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Could negative affect be 'part' of the 'whole' picture in weak central coherence? A study of weak central coherence and its relation to affect and autistic traits

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The Plymouth Student Scientist
University of Plymouth

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Appendices

Appendix A – Screen-print of Experiment 1 Brief

Page 1

Home Studies About
Trial1, see your [list of tasks to do] (Not Trial1? [Click here])



This study is investigating individual differences in how people solve problem-solving tasks. Research has suggested that people seem to approach problem-solving scenarios in different ways, adopting a preferred style of processing. This study aims to establish whether individual traits are associated with a particular processing style while completing a problem-solving task.

[Tell me more about it](#)

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Page 2

Home Studies About
Trial1, see your [list of tasks to do] (Not Trial1? [Click here])



This study will require you to complete a few short questionnaires and scales which will ask you questions about yourself. Afterwards, you will need to complete two problem-solving tasks which will involve looking at and identifying a selection of different shapes. One of these tasks will be in booklet form and the other will be computer-based.

This study will take no longer than 30 minutes. At the end of the study, you will be awarded 1 participant point for taking part.

[OK, I would like to take part](#)

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Appendix B – Screen-print of Experiment 2 Brief

Page 1

[Home](#) [Studies](#) [About](#)
[Login](#)



This study is investigating individual differences in how people solve problem-solving tasks. Research has suggested that people seem to approach problem-solving scenarios in different ways, adopting a preferred style of processing. This study aims to establish whether individual traits are associated with a particular processing style and whether this is consistent over time when completing a problem-solving task.

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Page 2

[Home](#) [Studies](#) [About](#)
[Login](#)



This study consists of 4 parts and takes place over a period of 4 weeks. However, each part should only take approximately 5-7 minutes to complete (less than 30 minutes in total) and is completed entirely online.

Once you have signed up for the study, you will be asked to complete 2 questionnaires which will ask you questions about yourself. This will be followed by a short problem-solving task which involves looking at and identifying a selection of different shapes. During the 2nd, 3rd and 4th parts of the study, you will only need to complete 1 questionnaire and then complete the problem-solving task. Each part of the study takes place a week apart and you will receive an email each time you are required to complete the tasks.

Once you have completed all 4 parts, you will be awarded 1 participation point within 24 hours.

[OK, I would like to take part.](#)

Appendix C – Screen-print of Informed Consent

[Home](#) [Studies](#) [About](#)

[Trial1, see your \[list of tasks to do\] \(Not Trial1? \[Click here\] \)](#)



Informed Consent

I understand the aims and objectives of the study

I understand that I have the right to withdraw from this study at any time

I understand that I have the right to have my data withdrawn from the study at anytime

I understand that my data will remain confidential

Please click the button below to acknowledge that you understand your rights and agree to participate in the study

Appendix D – Example of Positive Affect Negative Affect Schedule



% complete

This scale consists of a number of different words that describe different feelings and emotions. Please read each item and then mark the appropriate answer based upon how you feel RIGHT NOW.

Please respond quickly, giving the first answer which comes to mind.

Active

- very slightly or not at all a little moderately quite a bit extremely

Alert

- very slightly or not at all a little moderately quite a bit extremely

Attentive

- very slightly or not at all a little moderately quite a bit extremely

Determined

- very slightly or not at all a little moderately quite a bit extremely

Enthusiastic

- very slightly or not at all a little moderately quite a bit extremely

Excited

- very slightly or not at all a little moderately quite a bit extremely

Inspired

- very slightly or not at all a little moderately quite a bit extremely

Interested

- very slightly or not at all a little moderately quite a bit extremely

Strong

- very slightly or not at all a little moderately quite a bit extremely

Appendix E – Example of Autistic-Spectrum Quotient



% complete

Below are a list of statements. Please read each statement very carefully and rate how strongly you agree or disagree with it by clicking on the appropriate response.

Please respond quickly, giving the first answer which comes to mind.

I prefer to do things with others rather than on my own.

- definitely agree slightly agree slightly disagree definitely disagree

I prefer to do things the same way over and over again.

- definitely agree slightly agree slightly disagree definitely disagree

If I try to imagine something, I find it very easy to create a picture in my mind.

- definitely agree slightly agree slightly disagree definitely disagree

I frequently get so strongly absorbed in one thing that I lose sight of other things.

- definitely agree slightly agree slightly disagree definitely disagree

I often notice small sounds when others do not.

- definitely agree slightly agree slightly disagree definitely disagree

I usually notice car number plates or similar strings of information.

- definitely agree slightly agree slightly disagree definitely disagree

Other people frequently tell me that what I've said is impolite, even though I think it is polite.

- definitely agree slightly agree slightly disagree definitely disagree

When I'm reading a story, I can easily imagine what the characters might look like.

- definitely agree slightly agree slightly disagree definitely disagree

I am fascinated by dates.

- definitely agree slightly agree slightly disagree definitely disagree

In a social group, I can easily keep track of several different people's conversations.

- definitely agree slightly agree slightly disagree definitely disagree

Appendix F – Example of Mood Manipulation



% complete

Please list 10 things which make you sad in the text area below.

(e.g. failing exams, being alone...)

