

INFO / CONSENT

INFORMATION SHEET

INVITATION TO TAKE PART

You are being invited to take part in a research study to further our understanding of maths anxiety and statistics anxiety.

Thank you for carefully reading this information sheet, which you may copy and keep for your records.

This study is being conducted by PhD student researcher, Jenny Terry, under the supervision of Professor Andy Field from the School of Psychology, University of Sussex, [REDACTED]

Please feel free to contact Jenny Terry via email (jlt26@sussex.ac.uk) if you have any questions.

WHY HAVE I BEEN INVITED FOR TESTING AND WHAT WILL I DO?

We are inviting all psychology students from [REDACTED] to take part.

You will be asked to rate how anxious you feel in various scenarios relating to maths and statistics. You will then be asked to take a short (5 question) multiple-choice test and to answer some questions about general anxiety. You will also be asked some questions about your prior and current maths and statistics attainment (e.g. grades) and to provide some demographic details (including age, gender, race, ethnicity, and whether you have specific learning disabilities), which will be used to provide a summary of our participants.

ARE THERE ANY RISKS OR BENEFITS TO TAKING PART?

Eligible students at [REDACTED] will receive one SONA credit for taking part.

[REDACTED]

[REDACTED]

WHAT WILL HAPPEN TO THE RESULTS AND MY PERSONAL INFORMATION?

The results of this research may be written into a scientific report for the degree of Doctor of Philosophy in Psychology as well as for publication.

We anticipate being able to provide a summary of our findings on request from September 2020. To request a copy, please email Jenny Terry (jlt26@sussex.ac.uk).

Your anonymity will be ensured in the way described in the consent information below.

Please read this information carefully and then, if you wish to take part, please check the corresponding box to show you have fully understood this information and that you consent to take part in the study as it is described here.

For further information about this research please contact Jenny Terry (jlt26@sussex.ac.uk). This research has been approved (ER/JLT26/4) by the Sciences & Technology Cross-Schools Research Ethics Committee (C-REC). If you have any ethical concerns, please contact the ethics chair (crecsitec@sussex.ac.uk). The University of Sussex has insurance in place to cover its legal liabilities in respect of this study.

CONSENT FORM

- I understand that by checking the corresponding box below, I am agreeing to take part in the University of Sussex research described above and that I have read and understood the information sheet.
- I understand that my participation is entirely voluntary, that I can choose not to participate in part or all of the study, and that I can withdraw at any stage of testing by closing the browser window without having to give a reason and without being penalised in any way (i.e. as I am a student, my decision whether or not to take part will not affect my grades).
- I understand I can request without penalty that my data be withdrawn and deleted even after testing is complete, any time up until the results are analysed (01/06/2020).
- I consent to the processing of my personal information for the purposes of this research study.
- I understand that such information will be treated as strictly confidential (subject to legal limitations) and handled in accordance with the General Data Protection Regulation (GDPR) 2016.

- I understand that my collected data will be stored in a de-identified way (e.g. using ID numbers, not names). Electronic data will be stored on a password-protected computer.
 - I understand that data that has been de-identified by removing my demographic information may be made publicly available through online data repositories or at the request of other researchers.
- ☐ I have read and agree to the statements above and consent to taking part in this study
- ☐ I do not consent to taking part in this study

ID

Please enter the last two characters from your postcode, the last two numbers from your mobile number, and the second letter of your first name.

This is a unique code that will be used to remove your data if you wish to withdraw after completing the survey.

Block 10

You will now be asked to rate how anxious you would feel in various scenarios relating to maths and statistics.

Some of the questions may seem repetitive but it is important that you try and answer them all as carefully as possible.

STATS & MATHS ANXIETY MEASURES

Below is a list of statements describing different situations relating to **statistics**.

Please read each statement carefully and **indicate how much anxiety you would feel** in each of the following scenarios where 1 = "no anxiety" and 5 = "a great deal of anxiety".

