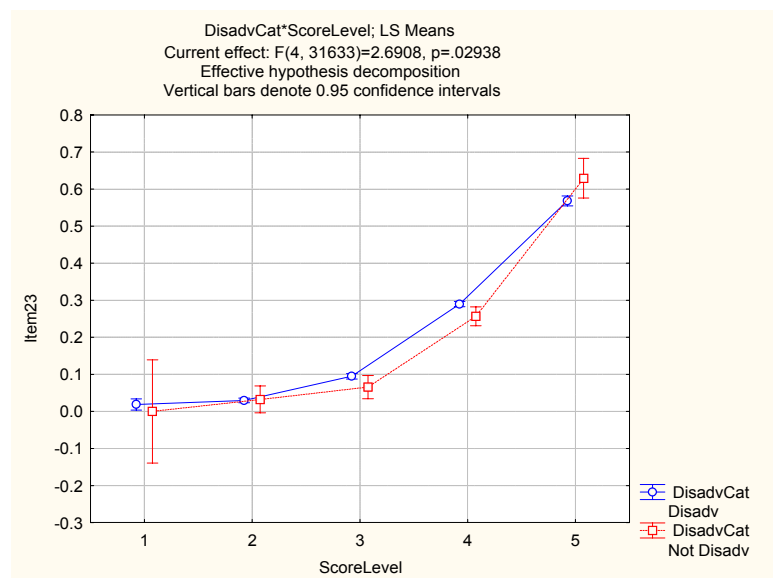


Item 23

Univariate Tests of Significance for Item23					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	62.354	1	62.35410	587.6896	0.000000
DisadvCat	0.005	1	0.00478	0.0451	0.831852
ScoreLevel	157.662	4	39.41552	371.4927	0.000000
DisadvCat*ScoreLevel	1.142	4	0.28549	2.6908	0.029378
Error	3356.273	31633	0.10610		

DisadvCat; LS Means						
Current effect: F(1, 31633)=.04508, p=.83185						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item23 Mean	Item23 Std.Err.	Item23 -95.00%	Item23 +95.00%	N
1	Disadv	0.200287	0.002395	0.195593	0.204981	30131
2	Not Disadv	0.196809	0.016204	0.165048	0.228570	1512

MANTEL-HAENSZEL= .88816 Chi-square(1)= 2.50553 p= .1134

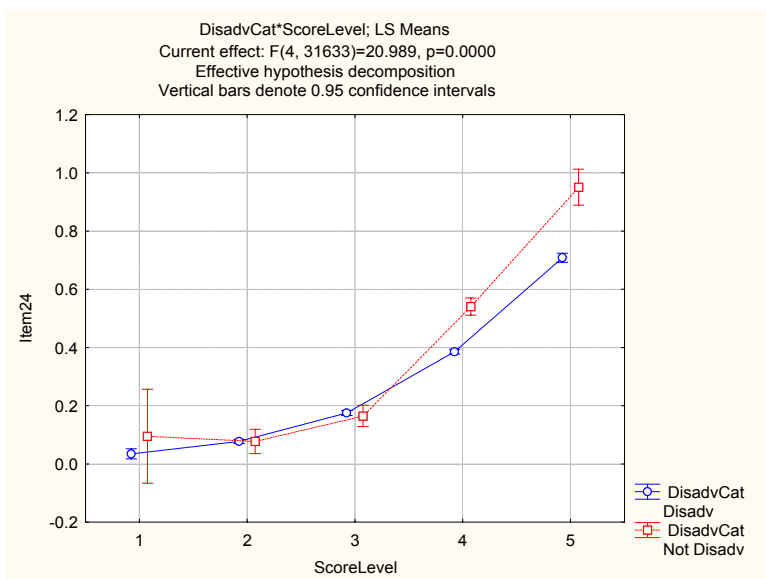


Item 24

Univariate Tests of Significance for Item24					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	163.076	1	163.0761	1148.904	0.000000
DisadvCat	3.181	1	3.1808	22.410	0.000002
ScoreLevel	297.657	4	74.4143	524.264	0.000000
DisadvCat*ScoreLevel	11.917	4	2.9791	20.989	0.000000
Error	4490.006	31633	0.1419		

DisadvCat; LS Means						
Current effect: F(1, 31633)=22.410, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item24 Mean	Item24 Std.Err.	Item24 -95.00%	Item24 +95.00%	N
1	Disadv	0.276247	0.002770	0.270818	0.281676	30131
2	Not Disadv	0.365935	0.018742	0.329199	0.402671	1512

MANTEL-HAENSZEL= .88816 Chi-square(1)= 2.50553 p= .1134

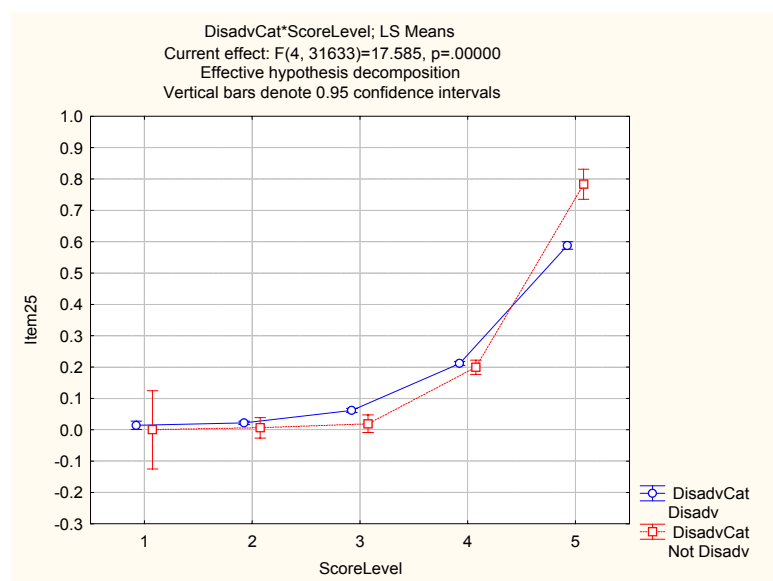


Item 25

Univariate Tests of Significance for Item25					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	57.476	1	57.47636	674.8111	0.000000
DisadvCat	0.194	1	0.19382	2.2756	0.131435
ScoreLevel	202.950	4	50.73739	595.6911	0.000000
DisadvCat*ScoreLevel	5.991	4	1.49776	17.5847	0.000000
Error	2694.309	31633	0.08517		

MANTEL-HAENSZEL= .98374 Chi-square(1)= .03588 p= .8497

DisadvCat; LS Means						
Current effect: F(1, 31633)=2.2756, p=.13143						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item25 Mean	Item25 Std.Err.	Item25 -95.00%	Item25 +95.00%	N
1	Disadv	0.179554	0.002146	0.175349	0.183760	30131
2	Not Disadv	0.201694	0.014519	0.173237	0.230151	1512

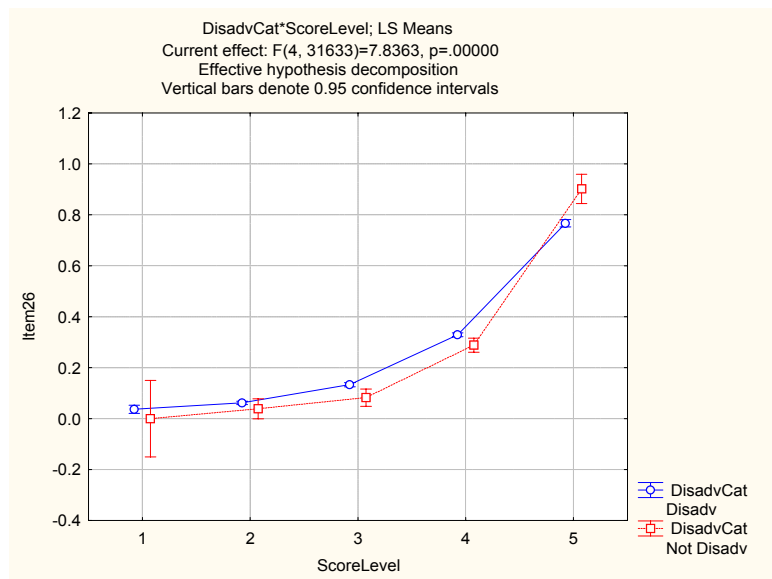


Item 26

Univariate Tests of Significance for Item26					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	110.308	1	110.3083	897.4004	0.000000
DisadvCat	0.004	1	0.0043	0.0352	0.851136
ScoreLevel	275.426	4	68.8566	560.1746	0.000000
DisadvCat*ScoreLevel	3.853	4	0.9632	7.8363	0.000003
Error	3888.323	31633	0.1229		

DisadvCat; LS Means						
Current effect: F(1, 31633)=.03522, p=.85114						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item26 Mean	Item26 Std.Err.	Item26 -95.00%	Item26 +95.00%	N
1	Disadv	0.265735	0.002578	0.260683	0.270788	30131
2	Not Disadv	0.262427	0.017441	0.228241	0.296613	1512

MANTEL-HAENSZEL = .84447 Chi-square(1) = 5.12401 p = .023

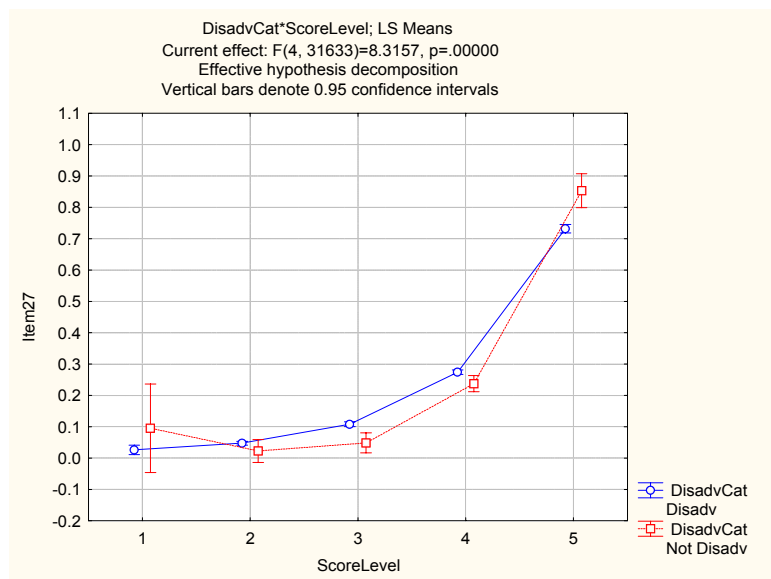


Item 27

Univariate Tests of Significance for Item27					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	94.581	1	94.58056	871.5573	0.000000
DisadvCat	0.076	1	0.07560	0.6966	0.403929
ScoreLevel	252.833	4	63.20833	582.4631	0.000000
DisadvCat*ScoreLevel	3.610	4	0.90242	8.3157	0.000001
Error	3432.782	31633	0.10852		

DisadvCat; LS Means						
Current effect: F(1, 31633)=.69662, p=.40393						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item27 Mean	Item27 Std.Err.	Item27 -95.00%	Item27 +95.00%	N
1	Disadv	0.237618	0.002422	0.232871	0.242365	30131
2	Not Disadv	0.251444	0.016388	0.219323	0.283565	1512

MANTEL-HAENSZEL= .82054 Chi-square(1)= 6.10453 p= .0134

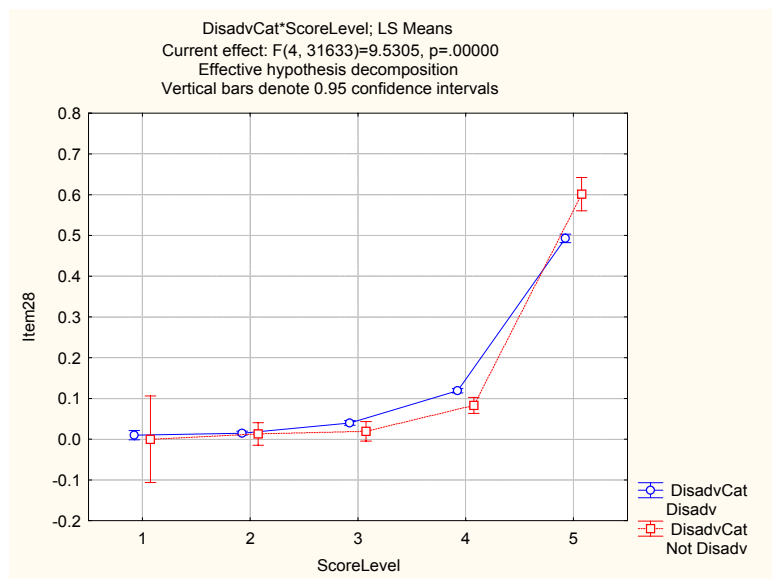


Item 28

Univariate Tests of Significance for Item28					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	30.713	1	30.71320	498.2693	0.000000
DisadvCat	0.025	1	0.02522	0.4091	0.522439
ScoreLevel	124.775	4	31.19363	506.0633	0.000000
DisadvCat*ScoreLevel	2.350	4	0.58746	9.5305	0.000000
Error	1949.851	31633	0.06164		

MANTEL-HAENSZEL= .86103 Chi-square(1)= 2.06847 p= .1503

DisadvCat; LS Means						
Current effect: F(1, 31633)=.40908, p=.52244						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item28 Mean	Item28 Std.Err.	Item28 -95.00%	Item28 +95.00%	N
1	Disadv	0.135354	0.001825	0.131776	0.138931	30131
2	Not Disadv	0.143339	0.012351	0.119131	0.167548	1512

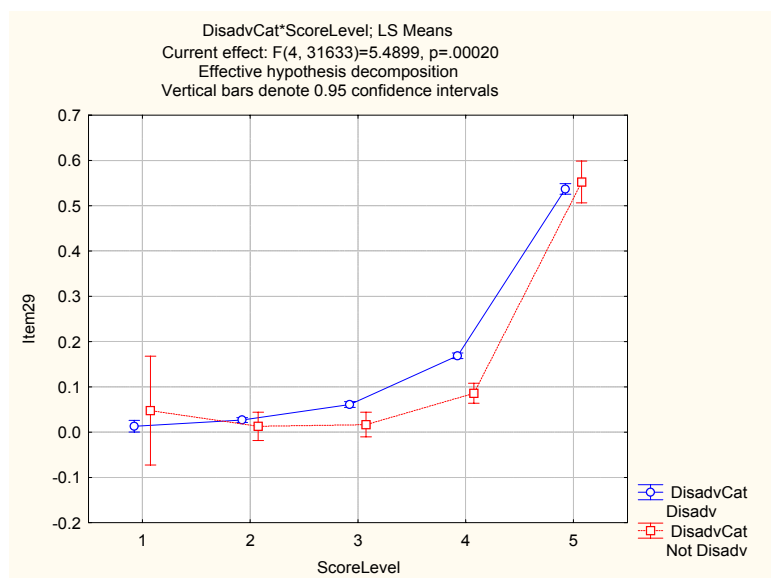


Item 29

Univariate Tests of Significance for Item29					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	36.714	1	36.71391	463.9165	0.000000
DisadvCat	0.132	1	0.13176	1.6649	0.196954
ScoreLevel	120.031	4	30.00779	379.1782	0.000000
DisadvCat*ScoreLevel	1.738	4	0.43447	5.4899	0.000205
Error	2503.405	31633	0.07914		

DisadvCat; LS Means						
Current effect: F(1, 31633)=1.6649, p=.19695						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item29 Mean	Item29 Std.Err.	Item29 -95.00%	Item29 +95.00%	N
1	Disadv	0.161479	0.002068	0.157425	0.165533	30131
2	Not Disadv	0.143225	0.013995	0.115795	0.170656	1512

MANTEL-HAENSZEL= .56544 Chi-square(1)= 31.37585 p= 0

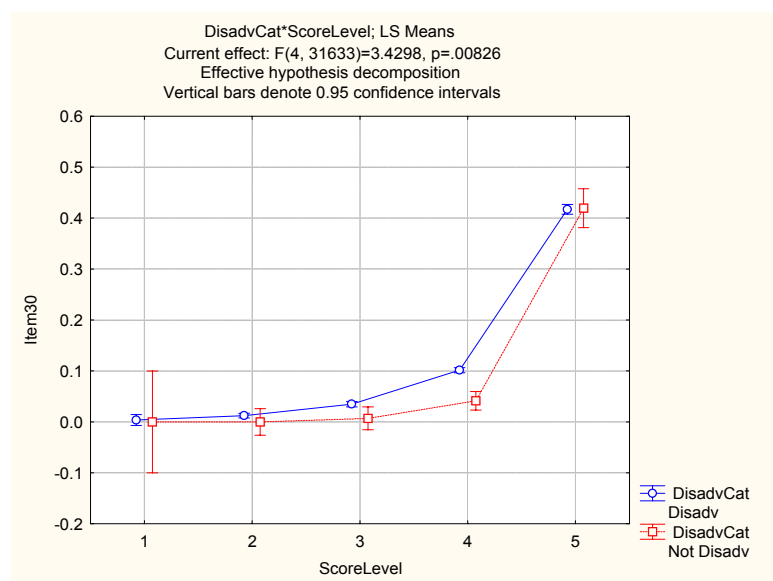


Item 30

Univariate Tests of Significance for Item30					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	17.058	1	17.05845	313.1336	0.000000
DisadvCat	0.164	1	0.16403	3.0109	0.082714
ScoreLevel	74.131	4	18.53280	340.1974	0.000000
DisadvCat*ScoreLevel	0.747	4	0.18684	3.4298	0.008257
Error	1723.259	31633	0.05448		

DisadvCat; LS Means						
Current effect: F(1, 31633)=3.0109, p=.08271						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item30 Mean	Item30 Std.Err.	Item30 -95.00%	Item30 +95.00%	N
1	Disadv	0.114032	0.001716	0.110669	0.117396	30131
2	Not Disadv	0.093666	0.011611	0.070907	0.116424	1512

MANTEL-HAENSZEL = .73118 Chi-square(1) = 5.87415 p = .0153

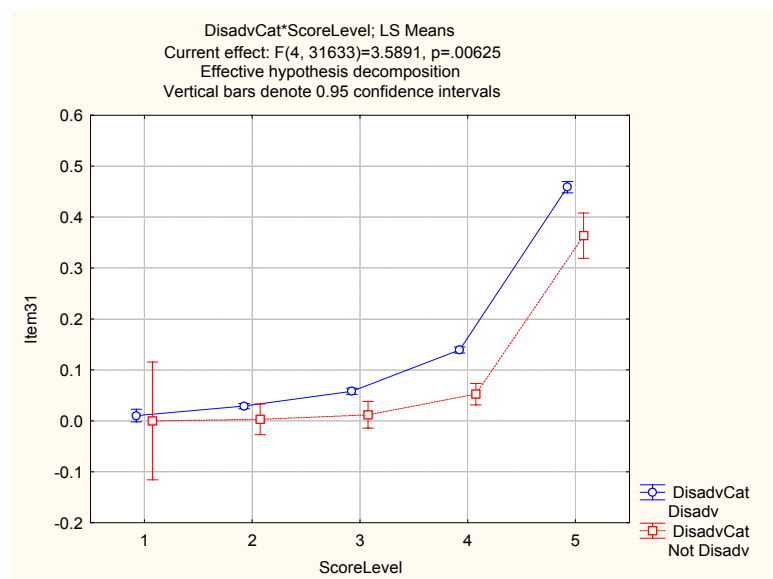


Item 31

Univariate Tests of Significance for Item31					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	20.119	1	20.11891	275.3978	0.000000
DisadvCat	1.107	1	1.10682	15.1508	0.000099
ScoreLevel	67.405	4	16.85116	230.6671	0.000000
DisadvCat*ScoreLevel	1.049	4	0.26220	3.5891	0.006248
Error	2310.918	31633	0.07305		

DisadvCat; LS Means						
Current effect: F(1, 31633)=15.151, p=.00010						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item31 Mean	Item31 Std.Err.	Item31 -95.00%	Item31 +95.00%	N
1	Disadv	0.139234	0.001987	0.135339	0.143129	30131
2	Not Disadv	0.086328	0.013446	0.059973	0.112683	1512

MANTEL-HAENSZEL= .39469 Chi-square(1)= 61.50352 p= 0

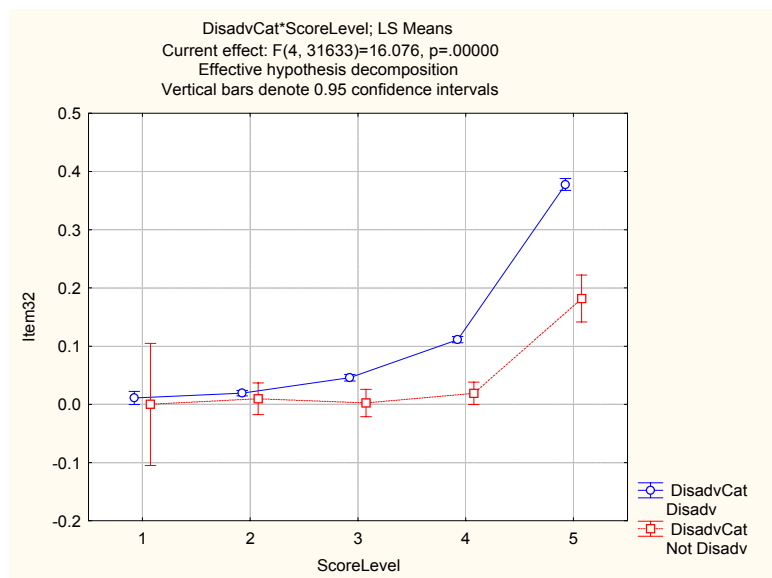


Item 32

Univariate Tests of Significance for Item32					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	9.578	1	9.577761	159.6384	0.000000
DisadvCat	1.959	1	1.959472	32.6597	0.000000
ScoreLevel	30.727	4	7.681824	128.0377	0.000000
DisadvCat*ScoreLevel	3.858	4	0.964501	16.0759	0.000000
Error	1897.873	31633	0.059997		

DisadvCat; LS Means						
Current effect: F(1, 31633)=32.660, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item32 Mean	Item32 Std.Err.	Item32 -95.00%	Item32 +95.00%	N
1	Disadv	0.113012	0.001801	0.109482	0.116542	30131
2	Not Disadv	0.042619	0.012185	0.018735	0.066502	1512

MANTEL-HAENSZEL= .22412 Chi-square(1)= 92.69455 p= 0

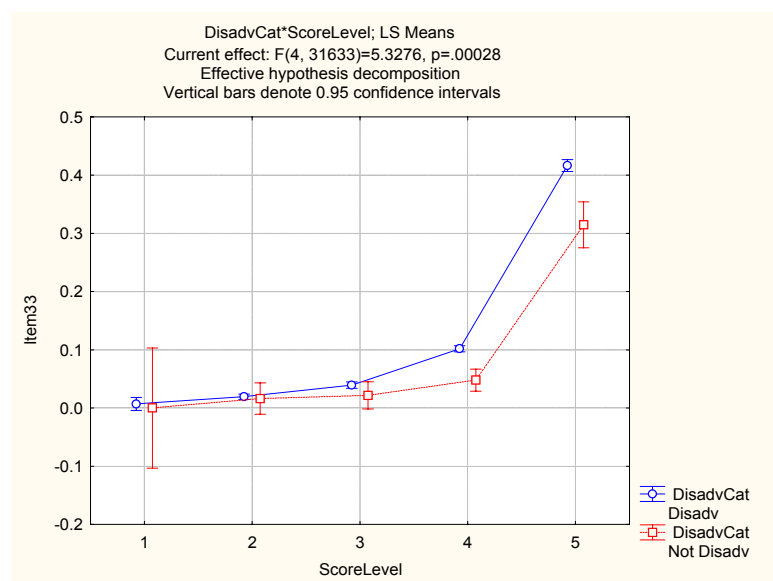


Item 33

Univariate Tests of Significance for Item33					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	15.342	1	15.34211	263.1850	0.000000
DisadvCat	0.534	1	0.53404	9.1611	0.002474
ScoreLevel	52.812	4	13.20297	226.4893	0.000000
DisadvCat*ScoreLevel	1.242	4	0.31057	5.3276	0.000276
Error	1844.014	31633	0.05829		

DisadvCat; LS Means						
Current effect: F(1, 31633)=9.1611, p=.00247						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item33 Mean	Item33 Std.Err.	Item33 -95.00%	Item33 +95.00%	N
1	Disadv	0.116861	0.001775	0.113382	0.120340	30131
2	Not Disadv	0.080112	0.012011	0.056569	0.103654	1512

MANTEL-HAENSZEL= .50126 Chi-square(1)= 34.63085 p= 0

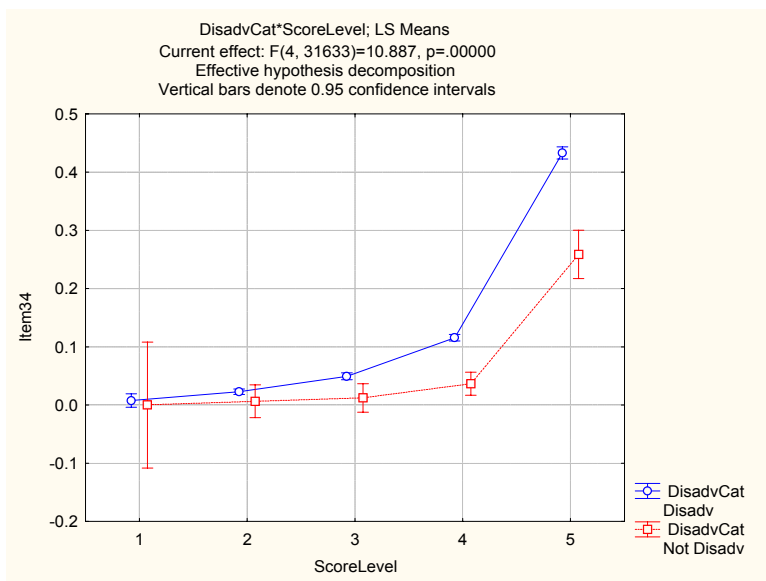


Item 34

Univariate Tests of Significance for Item34					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	14.057	1	14.05663	219.8106	0.000000
DisadvCat	1.566	1	1.56585	24.4860	0.000001
ScoreLevel	47.300	4	11.82505	184.9143	0.000000
DisadvCat*ScoreLevel	2.785	4	0.69624	10.8875	0.000000
Error	2022.893	31633	0.06395		

DisadvCat; LS Means						
Current effect: F(1, 31633)=24.486, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item34 Mean	Item34 Std.Err.	Item34 -95.00%	Item34 +95.00%	N
1	Disadv	0.125734	0.001859	0.122090	0.129378	30131
2	Not Disadv	0.062806	0.012580	0.038149	0.087464	1512

MANTEL-HAENSZEL= .33583 Chi-square(1)= 69.3803 p= 0

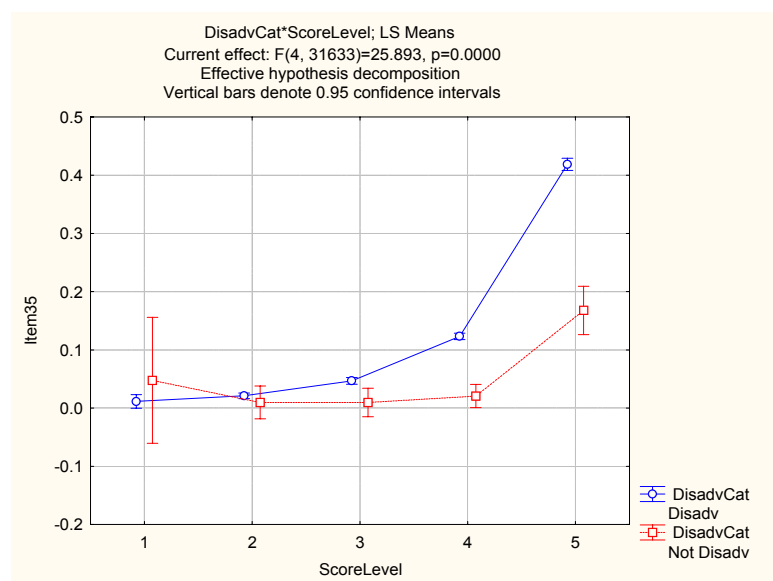


Item 35

Univariate Tests of Significance for Item35					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	12.171	1	12.17092	190.4873	0.000000
DisadvCat	2.119	1	2.11869	33.1596	0.000000
ScoreLevel	33.228	4	8.30699	130.0129	0.000000
DisadvCat*ScoreLevel	6.618	4	1.65442	25.8934	0.000000
Error	2021.146	31633	0.06389		

DisadvCat; LS Means						
Current effect: F(1, 31633)=33.160, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item35 Mean	Item35 Std.Err.	Item35 -95.00%	Item35 +95.00%	N
1	Disadv	0.124318	0.001858	0.120675	0.127961	30131
2	Not Disadv	0.051120	0.012575	0.026473	0.075768	1512

MANTEL-HAENSZEL = .21974 Chi-square(1) = 106.19413 p = 0

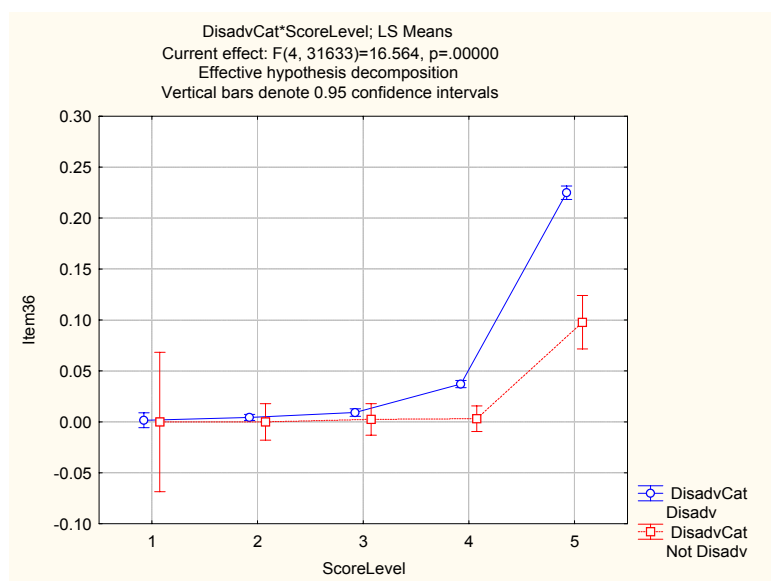


Item 36

Univariate Tests of Significance for Item36					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2.2969	1	2.296946	89.6719	0.000000
DisadvCat	0.4791	1	0.479080	18.7031	0.000015
ScoreLevel	11.3082	4	2.827055	110.3671	0.000000
DisadvCat*ScoreLevel	1.6972	4	0.424293	16.5642	0.000000
Error	810.2796	31633	0.025615		

DisadvCat; LS Means						
Current effect: F(1, 31633)=18.703, p=.00002						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item36 Mean	Item36 Std.Err.	Item36 -95.00%	Item36 +95.00%	N
1	Disadv	0.055511	0.001177	0.053205	0.057817	30131
2	Not Disadv	0.020704	0.007962	0.005098	0.036310	1512

MANTEL-HAENSZEL= .22956 Chi-square(1)= 38.07286 p= 0

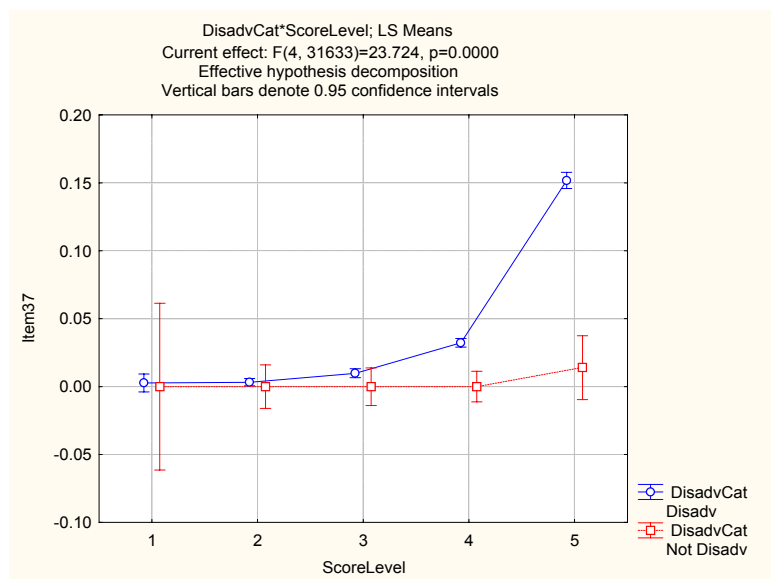


Item 37

Univariate Tests of Significance for Item37					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.7234	1	0.723406	35.13997	0.000000
DisadvCat	0.5465	1	0.546542	26.54870	0.000000
ScoreLevel	2.8630	4	0.715754	34.76826	0.000000
DisadvCat*ScoreLevel	1.9536	4	0.488394	23.72408	0.000000
Error	651.2098	31633	0.020586		

DisadvCat; LS Means						
Current effect: F(1, 31633)=26.549, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item37 Mean	Item37 Std.Err.	Item37 -95.00%	Item37 +95.00%	N
1	Disadv	0.039974	0.001055	0.037907	0.042042	30131
2	Not Disadv	0.002797	0.007138	-0.011193	0.016787	1512

MANTEL-HAENSZEL= .03669 Chi-square(1)= 46.40423 p= 0

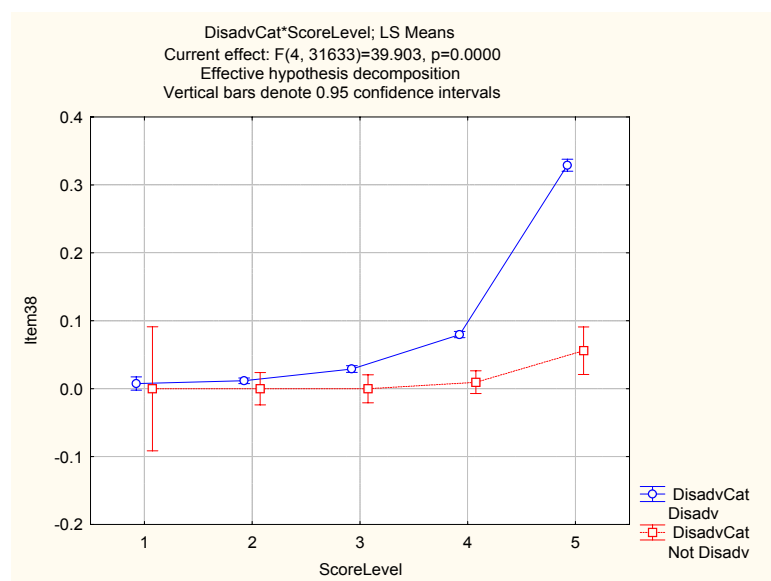


Item 38

Univariate Tests of Significance for Item38					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	4.321	1	4.320667	94.95238	0.000000
DisadvCat	2.426	1	2.425850	53.31127	0.000000
ScoreLevel	15.063	4	3.765710	82.75646	0.000000
DisadvCat*ScoreLevel	7.263	4	1.815705	39.90252	0.000000
Error	1439.413	31633	0.045504		

DisadvCat; LS Means						
Current effect: F(1, 31633)=53.311, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item38 Mean	Item38 Std.Err.	Item38 -95.00%	Item38 +95.00%	N
1	Disadv	0.091427	0.001568	0.088353	0.094501	30131
2	Not Disadv	0.013103	0.010612	-0.007697	0.033902	1512

MANTEL-HAENSZEL= .09904 Chi-square(1)= 103.03789 p= 0

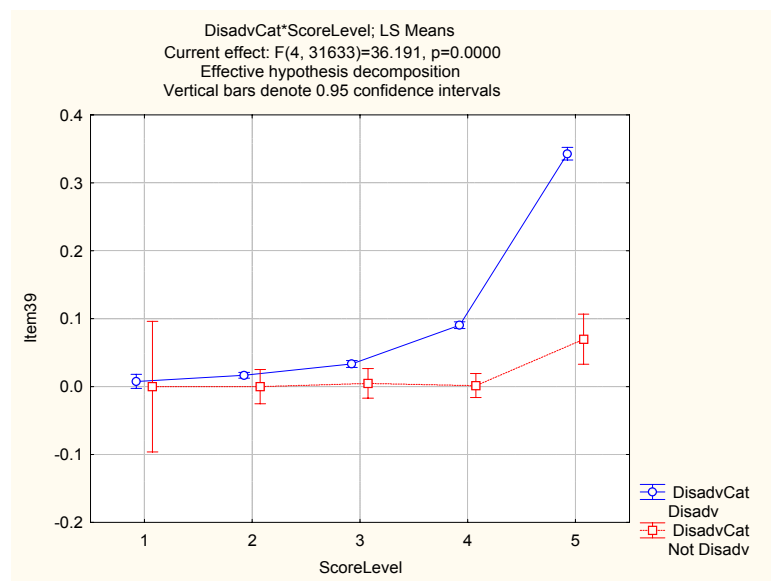


Item 39

Univariate Tests of Significance for Item39					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	5.094	1	5.093968	100.5721	0.000000
DisadvCat	2.721	1	2.720669	53.7152	0.000000
ScoreLevel	16.808	4	4.201915	82.9599	0.000000
DisadvCat*ScoreLevel	7.332	4	1.833059	36.1907	0.000000
Error	1602.209	31633	0.050650		