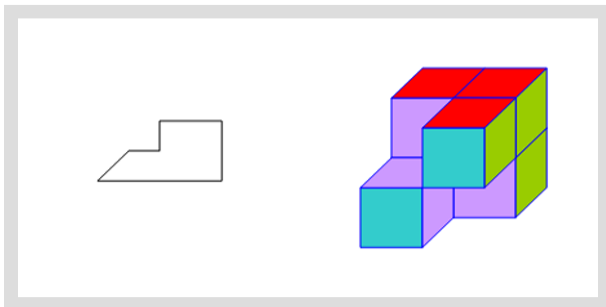
Submit

Appendix G – Example of the Online Embedded Figures Test



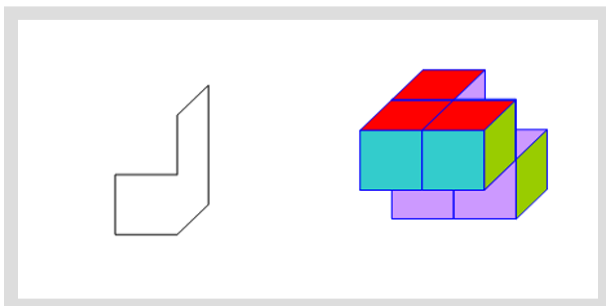
% complete

The task below requires you to try and find the outline of a simple shape within a complex figure. Please answer each question without missing any. Try and complete the task as quickly and accurately as possible.



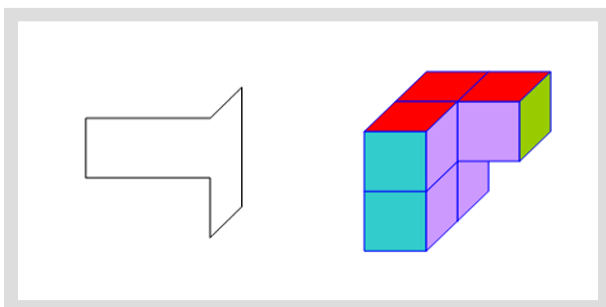
Is the simple shape on the left in the complex figure on the right?

- Yes No



Is the simple shape on the left in the complex figure on the right?

- Yes No

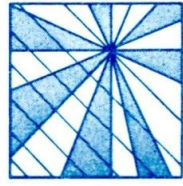


Is the simple shape on the left in the complex figure on the right?

- Yes No

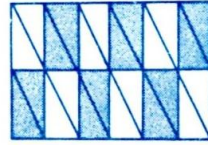
Appendix H – Example of the Group Embedded Figures Test

Sample test item



3

Find Simple Form "G"

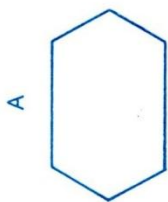


4

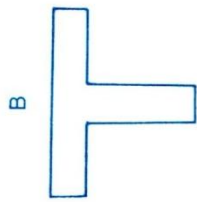
Find Simple Form "E"

Back Cover

SIMPLE FORMS



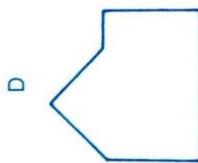
A



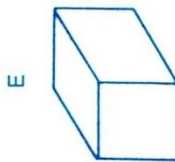
B



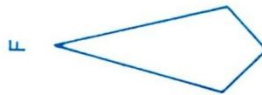
C



D



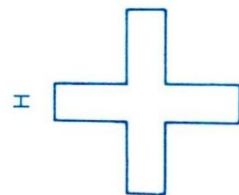
E



F



G



H

Appendix I – Screen-print of Debrief



Home Studies About
Trial1, see your [list of tasks to do] (Not Trial1? [Click here])

Thank you for participating in the study.

This study aimed to investigate the associations between autistic traits, mood and problem-solving.

Previous research has suggested that individuals with autism seem to show a noticeable strength in processing and identifying details in the everyday world. Consequently, autistic individuals seem to have difficulty seeing the 'whole' picture, which is known as 'weak central coherence' (Happé and Frith, 2006).

One task that has been used to investigate weak central coherence is the embedded figures task (EFT). This involves trying to identify a simple shape within a complex figure. Individuals without autism appear slower at this task as they have difficulty trying not to see the complex figure as a whole. In contrast, autistic individuals seem to perform better at this task as they are able to see the local/detailed features of the figure more easily. Other research has suggested that individuals in a low mood, also show a processing bias for local features and consequently perform better at the EFT.

As autism is considered to be on a spectrum, everyone potentially has 'autistic traits' to some degree. Therefore, this study can be carried out using a non-clinical population in which autistic traits can be measured using the Autism-Spectrum Quotient (AQ) (Baron-Cohen et al. 2001). However, the AQ is NOT a diagnostic tool and even a high score may not be indicative of autism.

We are investigating whether low mood is responsible for weak central coherence in autism, as autistic individuals seem to be more prone to low mood and depression/anxiety. Two studies are being used to assess this claim. The online study involves participants completing the AQ, the Positive Affect Negative Affect Schedule (PANAS) to assess mood and the EFT. The online study aimed to look at natural fluctuations in an individual's mood and correlate these with autistic traits and performance on the EFT. The experimental study involved participants also completing the AQ and PANAS, but they were induced into either a positive or negative mood by listing 10 positive/negative items respectively. Afterwards, they were then asked to complete two versions of the EFT. During the debrief, a piece of music was played which previous studies have found to induce positive mood. This was used to counteract any negative effects of the mood manipulation.

If you would like to discuss any aspect of this study, or would like you data removed, please do not hesitate to contact either Rebecca Day (rebecca.day@students.plymouth.ac.uk) or Warren Dunger (warren.dunger@students.plymouth.ac.uk)

You can also contact the project supervisor Dr Becky McKenzie (becky.mckenzie@plymouth.ac.uk)

If you feel you have been affected by any of the issues that have been raised in this study, you can contact the university counselling service at www.plymouth.ac.uk/counselling