	1 no anxiety	2	3	4	5 a great deal of anxiety
Reading an advertisement for a car which includes figures on miles per gallon, depreciation, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waking up in the morning on the day of a statistics test.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studying for an examination in a statistics course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asking a fellow student for help in understanding statistical output.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Going to ask my statistics teacher for individual help with material I am having difficulty understanding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making an objective decision based on empirical data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 no anxiety	2	3	4	5 a great deal of anxiety
Finding that another student in class got a different answer than I did to a statistical problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking into the room to take a statistics test.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpreting the meaning of a probability value once I have found it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asking one of my teachers for help in understanding statistical output.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing the coursework for a statistics course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determining whether to reject or retain the null hypothesis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 no anxiety	2	3	4	5 a great deal of anxiety
Watching a student search through a load of computer output from his/her research.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trying to understand the odds in a lottery.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enrolling in a statistics course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 no anxiety	2	3	4	5 a great deal of anxiety
Asking someone in the computer lab for help in understanding statistical output.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Going over a final examination in statistics after it has been marked.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing an examination in a statistics course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 no anxiety	2	3	4	5 a great deal of anxiety
Interpreting the meaning of a table in a journal article.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trying to decide which analysis is appropriate for my research project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trying to understand the statistical analyses described in the abstract of a journal article.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading a journal article that includes some statistical analyses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arranging to have a body of data put into the computer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below is a list of statements describing different situations relating to **maths**.

Please read each statement carefully and **indicate how much anxiety you would feel** in each of the following scenarios where 1 = "no anxiety" and 5 = "a great deal of anxiety".

	1 no anxiety	2	3	4	5 a great deal of anxiety
Watching a student search through a load of computer output from his/her maths project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trying to decide how to approach a mathematical problem in order to solve it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpreting numbers in a table in a journal article.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determining whether a mathematical statement is true or false.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 no anxiety	2	3	4	5 a great deal of anxiety
Trying to understand the numerical information described in an article.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading a journal article that includes some mathematical analyses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enrolling in a maths course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 no anxiety	2	3	4	5 a great deal of anxiety
Doing the coursework for a maths course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding that another student in class got a different answer than I did to a mathematical problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asking one of my teachers for help in understanding a mathematical solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing an examination in a maths course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking into the room to take a maths test.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waking up in the morning on the day of a maths test.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Going to ask my maths teacher for individual help with material I am having difficulty understanding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 no anxiety	2	3	4	5 a great deal of anxiety
Going over a final examination in maths after it has been marked.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making an objective decision based on numerical information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studying for an examination in a maths course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpreting the meaning of a probability of it raining on a weather app.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asking someone in the computer lab for help in understanding a mathematical solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asking a fellow student for help in understanding a mathematical solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below is a list of statements describing different situations relating to **maths**.

Please read each statement carefully and **indicate how anxious you would feel** in each of the following situations where 1 = "not at all" and 5 = "very much".

	1 not at all	2	3	4	5 very much
Being given a surprise test in a maths class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about an upcoming maths test 1 hour before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying a maths textbook.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about an upcoming maths test 1 day before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studying for a maths test.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking an exam (final) in a maths course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about an upcoming maths test 1 week before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 not at all	2	3	4	5 very much
Reading a cash register receipt after your purchase.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Realising you have to take a certain number of maths classes to fulfill requirements for your degree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watching a teacher work on an algebraic equation on the board.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being given a set of numerical problems involving addition to solve on paper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening to another student explain a maths formula.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being given a set of division problems to solve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Receiving your final maths grade.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 not at all	2	3	4	5 very much
Walking into a maths class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking an exam (quiz) in a maths course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being given a set of subtraction problems to solve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being given a set of multiplication problems to solve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking the maths section of a university entrance exam.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Signing up for a maths course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below is a list of statements describing different situations relating to **statistics**.

Please read each statement carefully and **indicate how anxious you would feel** in each of the following situations where 1 = "not at all" and 5 = "very much".

	1 not at all	2	3	4	5 very much
Receiving your final statistics grade.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking an exam (quiz) in a statistics course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking the statistics section of a university entrance exam.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calculating the variance of scores by dividing the sum of squared deviances by the number of scores.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watching a teacher work on a statistical equation on the board.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calculating the deviances of a set of scores on paper, with each deviance being the difference between the mean of the scores and each individual score in the set.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Realising you have to take a certain number of statistics classes to fulfill requirements for your degree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 not at all	2	3	4	5 very much
Taking an exam (final) in a statistics course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Signing up for a statistics course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about an upcoming statistics test 1 week before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calculating the squared deviances by multiplying each deviance by itself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calculating the sum of squared deviances by adding the squared deviances together.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying a statistics textbook.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening to another student explain a statistics formula.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 not at all	2	3	4	5 very much
Being given a surprise test in a statistics class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking into a statistics class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 not at all	2	3	4	5 very much
Studying for a statistics test.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about an upcoming statistics test 1 day before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about an upcoming statistics test 1 hour before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

STATE & TRAIT ANXIETY MEASURES

Below is a list of statements which can be used to describe how people feel.

Beside each statement are four numbers which indicate how often each statement is true of you (e.g., 1 = not at all, 4 = very much so).