DisadvCat; LS Means						
Current effect: F(1, 31633)=53.715, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item39 Mean	Item39 Std.Err.	Item39 -95.00%	Item39 +95.00%	N
1	Disadv	0.098223	0.001655	0.094980	0.101466	30131
2	Not Disadv	0.015276	0.011196	-0.006669	0.037220	1512

MANTEL-HAENSZEL= .07797 Chi-square(1)= 119.97869 p= 0

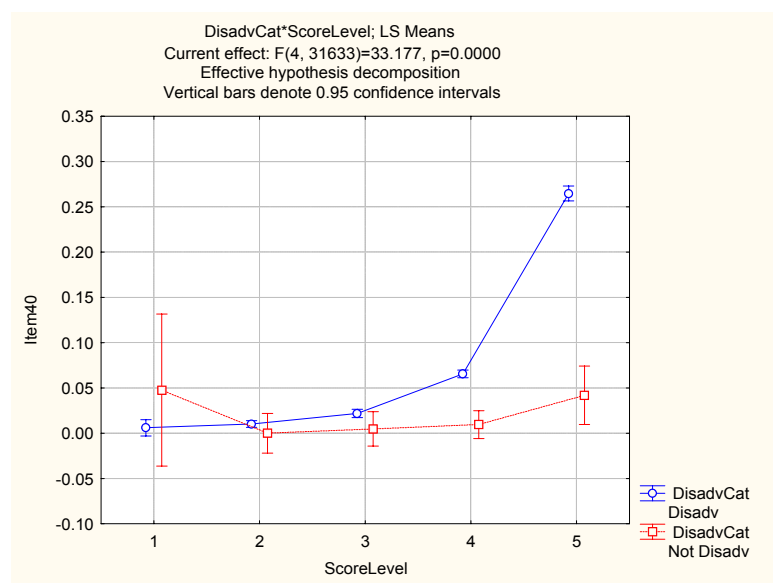


Item 40

Univariate Tests of Significance for Item40					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	3.531	1	3.531101	91.74402	0.000000
DisadvCat	1.106	1	1.106448	28.74741	0.000000
ScoreLevel	9.356	4	2.338920	60.76913	0.000000
DisadvCat*ScoreLevel	5.108	4	1.276941	33.17710	0.000000
Error	1217.511	31633	0.038489		

DisadvCat; LS Means						
Current effect: F(1, 31633)=28.747, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item40 Mean	Item40 Std.Err.	Item40 -95.00%	Item40 +95.00%	N
1	Disadv	0.073697	0.001442	0.070870	0.076524	30131
2	Not Disadv	0.020800	0.009760	0.001671	0.039930	1512

MANTEL-HAENSZEL= .14578 Chi-square(1)= 72.78946 p= 0

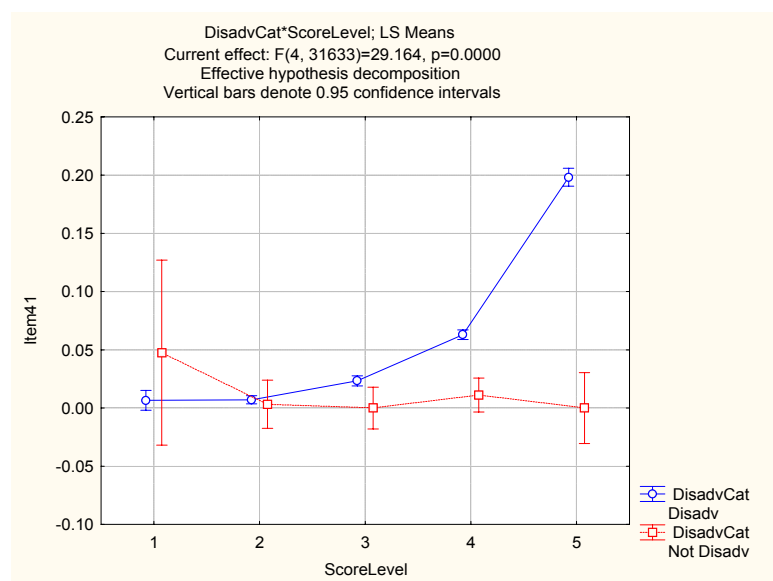


Item 41

Univariate Tests of Significance for Item41					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2.053	1	2.052789	59.49199	0.000000
DisadvCat	0.883	1	0.882546	25.57712	0.000000
ScoreLevel	3.946	4	0.986551	28.59127	0.000000
DisadvCat*ScoreLevel	4.025	4	1.006311	29.16396	0.000000
Error	1091.506	31633	0.034505		

DisadvCat; LS Means						
Current effect: F(1, 31633)=25.577, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item41 Mean	Item41 Std.Err.	Item41 -95.00%	Item41 +95.00%	N
1	Disadv	0.059646	0.001366	0.056969	0.062323	30131
2	Not Disadv	0.012404	0.009241	-0.005709	0.030516	1512

MANTEL-HAENSZEL= .10819 Chi-square(1)= 69.04787 p= 0

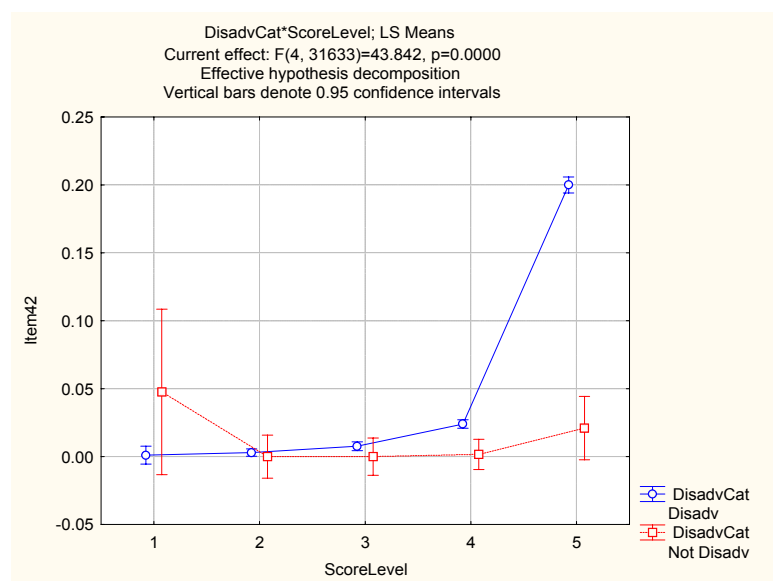


Item 42

Univariate Tests of Significance for Item42					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1.4802	1	1.480246	73.14579	0.000000
DisadvCat	0.4334	1	0.433391	21.41585	0.000004
ScoreLevel	5.3044	4	1.326093	65.52837	0.000000
DisadvCat*ScoreLevel	3.5489	4	0.887222	43.84174	0.000000
Error	640.1547	31633	0.020237		

DisadvCat; LS Means						
Current effect: F(1, 31633)=21.416, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item42 Mean	Item42 Std.Err.	Item42 -95.00%	Item42 +95.00%	N
1	Disadv	0.047144	0.001046	0.045094	0.049194	30131
2	Not Disadv	0.014039	0.007077	0.000168	0.027910	1512

MANTEL-HAENSZEL = .09397 Chi-square(1) = 43.18006 p = 0

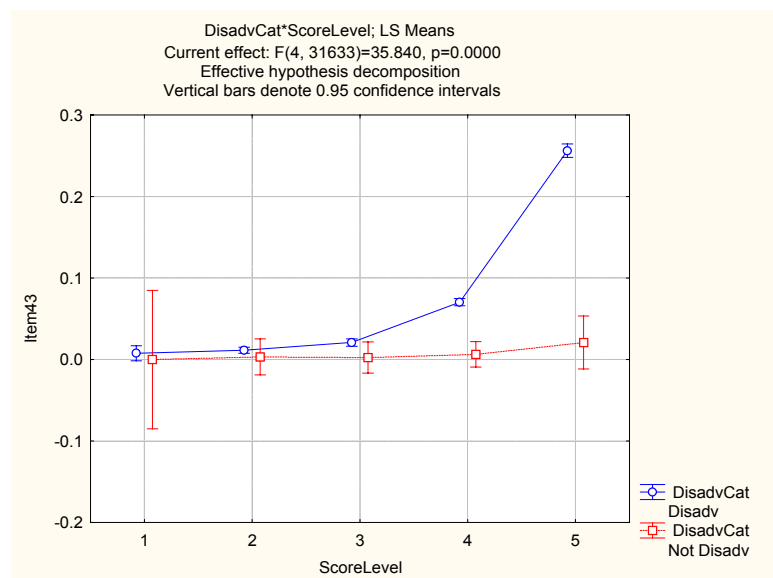


Item 43

Univariate Tests of Significance for Item43					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2.527	1	2.526705	64.22489	0.000000
DisadvCat	1.761	1	1.760656	44.75312	0.000000
ScoreLevel	7.635	4	1.908872	48.52055	0.000000
DisadvCat*ScoreLevel	5.640	4	1.410001	35.84002	0.000000
Error	1244.490	31633	0.039342		

DisadvCat; LS Means						
Current effect: F(1, 31633)=44.753, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item43 Mean	Item43 Std.Err.	Item43 -95.00%	Item43 +95.00%	N
1	Disadv	0.073331	0.001458	0.070473	0.076190	30131
2	Not Disadv	0.006604	0.009867	-0.012736	0.025945	1512

MANTEL-HAENSZEL= .08635 Chi-square(1)= 86.55398 p= 0

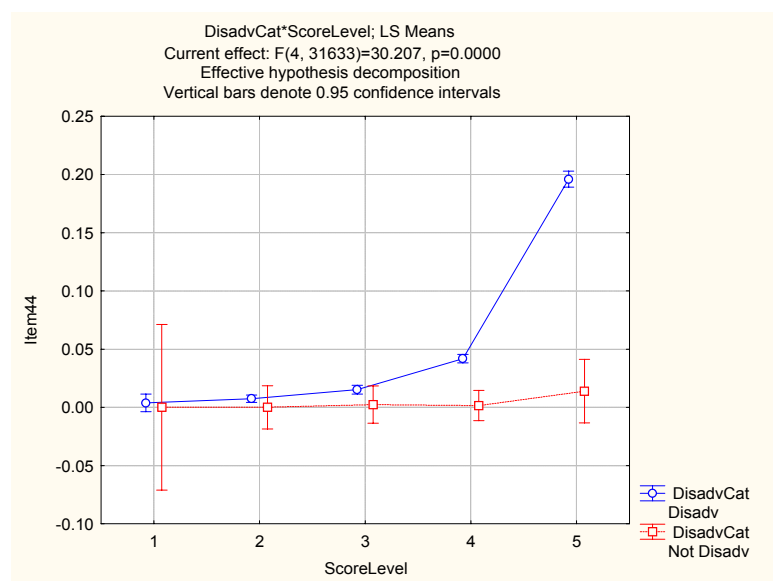


Item 44

Univariate Tests of Significance for Item44					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1.2619	1	1.261864	45.64133	0.000000
DisadvCat	0.9606	1	0.960571	34.74363	0.000000
ScoreLevel	4.4070	4	1.101761	39.85044	0.000000
DisadvCat*ScoreLevel	3.3406	4	0.835139	30.20679	0.000000
Error	874.5702	31633	0.027647		

DisadvCat; LS Means						
Current effect: F(1, 31633)=34.744, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item44 Mean	Item44 Std.Err.	Item44 -95.00%	Item44 +95.00%	N
1	Disadv	0.052888	0.001222	0.050492	0.055284	30131
2	Not Disadv	0.003602	0.008272	-0.012611	0.019815	1512

MANTEL-HAENSZEL= .05692 Chi-square(1)= 61.10107 p= 0

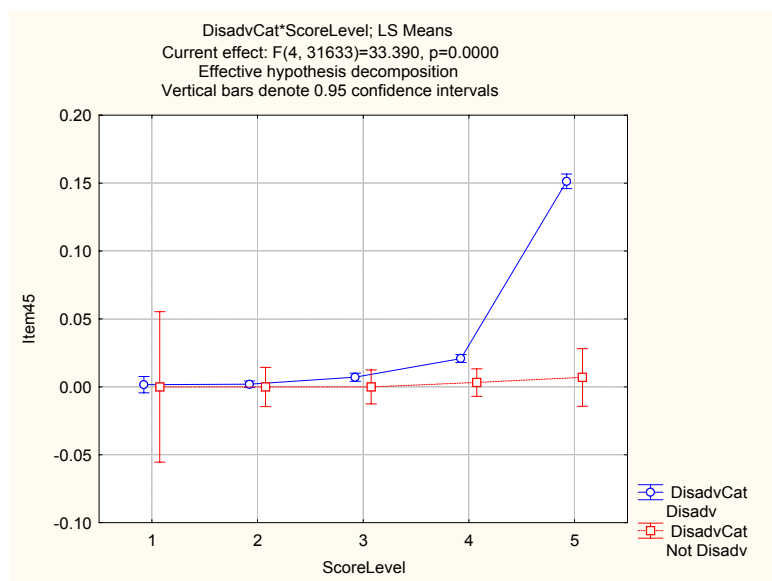


Item 45

Univariate Tests of Significance for Item45					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.5898	1	0.589791	35.21611	0.000000
DisadvCat	0.4719	1	0.471945	28.17958	0.000000
ScoreLevel	2.6797	4	0.669926	40.00094	0.000000
DisadvCat*ScoreLevel	2.2368	4	0.559203	33.38971	0.000000
Error	529.7817	31633	0.016748		

DisadvCat; LS Means (Merged.sta)						
Current effect: F(1, 31633)=28.180, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item45 Mean	Item45 Std.Err.	Item45 -95.00%	Item45 +95.00%	N
1	Disadv	0.036583	0.000951	0.034719	0.038448	30131
2	Not Disadv	0.002037	0.006438	-0.010582	0.014655	1512

MANTEL-HAENSZEL= .07324 Chi-square(1)= 35.49 p= 0

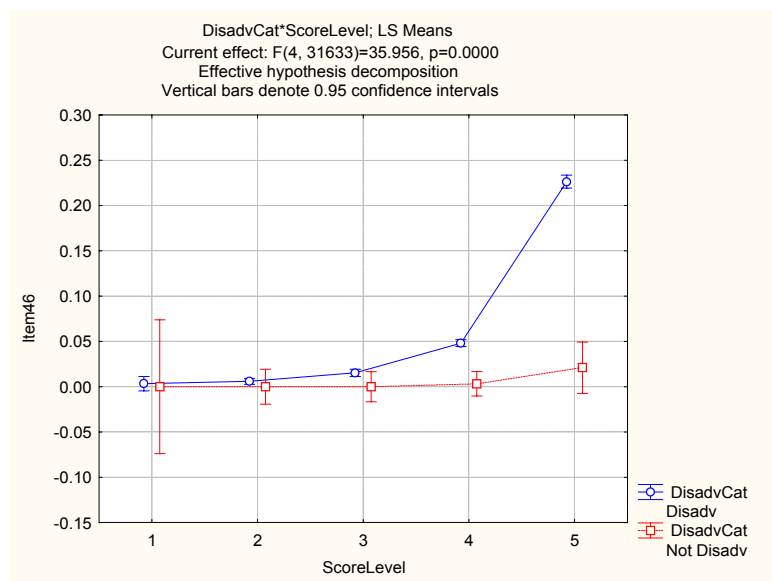


Item 46

Univariate Tests of Significance for Item46					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1.6520	1	1.652017	55.38548	0.000000
DisadvCat	1.1948	1	1.194790	40.05649	0.000000
ScoreLevel	6.3322	4	1.583052	53.07338	0.000000
DisadvCat*ScoreLevel	4.2899	4	1.072474	35.95573	0.000000
Error	943.5371	31633	0.029828		

DisadvCat; LS Means						
Current effect: F(1, 31633)=40.056, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item46 Mean	Item46 Std.Err.	Item46 -95.00%	Item46 +95.00%	N
1	Disadv	0.059802	0.001270	0.057313	0.062290	30131
2	Not Disadv	0.004834	0.008592	-0.012006	0.021674	1512

MANTEL-HAENSZEL = .06026 Chi-square(1) = 69.01072 p = 0

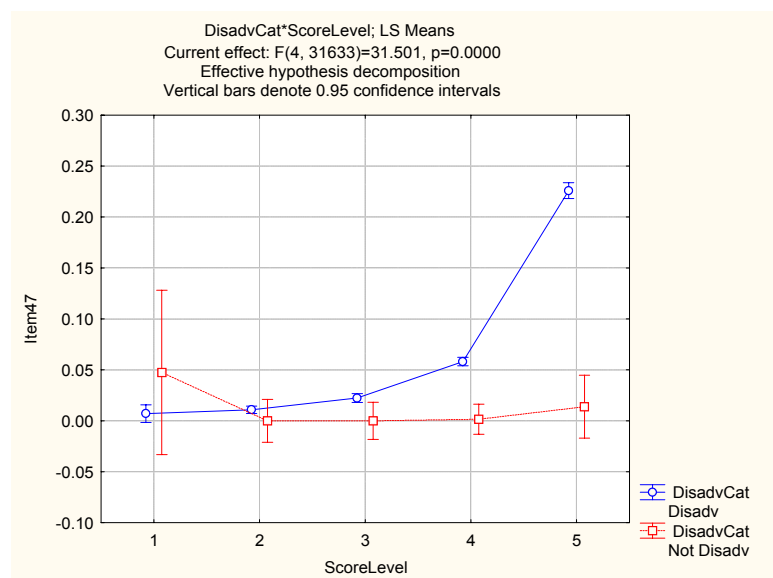


Item 47

Univariate Tests of Significance for Item47					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2.378	1	2.378373	66.96845	0.000000
DisadvCat	1.081	1	1.080544	30.42514	0.000000
ScoreLevel	5.605	4	1.401328	39.45753	0.000000
DisadvCat*ScoreLevel	4.475	4	1.118743	31.50073	0.000000
Error	1123.441	31633	0.035515		

DisadvCat; LS Means (Merged.sta)						
Current effect: F(1, 31633)=30.425, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item47 Mean	Item47 Std.Err.	Item47 -95.00%	Item47 +95.00%	N
1	Disadv	0.064914	0.001386	0.062198	0.067630	30131
2	Not Disadv	0.012640	0.009375	-0.005736	0.031016	1512

MANTEL-HAENSZEL= .04361 Chi-square(1)= 82.67989 p= 0

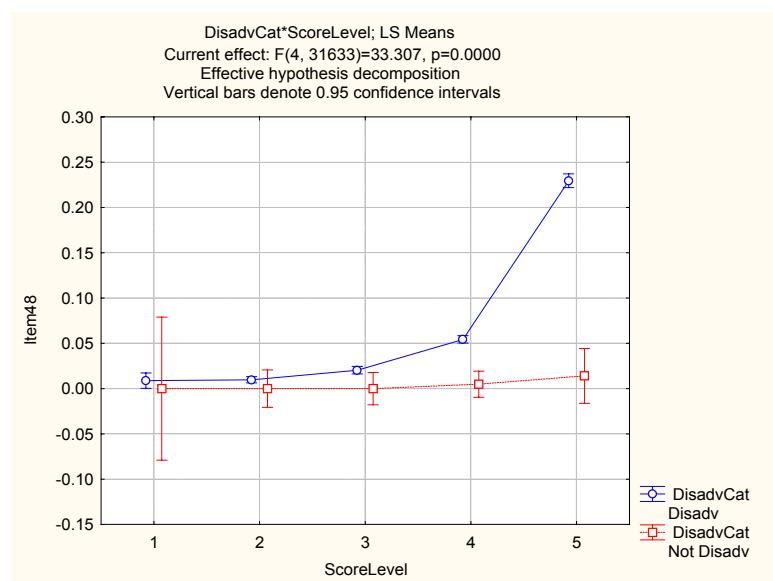


Item 48

Univariate Tests of Significance for Item48					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1.845	1	1.844905	54.12892	0.000000
DisadvCat	1.462	1	1.461601	42.88289	0.000000
ScoreLevel	5.911	4	1.477720	43.35583	0.000000
DisadvCat*ScoreLevel	4.541	4	1.135225	33.30714	0.000000
Error	1078.165	31633	0.034084		

DisadvCat; LS Means						
Current effect: F(1, 31633)=42.883, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item48 Mean	Item48 Std.Err.	Item48 -95.00%	Item48 +95.00%	N
1	Disadv	0.064551	0.001357	0.061890	0.067211	30131
2	Not Disadv	0.003754	0.009184	-0.014247	0.021756	1512

MANTEL-HAENSZEL= .05594 Chi-square(1)= 77.43823 p= 0

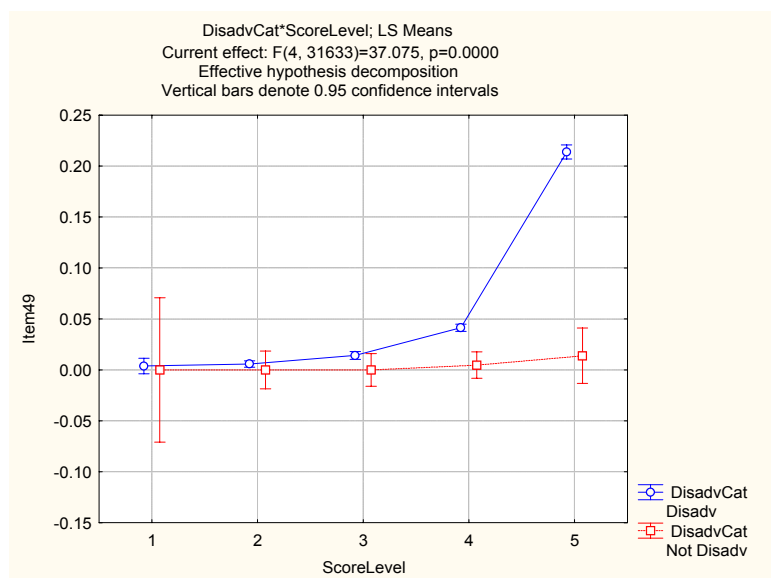


Item 49

Univariate Tests of Significance for Item49					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1.4028	1	1.402774	51.00607	0.000000
DisadvCat	1.0714	1	1.071394	38.95681	0.000000
ScoreLevel	5.3609	4	1.340234	48.73207	0.000000
DisadvCat*ScoreLevel	4.0785	4	1.019632	37.07471	0.000000
Error	869.9737	31633	0.027502		

DisadvCat; LS Means (Merged.sta)						
Current effect: F(1, 31633)=38.957, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item49 Mean	Item49 Std.Err.	Item49 -95.00%	Item49 +95.00%	N
1	Disadv	0.055806	0.001219	0.053416	0.058196	30131
2	Not Disadv	0.003754	0.008250	-0.012416	0.019924	1512

MANTEL-HAENSZEL= .06951 Chi-square(1)= 61.2936 p= 0

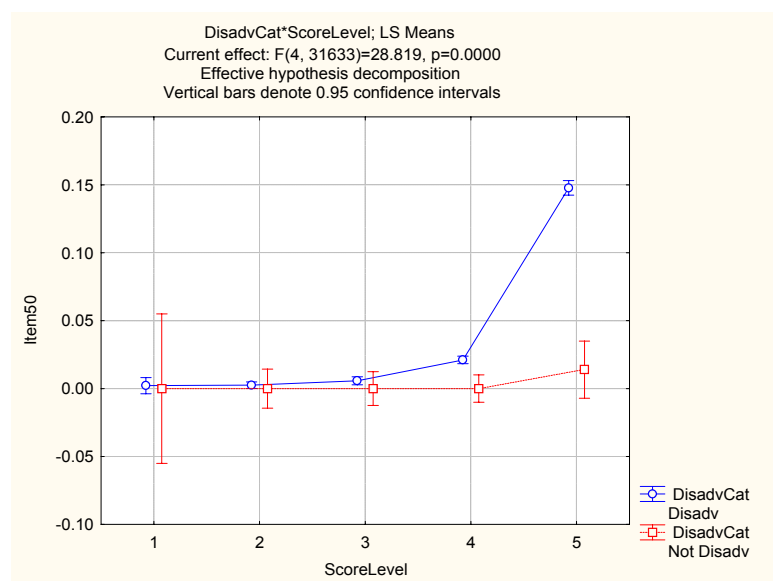


Item 50

Univariate Tests of Significance for Item50					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.5912	1	0.591164	35.81240	0.000000
DisadvCat	0.4325	1	0.432470	26.19879	0.000000
ScoreLevel	2.8287	4	0.707175	42.84029	0.000000
DisadvCat*ScoreLevel	1.9029	4	0.475722	28.81899	0.000000
Error	522.1737	31633	0.016507		

DisadvCat; LS Means						
Current effect: F(1, 31633)=26.199, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item50 Mean	Item50 Std.Err.	Item50 -95.00%	Item50 +95.00%	N
1	Disadv	0.035868	0.000945	0.034016	0.037719	30131
2	Not Disadv	0.002797	0.006392	-0.009731	0.015325	1512

MANTEL-HAENSZEL= .0459 Chi-square(1)= 36.70155 p= 0

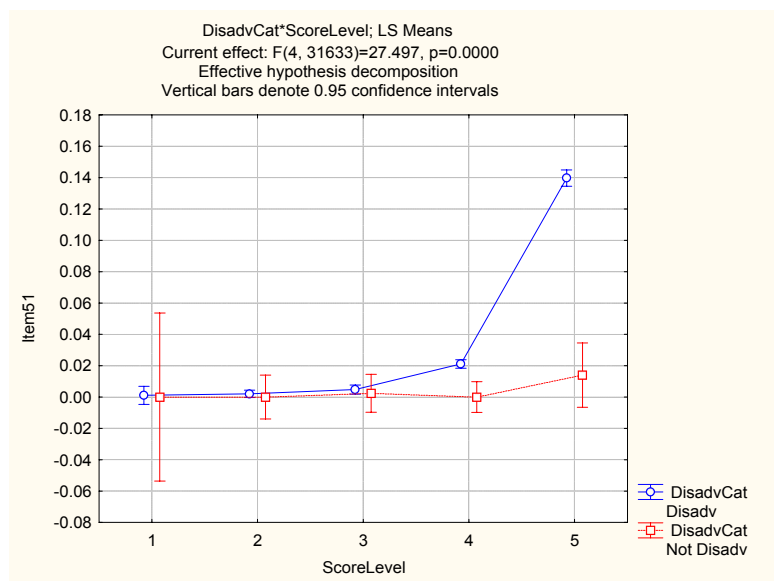


Item 51

Univariate Tests of Significance for Item51					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.5425	1	0.542487	34.56645	0.000000
DisadvCat	0.3672	1	0.367216	23.39843	0.000001
ScoreLevel	2.5291	4	0.632271	40.28736	0.000000
DisadvCat*ScoreLevel	1.7262	4	0.431540	27.49709	0.000000
Error	496.4493	31633	0.015694		

DisadvCat; LS Means						
Current effect: F(1, 31633)=23.398, p=.00000						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item51 Mean	Item51 Std.Err.	Item51 -95.00%	Item51 +95.00%	N
1	Disadv	0.033756	0.000921	0.031951	0.035562	30131
2	Not Disadv	0.003283	0.006232	-0.008933	0.015498	1512

MANTEL-HAENSZEL= .07687 Chi-square(1)= 32.56071 p= 0

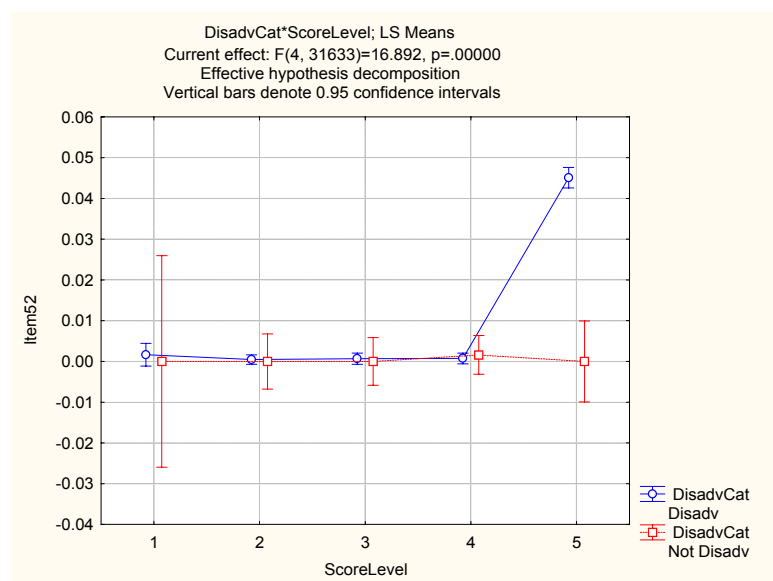


Item 52

Univariate Tests of Significance for Item52					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.0399	1	0.039913	10.84405	0.000992
DisadvCat	0.0350	1	0.035005	9.51058	0.002045
ScoreLevel	0.2334	4	0.058359	15.85584	0.000000
DisadvCat*ScoreLevel	0.2487	4	0.062172	16.89169	0.000000
Error	116.4292	31633	0.003681		

DisadvCat; LS Means (Merged.sta)						
Current effect: F(1, 31633)=9.5106, p=.00204						
Effective hypothesis decomposition						
Cell No.	DisadvCat	Item52 Mean	Item52 Std.Err.	Item52 -95.00%	Item52 +95.00%	N
1	Disadv	0.009728	0.000446	0.008853	0.010602	30131
2	Not Disadv	0.000319	0.003018	-0.005597	0.006235	1512

MANTEL-HAENSZEL= .13359 Chi-square(1)= 5.68704 p= .0170



CTB2 Differential Item Functioning – Numerical Ability (Race)

The sample consisted of 1417 Black respondents, and 1341 respondents from other race groups. The aim of the study was to investigate differential item functioning in the Numerical Ability. Factorial analysis of variance was used, and the Mantel-Haenszel statistic was also computed for every item.

It must be remembered that with such a large sample, even very small differences will be statistically significant. Therefore, the magnitude of obtained differences in means must be taken into account.

Summary of results

Item	Uniform bias /Factorial Anova	Uniform bias/Mantel-Haenszel	Mean item score difference	In favour of (group)	Non-uniform bias
1	N	N	.02		Y
2	Y	Y	.05	Non-Black	N
3	N	N	.005		N
4	N	Y	.01	Black	N
5	N	N	.03		N
6	N	N	.02		N
7	N	Y	.03	Non-Black	N
8	Y	Y	.08	Non-Black	Y
9	N	N	.03	Non-Black	Y
10	Y	Y	.05	Non-Black	N
11	N	N	.01		N
12	N	N	.02		N
13	N	N	.01		N
14	N	N	.02		N
15	N	N	.01		N
16	Y	N	.02	Black	Y
17	N	Y	.02	Black	N
18	N	N	.02		Y
19	Y	Y	.04	Black	Y
20	Y	Y	.03	Black	Y

Items with uniform bias (Significant effect for Race on Factorial Anova): 6
 Items with uniform bias Significant Chi-square test for Mantel-Haenszel index: 8
 Items biased in favour of Non-Black group: 5
 Items biased in favour of Black group: 5
 Items with no significant uniform bias: 10

Items with non-Uniform bias: 7

The differences in mean item score are small.

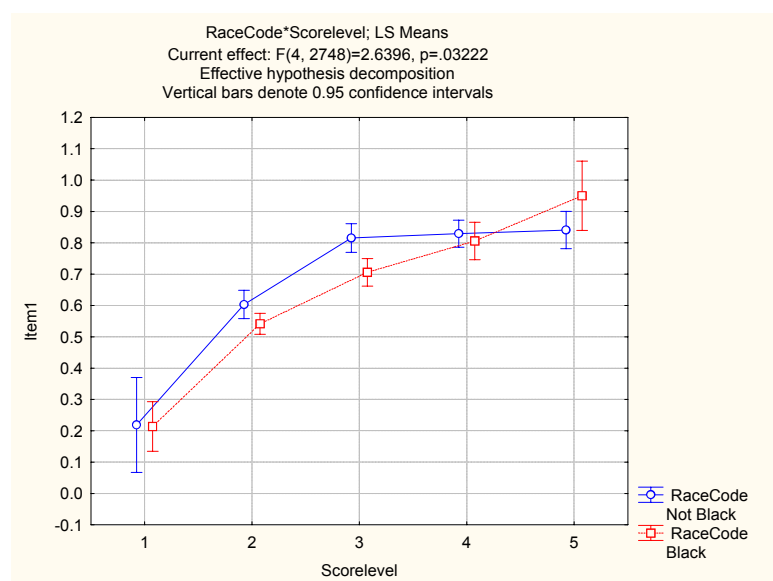
The seriousness of the non-uniform item bias is best judged by looking at the graphs that follow. In the overwhelming majority of cases, the differences are very small.

Item 1

Univariate Tests of Significance for Item1 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	542.3374	1	542.3374	2847.990	0.000000
RaceCode	0.1040	1	0.1040	0.546	0.459990
Scorelevel	55.5906	4	13.8976	72.981	0.000000
RaceCode*Scorelevel	2.0106	4	0.5027	2.640	0.032222
Error	523.2965	2748	0.1904		

RaceCode; LS Means Current effect: F(1, 2748)=.54607, p=.45999 Effective hypothesis decomposition						
Cell No.	RaceCode	Item1 Mean	Item1 Std.Err.	Item1 -95.00%	Item1 +95.00%	N
1	Not Black	0.661421	0.018362	0.625415	0.697427	1341
2	Black	0.643354	0.016143	0.611701	0.675007	1417

MANTEL-HAENSZEL= .90476 Chi-square(1)= 1.14324 p= .2849

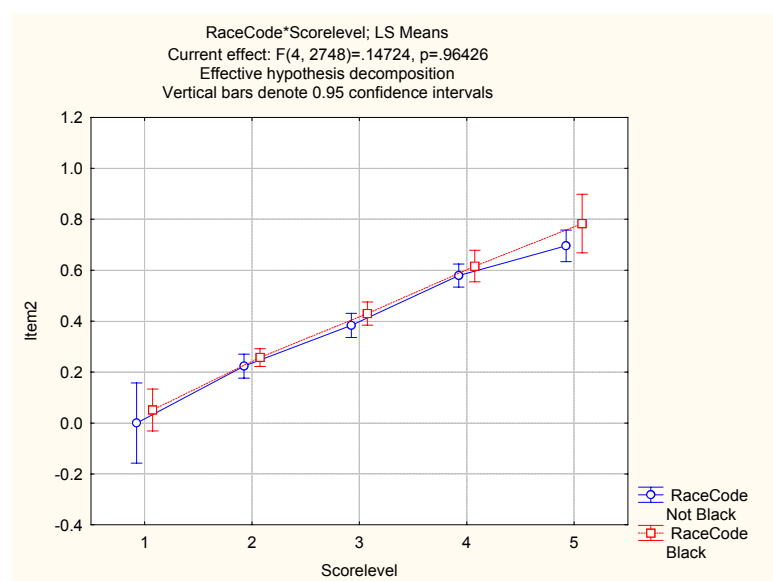


Item 2

Univariate Tests of Significance for Item2					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	205.8695	1	205.8695	996.8858	0.000000
RaceCode	0.8352	1	0.8352	4.0442	0.044422
Scorelevel	80.2342	4	20.0586	97.1299	0.000000
RaceCode*Scorelevel	0.1216	4	0.0304	0.1472	0.964265
Error	567.4968	2748	0.2065		

RaceCode; LS Means					
Current effect: F(1, 2748)=4.0442, p=.04442					
Effective hypothesis decomposition					
Cell No.	RaceCode	Item2 Mean	Item2 Std.Err.	Item2 -95.00%	Item2 +95.00%
1	Not Black	0.376344	0.019122	0.338849	0.413839
2	Black	0.427546	0.016811	0.394583	0.460509

MANTEL-HAENSZEL= 1.2305 Chi-square(1)= 5.43924 p= .0196

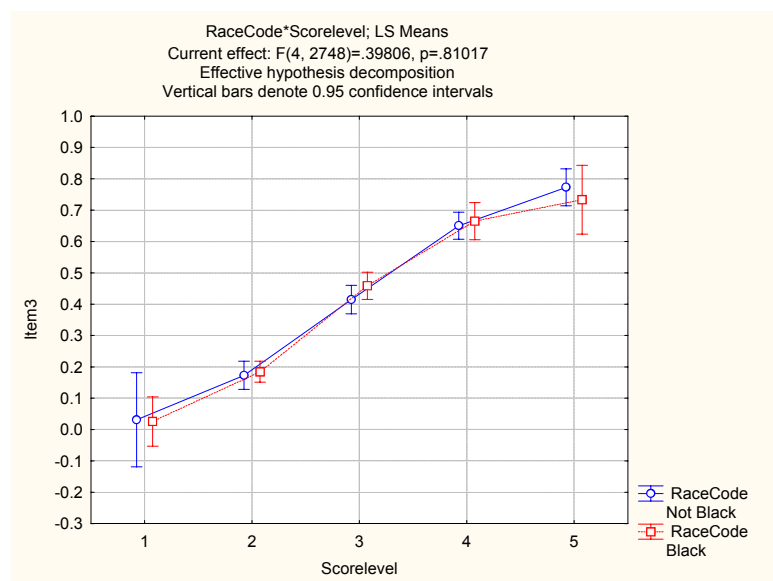


Item 3

Univariate Tests of Significance for Item3 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	215.2114	1	215.2114	1144.247	0.000000
RaceCode	0.0075	1	0.0075	0.040	0.841435
Scorelevel	119.0575	4	29.7644	158.253	0.000000
RaceCode*Scorelevel	0.2995	4	0.0749	0.398	0.810167
Error	516.8471	2748	0.1881		

RaceCode; LS Means Current effect: F(1, 2748)=.04003, p=.84144 Effective hypothesis decomposition						
Cell No.	RaceCode	Item3 Mean	Item3 Std.Err.	Item3 -95.00%	Item3 +95.00%	N
1	Not Black	0.408533	0.018249	0.372750	0.444316	1341
2	Black	0.413394	0.016043	0.381937	0.444852	1417

MANTEL-HAENSZEL= 1.11073 Chi-square(1)= 1.29619 p= .2549

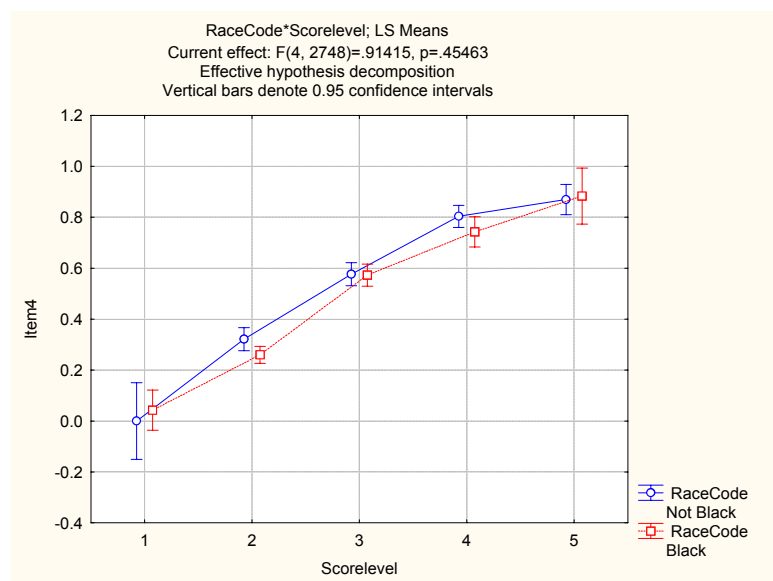


Item 4

Univariate Tests of Significance for Item4 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	327.9062	1	327.9062	1737.225	0.000000
RaceCode	0.0613	1	0.0613	0.325	0.568761
Scorelevel	133.9005	4	33.4751	177.349	0.000000
RaceCode*Scorelevel	0.6902	4	0.1725	0.914	0.454634
Error	518.6930	2748	0.1888		

RaceCode; LS Means Current effect: F(1, 2748)=.32484, p=.56876 Effective hypothesis decomposition						
Cell No.	RaceCode	Item4 Mean	Item4 Std.Err.	Item4 -95.00%	Item4 +95.00%	N
1	Not Black	0.514214	0.018282	0.478367	0.550061	1341
2	Black	0.500341	0.016072	0.468827	0.531854	1417

MANTEL-HAENSZEL= .83929 Chi-square(1)= 3.76969 p= .0521

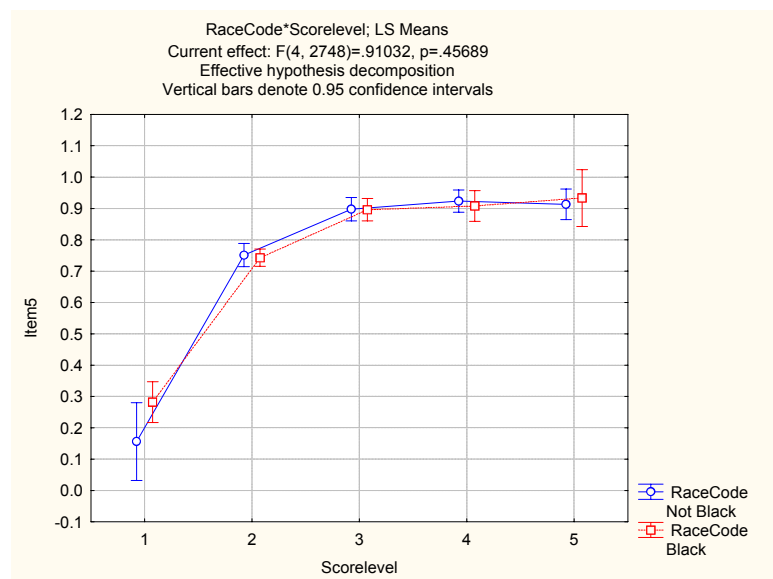


Item 5

Univariate Tests of Significance for Item5 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	698.5306	1	698.5306	5450.971	0.000000
RaceCode	0.1840	1	0.1840	1.436	0.230880
Scorelevel	52.4255	4	13.1064	102.275	0.000000
RaceCode*Scorelevel	0.4666	4	0.1167	0.910	0.456886
Error	352.1505	2748	0.1281		

RaceCode; LS Means Current effect: F(1, 2748)=1.4361, p=.23088 Effective hypothesis decomposition						
Cell No.	RaceCode	Item5 Mean	Item5 Std.Err.	Item5 -95.00%	Item5 +95.00%	N
1	Not Black	0.728377	0.015063	0.698841	0.757914	1341
2	Black	0.752412	0.013242	0.726446	0.778378	1417

MANTEL-HAENSZEL = .9964 Chi-square(1) = .00102 p = .9745

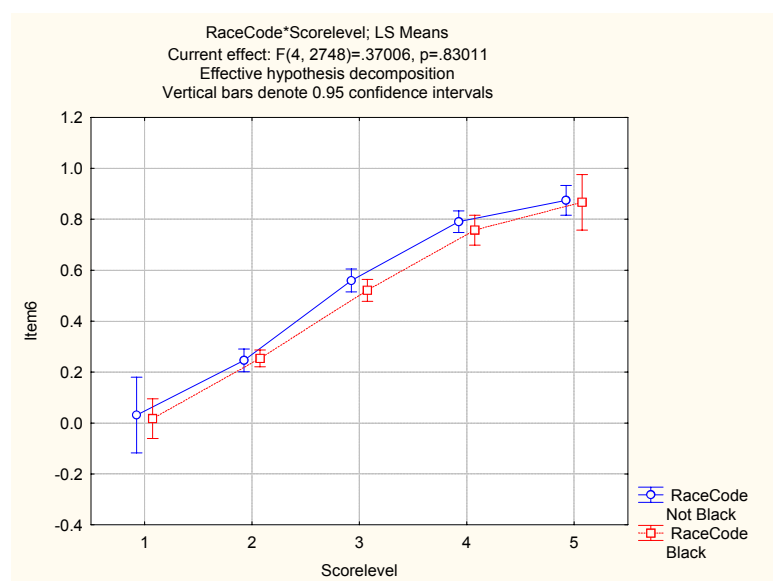


Item 6

Univariate Tests of Significance for Item6 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	308.1587	1	308.1587	1669.013	0.000000
RaceCode	0.0947	1	0.0947	0.513	0.473934
Scorelevel	147.4318	4	36.8579	199.626	0.000000
RaceCode*Scorelevel	0.2733	4	0.0683	0.370	0.830113
Error	507.3778	2748	0.1846		

RaceCode; LS Means Current effect: F(1, 2748)=.51293, p=.47393 Effective hypothesis decomposition						
Cell No.	RaceCode	Item6 Mean	Item6 Std.Err.	Item6 -95.00%	Item6 +95.00%	N
1	Not Black	0.500386	0.018081	0.464933	0.535840	1341
2	Black	0.483144	0.015895	0.451976	0.514312	1417

MANTEL-HAENSZEL= .91497 Chi-square(1)= .93701 p= .3330

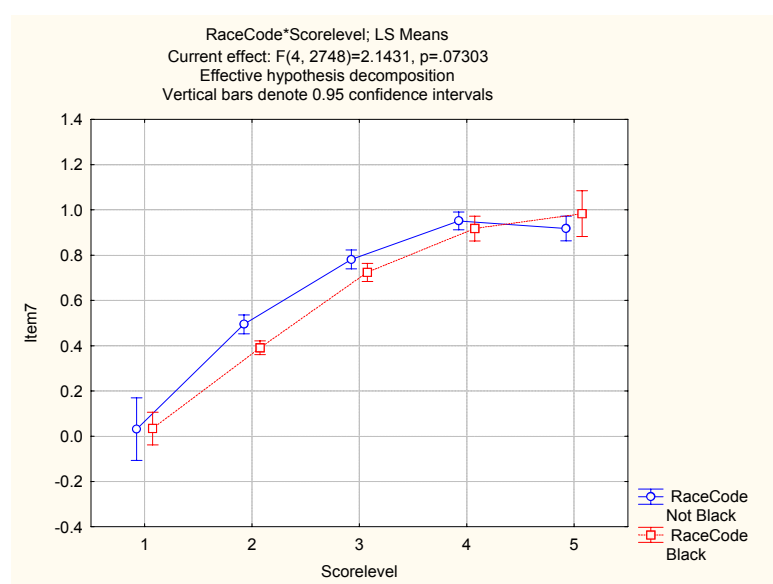


Item 7

Univariate Tests of Significance for Item7 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	493.9499	1	493.9499	3111.640	0.000000
RaceCode	0.2042	1	0.2042	1.286	0.256804
Scorelevel	145.8923	4	36.4731	229.762	0.000000
RaceCode*Scorelevel	1.3608	4	0.3402	2.143	0.073029
Error	436.2246	2748	0.1587		

RaceCode; LS Means Current effect: F(1, 2748)=1.2864, p=.25680 Effective hypothesis decomposition						
Cell No.	RaceCode	Item7 Mean	Item7 Std.Err.	Item7 -95.00%	Item7 +95.00%	N
1	Not Black	0.635264	0.016765	0.602390	0.668138	1341
2	Black	0.609945	0.014739	0.581045	0.638845	1417

MANTEL-HAENSZEL= .7036 Chi-square(1)= 12.61523 p= .0003

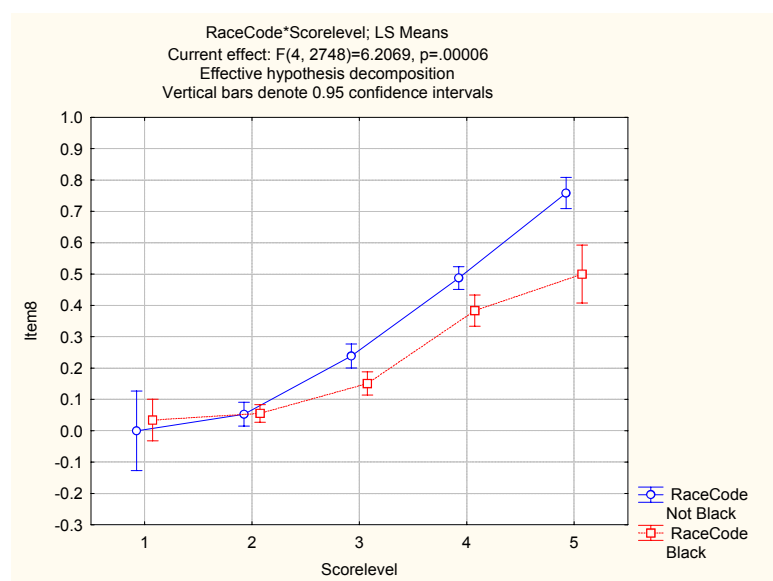


Item 8

Univariate Tests of Significance for Item8					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	90.2646	1	90.26456	672.9108	0.000000
RaceCode	2.1766	1	2.17664	16.2266	0.000058
Scorelevel	86.1930	4	21.54825	160.6394	0.000000
RaceCode*Scorelevel	3.3304	4	0.83259	6.2069	0.000057
Error	368.6180	2748	0.13414		

RaceCode; LS Means						
Current effect: F(1, 2748)=16.227, p=.00006						
Effective hypothesis decomposition						
Cell No.	RaceCode	Item8 Mean	Item8 Std.Err.	Item8 -95.00%	Item8 +95.00%	N
1	Not Black	0.307482	0.015412	0.277262	0.337701	1341
2	Black	0.224822	0.013548	0.198256	0.251388	1417

MANTEL-HAENSZEL= .61932 Chi-square(1)= 19.6261 p= .0000

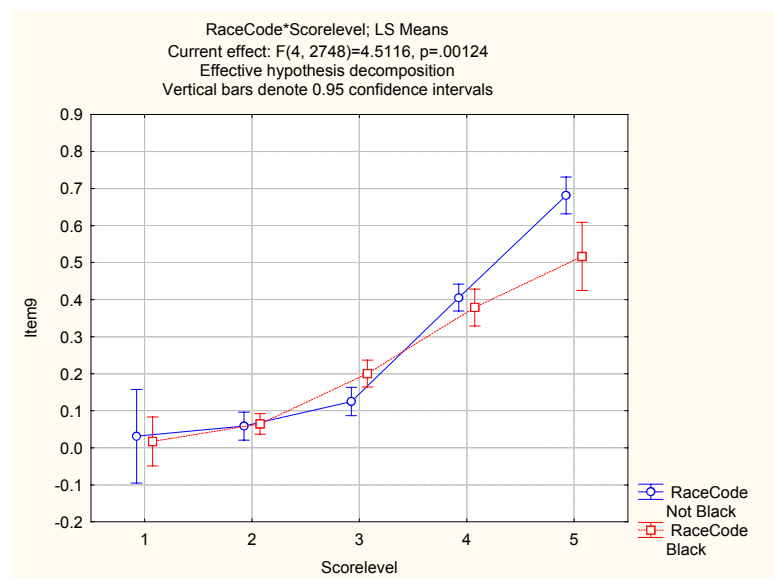


Item 9

Univariate Tests of Significance for Item9 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	78.3228	1	78.32281	589.7351	0.000000
RaceCode	0.1964	1	0.19638	1.4787	0.224086
Scorelevel	71.3406	4	17.83516	134.2906	0.000000
RaceCode*Scorelevel	2.3967	4	0.59919	4.5116	0.001237
Error	364.9623	2748	0.13281		

RaceCode; LS Means Current effect: F(1, 2748)=1.4787, p=.22409 Effective hypothesis decomposition						
Cell No.	RaceCode	Item9 Mean	Item9 Std.Err.	Item9 -95.00%	Item9 +95.00%	N
1	Not Black	0.260336	0.015335	0.230267	0.290405	1341
2	Black	0.235508	0.013481	0.209073	0.261942	1417

MANTEL-HAENSZEL= 1.04431 Chi-square(1)= .15691 p= .6920

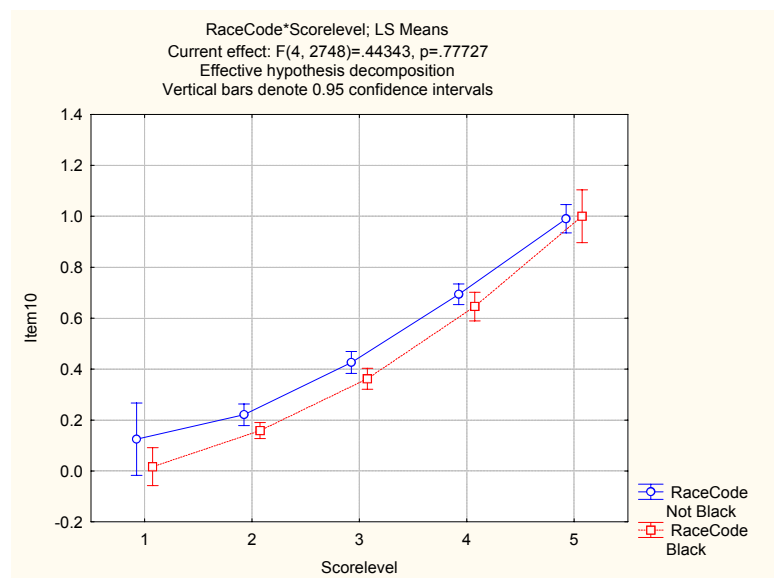


Item 10

Univariate Tests of Significance for Item10 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	274.2475	1	274.2475	1635.299	0.000000
RaceCode	0.9487	1	0.9487	5.657	0.017454
Scorelevel	156.7626	4	39.1907	233.688	0.000000
RaceCode*Scorelevel	0.2975	4	0.0744	0.443	0.777270
Error	460.8528	2748	0.1677		

RaceCode; LS Means Current effect: F(1, 2748)=5.6569, p=.01745 Effective hypothesis decomposition						
Cell No.	RaceCode	Item10 Mean	Item10 Std.Err.	Item10 -95.00%	Item10 +95.00%	N
1	Not Black	0.491204	0.017232	0.457415	0.524994	1341
2	Black	0.436633	0.015149	0.406929	0.466338	1417

MANTEL-HAENSZEL = .72949 Chi-square(1) = 11.19415 p = .0008

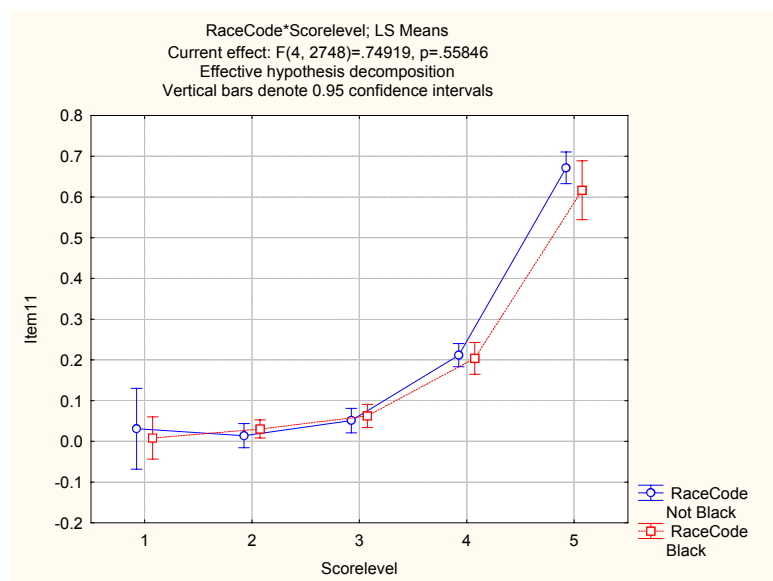


Item 11

Univariate Tests of Significance for Item11 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	46.0954	1	46.09539	564.0749	0.000000
RaceCode	0.0417	1	0.04172	0.5105	0.474974
Scorelevel	68.0109	4	17.00274	208.0646	0.000000
RaceCode*Scorelevel	0.2449	4	0.06122	0.7492	0.558460
Error	224.5626	2748	0.08172		

RaceCode; LS Means Current effect: F(1, 2748)=.51052, p=.47497 Effective hypothesis decomposition						
Cell No.	RaceCode	Item11 Mean	Item11 Std.Err.	Item11 -95.00%	Item11 +95.00%	N
1	Not Black	0.195917	0.012029	0.172330	0.219504	1341
2	Black	0.184473	0.010575	0.163738	0.205209	1417

MANTEL-HAENSZEL= .79744 Chi-square(1)= 2.78852 p= .0949

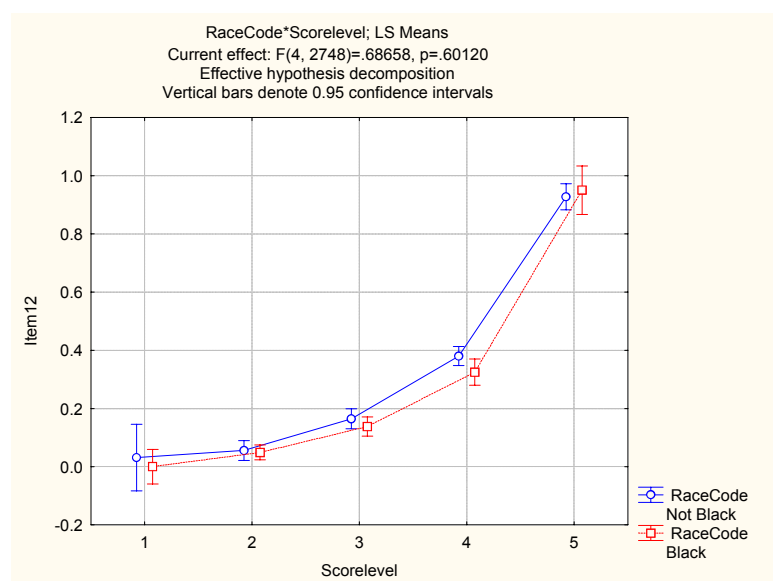


Item 12

Univariate Tests of Significance for Item12 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	116.3734	1	116.3734	1070.474	0.000000
RaceCode	0.1200	1	0.1200	1.104	0.293567
Scorelevel	139.0197	4	34.7549	319.697	0.000000
RaceCode*Scorelevel	0.2986	4	0.0746	0.687	0.601201
Error	298.7407	2748	0.1087		

RaceCode; LS Means Current effect: F(1, 2748)=1.1036, p=.29357 Effective hypothesis decomposition						
Cell No.	RaceCode	Item12 Mean	Item12 Std.Err.	Item12 -95.00%	Item12 +95.00%	N
1	Not Black	0.311905	0.013874	0.284701	0.339110	1341
2	Black	0.292499	0.012197	0.268583	0.316415	1417

MANTEL-HAENSZEL= .82096 Chi-square(1)= 2.67119 p= .1021

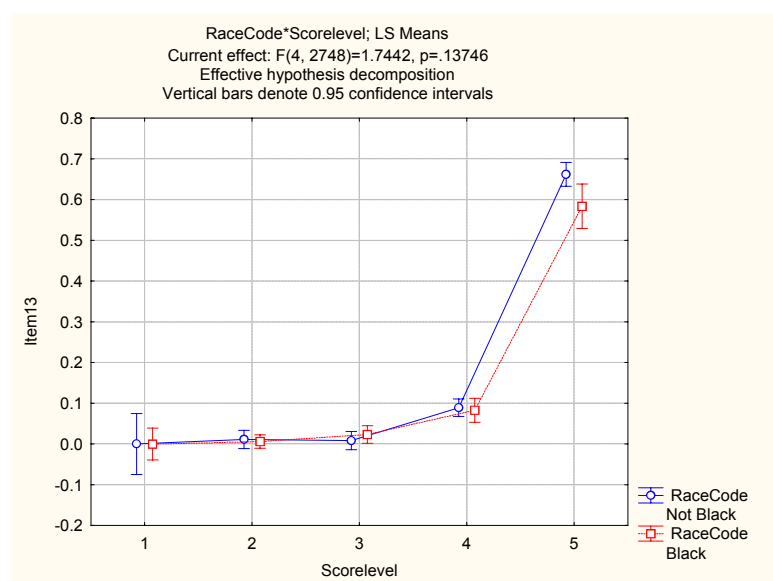


Item 13

Univariate Tests of Significance for Item13					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	27.3958	1	27.39582	587.7954	0.000000
RaceCode	0.0724	1	0.07238	1.5530	0.212795
Scorelevel	63.0364	4	15.75910	338.1219	0.000000
RaceCode*Scorelevel	0.3252	4	0.08129	1.7442	0.137457
Error	128.0781	2748	0.04661		

RaceCode; LS Means						
Current effect: F(1, 2748)=1.5530, p=.21280						
Effective hypothesis decomposition						
Cell No.	RaceCode	Item13 Mean	Item13 Std.Err.	Item13 -95.00%	Item13 +95.00%	N
1	Not Black	0.154163	0.009084	0.136351	0.171976	1341
2	Black	0.139090	0.007986	0.123430	0.154749	1417

MANTEL-HAENSZEL= .89335 Chi-square(1)= .3398 p= .5599

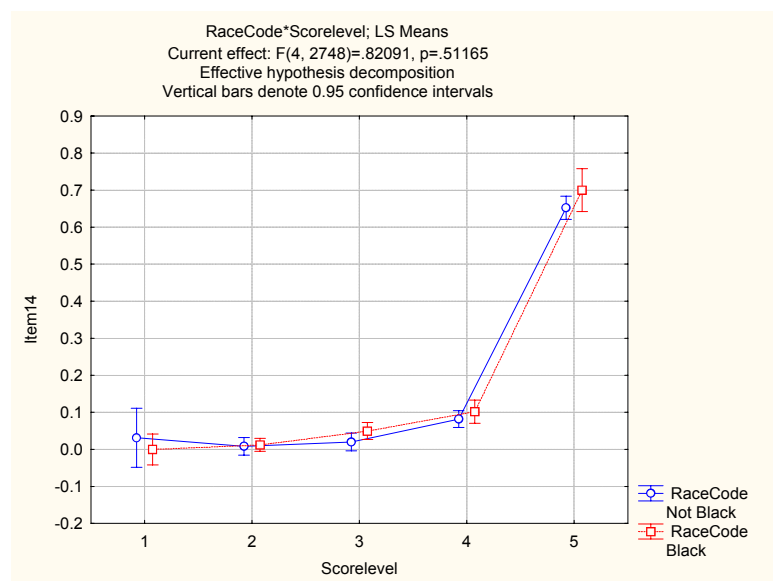


Item 14

Univariate Tests of Significance for Item14					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	34.9889	1	34.98893	665.0758	0.000000
RaceCode	0.0632	1	0.06316	1.2006	0.273288
Scorelevel	72.5239	4	18.13098	344.6369	0.000000
RaceCode*Scorelevel	0.1727	4	0.04319	0.8209	0.511648
Error	144.5693	2748	0.05261		

RaceCode; LS Means						
Current effect: F(1, 2748)=1.2006, p=.27329						
Effective hypothesis decomposition						
Cell No.	RaceCode	Item14 Mean	Item14 Std.Err.	Item14 -95.00%	Item14 +95.00%	N
1	Not Black	0.158665	0.009652	0.139740	0.177590	1341
2	Black	0.172746	0.008485	0.156109	0.189383	1417

MANTEL-HAENSZEL= 1.41813 Chi-square(1)= 3.65622 p= .0558

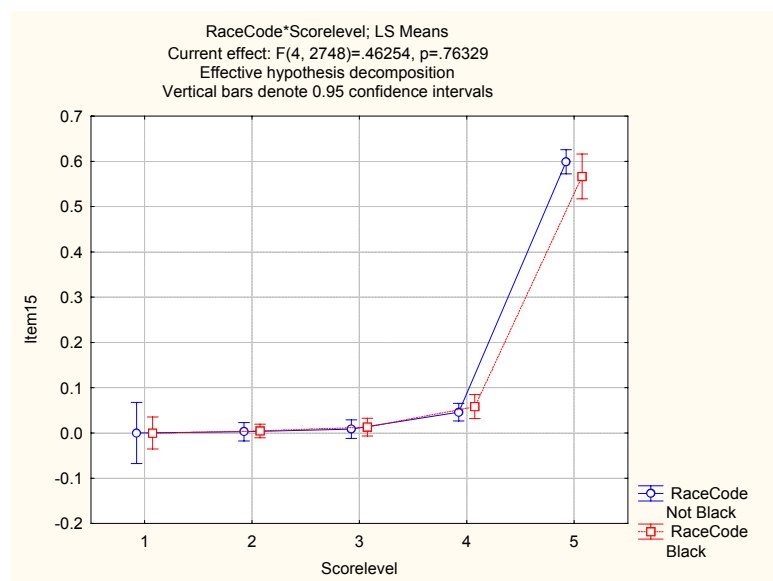


Item 15

Univariate Tests of Significance for Item15					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	21.4961	1	21.49606	563.5473	0.000000
RaceCode	0.0024	1	0.00240	0.0628	0.802114
Scorelevel	55.9676	4	13.99189	366.8156	0.000000
RaceCode*Scorelevel	0.0706	4	0.01764	0.4625	0.763286
Error	104.8203	2748	0.03814		

RaceCode; LS Means						
Current effect: F(1, 2748)=.06282, p=.80211						
Effective hypothesis decomposition						
Cell No.	RaceCode	Item15 Mean	Item15 Std.Err.	Item15 -95.00%	Item15 +95.00%	N
1	Not Black	0.131254	0.008218	0.115139	0.147368	1341
2	Black	0.128511	0.007225	0.114344	0.142678	1417

MANTEL-HAENSZEL= 1.06998 Chi-square(1)= .09598 p= .7567

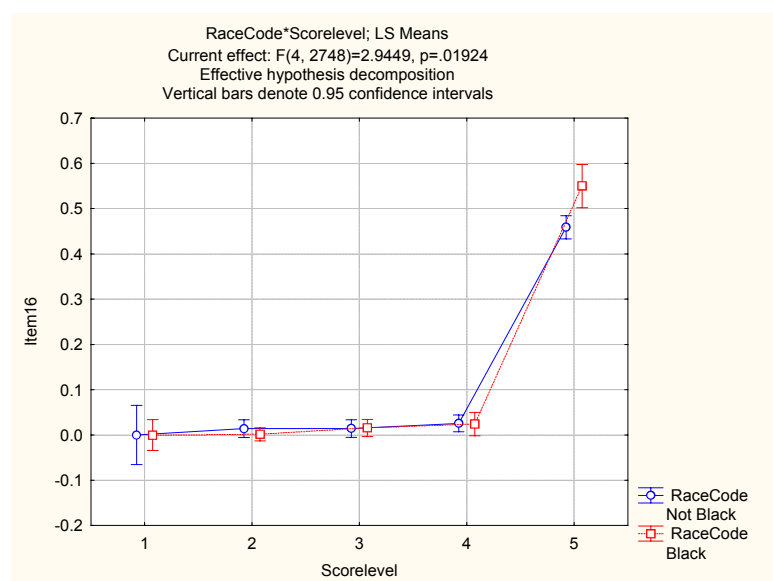


Item 16

Univariate Tests of Significance for Item16					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	15.53242	1	15.53242	437.1548	0.000000
RaceCode	0.07916	1	0.07916	2.2279	0.135654
Scorelevel	41.57437	4	10.39359	292.5243	0.000000
RaceCode*Scorelevel	0.41854	4	0.10463	2.9449	0.019239
Error	97.63836	2748	0.03553		

RaceCode; LS Means						
Current effect: F(1, 2748)=2.2279, p=.13565						
Effective hypothesis decomposition						
Cell No.	RaceCode	Item16 Mean	Item16 Std.Err.	Item16 -95.00%	Item16 +95.00%	N
1	Not Black	0.102524	0.007932	0.086971	0.118076	1341
2	Black	0.118287	0.006973	0.104614	0.131960	1417

MANTEL-HAENSZEL= 1.07787 Chi-square(1)= .11206 p= .7378

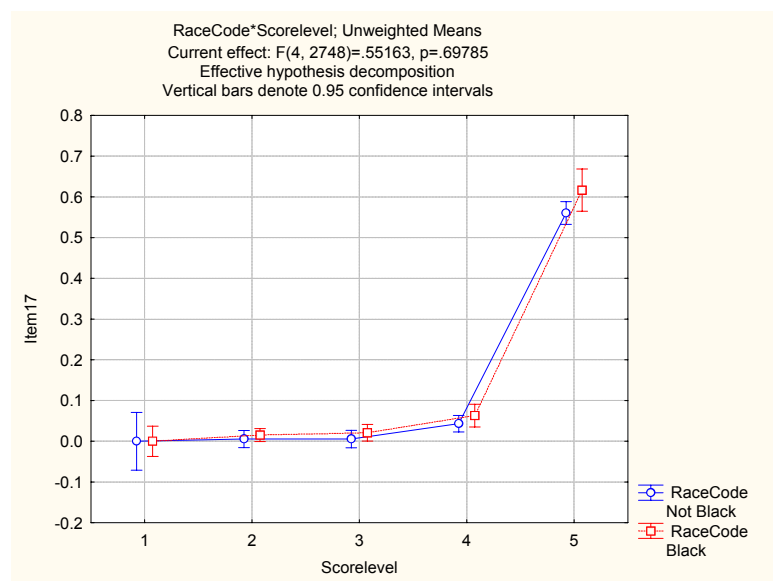


Item 17

Univariate Tests of Significance for Item17 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	22.5748	1	22.57479	538.1392	0.000000
RaceCode	0.1299	1	0.12991	3.0968	0.078560
Scorelevel	56.2018	4	14.05046	334.9358	0.000000
RaceCode*Scorelevel	0.0926	4	0.02314	0.5516	0.697853
Error	115.2778	2748	0.04195		

RaceCode; Unweighted Means Current effect: F(1, 2748)=3.0968, p=.07856 Effective hypothesis decomposition						
Cell No.	RaceCode	Item17 Mean	Item17 Std.Err.	Item17 -95.00%	Item17 +95.00%	N
1	Not Black	0.123004	0.008618	0.106105	0.139904	1341
2	Black	0.143198	0.007577	0.128342	0.158055	1417

MANTEL-HAENSZEL= 1.58118 Chi-square(1)= 4.62726 p= .0314

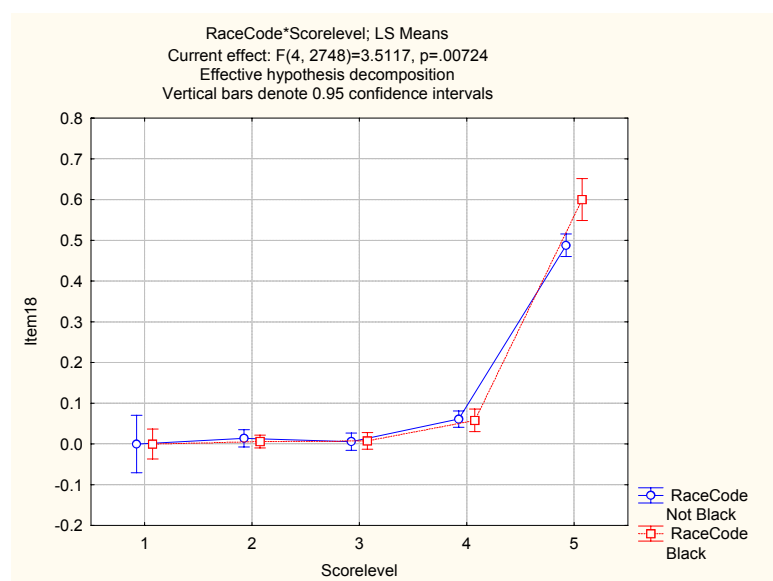


Item 18

Univariate Tests of Significance for Item18					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	19.6251	1	19.62511	473.8077	0.000000
RaceCode	0.1363	1	0.13630	3.2907	0.069783
Scorelevel	48.3278	4	12.08195	291.6937	0.000000
RaceCode*Scorelevel	0.5818	4	0.14546	3.5117	0.007244
Error	113.8221	2748	0.04142		

RaceCode; LS Means						
Current effect: F(1, 2748)=3.2907, p=.06978						
Effective hypothesis decomposition						
Cell No.	RaceCode	Item18 Mean	Item18 Std.Err.	Item18 -95.00%	Item18 +95.00%	N
1	Not Black	0.113759	0.008564	0.096967	0.130551	1341
2	Black	0.134444	0.007529	0.119681	0.149206	1417

MANTEL-HAENSZEL= 1.1611 Chi-square(1)= .51139 p= .4745

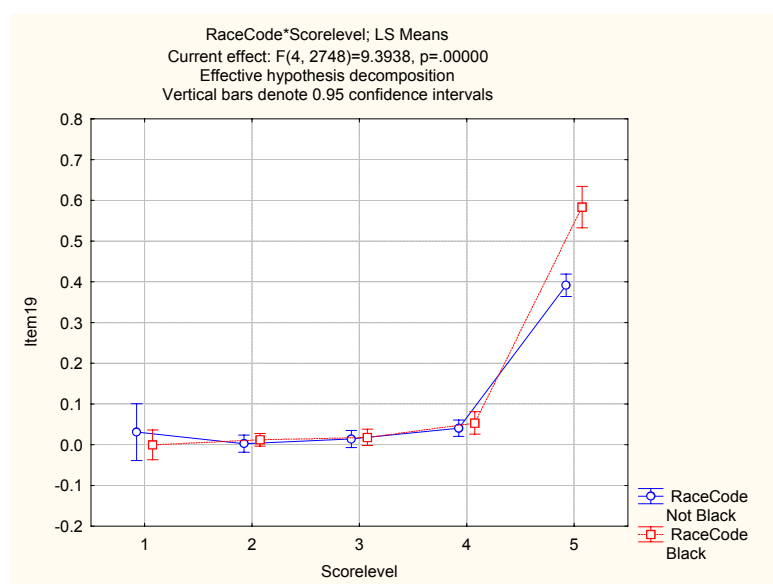


Item 19

Univariate Tests of Significance for Item19 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	16.7829	1	16.78292	414.3108	0.000000
RaceCode	0.4451	1	0.44512	10.9884	0.000929
Scorelevel	38.1494	4	9.53734	235.4432	0.000000
RaceCode*Scorelevel	1.5221	4	0.38052	9.3938	0.000000
Error	111.3161	2748	0.04051		

RaceCode; LS Means Current effect: F(1, 2748)=10.988, p=.00093 Effective hypothesis decomposition						
Cell No.	RaceCode	Item19 Mean	Item19 Std.Err.	Item19 -95.00%	Item19 +95.00%	N
1	Not Black	0.096074	0.008469	0.079467	0.112680	1341
2	Black	0.133454	0.007445	0.118855	0.148053	1417

MANTEL-HAENSZEL= 1.76151 Chi-square(1)= 7.27194 p= .00

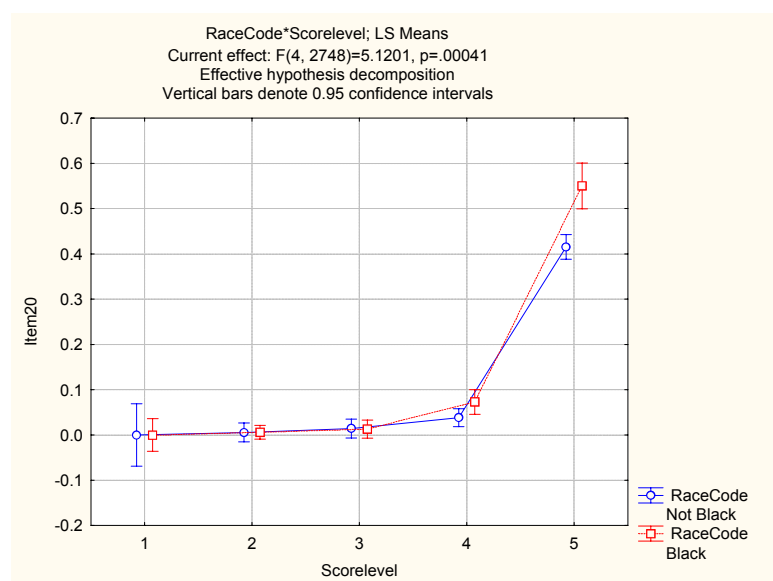


Item 20

Univariate Tests of Significance for Item20					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	15.8563	1	15.85631	398.7206	0.000000
RaceCode	0.3617	1	0.36168	9.0948	0.002587
Scorelevel	37.8321	4	9.45802	237.8300	0.000000
RaceCode*Scorelevel	0.8145	4	0.20362	5.1201	0.000414
Error	109.2824	2748	0.03977		

RaceCode; LS Means						
Current effect: F(1, 2748)=9.0948, p=.00259						
Effective hypothesis decomposition						
Cell No.	RaceCode	Item20 Mean	Item20 Std.Err.	Item20 -95.00%	Item20 +95.00%	N
1	Not Black	0.094703	0.008391	0.078249	0.111157	1341
2	Black	0.128398	0.007377	0.113933	0.142863	1417

MANTEL-HAENSZEL= 1.62486 Chi-square(1)= 5.38461 p= .0203



CTB2 Differential Item Functioning – Numerical Ability (Race)

The sample consisted of 2452 respondents from Formerly Disadvantaged groups (Black, White, Coloured and Asian), and 52 respondents from the formerly Advantaged group (White).