Please read each statement carefully and **select the number which best indicates how often, in general, the statement is true of you.**

	1 not at all	2	3	4 very much so
My breathing is fast and shallow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can't get some thoughts out of my mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel agonized over my problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I cannot concentrate without irrelevant thoughts intruding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My throat feels dry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My arms and legs feel stiff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that others won't approve of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My heart beats fast.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I picture some future misfortune.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My face feels hot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 not at all	2	3	4 very much so
My muscles feel weak.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep busy to avoid uncomfortable thoughts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel trembly and shaky	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that the worst will happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have butterflies in the stomach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My muscles are tense.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel dizzy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My palms feel clammy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worry that I cannot control my thoughts as well as I would like to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like I'm missing out on things because I can't make up my mind soon enough.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have trouble remembering things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below is a list of statements which can be used to describe how people feel.

Beside each statement are four numbers which indicate the degree with which each statement is self-descriptive of mood at this moment (e.g., 1 = not at all, 4 = very much so).

Please read each statement carefully and **select the number which best indicates how you feel right now, at this very moment**, even if this is not how you usually feel.

	1 not at all	2	3	4 very much so
My throat feels dry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am keeping busy to avoid uncomfortable thoughts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 not at all	2	3	4 very much so
I can't get some thoughts out of my mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel dizzy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My palms feel clammy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My heart is beating fast.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel agonized over my problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have butterflies in the stomach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My face feels hot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that others won't approve of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like I'm missing out on things because I can't make up my mind soon enough.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I cannot concentrate without irrelevant thoughts intruding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My muscles are tense.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel trembly and shaky	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My breathing is fast and shallow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My muscles feel weak.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worry that I cannot control my thoughts as well as I would like to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My arms and legs feel stiff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am having trouble remembering things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am picturing some future misfortune.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that the worst will happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

STATS MCQ

Below are five multiple-choice statistics questions.

It is important that you **try to answer each question as accurately as you can** but it is also important that you **do not use a calculator**.

After five minutes, the page will automatically move on to the next part of the study.

These page timer metrics will not be displayed to the recipient.

First Click: *0 seconds*

Last Click: *0 seconds*

Page Submit: *0 seconds*

Click Count: *0 clicks*



A researcher asked people how likely they would be to purchase an environmentally friendly alternative to their favourite product, even if it was more expensive. Possible scores ranged from 1 to 100 and the mean rating was 61. Which of the following statements is correct?

- ☐ The probability of giving a rating of 61 or higher is statistically significant
- ☐ 61 must be the most frequently given rating
- ☐ The value of 61 was unaffected by extremely high or low ratings
- ☐ Assuming the ratings were normally distributed, 61 represents the centre point of that distribution

A researcher asked 30 Love Island contestants to rate their own attractiveness. Possible scores ranged from 1 to 100. The mean score was 72 with a standard deviation of 3. What can we correctly infer from the standard deviation?

- ☐ The mean of 72 is an accurate summary of the data
- ☐ There was a lot of variability in attractiveness scores
- ☐ A different sample of Love island contestants are highly likely to rate themselves very differently to 72
- ☐ If every Love island contestant rated their own attractiveness, the mean rating would be quite different to 72

During the Six Nations tournament, a group of rugby fans were asked to rate how strongly they identified with their national team on a scale of 1 to 20. The estimate of the population mean was 10 and a 95% confidence interval around that estimate was calculated to be 9.02 to 10.98. Which of the following statements is true?

- ☐ The probability of the population mean falling between 9.02 to 10.98 is either 0 or 1, but we can't know which
- ☐ There is a lot of uncertainty around the estimate of the true population mean
- ☐ The population mean is likely to be zero
- ☐ The population mean is between 9.02 and 10.98

The tables below show the SPSS output from a linear model that predicts cognitive functioning from tea drinking. What can we infer from the table?

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	49.218	.764		64.382	.000
	Number of Cups of Tea Drunk Per Day	.460	.221	.078	2.081	.038

a. Dependent Variable: Cognitive Function Score (Max = 80)

- ☐ For every cup of tea drunk per day, cognitive function improves by 0.460 units
- ☐ When the value of tea drinking is 0.460, the value of cognitive function is 49.218
- ☐ The probability of cognitive function improving as tea drinking increases is .038
- ☐ The correlation between cognitive function and tea drinking is 0.460

A researcher randomly sampled people dining in two restaurants over the course of a month. One of the restaurants was Michelin-starred and the other served fast food. The researcher asked diners to rate how satisfied they were with their meals from 1 to 5 (1 = “very dissatisfied”, 5 = “very satisfied”) and compared the groups’ scores.