The aim of the study was to investigate differential item functioning in the Numerical Ability test. Factorial analysis of variance was used, and the Mantel-Haenszel statistic was also computed for every item.

It must be remembered that with such a large sample, even very small differences will be statistically significant. Therefore, the magnitude of obtained differences in means must be taken into account.

Summary of results

Item	Uniform bias /Factorial Anova	Uniform bias/Mantel-Haenszel	Mean item score difference	In favour of (group)	Non-uniform bias
1	N	N	.13		N
2	N	N	.008		N
3	N	N	.005		N
4	N	N	.02		N
5	N	N	.03		N
6	N	N	.05		N
7	N	N	.07		N
8	N	N	.05		N
9	N	N	.09		N
10	Y	N	.23	Not Disadvantaged	N
11	N	N	.01		N
12	N	N	.05		N
13	N	Y	.08		Y
14	N	N	.01		N
15	N	N	.004		N
16	N	N	.01		N
17	N	N	.04		N
18	N	N	.05		N
19	N	N	.04		N
20	N	N	.04		Y

Items with uniform bias (Significant effect for Race on Factorial Anova): 1
 Items with uniform bias Significant Chi-square test for Mantel-Haenszel index: 1
 Items biased in favour of Non-Disadvantaged group: 1
 Items biased in favour of Black group: 0
 Items with no significant uniform bias: 19

Items with non-Uniform bias: 2

The differences in mean item score are small.

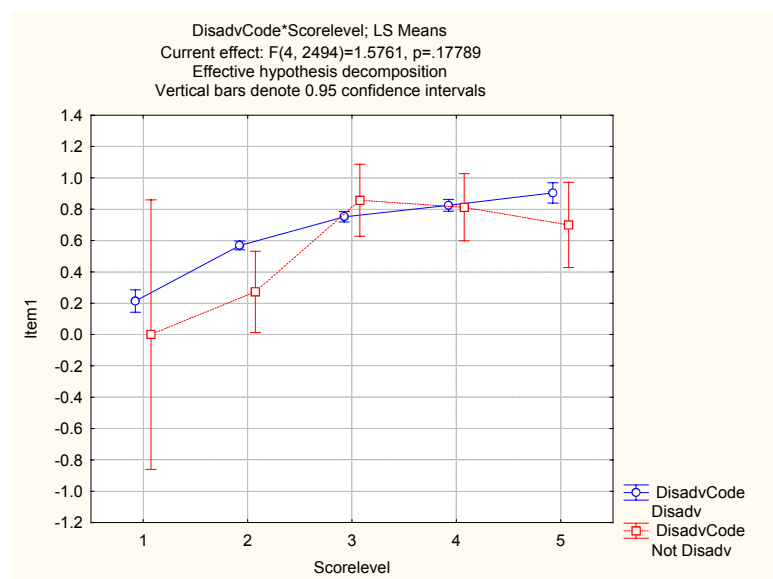
The seriousness of the non-uniform item bias is best judged by looking at the graphs that follow. In the overwhelming majority of cases, the differences are very small.

Item 1

Univariate Tests of Significance for Item1 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	25.9919	1	25.99194	135.1305	0.000000
DisadvCode	0.2874	1	0.28742	1.4943	0.221669
Scorelevel	6.6255	4	1.65638	8.6114	0.000001
DisadvCode*Scorelevel	1.2127	4	0.30317	1.5761	0.177893
Error	479.7133	2494	0.19235		

DisadvCode; LS Means Current effect: F(1, 2494)=1.4943, p=.22167 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item1 Mean	Item1 Std.Err.	Item1 -95.00%	Item1 +95.00%	N
1	Disadv	0.652681	0.011452	0.630224	0.675138	2452
2	Not Disadv	0.528474	0.100961	0.330498	0.726450	52

RMH= .63121 Chi-square(1)= 1.97868 p= .1595

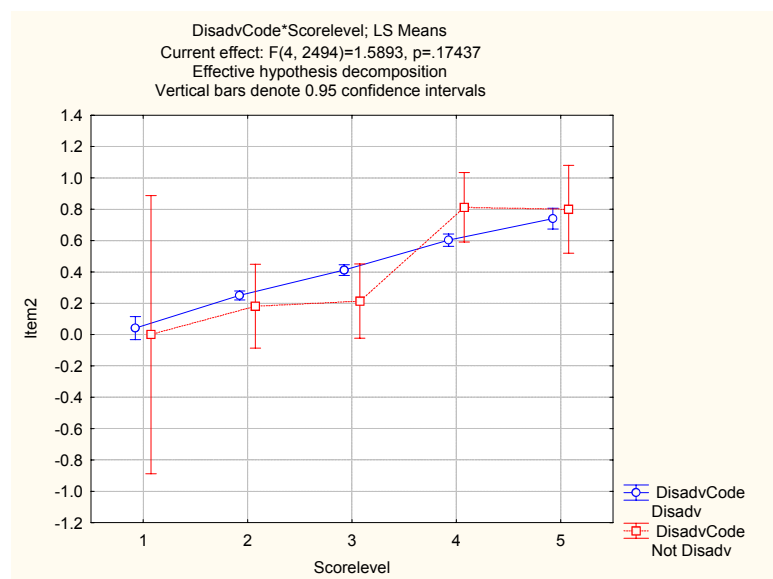


Item 2

Univariate Tests of Significance for Item2					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	12.2567	1	12.25671	59.89027	0.000000
DisadvCode	0.0011	1	0.00109	0.00534	0.941753
Scorelevel	11.7667	4	2.94168	14.37398	0.000000
DisadvCode*Scorelevel	1.3010	4	0.32526	1.58932	0.174375
Error	510.4041	2494	0.20465		

DisadvCode; LS Means						
Current effect: F(1, 2494)=.00534, p=.94175						
Effective hypothesis decomposition						
Cell No.	DisadvCode	Item2 Mean	Item2 Std.Err.	Item2 -95.00%	Item2 +95.00%	N
1	Disadv	0.409380	0.011813	0.386215	0.432544	2452
2	Not Disadv	0.401721	0.104141	0.197510	0.605932	52

RMH= 1.03236 Chi-square(1)= .00934 p= .9230

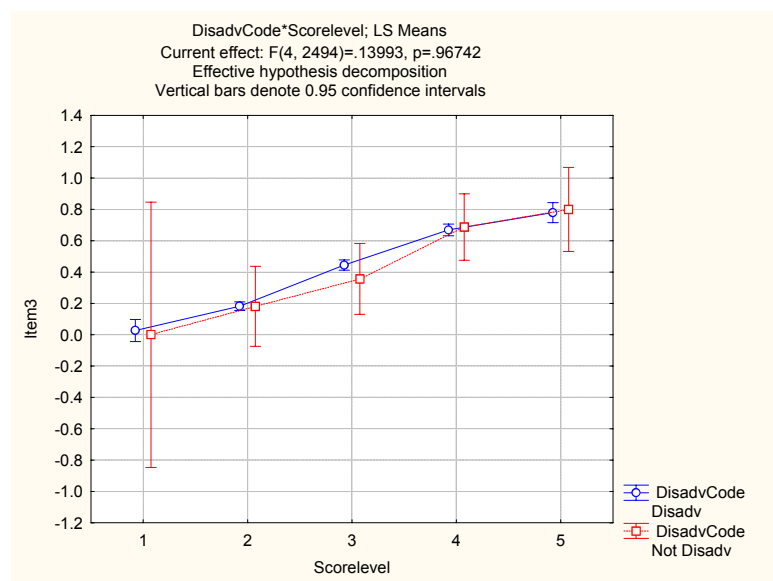


Item 3

Univariate Tests of Significance for Item3 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	12.7176	1	12.71760	68.30268	0.000000
DisadvCode	0.0045	1	0.00455	0.02443	0.875812
Scorelevel	11.0146	4	2.75364	14.78906	0.000000
DisadvCode*Scorelevel	0.1042	4	0.02605	0.13993	0.967418
Error	464.3696	2494	0.18619		

DisadvCode; LS Means Current effect: F(1, 2494)=.02443, p=.87581 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item3 Mean	Item3 Std.Err.	Item3 -95.00%	Item3 +95.00%	N
1	Disadv	0.420917	0.011268	0.398822	0.443012	2452
2	Not Disadv	0.405292	0.099333	0.210508	0.600076	52

RMH= .92519 Chi-square(1)= .05873 p= .8085

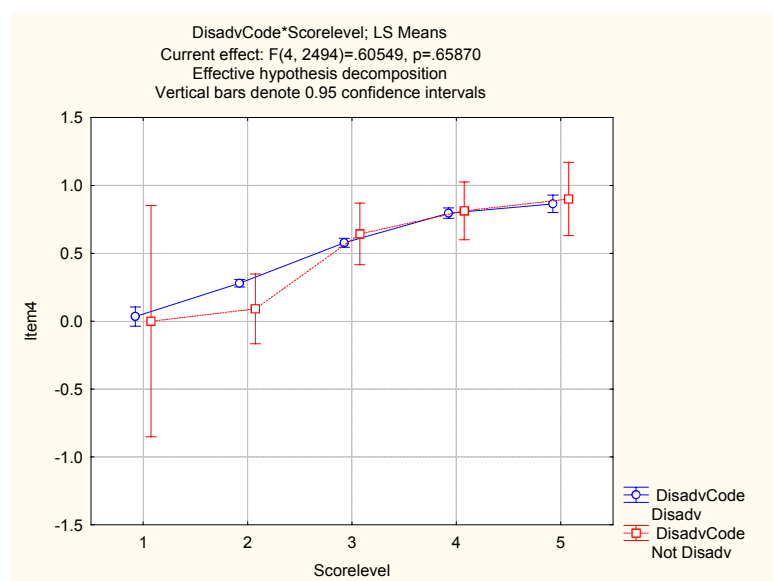


Item 4

Univariate Tests of Significance for Item4 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	18.6158	1	18.61580	98.68915	0.000000
DisadvCode	0.0083	1	0.00829	0.04397	0.833934
Scorelevel	14.3734	4	3.59335	19.04964	0.000000
DisadvCode*Scorelevel	0.4569	4	0.11421	0.60549	0.658699
Error	470.4448	2494	0.18863		

DisadvCode; LS Means Current effect: F(1, 2494)=.04397, p=.83393 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item4 Mean	Item4 Std.Err.	Item4 -95.00%	Item4 +95.00%	N
1	Disadv	0.510352	0.011341	0.488112	0.532591	2452
2	Not Disadv	0.489253	0.099981	0.293199	0.685308	52

RMH= .9323 Chi-square(1)= .03828 p= .8448

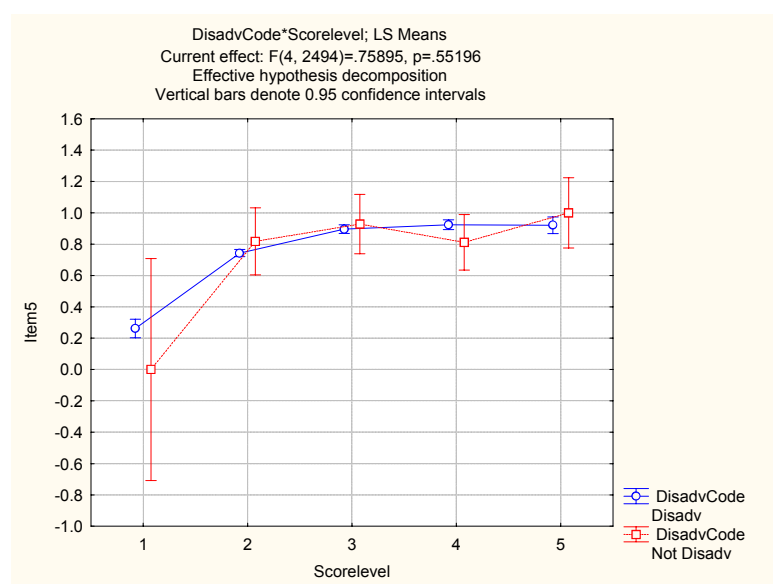


Item 5

Univariate Tests of Significance for Item5 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	39.7783	1	39.77832	305.0515	0.000000
DisadvCode	0.0262	1	0.02620	0.2009	0.654000
Scorelevel	2.9172	4	0.72929	5.5928	0.000176
DisadvCode*Scorelevel	0.3959	4	0.09897	0.7589	0.551958
Error	325.2144	2494	0.13040		

DisadvCode; LS Means Current effect: F(1, 2494)=.20094, p=.65400 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item5 Mean	Item5 Std.Err.	Item5 -95.00%	Item5 +95.00%	N
1	Disadv	0.749353	0.009430	0.730863	0.767844	2452
2	Not Disadv	0.711851	0.083128	0.548843	0.874858	52

RMH= 1.00236 Chi-square(1)= .00003 p= .9956

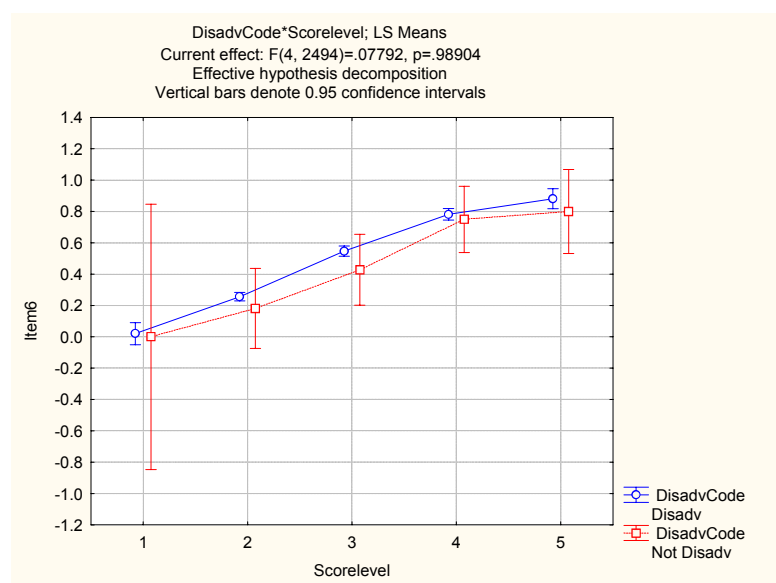


Item 6

Univariate Tests of Significance for Item6 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	16.1030	1	16.10298	86.39318	0.000000
DisadvCode	0.0800	1	0.08003	0.42934	0.512372
Scorelevel	12.1249	4	3.03122	16.26261	0.000000
DisadvCode*Scorelevel	0.0581	4	0.01452	0.07792	0.989041
Error	464.8610	2494	0.18639		

DisadvCode; LS Means Current effect: F(1, 2494)=.42934, p=.51237 Effective hypothesis decomposition					
Cell No.	DisadvCode	Item6 Mean	Item6 Std.Err.	Item6 -95.00%	Item6 +95.00%
1	Disadv	0.497617	0.011274	0.475511	0.519724
2	Not Disadv	0.432078	0.099386	0.237191	0.626965

RMH= .66971 Chi-square(1)= 1.51571 p= .2182

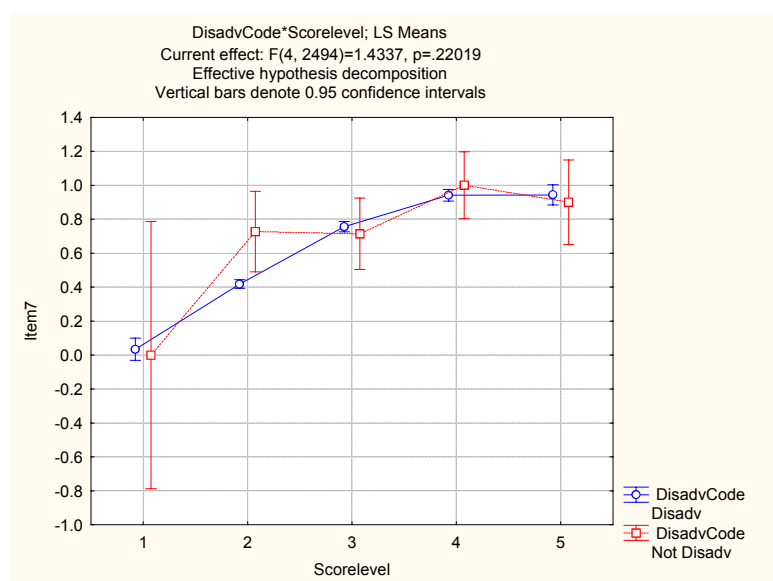


Item 7

Univariate Tests of Significance for Item7 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	30.8693	1	30.86932	191.3127	0.000000
DisadvCode	0.0455	1	0.04548	0.2819	0.595530
Scorelevel	7.2705	4	1.81763	11.2648	0.000000
DisadvCode*Scorelevel	0.9254	4	0.23134	1.4337	0.220189
Error	402.4202	2494	0.16136		

DisadvCode; LS Means Current effect: F(1, 2494)=.28186, p=.59553 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item7 Mean	Item7 Std.Err.	Item7 -95.00%	Item7 +95.00%	N
1	Disadv	0.618904	0.010489	0.598335	0.639472	2452
2	Not Disadv	0.668312	0.092470	0.486985	0.849638	52

RMH= 1.63136 Chi-square(1)= 1.5949 p= .2066

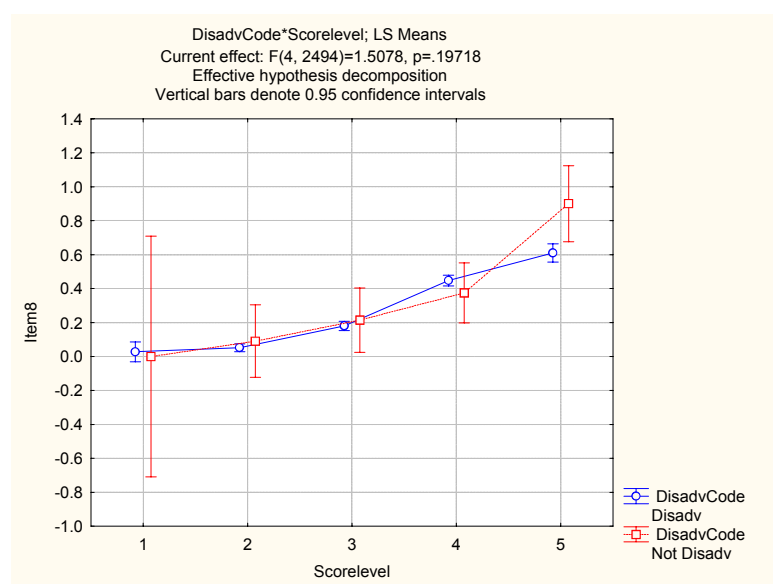


Item 8

Univariate Tests of Significance for Item8 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	6.2561	1	6.256059	47.88862	0.000000
DisadvCode	0.0515	1	0.051543	0.39455	0.529975
Scorelevel	11.5169	4	2.879221	22.03974	0.000000
DisadvCode*Scorelevel	0.7879	4	0.196979	1.50783	0.197182
Error	325.8104	2494	0.130638		

DisadvCode; LS Means Current effect: F(1, 2494)=.39455, p=.52997 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item8 Mean	Item8 Std.Err.	Item8 -95.00%	Item8 +95.00%	N
1	Disadv	0.263440	0.009438	0.244933	0.281948	2452
2	Not Disadv	0.316039	0.083204	0.152882	0.479196	52

RMH= 1.33571 Chi-square(1)= .71155 p= .3989

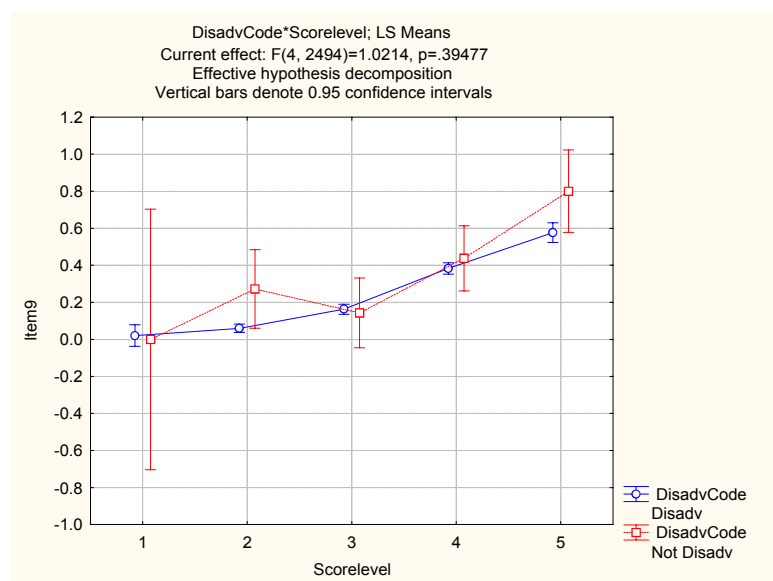


Item 9

Univariate Tests of Significance for Item9					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	6.0771	1	6.077105	47.19652	0.000000
DisadvCode	0.1513	1	0.151251	1.17466	0.278551
Scorelevel	8.5527	4	2.138179	16.60570	0.000000
DisadvCode*Scorelevel	0.5261	4	0.131518	1.02140	0.394769
Error	321.1317	2494	0.128762		

DisadvCode; LS Means						
Current effect: F(1, 2494)=1.1747, p=.27855						
Effective hypothesis decomposition						
Cell No.	DisadvCode	Item9 Mean	Item9 Std.Err.	Item9 -95.00%	Item9 +95.00%	N
1	Disadv	0.240514	0.009370	0.222140	0.258889	2452
2	Not Disadv	0.330617	0.082605	0.168636	0.492598	52

RMH= 1.72879 Chi-square(1)= 2.92074 p= .0874

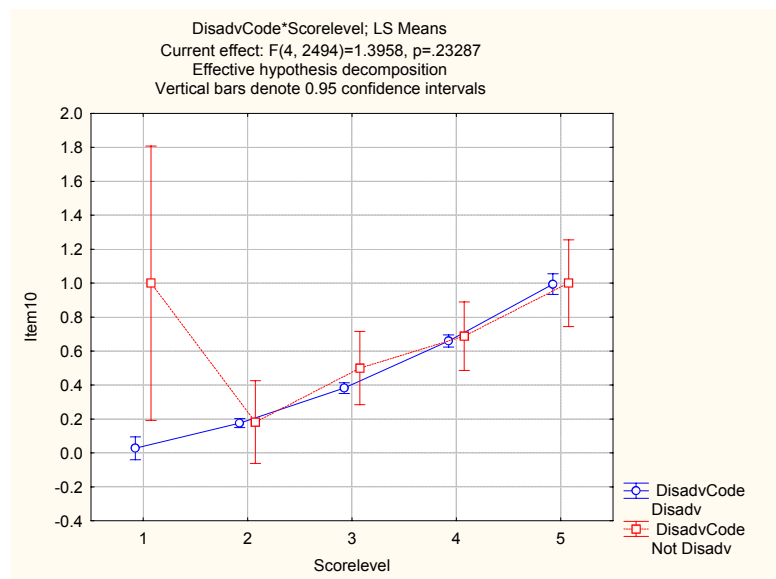


Item 10

Univariate Tests of Significance for Item10 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	23.4398	1	23.43984	138.0267	0.000000
DisadvCode	0.9521	1	0.95206	5.6062	0.017972
Scorelevel	15.1445	4	3.78612	22.2948	0.000000
DisadvCode*Scorelevel	0.9481	4	0.23703	1.3958	0.232871
Error	423.5336	2494	0.16982		

DisadvCode; LS Means Current effect: F(1, 2494)=5.6062, p=.01797 Effective hypothesis decomposition					
Cell No.	DisadvCode	Item10 Mean	Item10 Std.Err.	Item10 -95.00%	Item10 +95.00%
1	Disadv	0.447806	0.010761	0.426704	0.468907
2	Not Disadv	0.673864	0.094865	0.487841	0.859886

RMH= 1.10755 Chi-square(1)= .10331 p= .7478

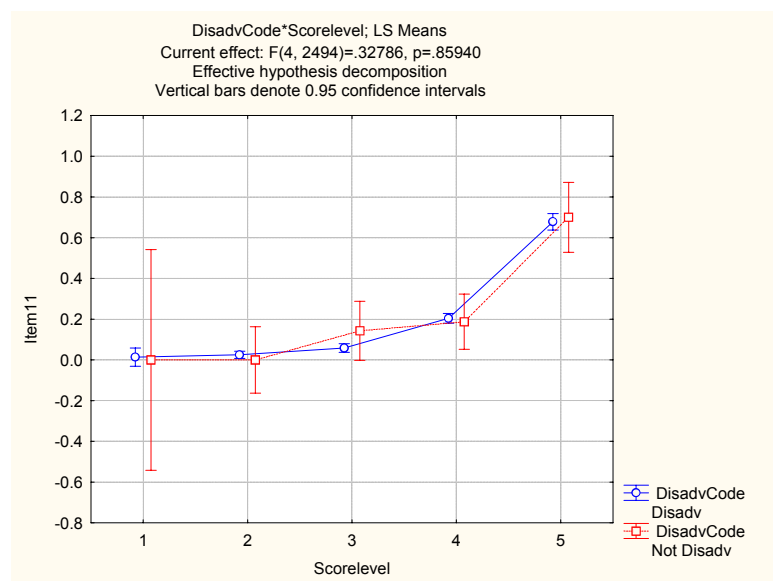


Item 11

Univariate Tests of Significance for Item11 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	3.0116	1	3.011603	39.42213	0.000000
DisadvCode	0.0019	1	0.001896	0.02481	0.874846
Scorelevel	11.1943	4	2.798575	36.63357	0.000000
DisadvCode*Scorelevel	0.1002	4	0.025046	0.32786	0.859403
Error	190.5260	2494	0.076394		

DisadvCode; LS Means Current effect: F(1, 2494)=.02481, p=.87485 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item11 Mean	Item11 Std.Err.	Item11 -95.00%	Item11 +95.00%	N
1	Disadv	0.195985	0.007217	0.181832	0.210137	2452
2	Not Disadv	0.206071	0.063627	0.081305	0.330838	52

RMH= 1.14872 Chi-square(1)= .1174 p= .7318

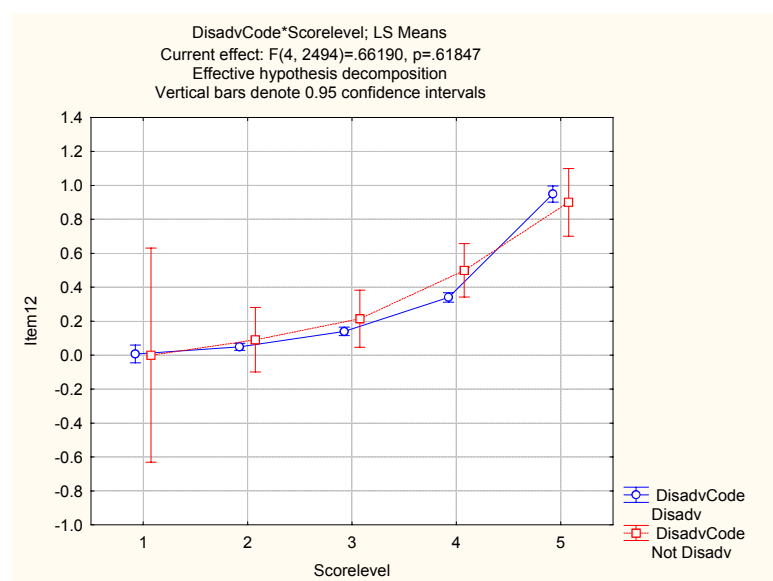


Item 12

Univariate Tests of Significance for Item12 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	7.5881	1	7.588108	73.41114	0.000000
DisadvCode	0.0359	1	0.035875	0.34707	0.555830
Scorelevel	18.2820	4	4.570502	44.21731	0.000000
DisadvCode*Scorelevel	0.2737	4	0.068417	0.66190	0.618473
Error	257.7912	2494	0.103365		

DisadvCode; LS Means Current effect: F(1, 2494)=.34707, p=.55583 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item12 Mean	Item12 Std.Err.	Item12 -95.00%	Item12 +95.00%	N
1	Disadv	0.297157	0.008395	0.280695	0.313620	2452
2	Not Disadv	0.341039	0.074011	0.195909	0.486169	52

RMH= 1.62706 Chi-square(1)= 1.95228 p= .1623

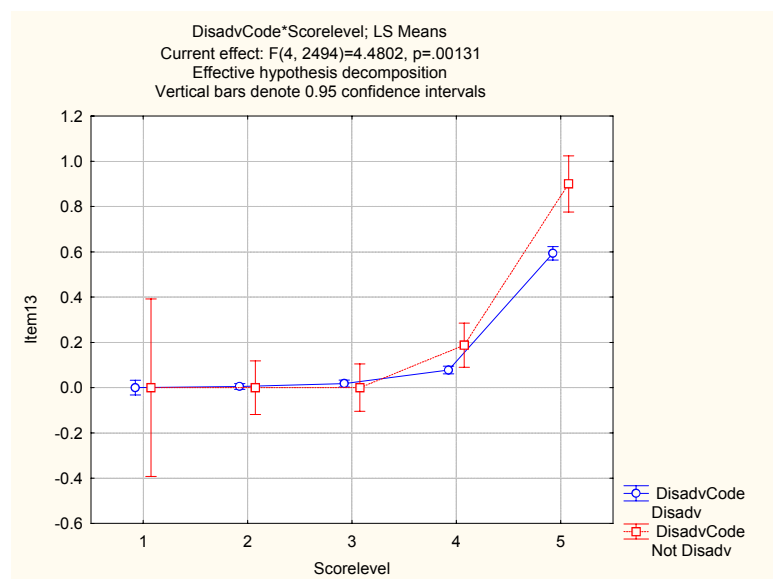


Item 13

Univariate Tests of Significance for Item13					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2.36605	1	2.366051	59.19063	0.000000
DisadvCode	0.11519	1	0.115190	2.88166	0.089718
Scorelevel	15.39224	4	3.848059	96.26546	0.000000
DisadvCode*Scorelevel	0.71636	4	0.179091	4.48024	0.001312
Error	99.69369	2494	0.039973		

DisadvCode; LS Means						
Current effect: F(1, 2494)=2.8817, p=.08972						
Effective hypothesis decomposition						
Cell No.	DisadvCode	Item13 Mean	Item13 Std.Err.	Item13 -95.00%	Item13 +95.00%	N
1	Disadv	0.138869	0.005221	0.128631	0.149106	2452
2	Not Disadv	0.217500	0.046025	0.127248	0.307752	52

RMH= 3.32838 Chi-square(1)= 4.97508 p= .0257

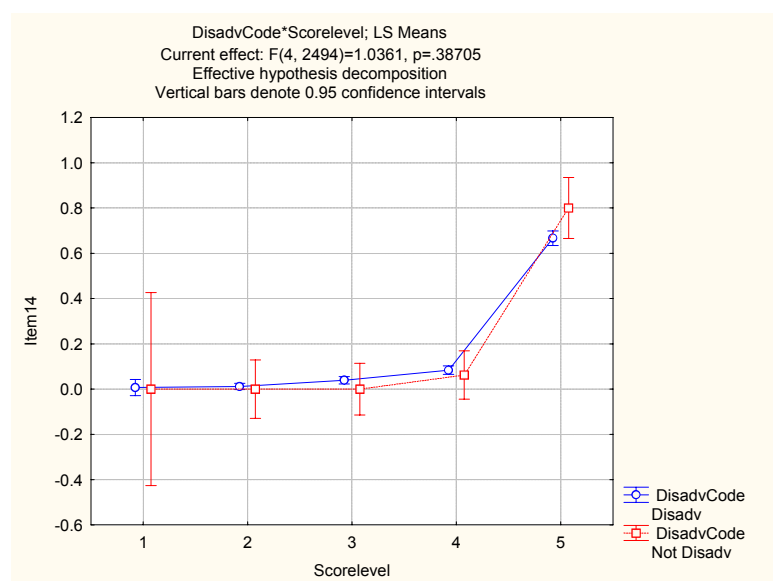


Item 14

Univariate Tests of Significance for Item14 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2.0793	1	2.079305	43.90162	0.000000
DisadvCode	0.0022	1	0.002223	0.04693	0.828509
Scorelevel	15.1199	4	3.779980	79.80900	0.000000
DisadvCode*Scorelevel	0.1963	4	0.049072	1.03610	0.387051
Error	118.1229	2494	0.047363		

DisadvCode; LS Means Current effect: F(1, 2494)=.04693, p=.82851 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item14 Mean	Item14 Std.Err.	Item14 -95.00%	Item14 +95.00%	N
1	Disadv	0.161577	0.005683	0.150433	0.172721	2452
2	Not Disadv	0.172500	0.050099	0.074260	0.270740	52

RMH= 1.08419 Chi-square(1)= .01796 p= .8933

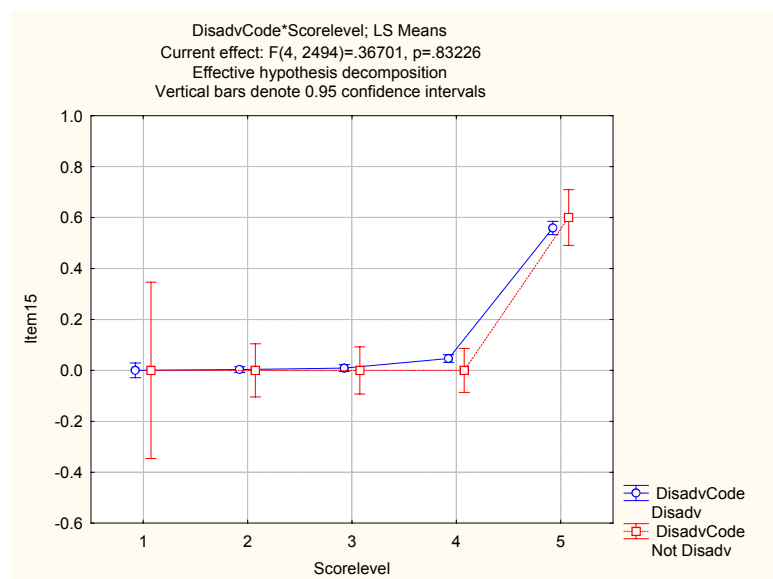


Item 15

Univariate Tests of Significance for Item15					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	1.10590	1	1.105901	35.43183	0.000000
DisadvCode	0.00025	1	0.000247	0.00790	0.929176
Scorelevel	9.97658	4	2.494146	79.90967	0.000000
DisadvCode*Scorelevel	0.04582	4	0.011455	0.36701	0.832257
Error	77.84290	2494	0.031212		

DisadvCode; LS Means						
Current effect: F(1, 2494)=.00790, p=.92918						
Effective hypothesis decomposition						
Cell No.	DisadvCode	Item15 Mean	Item15 Std.Err.	Item15 -95.00%	Item15 +95.00%	N
1	Disadv	0.123638	0.004613	0.114592	0.132685	2452
2	Not Disadv	0.120000	0.040670	0.040250	0.199750	52

RMH= .83417 Chi-square(1)= .0781 p= .7798

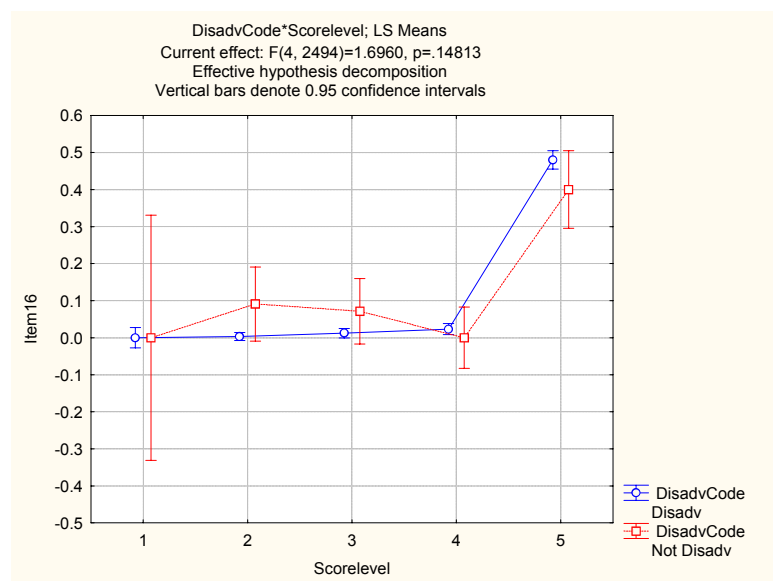


Item 16

Univariate Tests of Significance for Item16 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.87099	1	0.870988	30.58095	0.00000
DisadvCode	0.00142	1	0.001415	0.04969	0.823613
Scorelevel	5.20077	4	1.300191	45.65055	0.00000
DisadvCode*Scorelevel	0.19321	4	0.048303	1.69596	0.148132
Error	71.03259	2494	0.028481		

DisadvCode; LS Means Current effect: F(1, 2494)=.04969, p=.82361 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item16 Mean	Item16 Std.Err.	Item16 -95.00%	Item16 +95.00%	N
1	Disadv	0.103751	0.004407	0.095110	0.112393	2452
2	Not Disadv	0.112468	0.038850	0.036286	0.188649	52

RMH= .90203 Chi-square(1)= .03534 p= .8508

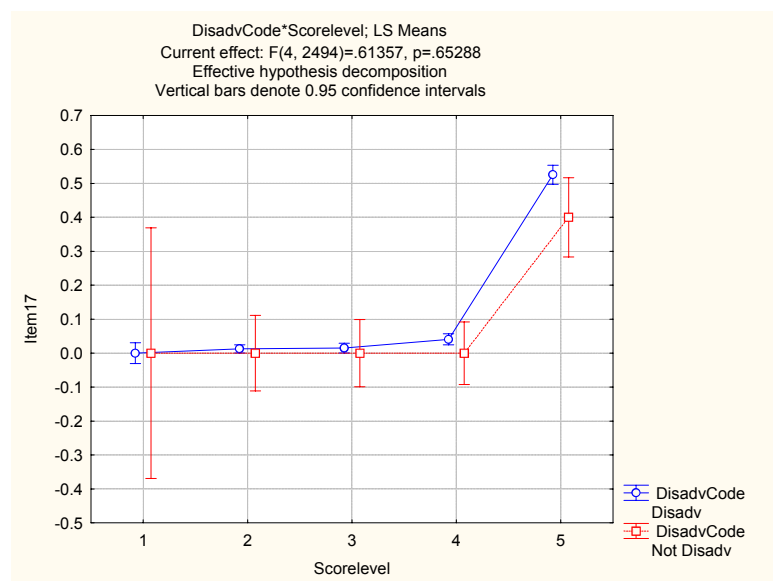


Item 17

Univariate Tests of Significance for Item17 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.73621	1	0.736209	20.77611	0.000005
DisadvCode	0.02803	1	0.028029	0.79098	0.373891
Scorelevel	6.26181	4	1.565453	44.17769	0.000000
DisadvCode*Scorelevel	0.08697	4	0.021742	0.61357	0.652884
Error	88.37582	2494	0.035435		

DisadvCode; LS Means (MergedNA) Current effect: F(1, 2494)=.79098, p=.37389 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item17 Mean	Item17 Std.Err.	Item17 -95.00%	Item17 +95.00%	N
1	Disadv	0.118787	0.004916	0.109148	0.128426	2452
2	Not Disadv	0.080000	0.043334	-0.004975	0.164975	52

RMH= .46726 Chi-square(1)= 1.3135 p= .2517

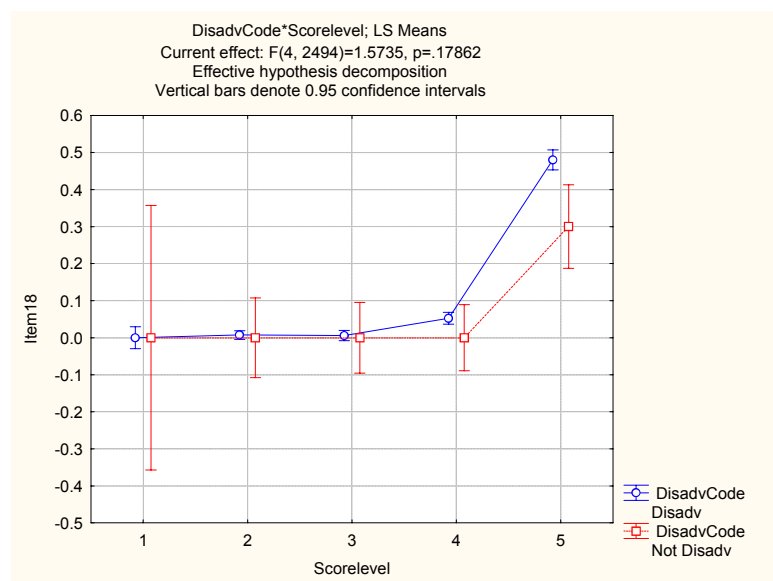


Item 18

Univariate Tests of Significance for Item18 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.53353	1	0.533531	16.07291	0.000063
DisadvCode	0.04515	1	0.045146	1.36004	0.243642
Scorelevel	4.42273	4	1.105684	33.30931	0.000000
DisadvCode*Scorelevel	0.20892	4	0.052230	1.57346	0.178618
Error	82.78692	2494	0.033194		

DisadvCode; LS Means Current effect: F(1, 2494)=1.3600, p=.24364 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item18 Mean	Item18 Std.Err.	Item18 -95.00%	Item18 +95.00%	N
1	Disadv	0.109226	0.004758	0.099897	0.118555	2452
2	Not Disadv	0.060000	0.041942	-0.022244	0.142244	52

RMH= .35484 Chi-square(1)= 2.19447 p= .1385

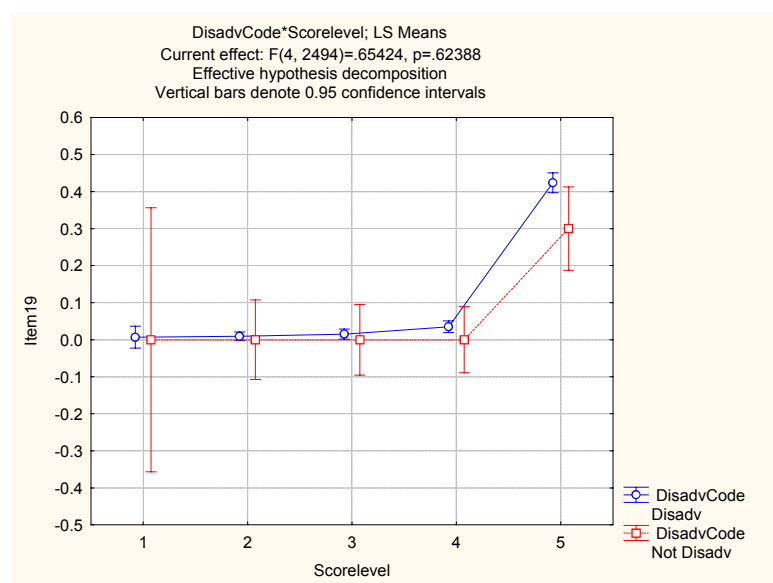


Item 19

Univariate Tests of Significance for Item19 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.46526	1	0.465264	14.07403	0.000180
DisadvCode	0.02694	1	0.026944	0.81504	0.366722
Scorelevel	3.80531	4	0.951328	28.77725	0.000000
DisadvCode*Scorelevel	0.08651	4	0.021628	0.65424	0.623882
Error	82.44754	2494	0.033058		

DisadvCode; LS Means Current effect: F(1, 2494)=.81504, p=.36672 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item19 Mean	Item19 Std.Err.	Item19 -95.00%	Item19 +95.00%	N
1	Disadv	0.098029	0.004748	0.088719	0.107339	2452
2	Not Disadv	0.060000	0.041855	-0.022075	0.142075	52

RMH= .44626 Chi-square(1)= 1.31691 p= .2511

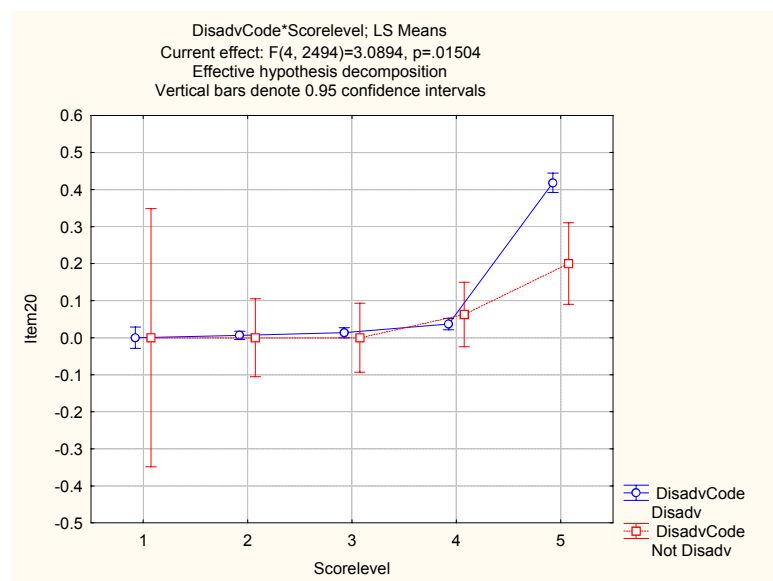


Item 20

Univariate Tests of Significance for Item20 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	0.40521	1	0.405206	12.83482	0.000347
DisadvCode	0.03362	1	0.033616	1.06477	0.302230
Scorelevel	2.61558	4	0.653894	20.71196	0.000000
DisadvCode*Scorelevel	0.39014	4	0.097536	3.08943	0.015045
Error	78.73765	2494	0.031571		

DisadvCode; LS Means Current effect: F(1, 2494)=1.0648, p=.30223 Effective hypothesis decomposition						
Cell No.	DisadvCode	Item20 Mean	Item20 Std.Err.	Item20 -95.00%	Item20 +95.00%	N
1	Disadv	0.094977	0.004640	0.085879	0.104076	2452
2	Not Disadv	0.052500	0.040903	-0.027707	0.132707	52

RMH= .27827 Chi-square(1)= 2.67781 p= .1017



CTB2 Differential Item Functioning: Spelling test (Race)

The sample consisted of 152 Black respondents, and 253 respondents from other race groups. The aim of the study was to investigate differential item functioning in the Spelling test. Factorial analysis of variance was used, and the Mantel-Haenszel statistic was also computed for every item.

The magnitude of the obtained differences in mean item score must be taken into account. The seriousness of non-uniform bias and the direction of the bias (if any) are clearly set out in the detailed information about every item that follows:

Summary of results

Item	Uniform bias /Factorial Anova	Uniform bias/Mantel-Haenszel	Mean item score difference	In favour of (group)	Non-uniform bias
1	N	N	.02		N
2	N	N	.06		N
3	Y	Y	.12	Black	N
4	Y	N	.05	Non-Black	N
5	N	Y	.08	Non-Black	N
6	Y	Y	.10	Black	N
7	N	N	.01		N
8	N	N	.03		N
9	N	Y	.08	Non-Black	N
10	N	N	.07		N
11	N	N	.09		N
12	N	N	.01		N
13	N	N	.02		N
14	Y	Y	.16	Non-Black	N
15	N	Y	.11	Black	N
16	N	N	.03		N
17	N	N	.01		N
18	N	N	.04		N
19	N	N	.01		N
20	N	N	.05		N
21	N	N	.14		N
22	N	N	.02		N
23	N	N	.03		N
24	N	N	.01		N

Based on the factorial Anova, 4 items showed significant uniform bias.

Based on the Mantel-Haenszel index, 6 items showed significant uniform bias.

No items showed significant non-uniform bias.

17 items showed no bias.

3 items were biased in favour of the Black group.

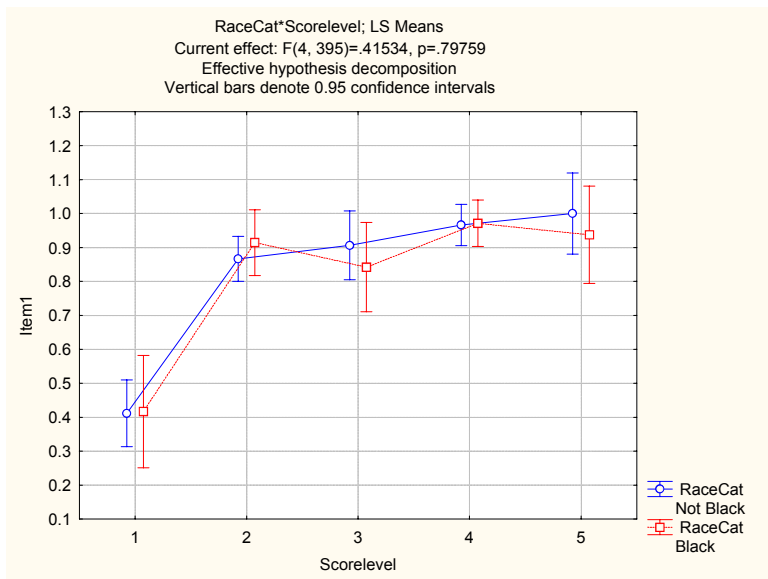
4 items were biased in favour on the non-black group.

Item 1

Univariate Tests of Significance for Item1 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	183.1781	1	183.1781	2154.344	0.000000
RaceCat	0.0129	1	0.0129	0.151	0.697538
Scorelevel	9.2383	4	2.3096	27.163	0.000000
RaceCat*Scorelevel	0.1413	4	0.0353	0.415	0.797593
Error	33.5858	395	0.0850		

RaceCat; LS Means Current effect: F(1, 395)=.15127, p=.69754 Effective hypothesis decomposition						
Cell No.	RaceCat	Item1 Mean	Item1 Std.Err.	Item1 -95.00%	Item1 +95.00%	N
1	Not Black	0.830195	0.020923	0.789061	0.871328	253
2	Black	0.816397	0.028649	0.760074	0.872721	152

MANTEL-HAENSZEL= 1.00366 Chi-square(1)= .0001 p= .9920

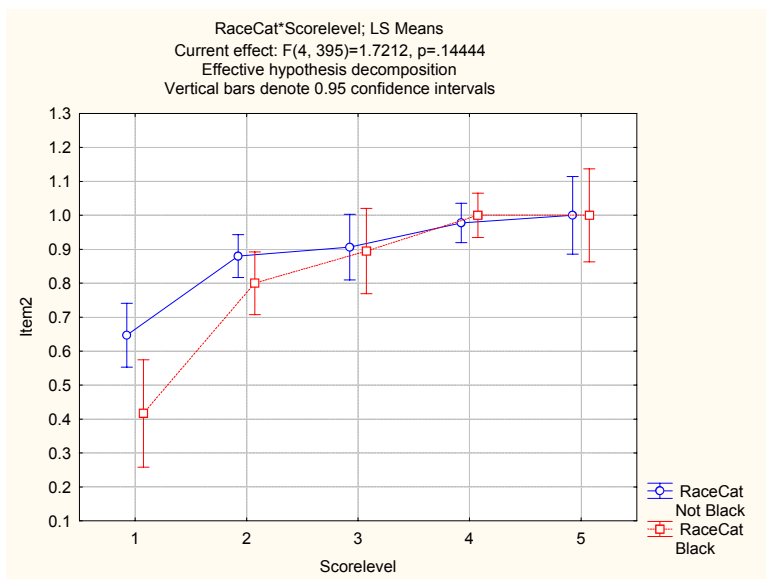


Item 2

Univariate Tests of Significance for Item2 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	196.2768	1	196.2768	2528.297	0.000000
RaceCat	0.2423	1	0.2423	3.121	0.078052
Scorelevel	6.7610	4	1.6903	21.773	0.000000
RaceCat*Scorelevel	0.5345	4	0.1336	1.721	0.144445
Error	30.6647	395	0.0776		

RaceCat; LS Means Current effect: F(1, 395)=3.1212, p=.07805 Effective hypothesis decomposition						
Cell No.	RaceCat	Item2 Mean	Item2 Std.Err.	Item2 -95.00%	Item2 +95.00%	N
1	Not Black	0.882167	0.019992	0.842863	0.921471	253
2	Black	0.822281	0.027375	0.768462	0.876099	152

MANTEL-HAENSZEL= .63048 Chi-square(1)= 1.52441 p= .2169

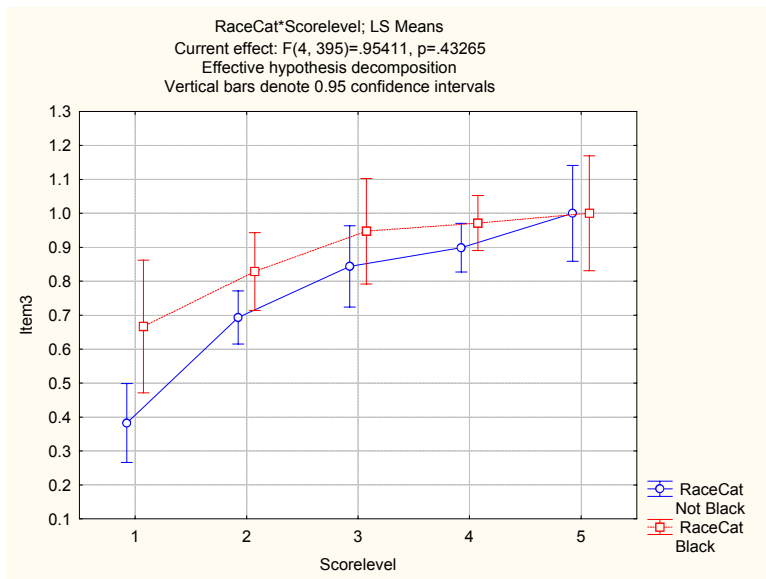


Item 3

Univariate Tests of Significance for Item3 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	183.1508	1	183.1508	1545.394	0.000000
RaceCat	0.9591	1	0.9591	8.092	0.004676
Scorelevel	6.5968	4	1.6492	13.916	0.000000
RaceCat*Scorelevel	0.4523	4	0.1131	0.954	0.432654
Error	46.8130	395	0.1185		

RaceCat; LS Means Current effect: F(1, 395)=8.0924, p=.00468 Effective hypothesis decomposition						
Cell No.	RaceCat	Item3 Mean	Item3 Std.Err.	Item3 -95.00%	Item3 +95.00%	N
1	Not Black	0.763663	0.024701	0.715100	0.812225	253
2	Black	0.882807	0.033823	0.816311	0.949303	152

MANTEL-HAENSZEL= 2.78593 Chi-square(1)= 9.00333 p= .0026

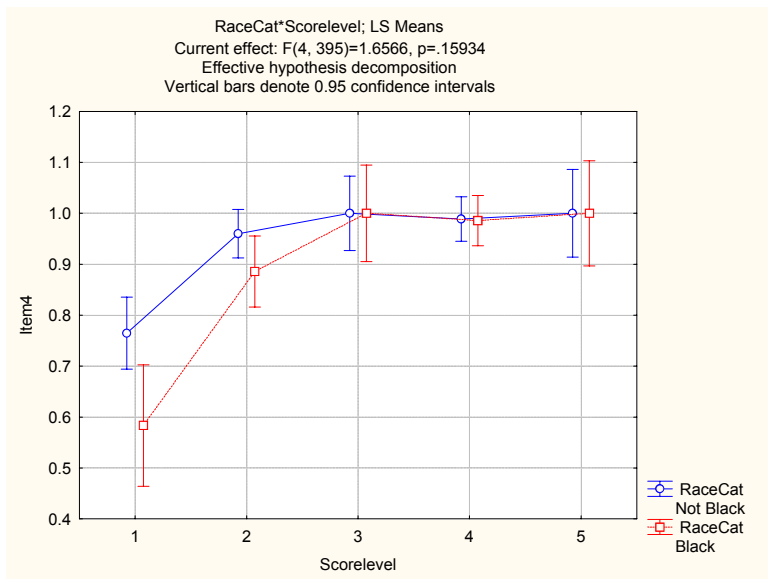


Item 4

Univariate Tests of Significance for Item4 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	227.1604	1	227.1604	5147.439	0.000000
RaceCat	0.1809	1	0.1809	4.099	0.043590
Scorelevel	3.1896	4	0.7974	18.069	0.000000
RaceCat*Scorelevel	0.2924	4	0.0731	1.657	0.159336
Error	17.4316	395	0.0441		

RaceCat; LS Means Current effect: F(1, 395)=4.0986, p=.04359 Effective hypothesis decomposition						
Cell No.	RaceCat	Item4 Mean	Item4 Std.Err.	Item4 -95.00%	Item4 +95.00%	N
1	Not Black	0.942694	0.015073	0.913060	0.972328	253
2	Black	0.890952	0.020640	0.850375	0.931529	152

MANTEL-HAENSZEL= .41629 Chi-square(1)= 3.25715 p= .0711

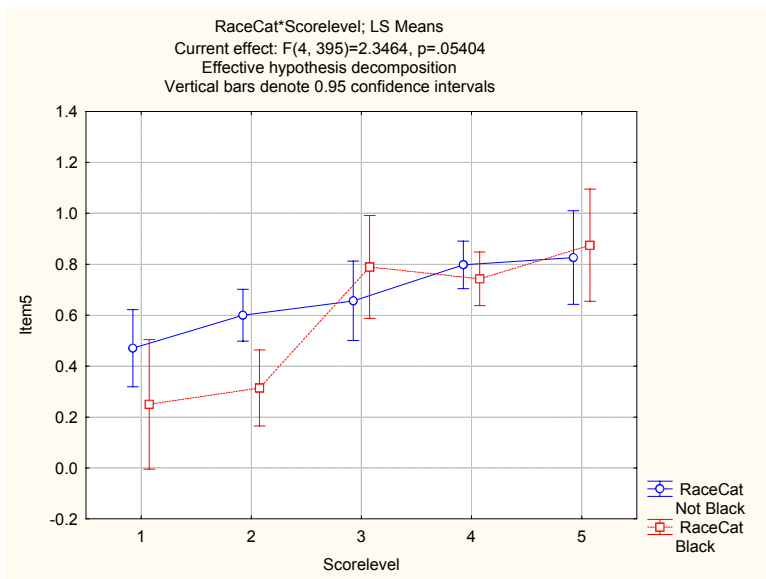


Item 5

Univariate Tests of Significance for Item5 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	108.0217	1	108.0217	537.2155	0.000000
RaceCat	0.3883	1	0.3883	1.9312	0.165414
Scorelevel	10.5636	4	2.6409	13.1337	0.000000
RaceCat*Scorelevel	1.8873	4	0.4718	2.3464	0.054037
Error	79.4254	395	0.2011		

RaceCat; LS Means Current effect: F(1, 395)=1.9312, p=.16541 Effective hypothesis decomposition						
Cell No.	RaceCat	Item5 Mean	Item5 Std.Err.	Item5 -95.00%	Item5 +95.00%	N
1	Not Black	0.670136	0.032175	0.606880	0.733391	253
2	Black	0.594323	0.044056	0.507709	0.680938	152

MANTEL-HAENSZEL= .5865 Chi-square(1)= 5.30779 p= .0212

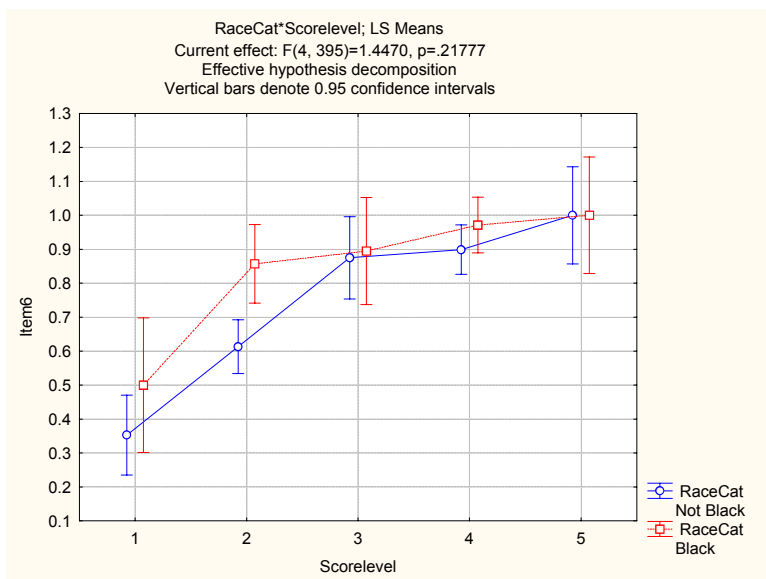


Item 6

Univariate Tests of Significance for Item6 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	171.3819	1	171.3819	1405.665	0.000000
RaceCat	0.6309	1	0.6309	5.174	0.023458
Scorelevel	9.5892	4	2.3973	19.663	0.000000
RaceCat*Scorelevel	0.7057	4	0.1764	1.447	0.217770
Error	48.1593	395	0.1219		

RaceCat; LS Means Current effect: F(1, 395)=5.1743, p=.02346 Effective hypothesis decomposition						
Cell No.	RaceCat	Item6 Mean	Item6 Std.Err.	Item6 -95.00%	Item6 +95.00%	N
1	Not Black	0.748030	0.025054	0.698774	0.797286	253
2	Black	0.844662	0.034306	0.777216	0.912107	152

MANTEL-HAENSZEL= 2.7708 Chi-square(1)= 9.37075 p= .002

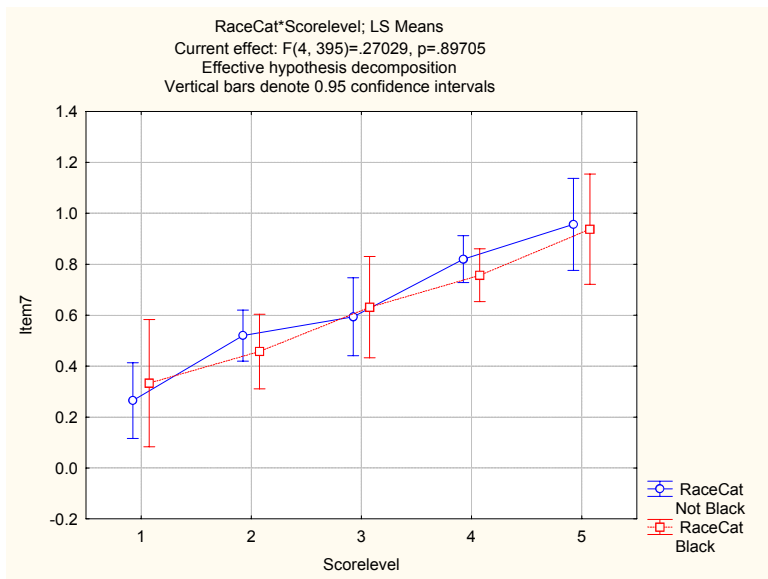


Item 7

Univariate Tests of Significance for Item7 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	106.3065	1	106.3065	547.3368	0.000000
RaceCat	0.0040	1	0.0040	0.0206	0.885868
Scorelevel	13.2391	4	3.3098	17.0410	0.000000
RaceCat*Scorelevel	0.2100	4	0.0525	0.2703	0.897055
Error	76.7189	395	0.1942		

RaceCat; LS Means Current effect: F(1, 395)=.02063, p=.88587 Effective hypothesis decomposition						
Cell No.	RaceCat	Item7 Mean	Item7 Std.Err.	Item7 -95.00%	Item7 +95.00%	N
1	Not Black	0.631040	0.031622	0.568872	0.693209	253
2	Black	0.623340	0.043299	0.538214	0.708466	152

MANTEL-HAENSZEL= .83964 Chi-square(1)= .53955 p= .4626

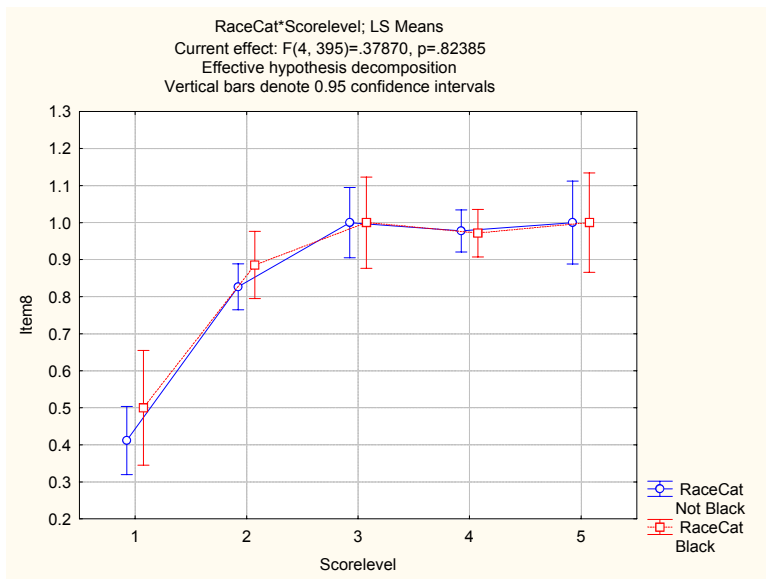


Item 8

Univariate Tests of Significance for Item8 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	198.6266	1	198.6266	2666.561	0.000000
RaceCat	0.0539	1	0.0539	0.723	0.395620
Scorelevel	8.9044	4	2.2261	29.885	0.000000
RaceCat*Scorelevel	0.1128	4	0.0282	0.379	0.823853
Error	29.4227	395	0.0745		

RaceCat; LS Means Current effect: F(1, 395)=.72317, p=.39562 Effective hypothesis decomposition						
Cell No.	RaceCat	Item8 Mean	Item8 Std.Err.	Item8 -95.00%	Item8 +95.00%	N
1	Not Black	0.843192	0.019583	0.804692	0.881692	253
2	Black	0.871429	0.026815	0.818711	0.924146	152

MANTEL-HAENSZEL= 1.37734 Chi-square(1)= .60126 p= .438

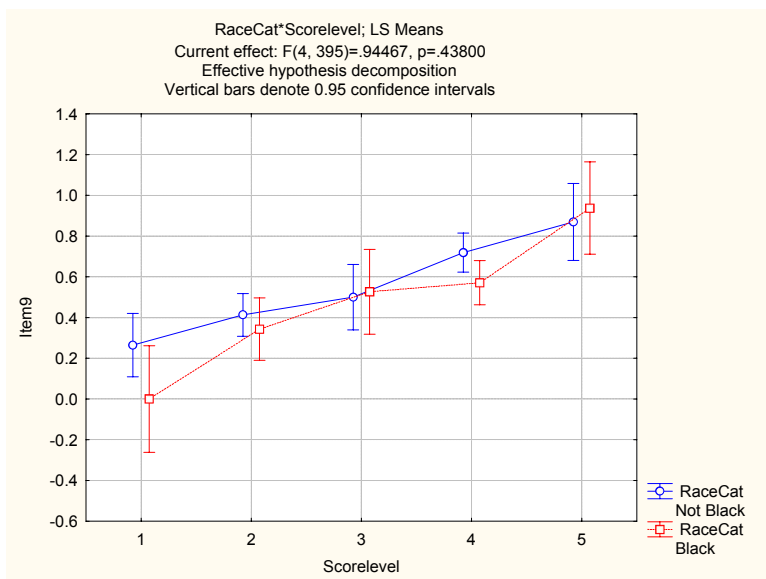


Item 9

Univariate Tests of Significance for Item9 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	71.53188	1	71.53188	335.9964	0.000000
RaceCat	0.40811	1	0.40811	1.9170	0.166975
Scorelevel	15.15431	4	3.78858	17.7955	0.000000
RaceCat*Scorelevel	0.80446	4	0.20112	0.9447	0.437995
Error	84.09345	395	0.21289		

RaceCat; LS Means Current effect: F(1, 395)=1.9170, p=.16697 Effective hypothesis decomposition						
Cell No.	RaceCat	Item9 Mean	Item9 Std.Err.	Item9 -95.00%	Item9 +95.00%	N
1	Not Black	0.553341	0.033107	0.488253	0.618429	253
2	Black	0.475620	0.045333	0.386497	0.564744	152

MANTEL-HAENSZEL= .63447 Chi-square(1)= 3.92347 p= .0476

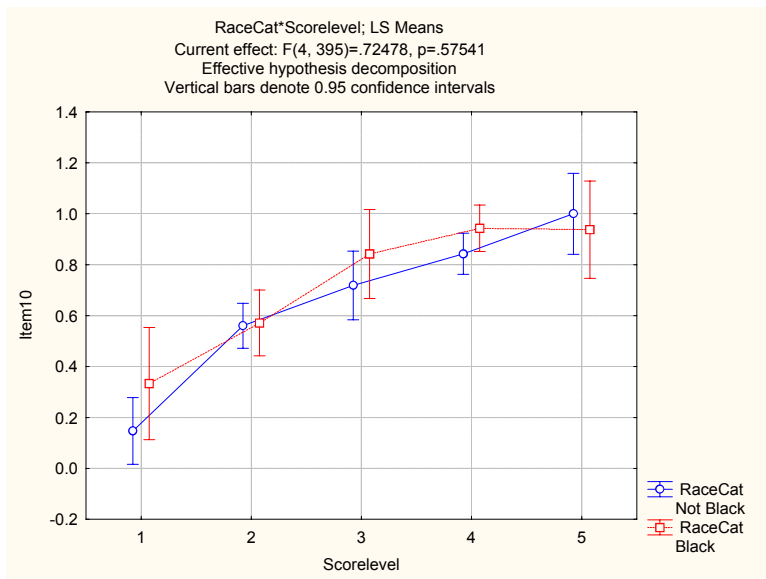


Item 10

Univariate Tests of Significance for Item10 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	128.5056	1	128.5056	853.3258	0.000000
RaceCat	0.3478	1	0.3478	2.3092	0.129410
Scorelevel	17.4732	4	4.3683	29.0071	0.000000
RaceCat*Scorelevel	0.4366	4	0.1091	0.7248	0.575409
Error	59.4845	395	0.1506		

RaceCat; LS Means Current effect: F(1, 395)=2.3092, p=.12941 Effective hypothesis decomposition						
Cell No.	RaceCat	Item10 Mean	Item10 Std.Err.	Item10 -95.00%	Item10 +95.00%	N
1	Not Black	0.653701	0.027844	0.598959	0.708443	253
2	Black	0.725445	0.038127	0.650488	0.800402	152