The group that dined in the Michelin-starred restaurant gave a mean rating of 3 with a standard error of 0.3. The group that dined in the fast food restaurant gave a mean rating of 3 with a standard error of 0.6.

Which of the following statements is correct?

- ☐ If the study was repeated with different samples of diners, the similarity between sample means from each restaurant would be higher for the Michelin-starred restaurant than the fast food restaurant
- ☐ The confidence interval around the estimate of the population mean will be wider for the group that dined in the Michelin-starred restaurant
- ☐ The sampling variation is greater for the Michelin-starred restaurant
- ☐ People were significantly more satisfied with their meals in the Michelin-starred restaurant

MATHS MCQ

Below are five multiple-choice maths questions.

It is important that you **try to answer each question as accurately as you can** but it is also important that you **do not use a calculator**.

After five minutes, the page will automatically move on to the next part of the study.

These page timer metrics will not be displayed to the recipient.

First Click: *0 seconds*

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Page Submit: *0 seconds*

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What is the mean of the following set of numbers?

45, 58, 62, 62, 78

- ☐ 62
- ☐ 305
- ☐ 61
- ☐ 0.02

If the variance (σ^2) = 9, what is the value of the standard deviation (σ)?

- ☐ 3
- ☐ 81
- ☐ 30
- ☐ 0.9

Using the equation below, calculate the upper and lower boundaries of a 95% confidence interval (CI), when the mean is 10 and the standard error (SE) is 0.5.

$$95\% CI = \bar{X} \pm 1.96 \times SE$$

- ☐ Upper boundary = 10.98, lower boundary = -10.98
- ☐ Upper boundary = 10.98, lower boundary = 9.02
- ☐ Upper boundary = 5.98, lower boundary = -5.98
- ☐ Upper boundary = 5.98, lower boundary = -4.02

The results of a linear model indicate that when x is zero, the value of y is 49.22 units (b_0) and that for every one-unit increase in x , y increases by .460 units (b_1). Using the equation below, calculate y when the value of x is 10.

$$y_i = b_0 + b_1x$$

- ☐ 492.66
- ☐ 49.68
- ☐ 53.82
- ☐ 514.84

If the number of observations (N) = 100, and the standard deviation (s) = 3, what is the value of the standard error (SE)?

$$N = \left(\frac{s}{SE} \right)^2$$

- ☐ 0.3
- ☐ 3.33
- ☐ 0.2
- ☐ 2

STATE ANXIETY MEASURE

Below is a list of statements which can be used to describe how people feel.

Beside each statement are four numbers which indicate the degree with which each statement is self-descriptive of mood at this moment (e.g., 1 = not at all, 4 = very much so).

Please read each statement carefully and **select the number which best indicates how you felt whilst answering the multiple choice questions**, even if this is not how you usually feel.

	1 not at all	2	3	4 very much so
I worry that I cannot control my thoughts as well as I would like to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have butterflies in the stomach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel trembly and shaky	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am keeping busy to avoid uncomfortable thoughts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have trouble remembering things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I cannot concentrate without irrelevant thoughts intruding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My muscles are tense.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My heart is beating fast.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1 not at all	2	3	4 very much so
I feel agonized over my problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can't get some thoughts out of my mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My palms feel clammy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that the worst will happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that others won't approve of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My face feels hot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel dizzy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My throat feels dry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am picturing some future misfortune.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My muscles feel weak.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My arms and legs feel stiff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My breathing is fast and shallow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like I'm missing out on things because I can't make up my mind soon enough.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

EDUCATION

What is your highest level of **mathematics** education? (If you studied an equivalent qualification, please specify which in the corresponding text box.)

- ☐ Lower than GCSE (or equivalent, please specify)
- ☐ GCSE (or equivalent, please specify)
- ☐ A Level (or equivalent, please specify)
- ☐ Bachelors degree (i.e. you have studied an undergraduate mathematics module at university)
- ☐ Postgraduate degree (i.e. you have studied a postgraduate mathematics module at university)

☐ Prefer not to answer

Please specify your final **mathematics GCSE** (or equivalent) grade (e.g. D, C, B; 7, 8, 9):

You may leave this blank if not applicable or you prefer not to answer.

Please specify your final **mathematics A Level** (or equivalent) grade (e.g. C, B, A, A*):

You may leave this blank if not applicable or you prefer not to answer.

Please specify your final mark for your **undergraduate mathematics module** at university (e.g. 40, 55, 68, 72; If more than one module taken, please specify the highest mark received):

You may leave this blank if not applicable or you prefer not to answer.