MANTEL-HAENSZEL= 1.64551 Chi-square(1)= 3.29709 p= .069

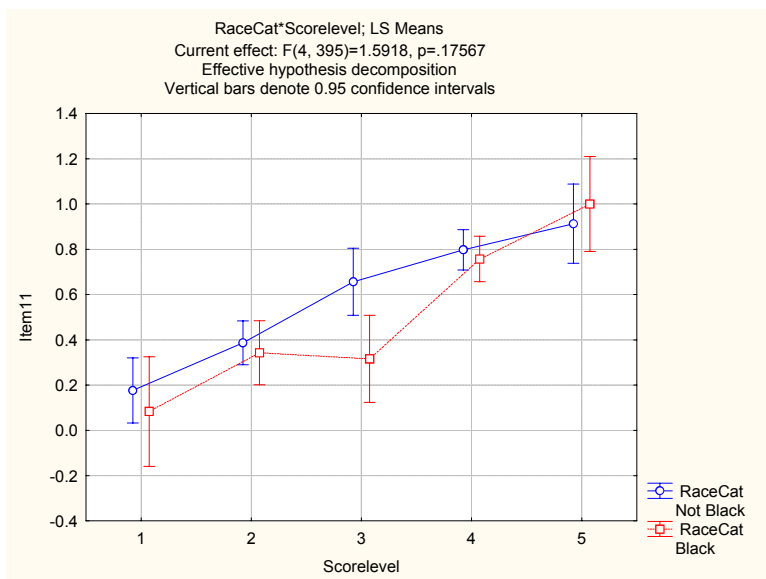


Item 11

Univariate Tests of Significance for Item11 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	79.66181	1	79.66181	437.5726	0.000000
RaceCat	0.50216	1	0.50216	2.7583	0.097546
Scorelevel	23.44546	4	5.86137	32.1958	0.000000
RaceCat*Scorelevel	1.15915	4	0.28979	1.5918	0.175671
Error	71.91130	395	0.18205		

RaceCat; LS Means Current effect: F(1, 395)=2.7583, p=.09755 Effective hypothesis decomposition						
Cell No.	RaceCat	Item11 Mean	Item11 Std.Err.	Item11 -95.00%	Item11 +95.00%	N
1	Not Black	0.586037	0.030615	0.525848	0.646226	253
2	Black	0.499825	0.041921	0.417409	0.582240	152

MANTEL-HAENSZEL= .6722 Chi-square(1)= 2.63059 p= .1048

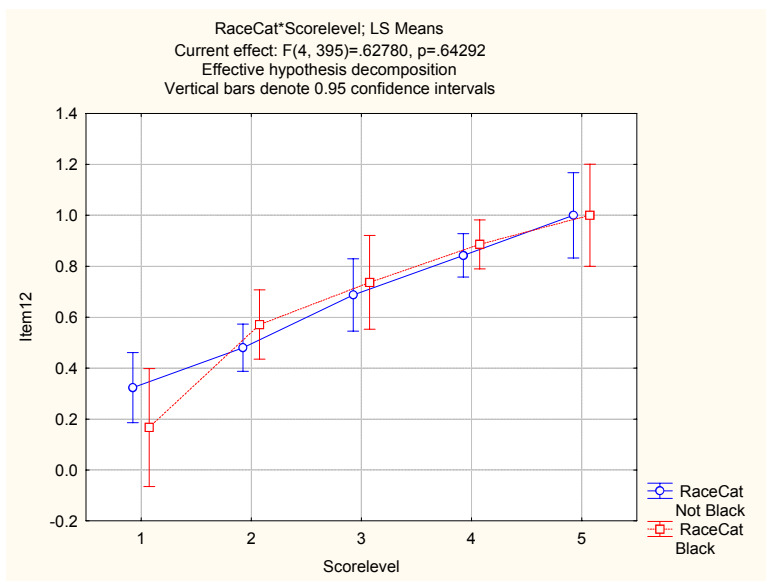


Item 12

Univariate Tests of Significance for Item12					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	121.1105	1	121.1105	726.5680	0.000000
RaceCat	0.0020	1	0.0020	0.0118	0.913721
Scorelevel	17.8077	4	4.4519	26.7081	0.000000
RaceCat*Scorelevel	0.4186	4	0.1046	0.6278	0.642923
Error	65.8419	395	0.1667		

RaceCat; LS Means						
Current effect: F(1, 395)=.01175, p=.91372						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item12 Mean	Item12 Std.Err.	Item12 -95.00%	Item12 +95.00%	N
1	Not Black	0.666745	0.029295	0.609152	0.724338	253
2	Black	0.672130	0.040113	0.593269	0.750991	152

MANTEL-HAENSZEL= 1.2316 Chi-square(1)= .62257 p= .4300

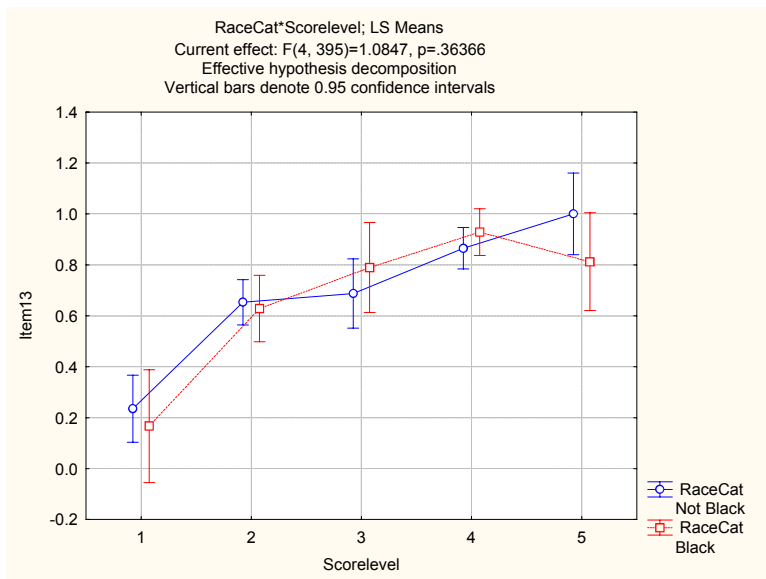


Item 13

Univariate Tests of Significance for Item13 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	123.7553	1	123.7553	808.8226	0.000000
RaceCat	0.0361	1	0.0361	0.2357	0.627618
Scorelevel	16.1314	4	4.0329	26.3574	0.000000
RaceCat*Scorelevel	0.6639	4	0.1660	1.0847	0.363661
Error	60.4377	395	0.1530		

RaceCat; LS Means Current effect: F(1, 395)=.23567, p=.62762 Effective hypothesis decomposition						
Cell No.	RaceCat	Item13 Mean	Item13 Std.Err.	Item13 -95.00%	Item13 +95.00%	N
1	Not Black	0.688259	0.028067	0.633081	0.743438	253
2	Black	0.665157	0.038431	0.589601	0.740712	152

MANTEL-HAENSZEL= 1.05437 Chi-square(1)= .03838 p= .8446

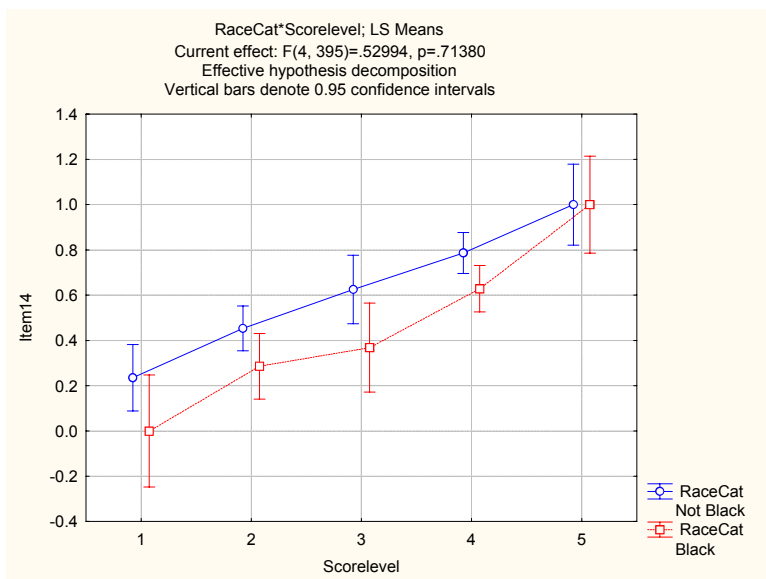


Item 14

Univariate Tests of Significance for Item14 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	78.30440	1	78.30440	412.1015	0.000000
RaceCat	1.80580	1	1.80580	9.5036	0.002195
Scorelevel	21.29392	4	5.32348	28.0165	0.000000
RaceCat*Scorelevel	0.40278	4	0.10070	0.5299	0.713801
Error	75.05490	395	0.19001		

RaceCat; LS Means Current effect: F(1, 395)=9.5036, p=.00219 Effective hypothesis decomposition						
Cell No.	RaceCat	Item14 Mean	Item14 Std.Err.	Item14 -95.00%	Item14 +95.00%	N
1	Not Black	0.620029	0.031277	0.558539	0.681519	253
2	Black	0.456541	0.042827	0.372344	0.540739	152

MANTEL-HAENSZEL= .45113 Chi-square(1)= 10.79844 p= .0010

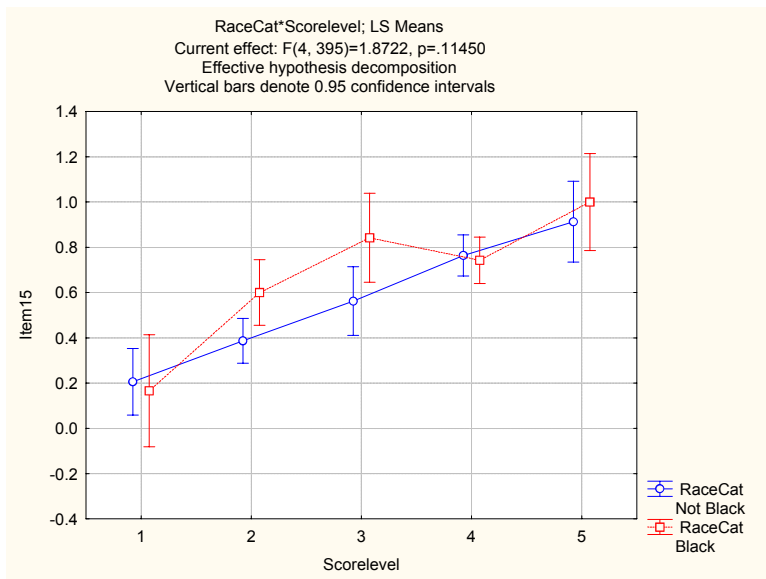


Item 15

Univariate Tests of Significance for Item15					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	103.3398	1	103.3398	543.8507	0.000000
RaceCat	0.7293	1	0.7293	3.8382	0.050800
Scorelevel	15.3228	4	3.8307	20.1599	0.000000
RaceCat*Scorelevel	1.4230	4	0.3558	1.8722	0.114496
Error	75.0559	395	0.1900		

RaceCat; LS Means						
Current effect: F(1, 395)=3.8382, p=.05080						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item15 Mean	Item15 Std.Err.	Item15 -95.00%	Item15 +95.00%	N
1	Not Black	0.566427	0.031277	0.504937	0.627918	253
2	Black	0.670326	0.042827	0.586128	0.754524	152

MANTEL-HAENSZEL= 1.57745 Chi-square(1)= 3.64134 p= .0563

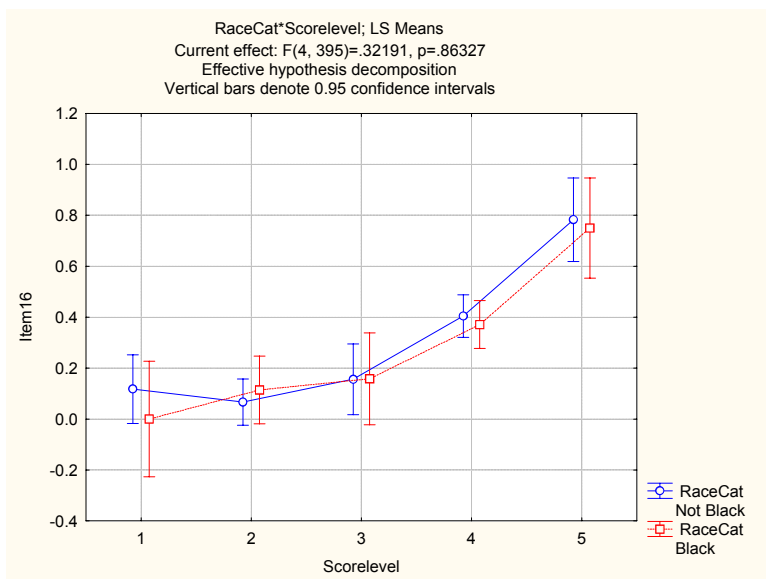


Item 16

Univariate Tests of Significance for Item16 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	23.06251	1	23.06251	144.1906	0.000000
RaceCat	0.04857	1	0.04857	0.3037	0.581914
Scorelevel	16.60528	4	4.15132	25.9547	0.000000
RaceCat*Scorelevel	0.20595	4	0.05149	0.3219	0.863272
Error	63.17810	395	0.15994		

RaceCat; LS Means Current effect: F(1, 395)=.30365, p=.58191 Effective hypothesis decomposition						
Cell No.	RaceCat	Item16 Mean	Item16 Std.Err.	Item16 -95.00%	Item16 +95.00%	N
1	Not Black	0.305533	0.028696	0.249118	0.361949	253
2	Black	0.278722	0.039293	0.201473	0.355971	152

MANTEL-HAENSZEL= .90582 Chi-square(1)= .14587 p= .7025

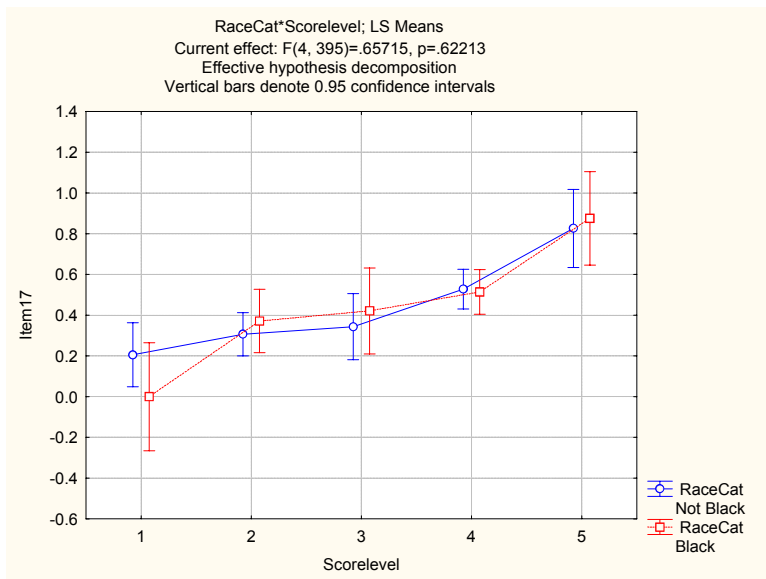


Item 17

Univariate Tests of Significance for Item17 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	52.13557	1	52.13557	238.7739	0.000000
RaceCat	0.00223	1	0.00223	0.0102	0.919601
Scorelevel	12.51594	4	3.12898	14.3303	0.000000
RaceCat*Scorelevel	0.57395	4	0.14349	0.6571	0.622135
Error	86.24709	395	0.21835		

RaceCat; LS Means Current effect: F(1, 395)=.01020, p=.91960 Effective hypothesis decomposition						
Cell No.	RaceCat	Item17 Mean	Item17 Std.Err.	Item17 -95.00%	Item17 +95.00%	N
1	Not Black	0.442095	0.033528	0.376179	0.508011	253
2	Black	0.436353	0.045909	0.346096	0.526611	152

MANTEL-HAENSZEL= 1.02833 Chi-square(1)= .01545 p= .9010

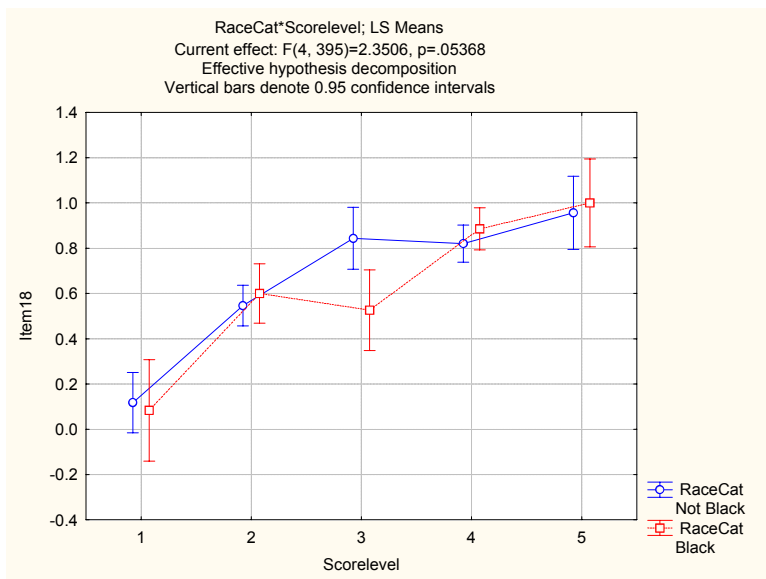


Item 18

Univariate Tests of Significance for Item18 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	110.0086	1	110.0086	705.9372	0.000000
RaceCat	0.0970	1	0.0970	0.6224	0.430627
Scorelevel	20.8829	4	5.2207	33.5021	0.000000
RaceCat*Scorelevel	1.4652	4	0.3663	2.3506	0.053676
Error	61.5542	395	0.1558		

RaceCat; LS Means Current effect: F(1, 395)=.62241, p=.43063 Effective hypothesis decomposition						
Cell No.	RaceCat	Item18 Mean	Item18 Std.Err.	Item18 -95.00%	Item18 +95.00%	N
1	Not Black	0.656962	0.028325	0.601276	0.712648	253
2	Black	0.619073	0.038785	0.542823	0.695323	152

MANTEL-HAENSZEL= 1.0339 Chi-square(1)= .01629 p= .8984

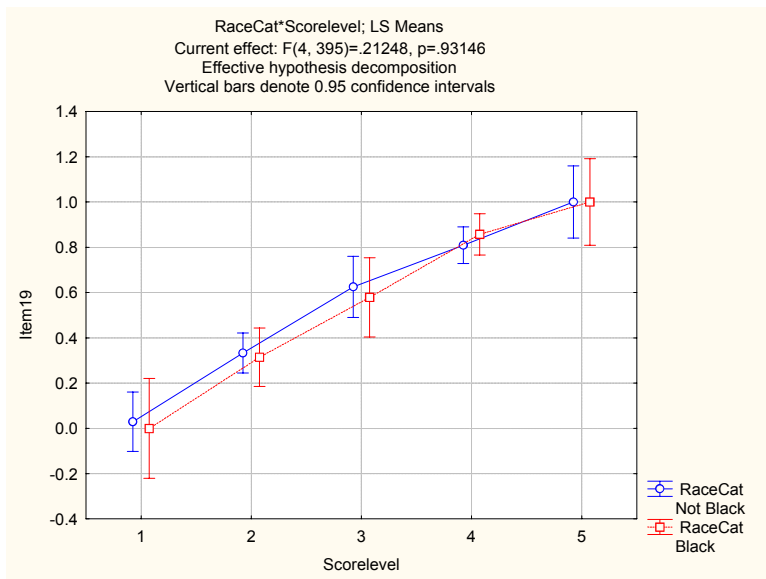


Item 19

Univariate Tests of Significance for Item19 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	83.15627	1	83.15627	550.7875	0.000000
RaceCat	0.00581	1	0.00581	0.0385	0.844607
Scorelevel	33.93131	4	8.48283	56.1862	0.000000
RaceCat*Scorelevel	0.12832	4	0.03208	0.2125	0.931462
Error	59.63593	395	0.15098		

RaceCat; LS Means Current effect: F(1, 395)=.03847, p=.84461 Effective hypothesis decomposition						
Cell No.	RaceCat	Item19 Mean	Item19 Std.Err.	Item19 -95.00%	Item19 +95.00%	N
1	Not Black	0.559347	0.027880	0.504535	0.614158	253
2	Black	0.550075	0.038175	0.475023	0.625128	152

MANTEL-HAENSZEL= 1.04651 Chi-square(1)= .02776 p= .8676

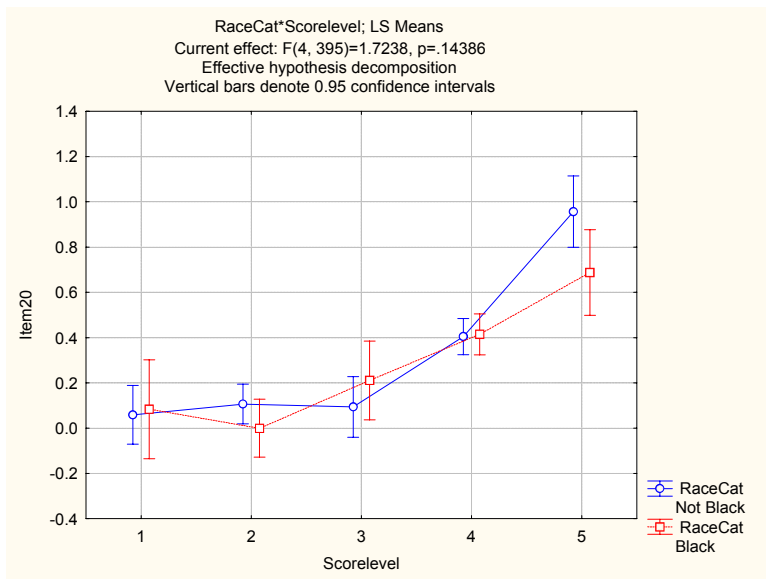


Item 20

Univariate Tests of Significance for Item20 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	24.58079	1	24.58079	165.5758	0.000000
RaceCat	0.13634	1	0.13634	0.9184	0.338486
Scorelevel	20.86072	4	5.21518	35.1294	0.000000
RaceCat*Scorelevel	1.02366	4	0.25591	1.7238	0.143858
Error	58.64027	395	0.14846		

RaceCat; LS Means Current effect: F(1, 395)=.91838, p=.33849 Effective hypothesis decomposition						
Cell No.	RaceCat	Item20 Mean	Item20 Std.Err.	Item20 -95.00%	Item20 +95.00%	N
1	Not Black	0.324051	0.027646	0.269699	0.378403	253
2	Black	0.279129	0.037855	0.204706	0.353552	152

MANTEL-HAENSZEL = .80695 Chi-square(1) = .66304 p = .4154

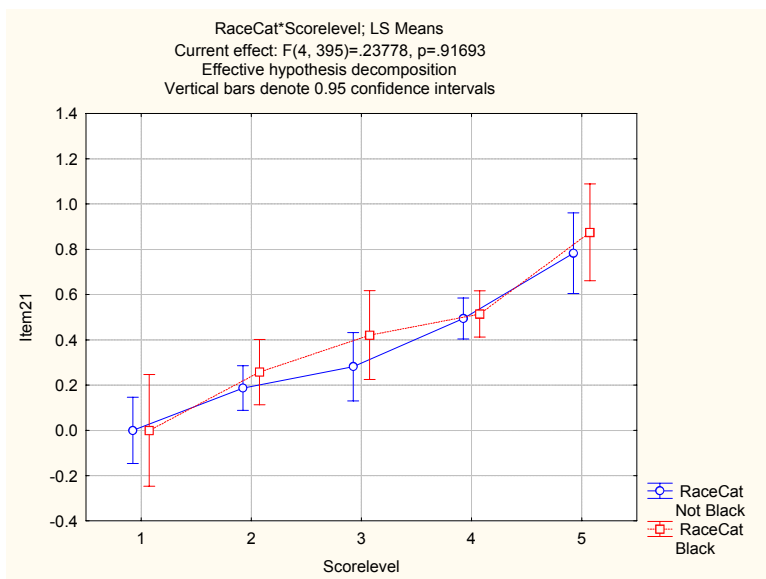


Item 21

Univariate Tests of Significance for Item21 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	39.27858	1	39.27858	208.0638	0.000000
RaceCat	0.28120	1	0.28120	1.4896	0.223012
Scorelevel	17.46146	4	4.36536	23.1239	0.000000
RaceCat*Scorelevel	0.17955	4	0.04489	0.2378	0.916928
Error	74.56866	395	0.18878		

RaceCat; LS Means Current effect: F(1, 395)=1.4896, p=.22301 Effective hypothesis decomposition						
Cell No.	RaceCat	Item21 Mean	Item21 Std.Err.	Item21 -95.00%	Item21 +95.00%	N
1	Not Black	0.348981	0.031176	0.287691	0.410272	253
2	Black	0.413496	0.042688	0.329572	0.497421	152

MANTEL-HAENSZEL= 1.32089 Chi-square(1)= 1.39143 p= .2381

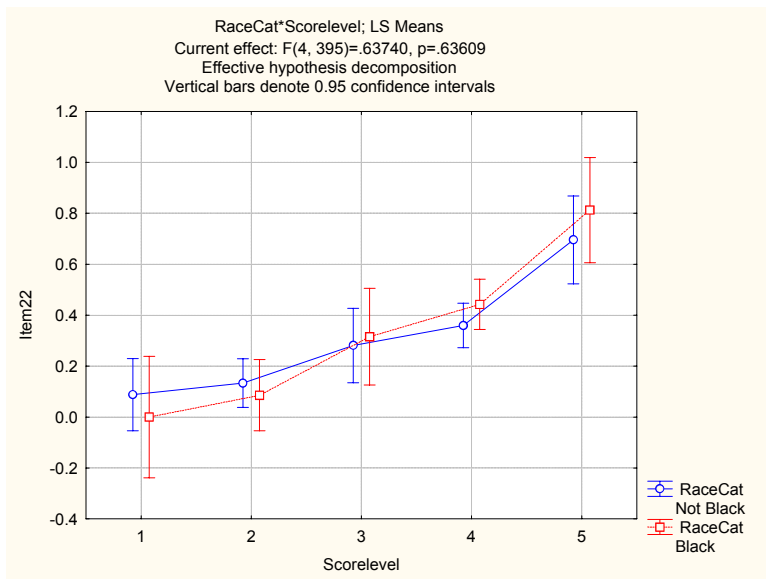


Item 22

Univariate Tests of Significance for Item22 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	27.93133	1	27.93133	158.0829	0.000000
RaceCat	0.02640	1	0.02640	0.1494	0.699296
Scorelevel	15.08755	4	3.77189	21.3477	0.000000
RaceCat*Scorelevel	0.45048	4	0.11262	0.6374	0.636095
Error	69.79171	395	0.17669		

RaceCat; LS Means Current effect: F(1, 395)=.14942, p=.69930 Effective hypothesis decomposition						
Cell No.	RaceCat	Item22 Mean	Item22 Std.Err.	Item22 -95.00%	Item22 +95.00%	N
1	Not Black	0.311604	0.030160	0.252309	0.370899	253
2	Black	0.331372	0.041298	0.250180	0.412564	152

MANTEL-HAENSZEL= 1.1898 Chi-square(1)= .4848 p= .4862

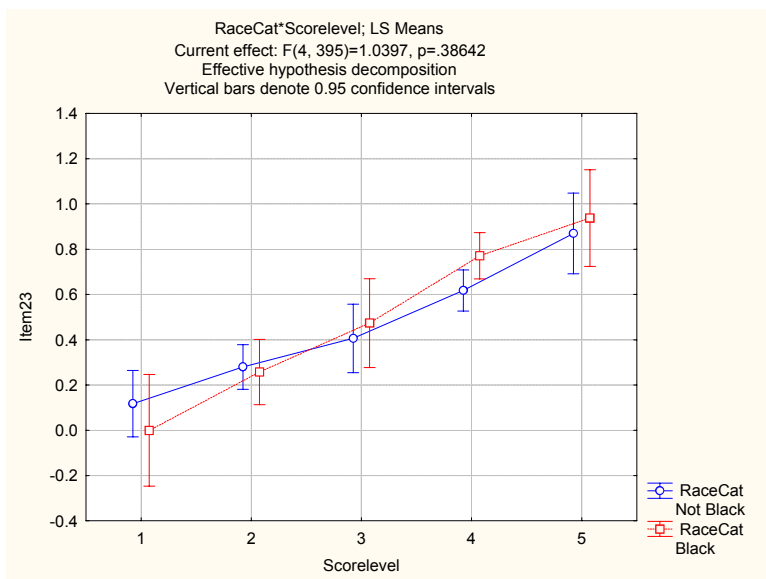


Item 23

Univariate Tests of Significance for Item23 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	60.49274	1	60.49274	319.9131	0.000000
RaceCat	0.05945	1	0.05945	0.3144	0.575318
Scorelevel	24.20648	4	6.05162	32.0037	0.000000
RaceCat*Scorelevel	0.78638	4	0.19660	1.0397	0.386417
Error	74.69101	395	0.18909		

RaceCat; LS Means Current effect: F(1, 395)=.31439, p=.57532 Effective hypothesis decomposition						
Cell No.	RaceCat	Item23 Mean	Item23 Std.Err.	Item23 -95.00%	Item23 +95.00%	N
1	Not Black	0.458288	0.031201	0.396947	0.519629	253
2	Black	0.487951	0.042723	0.403958	0.571944	152

MANTEL-HAENSZEL= 1.40186 Chi-square(1)= 1.92717 p= .1650

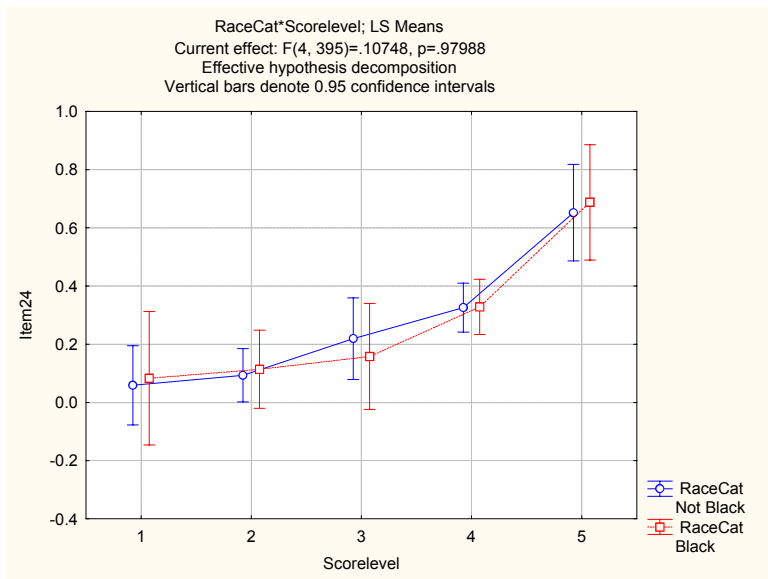


Item 24

Univariate Tests of Significance for Item24 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	20.00146	1	20.00146	122.8096	0.000000
RaceCat	0.00139	1	0.00139	0.0085	0.926497
Scorelevel	10.88496	4	2.72124	16.7085	0.000000
RaceCat*Scorelevel	0.07002	4	0.01750	0.1075	0.979881
Error	64.33192	395	0.16287		

RaceCat; LS Means Current effect: F(1, 395)=.00852, p=.92650 Effective hypothesis decomposition						
Cell No.	RaceCat	Item24 Mean	Item24 Std.Err.	Item24 -95.00%	Item24 +95.00%	N
1	Not Black	0.269785	0.028957	0.212856	0.326713	253
2	Black	0.274317	0.039650	0.196366	0.352268	152

MANTEL-HAENSZEL= 1.02854 Chi-square(1)= .01207 p= .9125



CTB2 Differential Item Functioning: Verbal Reasoning test (Race)

The sample consisted of 154 Black respondents, and 255 respondents from other race groups. The aim of the study was to investigate differential item functioning in the Verbal reasoning test. Factorial analysis of variance was used, and the Mantel-Haenszel statistic was also computed for every item.

The magnitude of the obtained differences in mean item score must be taken into account. The seriousness of non-uniform bias and the direction of the bias (if any) are clearly set out in the detailed information about every item that follows:

Summary of results

Item	Uniform bias /Factorial Anova	Uniform bias/Mantel-Haenszel	Mean item score difference	In favour of (group)	Non-uniform bias
1	N	N	.02		N
2	N	N	.03		N
3	N	N	.08		N
4	N	N	.02		N
5	N	N	.001		N
6	Y	Y	.12	Non-Black	N
7	Y	Y	.12	Black	N
8	N	N	.03	Black	N
9	Y	Y	.23	Non-Black	N
10	N	N	.05		N
11	N	N	.04		N
12	N	N	.03		N
13	Y	Y	.10	Non-Black	Y
14	Y	Y	.12	Black	N
15	Y	Y	.12	Black	Y
16	Y	Y	.12	Non-Black	N
17	N	N	.01		N
18	N	N	.03		Y
19	N	N	.01		N
20	N	N	.10	Non-Black	N
21	Y	Y	.11	Non-Black	N
22	N	N	.04		N
23	N	Y	.09	Black	N
24	N	Y	.11	Non-Black	N
25	Y	Y	.11	Black	N
26	N	Y	.08	Black	N
27	N	N	.11		N
28	N	N	.01		Y
29	N	N	.02		N
30	N	N	.07		N
31	N	N	.07		N
32	Y	Y	.12	Black	Y
33	Y	Y	.09	Black	N

Item	Uniform bias /Factorial Anova	Uniform bias/Mantel-Haenszel	Mean item score difference	In favour of (group)	Non-uniform bias
34	N	Y	.09	Non-Black	N
35	N	N	.03		N

Based on the factorial Anova, 11 items showed significant uniform bias.

Based on the Mantel-Haenszel index, 15 items showed significant uniform bias.

5 items showed significant non-uniform bias.

18 items showed no uniform bias.

9 items were biased in favour of the Black group.

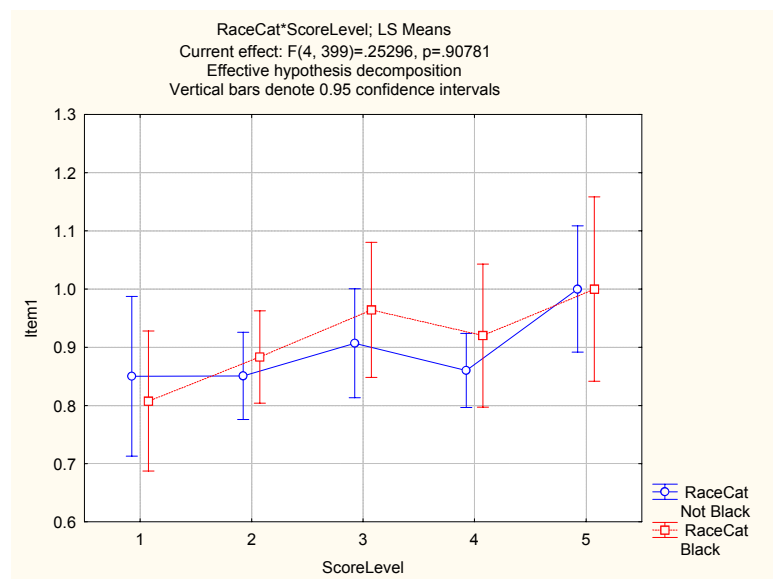
10 items were biased in favour of the Non-Black group.

Item 1

Univariate Tests of Significance for Item1 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	249.5639	1	249.5639	2560.173	0.000000
RaceCat	0.0352	1	0.0352	0.361	0.548336
ScoreLevel	0.8611	4	0.2153	2.208	0.067417
RaceCat*ScoreLevel	0.0986	4	0.0247	0.253	0.907806
Error	38.8942	399	0.0975		

RaceCat; LS Means Current effect: F(1, 399)=.36092, p=.54834 Effective hypothesis decomposition						
Cell No.	RaceCat	Item1 Mean	Item1 Std.Err.	Item1 -95.00%	Item1 +95.00%	N
1	Not Black	0.893588	0.022530	0.849295	0.937880	255
2	Black	0.915062	0.027751	0.860506	0.969619	154

MANTEL-HAENSZEL= 1.39204 Chi-square(1)= .84077 p= .3591

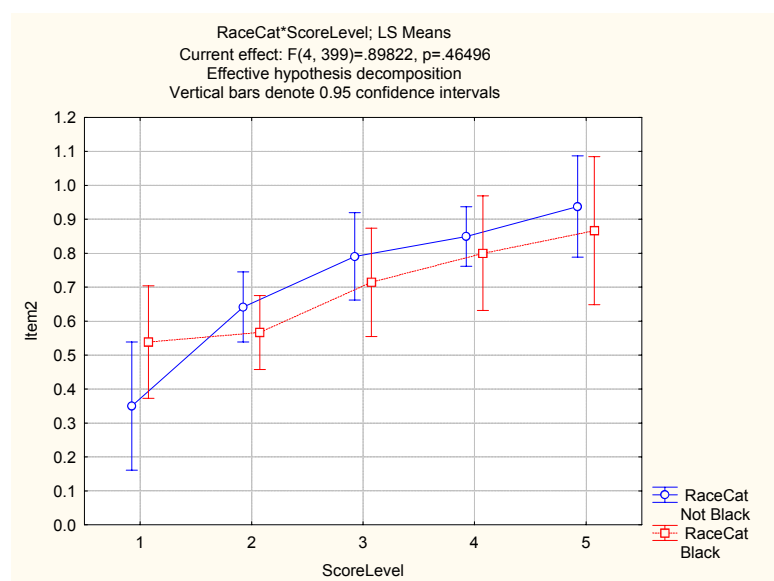


Item 2

Univariate Tests of Significance for Item2 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	151.9121	1	151.9121	824.8987	0.000000
RaceCat	0.0212	1	0.0212	0.1152	0.734504
ScoreLevel	7.1890	4	1.7973	9.7593	0.000000
RaceCat*ScoreLevel	0.6617	4	0.1654	0.8982	0.464964
Error	73.4792	399	0.1842		

RaceCat; LS Means Current effect: F(1, 399)=.11518, p=.73450 Effective hypothesis decomposition						
Cell No.	RaceCat	Item2 Mean	Item2 Std.Err.	Item2 -95.00%	Item2 +95.00%	N
1	Not Black	0.713890	0.030967	0.653011	0.774770	255
2	Black	0.697216	0.038143	0.622229	0.772203	154

MANTEL-HAENSZEL= .83016 Chi-square(1)= .61395 p= .433

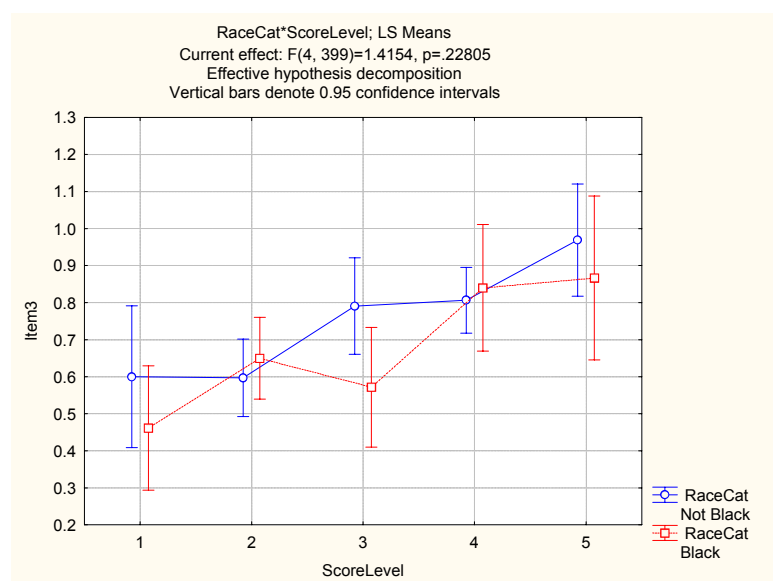


Item 3

Univariate Tests of Significance for Item3 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	156.1185	1	156.1185	824.1486	0.000000
RaceCat	0.4252	1	0.4252	2.2447	0.134865
ScoreLevel	5.1931	4	1.2983	6.8536	0.000024
RaceCat*ScoreLevel	1.0725	4	0.2681	1.4154	0.228047
Error	75.5826	399	0.1894		

RaceCat; LS Means Current effect: F(1, 399)=2.2447, p=.13487 Effective hypothesis decomposition						
Cell No.	RaceCat	Item3 Mean	Item3 Std.Err.	Item3 -95.00%	Item3 +95.00%	N
1	Not Black	0.752583	0.031407	0.690838	0.814328	255
2	Black	0.677927	0.038685	0.601874	0.753980	154

MANTEL-HAENSZEL= .79934 Chi-square(1)= .90336 p= .3418

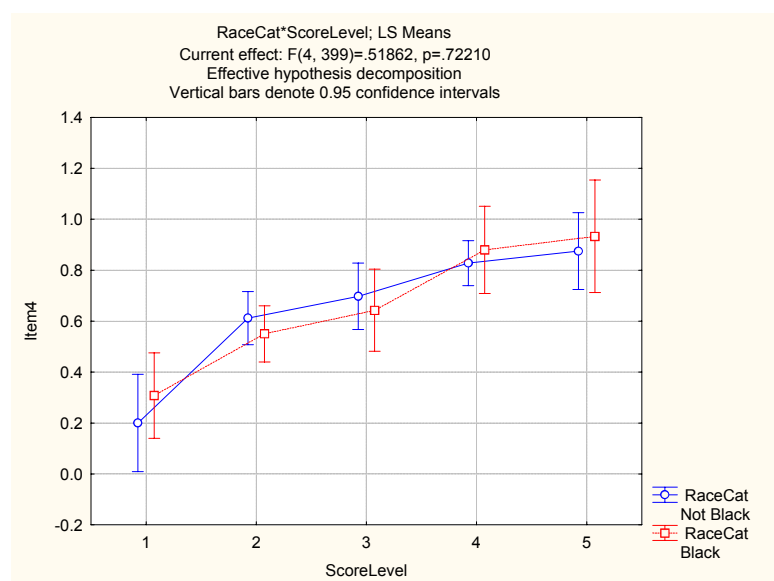


Item 4

Univariate Tests of Significance for Item4 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	129.9833	1	129.9833	688.5923	0.000000
RaceCat	0.0313	1	0.0313	0.1659	0.683974
ScoreLevel	13.6419	4	3.4105	18.0671	0.000000
RaceCat*ScoreLevel	0.3916	4	0.0979	0.5186	0.722100
Error	75.3179	399	0.1888		

RaceCat; LS Means Current effect: F(1, 399)=.16593, p=.68397 Effective hypothesis decomposition						
Cell No.	RaceCat	Item4 Mean	Item4 Std.Err.	Item4 -95.00%	Item4 +95.00%	N
1	Not Black	0.642514	0.031352	0.580878	0.704151	255
2	Black	0.662777	0.038618	0.586857	0.738696	154

MANTEL-HAENSZEL= 1.56336 Chi-square(1)= 3.28585 p= .0698

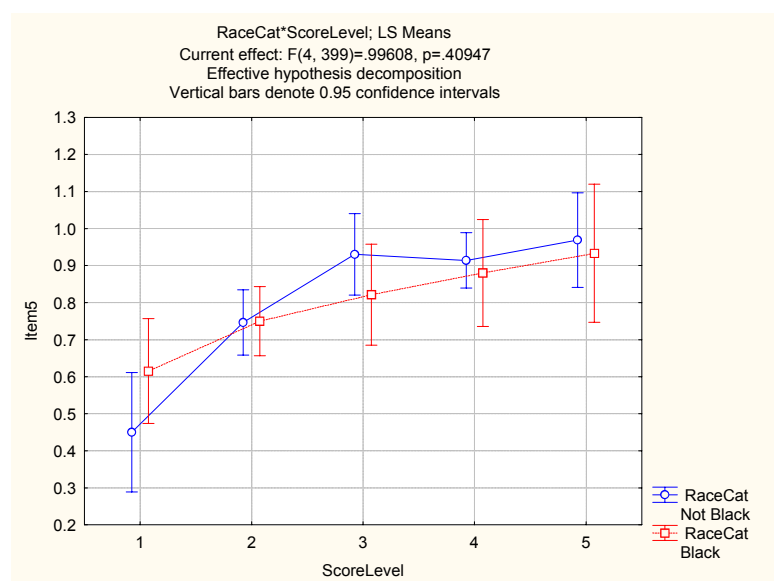


Item 5

Univariate Tests of Significance for Item5					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	195.7628	1	195.7628	1452.058	0.000000
RaceCat	0.0003	1	0.0003	0.002	0.965552
ScoreLevel	5.6347	4	1.4087	10.449	0.000000
RaceCat*ScoreLevel	0.5372	4	0.1343	0.996	0.409469
Error	53.7922	399	0.1348		

RaceCat; LS Means						
Current effect: F(1, 399)=.00187, p=.96555						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item5 Mean	Item5 Std.Err.	Item5 -95.00%	Item5 +95.00%	N
1	Not Black	0.801846	0.026496	0.749757	0.853935	255
2	Black	0.800029	0.032636	0.735869	0.864189	154

MANTEL-HAENSZEL = .93418 Chi-square(1) = .06215 p = .8031

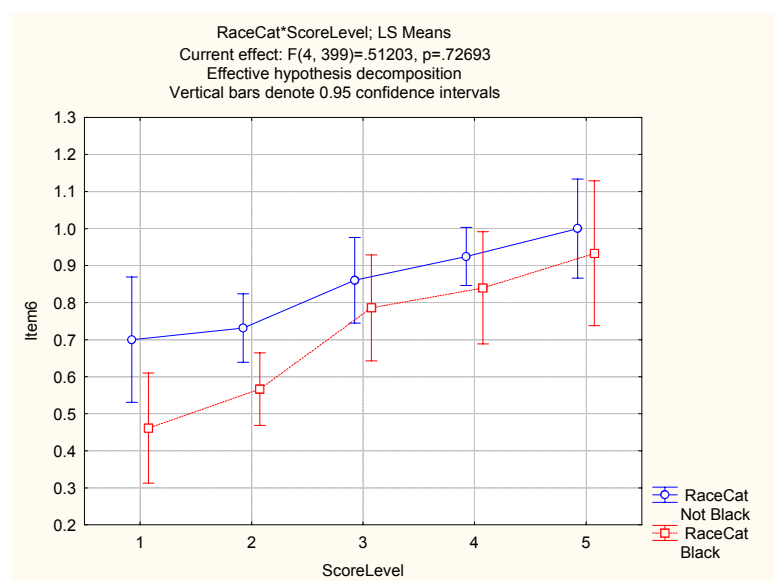


Item 6

Univariate Tests of Significance for Item6 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	185.8421	1	185.8421	1252.496	0.000000
RaceCat	1.2085	1	1.2085	8.144	0.004544
ScoreLevel	6.2072	4	1.5518	10.458	0.000000
RaceCat*ScoreLevel	0.3039	4	0.0760	0.512	0.726933
Error	59.2026	399	0.1484		

RaceCat; LS Means Current effect: F(1, 399)=8.1445, p=.00454 Effective hypothesis decomposition						
Cell No.	RaceCat	Item6 Mean	Item6 Std.Err.	Item6 -95.00%	Item6 +95.00%	N
1	Not Black	0.843308	0.027797	0.788662	0.897954	255
2	Black	0.717451	0.034238	0.650141	0.784760	154

MANTEL-HAENSZEL = .45153 Chi-square(1) = 9.24098 p = .0023

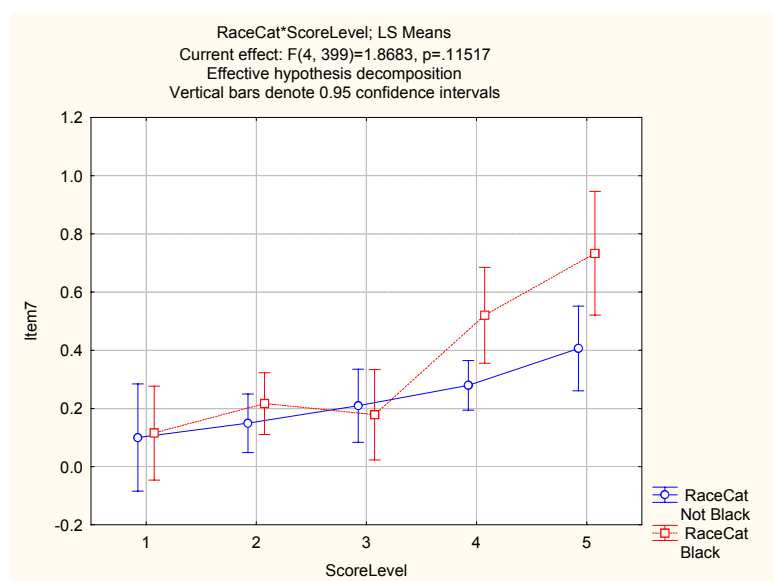


Item 7

Univariate Tests of Significance for Item7					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	25.81195	1	25.81195	147.1463	0.000000
RaceCat	1.17146	1	1.17146	6.6782	0.010115
ScoreLevel	7.53887	4	1.88472	10.7442	0.000000
RaceCat*ScoreLevel	1.31093	4	0.32773	1.8683	0.115172
Error	69.99133	399	0.17542		

RaceCat; LS Means						
Current effect: F(1, 399)=6.6782, p=.01011						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item7 Mean	Item7 Std.Err.	Item7 -95.00%	Item7 +95.00%	N
1	Not Black	0.228875	0.030223	0.169458	0.288292	255
2	Black	0.352791	0.037227	0.279605	0.425977	154

MANTEL-HAENSZEL= 1.86783 Chi-square(1)= 6.24614 p= .0124

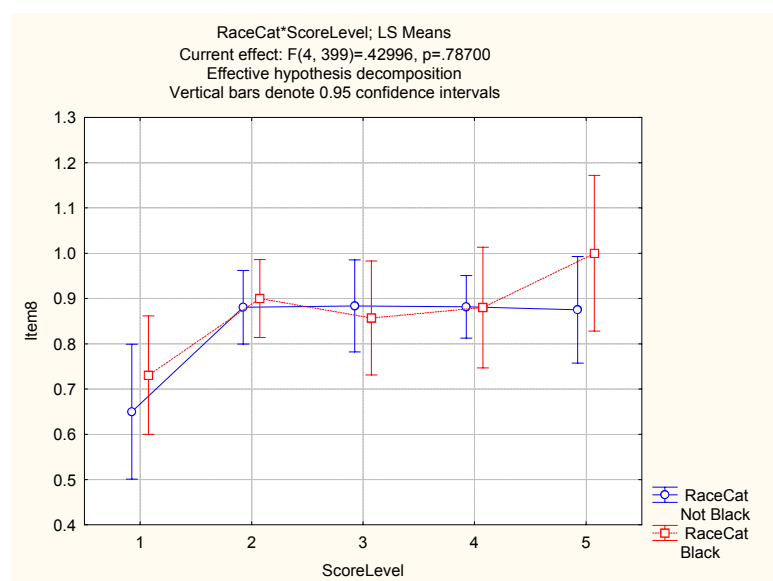


Item 8

Univariate Tests of Significance for Item8					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	222.5060	1	222.5060	1938.584	0.000000
RaceCat	0.1183	1	0.1183	1.031	0.310655
ScoreLevel	1.6963	4	0.4241	3.695	0.005737
RaceCat*ScoreLevel	0.1974	4	0.0493	0.430	0.787002
Error	45.7963	399	0.1148		

RaceCat; LS Means						
Current effect: F(1, 399)=1.0305, p=.31065						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item8 Mean	Item8 Std.Err.	Item8 -95.00%	Item8 +95.00%	N
1	Not Black	0.834208	0.024448	0.786145	0.882270	255
2	Black	0.873582	0.030113	0.814383	0.932782	154

MANTEL-HAENSZEL= 1.42853 Chi-square(1)= 1.16524 p= .2803

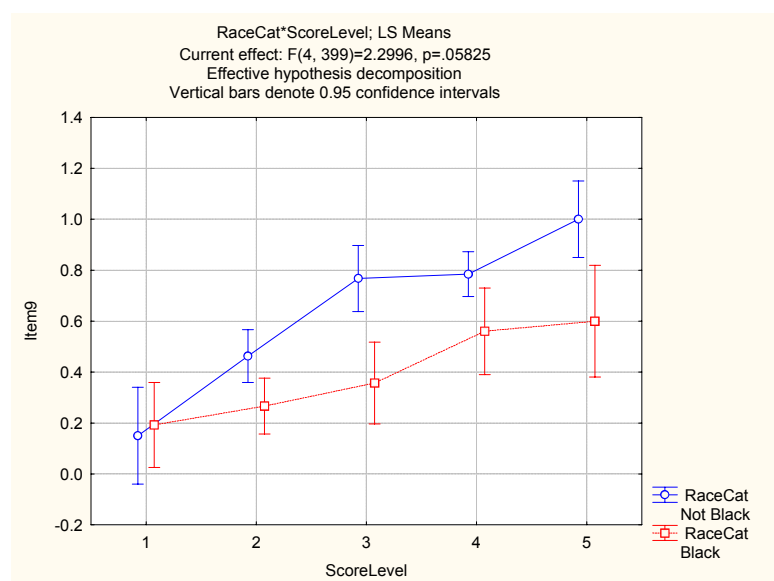


Item 9

Univariate Tests of Significance for Item9 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	80.66041	1	80.66041	431.7590	0.000000
RaceCat	4.31385	1	4.31385	23.0912	0.000002
ScoreLevel	13.48232	4	3.37058	18.0420	0.000000
RaceCat*ScoreLevel	1.71844	4	0.42961	2.2996	0.058246
Error	74.54043	399	0.18682		

RaceCat; LS Means Current effect: F(1, 399)=23.091, p=.00000 Effective hypothesis decomposition						
Cell No.	RaceCat	Item9 Mean	Item9 Std.Err.	Item9 -95.00%	Item9 +95.00%	N
1	Not Black	0.633015	0.031190	0.571697	0.694333	255
2	Black	0.395223	0.038418	0.319697	0.470750	154

MANTEL-HAENSZEL= .3804 Chi-square(1)= 17.07355 p= .0000

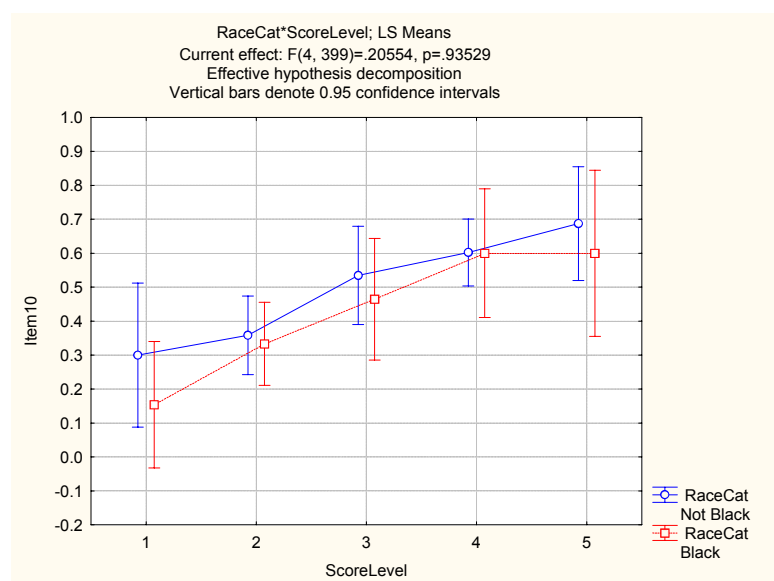


Item 10

Univariate Tests of Significance for Item10 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	65.53660	1	65.53660	281.9692	0.000000
RaceCat	0.33490	1	0.33490	1.4409	0.230705
ScoreLevel	7.12474	4	1.78118	7.6635	0.000006
RaceCat*ScoreLevel	0.19109	4	0.04777	0.2055	0.935287
Error	92.73746	399	0.23242		

RaceCat; LS Means Current effect: F(1, 399)=1.4409, p=.23070 Effective hypothesis decomposition						
Cell No.	RaceCat	Item10 Mean	Item10 Std.Err.	Item10 -95.00%	Item10 +95.00%	N
1	Not Black	0.496549	0.034790	0.428155	0.564943	255
2	Black	0.430293	0.042851	0.346050	0.514536	154

MANTEL-HAENSZEL= .79981 Chi-square(1)= 1.01532 p= .3136

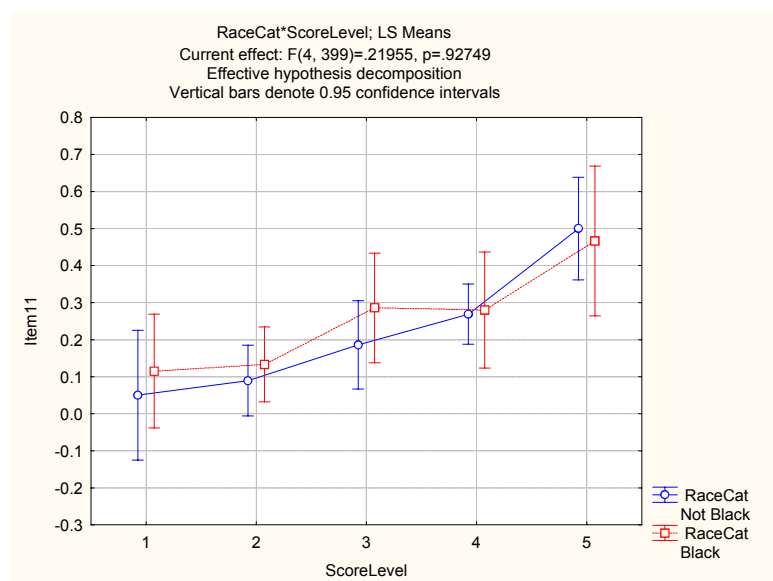


Item 11

Univariate Tests of Significance for Item11 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	17.22060	1	17.22060	108.5835	0.000000
RaceCat	0.10635	1	0.10635	0.6706	0.413335
ScoreLevel	5.38698	4	1.34674	8.4918	0.000001
RaceCat*ScoreLevel	0.13928	4	0.03482	0.2196	0.927490
Error	63.27868	399	0.15859		

RaceCat; LS Means Current effect: F(1, 399)=.67059, p=.41333 Effective hypothesis decomposition						
Cell No.	RaceCat	Item11 Mean	Item11 Std.Err.	Item11 -95.00%	Item11 +95.00%	N
1	Not Black	0.218883	0.028738	0.162387	0.275379	255
2	Black	0.256220	0.035397	0.186632	0.325808	154

MANTEL-HAENSZEL= 1.31454 Chi-square(1)= 1.00505 p= .3160

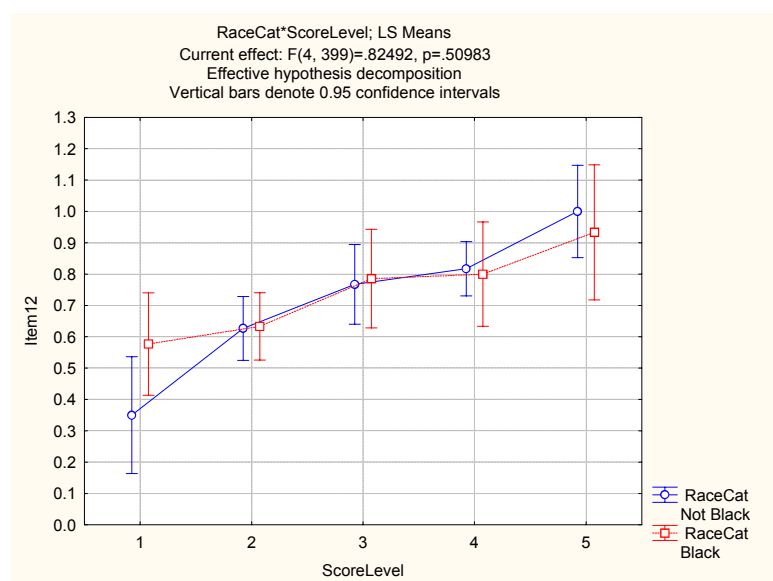


Item 12

Univariate Tests of Significance for Item12 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	162.2128	1	162.2128	902.4935	0.000000
RaceCat	0.0859	1	0.0859	0.4780	0.489728
ScoreLevel	7.3085	4	1.8271	10.1654	0.000000
RaceCat*ScoreLevel	0.5931	4	0.1483	0.8249	0.509833
Error	71.7156	399	0.1797		

RaceCat; LS Means Current effect: F(1, 399)=.47801, p=.48973 Effective hypothesis decomposition						
Cell No.	RaceCat	Item12 Mean	Item12 Std.Err.	Item12 -95.00%	Item12 +95.00%	N
1	Not Black	0.712302	0.030593	0.652158	0.772447	255
2	Black	0.745861	0.037683	0.671779	0.819943	154

MANTEL-HAENSZEL= 1.13172 Chi-square(1)= .25632 p= .6126

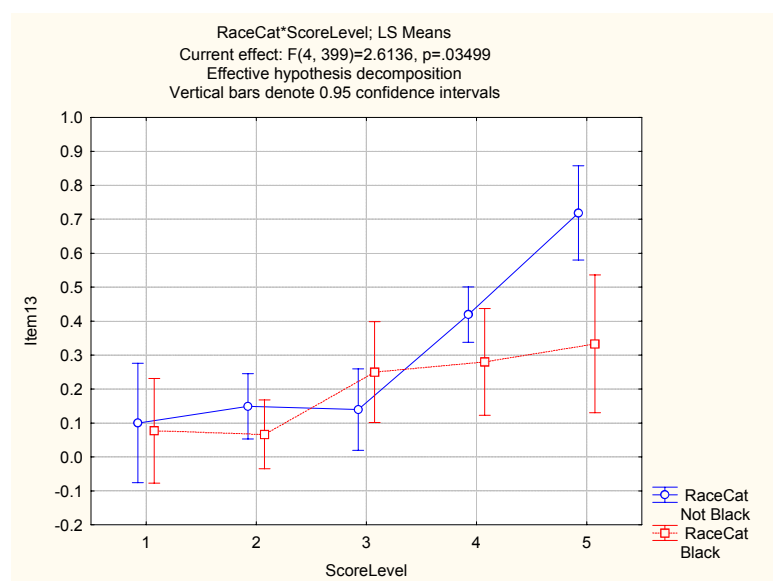


Item 13

Univariate Tests of Significance for Item13 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	19.59220	1	19.59220	122.5530	0.000000
RaceCat	0.82507	1	0.82507	5.1610	0.023632
ScoreLevel	7.56431	4	1.89108	11.8291	0.000000
RaceCat*ScoreLevel	1.67132	4	0.41783	2.6136	0.034992
Error	63.78699	399	0.15987		

RaceCat; LS Means Current effect: F(1, 399)=5.1610, p=.02363 Effective hypothesis decomposition						
Cell No.	RaceCat	Item13 Mean	Item13 Std.Err.	Item13 -95.00%	Item13 +95.00%	N
1	Not Black	0.305379	0.028853	0.248656	0.362101	255
2	Black	0.201385	0.035539	0.131518	0.271251	154

MANTEL-HAENSZEL= .57479 Chi-square(1)= 4.25995 p= .0390

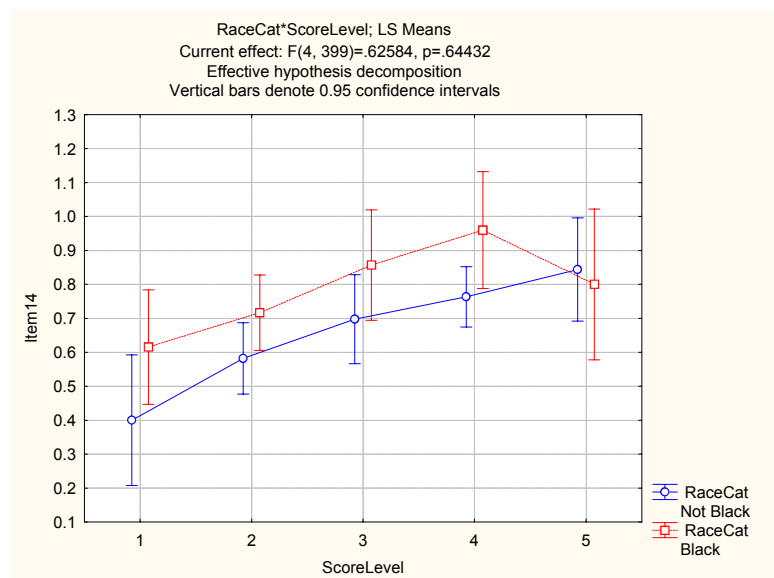


Item 14

Univariate Tests of Significance for Item14					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	159.7893	1	159.7893	835.5028	0.000000
RaceCat	1.3383	1	1.3383	6.9978	0.008483
ScoreLevel	4.8988	4	1.2247	6.4037	0.000053
RaceCat*ScoreLevel	0.4788	4	0.1197	0.6258	0.644316
Error	76.3085	399	0.1912		

RaceCat; LS Means						
Current effect: F(1, 399)=6.9978, p=.00848						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item14 Mean	Item14 Std.Err.	Item14 -95.00%	Item14 +95.00%	N
1	Not Black	0.657391	0.031558	0.595350	0.719432	255
2	Black	0.789839	0.038871	0.713422	0.866256	154

MANTEL-HAENSZEL= 2.16857 Chi-square(1)= 9.18515 p= .0024

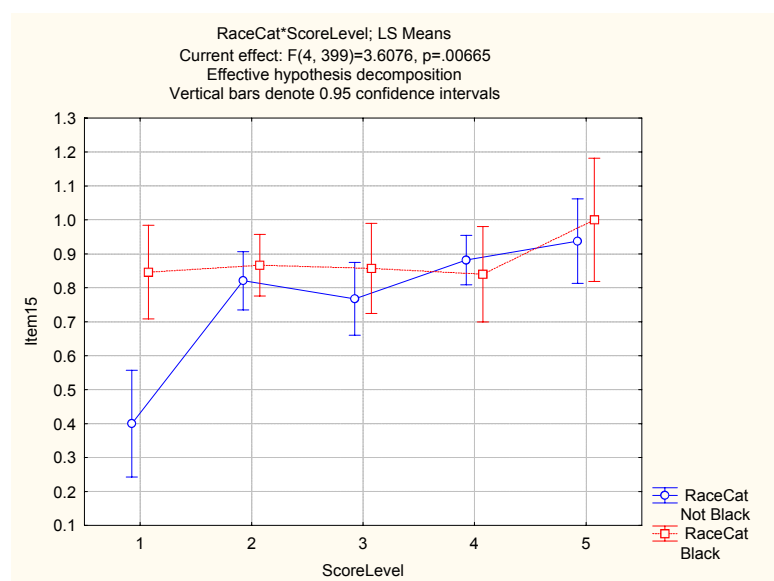


Item 15

Univariate Tests of Significance for Item15					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	206.0699	1	206.0699	1612.016	0.000000
RaceCat	1.1074	1	1.1074	8.663	0.003437
ScoreLevel	2.8415	4	0.7104	5.557	0.000232
RaceCat*ScoreLevel	1.8447	4	0.4612	3.608	0.006651
Error	51.0056	399	0.1278		

RaceCat; LS Means						
Current effect: F(1, 399)=8.6629, p=.00344						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item15 Mean	Item15 Std.Err.	Item15 -95.00%	Item15 +95.00%	N
1	Not Black	0.761512	0.025801	0.710789	0.812234	255
2	Black	0.881993	0.031779	0.819517	0.944469	154

MANTEL-HAENSZEL= 1.88983 Chi-square(1)= 5.0219 p= .0250

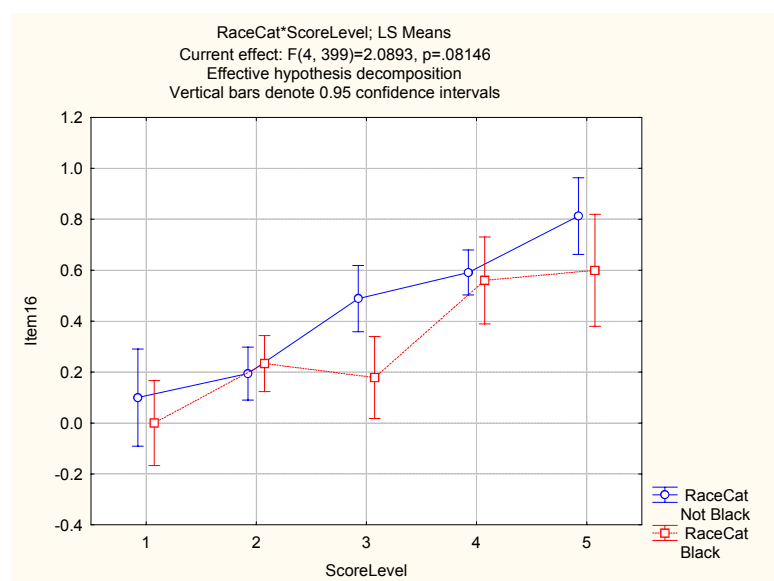


Item 16

Univariate Tests of Significance for Item16 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	43.10162	1	43.10162	229.3912	0.000000
RaceCat	1.15194	1	1.15194	6.1307	0.013699
ScoreLevel	15.63983	4	3.90996	20.8092	0.000000
RaceCat*ScoreLevel	1.57028	4	0.39257	2.0893	0.081465
Error	74.97039	399	0.18790		

RaceCat; LS Means Current effect: F(1, 399)=6.1307, p=.01370 Effective hypothesis decomposition						
Cell No.	RaceCat	Item16 Mean	Item16 Std.Err.	Item16 -95.00%	Item16 +95.00%	N
1	Not Black	0.437260	0.031280	0.375766	0.498754	255
2	Black	0.314381	0.038528	0.238637	0.390125	154

MANTEL-HAENSZEL= .62402 Chi-square(1)= 3.78185 p= .0518

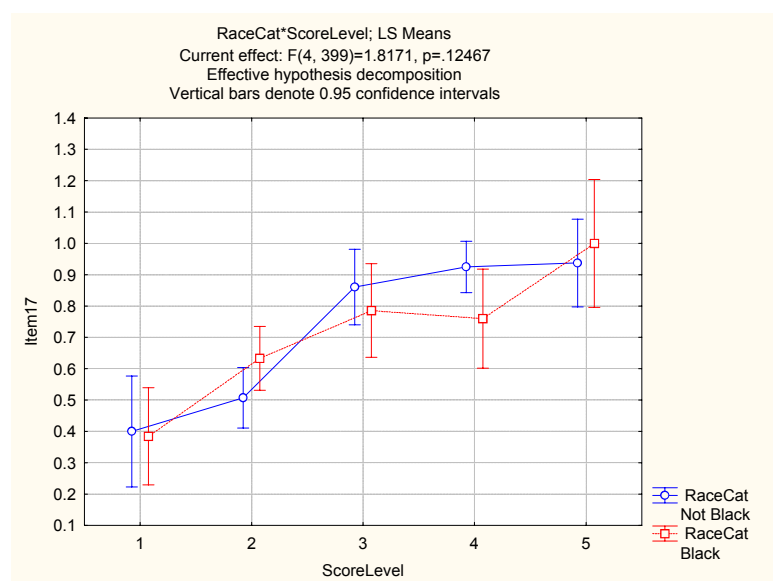


Item 17

Univariate Tests of Significance for Item17					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	157.9255	1	157.9255	978.1681	0.000000
RaceCat	0.0135	1	0.0135	0.0836	0.772658
ScoreLevel	11.9831	4	2.9958	18.5554	0.000000
RaceCat*ScoreLevel	1.1735	4	0.2934	1.8171	0.124669
Error	64.4186	399	0.1615		

RaceCat; LS Means						
Current effect: F(1, 399)=.08358, p=.77266						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item17 Mean	Item17 Std.Err.	Item17 -95.00%	Item17 +95.00%	N
1	Not Black	0.726032	0.028995	0.669029	0.783034	255
2	Black	0.712733	0.035714	0.642521	0.782944	154

MANTEL-HAENSZEL= .996 Chi-square(1)= .00027 p= .9868

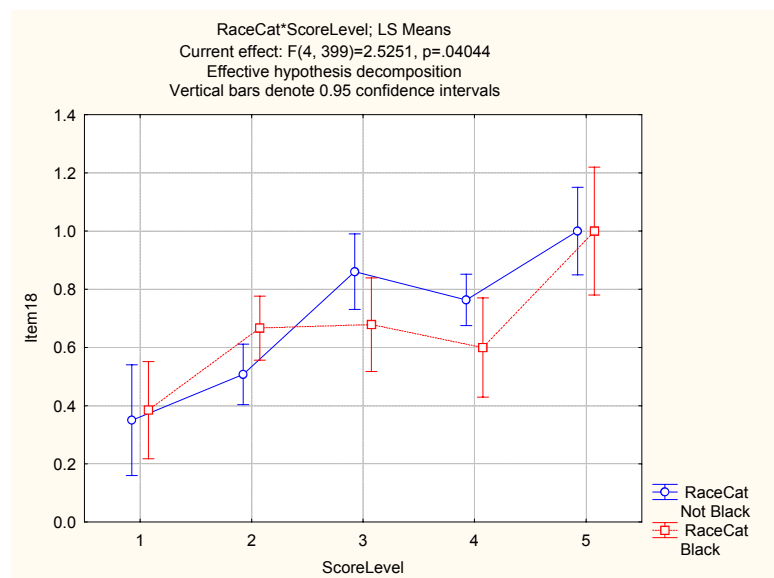


Item 18

Univariate Tests of Significance for Item18					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	141.5738	1	141.5738	754.6912	0.000000
RaceCat	0.0701	1	0.0701	0.3734	0.541478
ScoreLevel	10.1195	4	2.5299	13.4861	0.000000
RaceCat*ScoreLevel	1.8947	4	0.4737	2.5251	0.040438
Error	74.8491	399	0.1876		

RaceCat; LS Means						
Current effect: F(1, 399)=.37345, p=.54148						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item18 Mean	Item18 Std.Err.	Item18 -95.00%	Item18 +95.00%	N
1	Not Black	0.696274	0.031255	0.634829	0.757718	255
2	Black	0.665971	0.038497	0.590288	0.741654	154