Please specify your final mark for your **postgraduate mathematics module** at university (e.g. 40, 55, 68, 72; If more than one module taken, please specify the highest mark received):

You may leave this blank if not applicable or you prefer not to answer.

What is your highest level of **statistics** education, including modules on your psychology degrees? (If you studied an equivalent qualification, please specify which in the corresponding text box.)

- ☐ Lower than GCSE (or equivalent, please specify)
- ☐ GCSE (or equivalent, please specify)
- ☐ A Level (or equivalent, please specify)
- ☐ Bachelors degree (i.e. I have studied an undergraduate statistics-related module at university)
- ☐ Postgraduate degree (i.e. I have studied a postgraduate statistics-related module at university)
- ☐ Prefer not to answer

Please specify your final **statistics GCSE** (or equivalent) grade (e.g. D, C, B; 7, 8, 9):

You may leave this blank if not applicable or you prefer not to answer.

Please specify your final **statistics A Level** (or equivalent) grade (e.g. C, B, A, A*):

You may leave this blank if not applicable or you prefer not to answer.

Please specify your final mark for your **undergraduate statistics module** (including on your psychology degrees) at university (e.g. 40, 55, 68, 72; If more than one module taken, please specify the highest mark received in your current year):

You may leave this blank if not applicable or you prefer not to answer.

Please specify your final mark for your **postgraduate statistics module** at university (e.g. 40, 55, 68, 72; If more than one module taken, please specify the highest grade received):

You may leave this blank if not applicable or you prefer not to answer.

DEMOGRAPHICS

Which year of the course are you in?

If you are repeating a year, please specify the year of the course, not how many years you have been studying.

- ☐ 1st Year
- ☐ 2nd Year
- ☐ 3rd Year
- ☐ 4th Year
- ☐ Prefer not to answer

What is your age? Please enter in years.

You may leave this blank if you prefer not to answer.

Please indicate your gender identity.

- ☐ Female
- ☐ Male
- ☐ Non-binary
- ☐ Other (please specify)
- ☐ Prefer not to answer

Please indicate your ethnicity. If you identify with more than one ethnic background, please check all that apply.

- ☐ White
- ☐ Black Caribbean
- ☐ Black African
- ☐ Black (other)
- ☐ Indian
- ☐ Pakistani
- ☐ Bangladeshi
- ☐ Chinese
- ☐ Asian (other)
- ☐ Arab
- ☐ Other (please specify)
- ☐ Prefer not to answer

Have you been diagnosed with any of the following Specific Learning Difficulties (SpLDs)?

- ☐ Dyslexia
- ☐ Dyspraxia
- ☐ Attention Deficit-Hyperactivity Disorder
- ☐ Dyscalculia
- ☐ Dysgraphia
- ☐ Other (please specify)
- ☐ I do not have a Specific Learning Disability
- ☐ Prefer not to answer

DEBRIEF

Debrief

Thank you for your participation in this study!

This study aimed to develop our understanding about whether or not maths and statistics anxiety are the same construct so that we can improve research practices in the field of statistics education.

We invited all psychology students at [REDACTED] who have previously studied a research methods or statistics module to take part.

In the first section of this study you will have completed the original version of a maths anxiety scale (the R-MARS; Baloğlu & Zelhart, 2007) and a version of it modified to reflect statistics anxiety. Similarly, you will have also completed an original statistics anxiety scale (the STARS; Cruise, Cash, & Bolton, 1995) and a version modified to reflect maths anxiety.

[REDACTED]

[REDACTED]

In the second section of this study you will have completed further anxiety questionnaires, this time asking about your everyday levels of anxiety (trait anxiety) and the other asking about your current anxiety levels (state anxiety). You will then have been randomly allocated to one of two conditions. In one condition participants were presented with a timed maths test and in the other a timed statistics test. There was then a further, post-test measure of state anxiety.

The timed maths or statistics test you took was not a test of your knowledge but was designed to elicit anxiety. As such, some of the questions were designed to be especially challenging and it was not expected that many participants will have had, or have been able to recall, the required knowledge to be able to answer them.

[REDACTED]

[REDACTED]

[REDACTED]

Your data will not be shared beyond the research team and you will not be identifiable in any stored data or reports produced as a result of this study.

You have the right to withdraw your data before data analysis begins on 1st June 2020 by contacting Jenny Terry (details below). After this date, we may not be able to remove it.

If you have any questions or concerns regarding this study, please contact Jenny Terry by email: jlt26@sussex.ac.uk.