MANTEL-HAENSZEL= .95274 Chi-square(1)= .04432 p= .8332

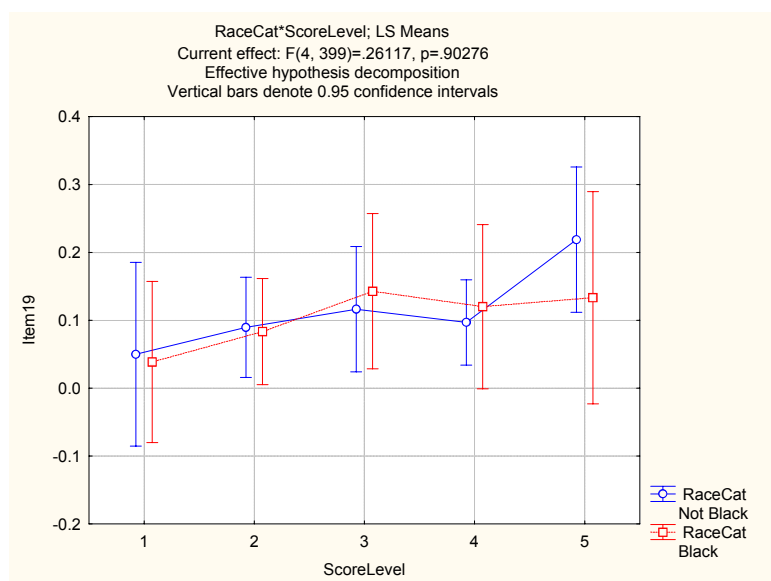


Item 19

Univariate Tests of Significance for Item19 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	3.62127	1	3.621266	38.24891	0.000000
RaceCat	0.00869	1	0.008692	0.09181	0.762047
ScoreLevel	0.45841	4	0.114603	1.21047	0.305752
RaceCat*ScoreLevel	0.09890	4	0.024726	0.26117	0.902757
Error	37.77585	399	0.094676		

RaceCat; LS Means Current effect: F(1, 399)=.09181, p=.76205 Effective hypothesis decomposition						
Cell No.	RaceCat	Item19 Mean	Item19 Std.Err.	Item19 -95.00%	Item19 +95.00%	N
1	Not Black	0.114271	0.022204	0.070620	0.157922	255
2	Black	0.103597	0.027349	0.049831	0.157364	154

MANTEL-HAENSZEL = .96551 Chi-square(1) = .01017 p = .9196

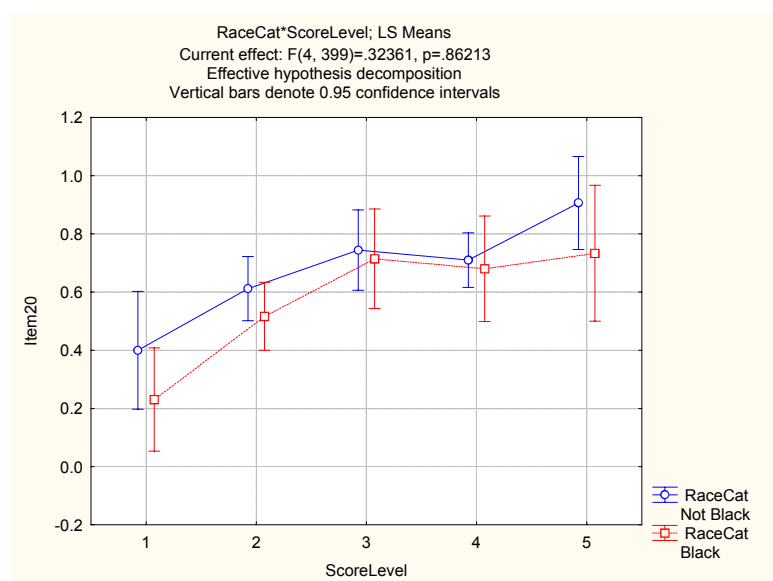


Item 20

Univariate Tests of Significance for Item20 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	119.0943	1	119.0943	562.5977	0.000000
RaceCat	0.7538	1	0.7538	3.5608	0.059884
ScoreLevel	7.4688	4	1.8672	8.8206	0.000001
RaceCat*ScoreLevel	0.2740	4	0.0685	0.3236	0.862125
Error	84.4629	399	0.2117		

RaceCat; LS Means Current effect: F(1, 399)=3.5608, p=.05988 Effective hypothesis decomposition						
Cell No.	RaceCat	Item20 Mean	Item20 Std.Err.	Item20 -95.00%	Item20 +95.00%	N
1	Not Black	0.674411	0.033201	0.609139	0.739682	255
2	Black	0.575011	0.040895	0.494614	0.655408	154

MANTEL-HAENSZEL= .66708 Chi-square(1)= 3.17112 p= .0749

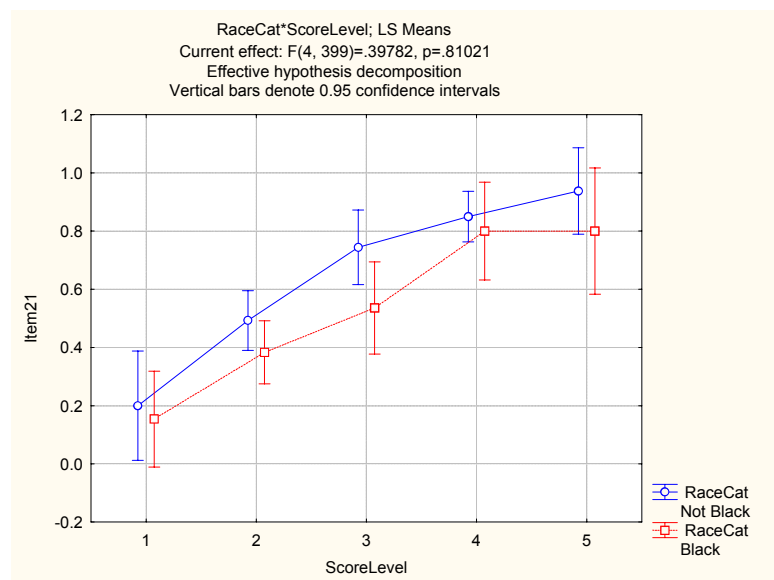


Item 21

Univariate Tests of Significance for Item21					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	106.1043	1	106.1043	581.2777	0.000000
RaceCat	0.9258	1	0.9258	5.0718	0.024862
ScoreLevel	18.2690	4	4.5672	25.0210	0.000000
RaceCat*ScoreLevel	0.2905	4	0.0726	0.3978	0.810214
Error	72.8320	399	0.1825		

RaceCat; LS Means						
Current effect: F(1, 399)=5.0718, p=.02486						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item21 Mean	Item21 Std.Err.	Item21 -95.00%	Item21 +95.00%	N
1	Not Black	0.644737	0.030831	0.584126	0.705348	255
2	Black	0.534579	0.037975	0.459923	0.609235	154

MANTEL-HAENSZEL= .57783 Chi-square(1)= 4.81271 p= .0282

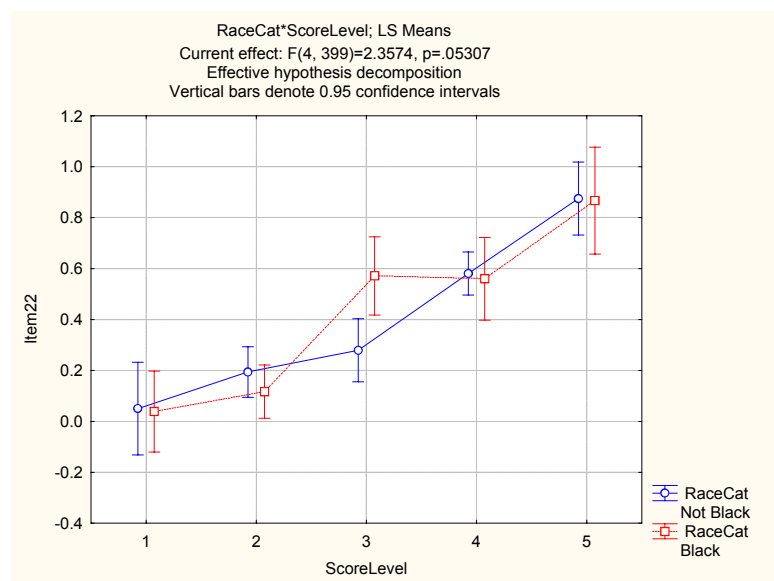


Item 22

Univariate Tests of Significance for Item22					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	52.10108	1	52.10108	305.1754	0.000000
RaceCat	0.09290	1	0.09290	0.5442	0.461151
ScoreLevel	24.23894	4	6.05974	35.4941	0.000000
RaceCat*ScoreLevel	1.60988	4	0.40247	2.3574	0.053070
Error	68.11928	399	0.17073		

RaceCat; LS Means						
Current effect: F(1, 399)=.54415, p=.46115						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item22 Mean	Item22 Std.Err.	Item22 -95.00%	Item22 +95.00%	N
1	Not Black	0.395749	0.029817	0.337132	0.454366	255
2	Black	0.430645	0.036726	0.358444	0.502845	154

MANTEL-HAENSZEL= 1.13265 Chi-square(1)= .23991 p= .6242

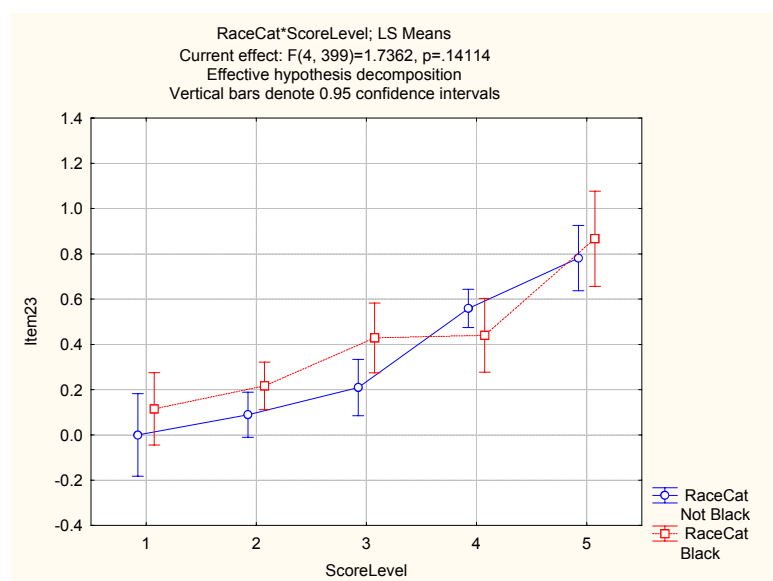


Item 23

Univariate Tests of Significance for Item23					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	41.92458	1	41.92458	243.9889	0.000000
RaceCat	0.55913	1	0.55913	3.2540	0.072005
ScoreLevel	19.54645	4	4.88661	28.4387	0.000000
RaceCat*ScoreLevel	1.19335	4	0.29834	1.7362	0.141136
Error	68.56010	399	0.17183		

RaceCat; LS Means						
Current effect: F(1, 399)=3.2540, p=.07200						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item23 Mean	Item23 Std.Err.	Item23 -95.00%	Item23 +95.00%	N
1	Not Black	0.327849	0.029913	0.269042	0.386655	255
2	Black	0.413458	0.036845	0.341024	0.485892	154

MANTEL-HAENSZEL= 1.6594 Chi-square(1)= 3.84539 p= .0498

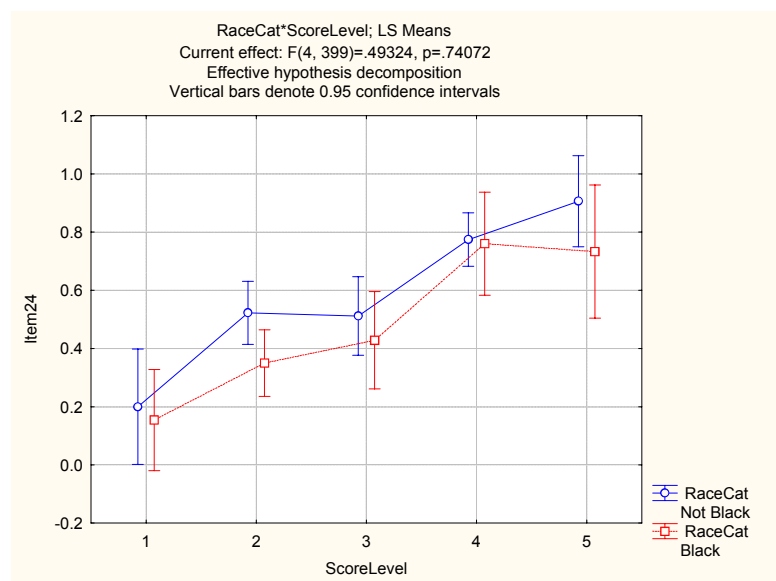


Item 24

Univariate Tests of Significance for Item24 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	87.02610	1	87.02610	428.5650	0.000000
RaceCat	0.72884	1	0.72884	3.5892	0.058878
ScoreLevel	14.85031	4	3.71258	18.2828	0.000000
RaceCat*ScoreLevel	0.40063	4	0.10016	0.4932	0.740725
Error	81.02251	399	0.20306		

RaceCat; LS Means Current effect: F(1, 399)=3.5892, p=.05888 Effective hypothesis decomposition						
Cell No.	RaceCat	Item24 Mean	Item24 Std.Err.	Item24 -95.00%	Item24 +95.00%	N
1	Not Black	0.582892	0.032518	0.518964	0.646820	255
2	Black	0.485150	0.040053	0.406408	0.563892	154

MANTEL-HAENSZEL= 1.6594 Chi-square(1)= 3.84539 p= .0498

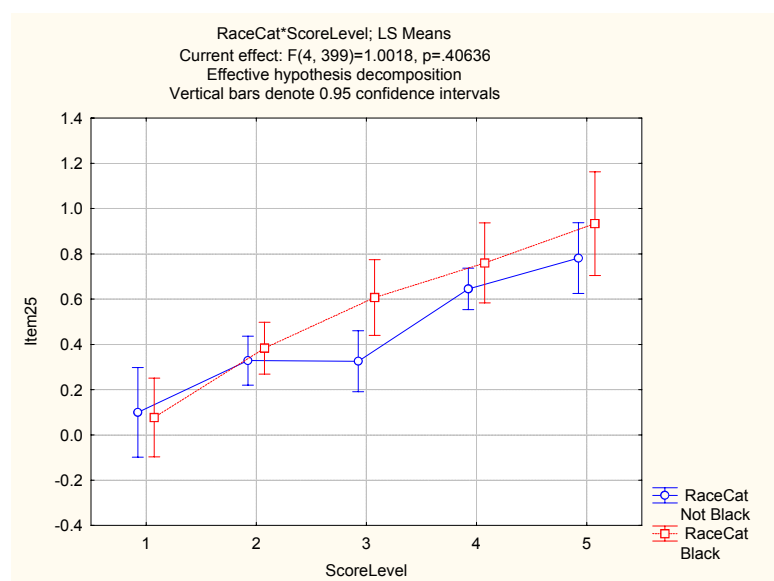


Item 25

Univariate Tests of Significance for Item25					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	74.50359	1	74.50359	367.0968	0.000000
RaceCat	1.02792	1	1.02792	5.0648	0.024960
ScoreLevel	18.61051	4	4.65263	22.9246	0.000000
RaceCat*ScoreLevel	0.81331	4	0.20333	1.0018	0.406365
Error	80.97844	399	0.20295		

RaceCat; LS Means						
Current effect: F(1, 399)=5.0648, p=.02496						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item25 Mean	Item25 Std.Err.	Item25 -95.00%	Item25 +95.00%	N
1	Not Black	0.436070	0.032509	0.372159	0.499981	255
2	Black	0.552147	0.040043	0.473426	0.630867	154

MANTEL-HAENSZEL= 1.76259 Chi-square(1)= 5.5355 p= .0186

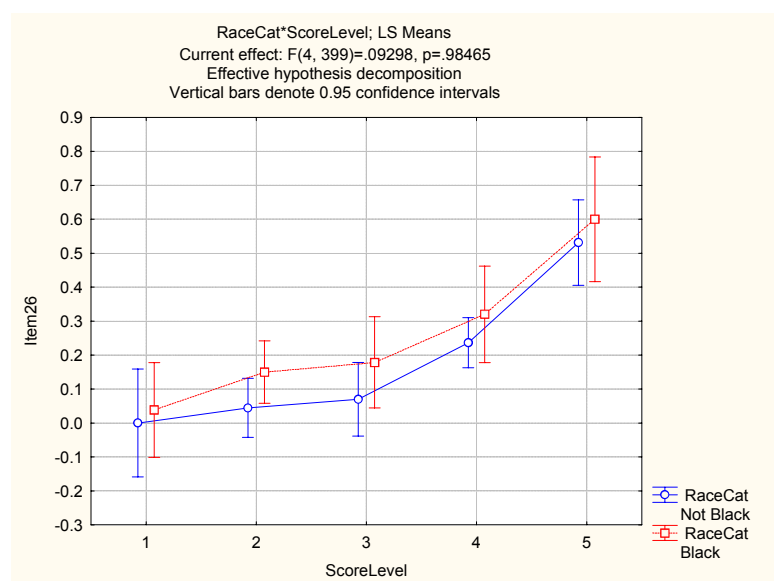


Item 26

Univariate Tests of Significance for Item26					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	14.36172	1	14.36172	109.8195	0.000000
RaceCat	0.49975	1	0.49975	3.8215	0.051298
ScoreLevel	9.06940	4	2.26735	17.3377	0.000000
RaceCat*ScoreLevel	0.04864	4	0.01216	0.0930	0.984654
Error	52.17950	399	0.13078		

RaceCat; LS Means						
Current effect: F(1, 399)=3.8215, p=.05130						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item26 Mean	Item26 Std.Err.	Item26 -95.00%	Item26 +95.00%	N
1	Not Black	0.176471	0.026096	0.125168	0.227773	255
2	Black	0.257407	0.032143	0.194216	0.320597	154

MANTEL-HAENSZEL= 2.05861 Chi-square(1)= 5.73353 p= .0166

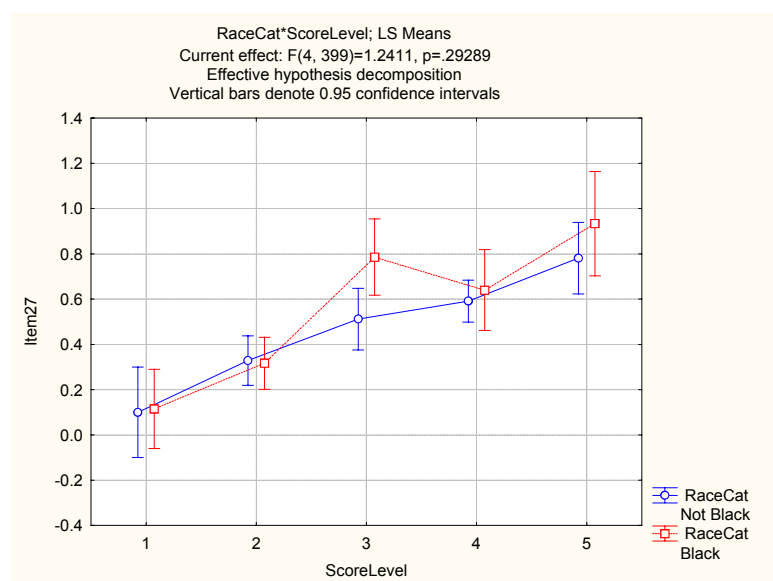


Item 27

Univariate Tests of Significance for Item27					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	79.48930	1	79.48930	385.3407	0.000000
RaceCat	0.69861	1	0.69861	3.3866	0.066469
ScoreLevel	18.60256	4	4.65064	22.5449	0.000000
RaceCat*ScoreLevel	1.02404	4	0.25601	1.2411	0.292888
Error	82.30697	399	0.20628		

RaceCat; LS Means						
Current effect: F(1, 399)=3.3866, p=.06647						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item27 Mean	Item27 Std.Err.	Item27 -95.00%	Item27 +95.00%	N
1	Not Black	0.462527	0.032775	0.398094	0.526960	255
2	Black	0.558220	0.040370	0.478856	0.637584	154

MANTEL-HAENSZEL= 1.47402 Chi-square(1)= 2.63691 p= .1044

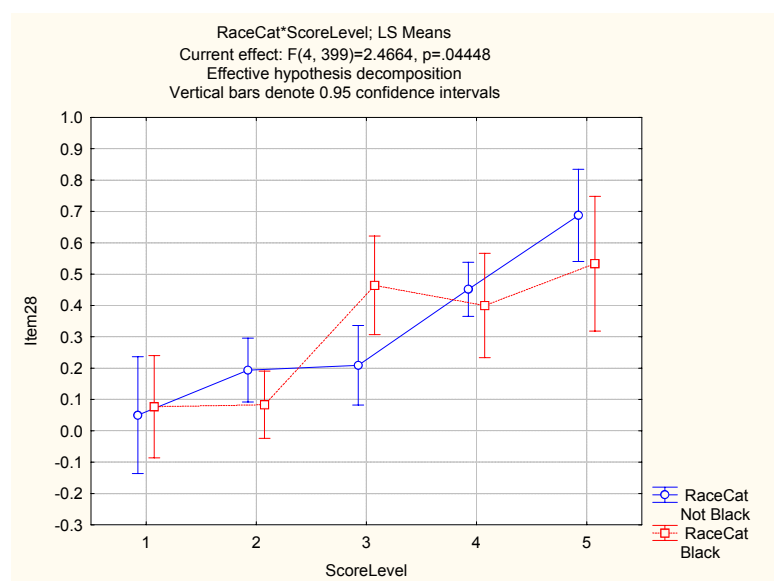


Item 28

Univariate Tests of Significance for Item28 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	30.28603	1	30.28603	168.8240	0.000000
RaceCat	0.00365	1	0.00365	0.0203	0.886694
ScoreLevel	10.99932	4	2.74983	15.3284	0.000000
RaceCat*ScoreLevel	1.76986	4	0.44247	2.4664	0.044483
Error	71.57826	399	0.17939		

RaceCat; LS Means Current effect: F(1, 399)=.02033, p=.88669 Effective hypothesis decomposition						
Cell No.	RaceCat	Item28 Mean	Item28 Std.Err.	Item28 -95.00%	Item28 +95.00%	N
1	Not Black	0.318489	0.030564	0.258402	0.378576	255
2	Black	0.311575	0.037647	0.237564	0.385586	154

MANTEL-HAENSZEL= .91199 Chi-square(1)= .13822 p= .7100

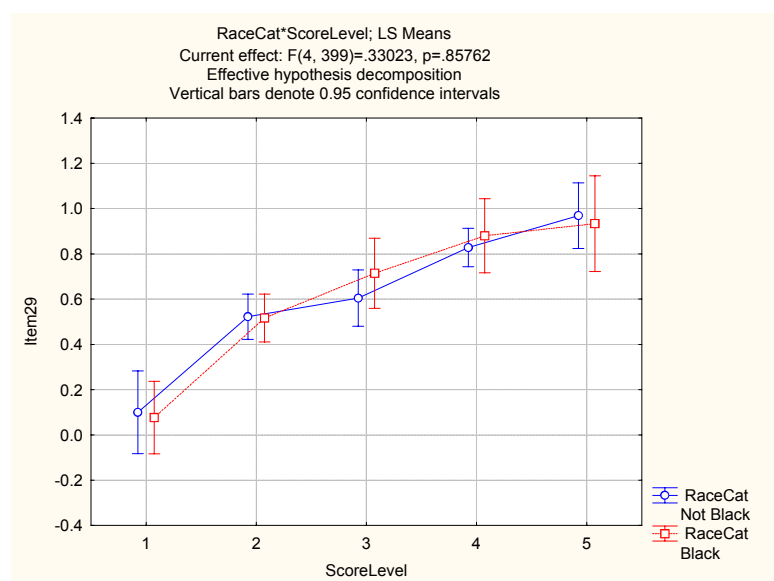


Item 29

Univariate Tests of Significance for Item29					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	115.2312	1	115.2312	665.0970	0.000000
RaceCat	0.0290	1	0.0290	0.1673	0.682733
ScoreLevel	22.9383	4	5.7346	33.0991	0.000000
RaceCat*ScoreLevel	0.2289	4	0.0572	0.3302	0.857624
Error	69.1287	399	0.1733		

RaceCat; LS Means						
Current effect: F(1, 399)=.16731, p=.68273						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item29 Mean	Item29 Std.Err.	Item29 -95.00%	Item29 +95.00%	N
1	Not Black	0.604749	0.030037	0.545699	0.663799	255
2	Black	0.624242	0.036997	0.551508	0.696975	154

MANTEL-HAENSZEL= 1.1427 Chi-square(1)= .27209 p= .6019

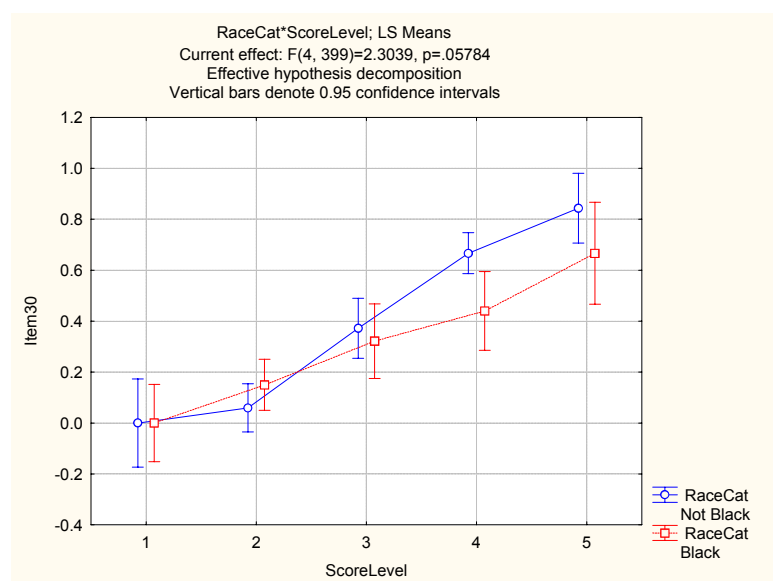


Item 30

Univariate Tests of Significance for Item30 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	37.81758	1	37.81758	243.5960	0.000000
RaceCat	0.40459	1	0.40459	2.6061	0.107245
ScoreLevel	22.52946	4	5.63237	36.2800	0.000000
RaceCat*ScoreLevel	1.43071	4	0.35768	2.3039	0.057845
Error	61.94360	399	0.15525		

RaceCat; LS Means Current effect: F(1, 399)=2.6061, p=.10724 Effective hypothesis decomposition						
Cell No.	RaceCat	Item30 Mean	Item30 Std.Err.	Item30 -95.00%	Item30 +95.00%	N
1	Not Black	0.388442	0.028433	0.332545	0.444339	255
2	Black	0.315619	0.035022	0.246769	0.384469	154

MANTEL-HAENSZEL= .73471 Chi-square(1)= 1.37532 p= .240

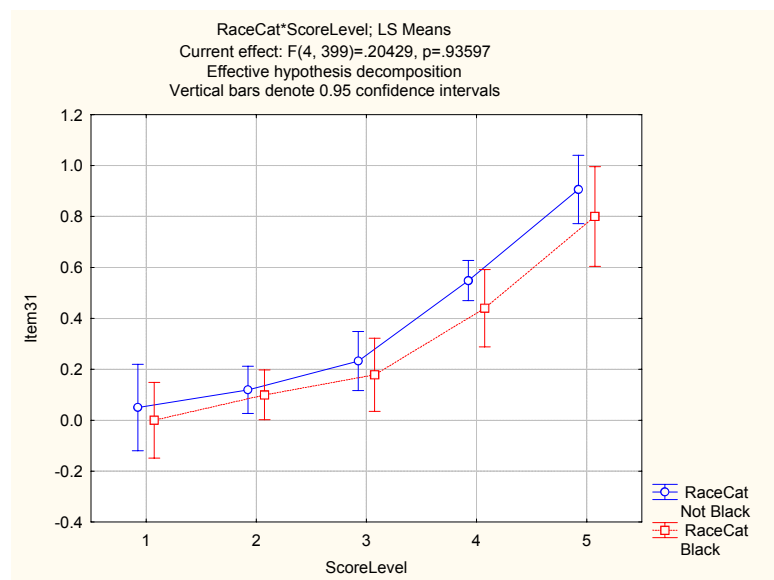


Item 31

Univariate Tests of Significance for Item31 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	34.76354	1	34.76354	233.1698	0.000000
RaceCat	0.34869	1	0.34869	2.3387	0.126983
ScoreLevel	24.00952	4	6.00238	40.2598	0.000000
RaceCat*ScoreLevel	0.12183	4	0.03046	0.2043	0.935971
Error	59.48735	399	0.14909		

RaceCat; LS Means Current effect: F(1, 399)=2.3387, p=.12698 Effective hypothesis decomposition						
Cell No.	RaceCat	Item31 Mean	Item31 Std.Err.	Item31 -95.00%	Item31 +95.00%	N
1	Not Black	0.371320	0.027863	0.316542	0.426097	255
2	Black	0.303714	0.034320	0.236243	0.371185	154

MANTEL-HAENSZEL= .64816 Chi-square(1)= 2.28634 p= .1305

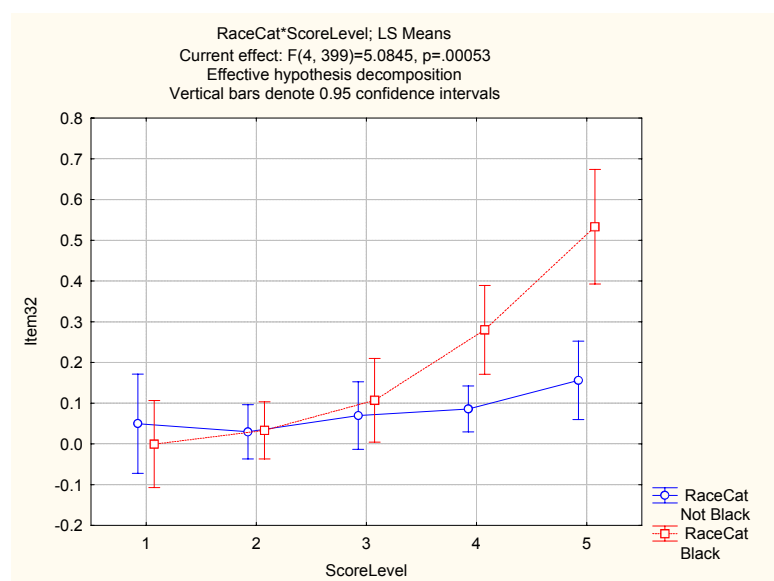


Item 32

Univariate Tests of Significance for Item32					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	5.52623	1	5.526228	72.06519	0.000000
RaceCat	0.96357	1	0.963566	12.56546	0.000440
ScoreLevel	3.80867	4	0.952167	12.41681	0.000000
RaceCat*ScoreLevel	1.55959	4	0.389896	5.08447	0.000526
Error	30.59681	399	0.076684		

RaceCat; LS Means						
Current effect: F(1, 399)=12.565, p=.00044						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item32 Mean	Item32 Std.Err.	Item32 -95.00%	Item32 +95.00%	N
1	Not Black	0.078378	0.019983	0.039093	0.117663	255
2	Black	0.190762	0.024614	0.142373	0.239150	154

MANTEL-HAENSZEL= 2.74489 Chi-square(1)= 9.01022 p= .0026

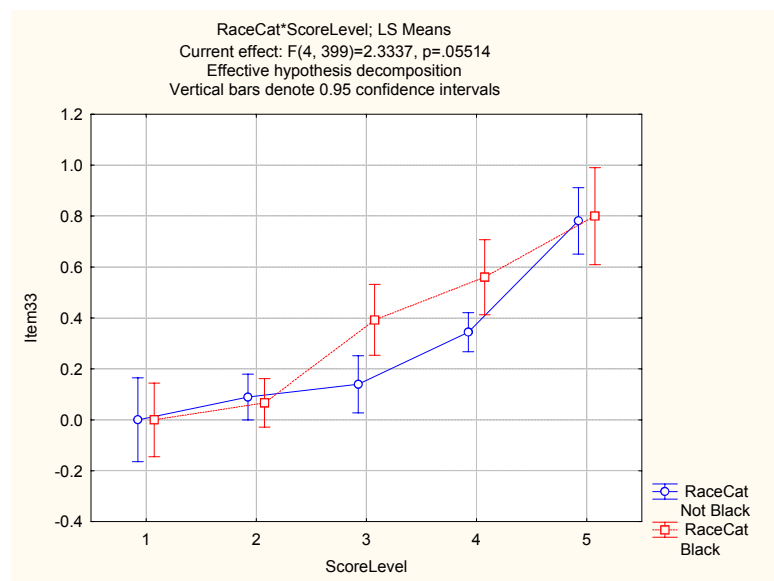


Item 33

Univariate Tests of Significance for Item33					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	30.74200	1	30.74200	218.8204	0.000000
RaceCat	0.66013	1	0.66013	4.6987	0.030775
ScoreLevel	21.64040	4	5.41010	38.5089	0.000000
RaceCat*ScoreLevel	1.31144	4	0.32786	2.3337	0.055138
Error	56.05538	399	0.14049		

RaceCat; LS Means						
Current effect: F(1, 399)=4.6987, p=.03078						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item33 Mean	Item33 Std.Err.	Item33 -95.00%	Item33 +95.00%	N
1	Not Black	0.270885	0.027048	0.217711	0.324058	255
2	Black	0.363905	0.033315	0.298409	0.429401	154

MANTEL-HAENSZEL= 1.92565 Chi-square(1)= 5.39157 p= .0202

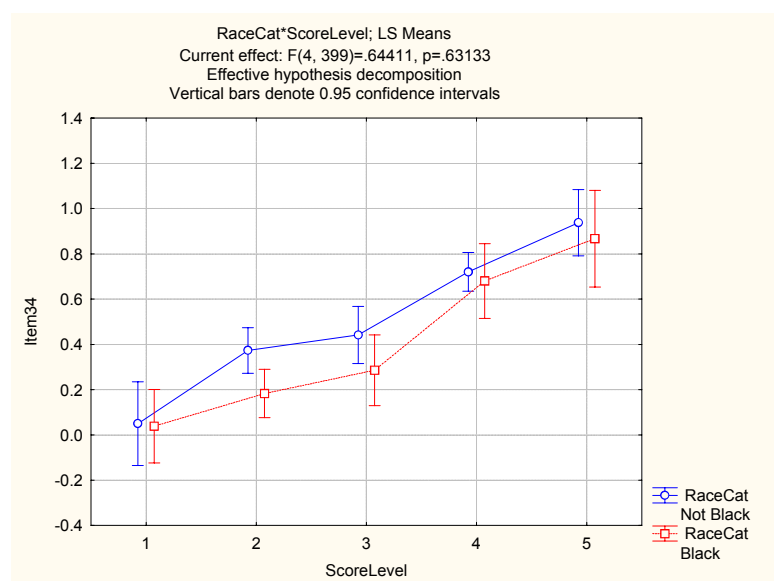


Item 34

Univariate Tests of Significance for Item34 Sigma-restricted parameterization Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	63.93133	1	63.93133	360.9794	0.000000
RaceCat	0.67052	1	0.67052	3.7860	0.052384
ScoreLevel	24.80078	4	6.20019	35.0085	0.000000
RaceCat*ScoreLevel	0.45630	4	0.11408	0.6441	0.631332
Error	70.66497	399	0.17711		

RaceCat; LS Means Current effect: F(1, 399)=3.7860, p=.05238 Effective hypothesis decomposition						
Cell No.	RaceCat	Item34 Mean	Item34 Std.Err.	Item34 -95.00%	Item34 +95.00%	N
1	Not Black	0.504585	0.030369	0.444883	0.564287	255
2	Black	0.410835	0.037406	0.337298	0.484372	154

MANTEL-HAENSZEL= .5175 Chi-square(1)= 6.67921 p= .0097



Item 35

Univariate Tests of Significance for Item35					
Sigma-restricted parameterization					
Effective hypothesis decomposition					
Effect	SS	Degr. of Freedom	MS	F	p
Intercept	24.27932	1	24.27932	165.8772	0.000000
RaceCat	0.07692	1	0.07692	0.5255	0.468927
ScoreLevel	17.85057	4	4.46264	30.4890	0.000000
RaceCat*ScoreLevel	0.06500	4	0.01625	0.1110	0.978631
Error	58.40132	399	0.14637		

RaceCat; LS Means						
Current effect: F(1, 399)=.52551, p=.46893						
Effective hypothesis decomposition						
Cell No.	RaceCat	Item35 Mean	Item35 Std.Err.	Item35 -95.00%	Item35 +95.00%	N
1	Not Black	0.297943	0.027608	0.243668	0.352218	255
2	Black	0.266190	0.034005	0.199338	0.333043	154

MANTEL-HAENSZEL= .78684 Chi-square(1)= .66822 p= .4136

