

# Own attractiveness affects strategies in an economic game

FG Smith  
(University of Aberdeen)

LM DeBruine  
(University of Aberdeen)

BC Jones  
(University of Aberdeen)

DB Krupp  
(McMaster University)

CA Conway  
(University of Aberdeen)

LLM Welling  
(University of Aberdeen)

**Background** The trust game is widely used to investigate economic decision-making in a social context<sup>1-6</sup>. The first player (P1) decides whether to split a small sum of money evenly between self and the second player (P2) or to allow P2 to decide how to split a larger sum of money. Standard game-theory models of self-interested choice suggest that P2 should always act selfishly in an anonymous one-shot game of this sort, and therefore P1 should never place their trust in P2<sup>2</sup>. However, experimental studies have shown that P1 often does trust P2 and that P2 often rewards that trust with an unselfish division<sup>1-6</sup>. The presence of an opponent's face<sup>6</sup> – even a robot face<sup>7</sup> or cartoon eyes<sup>8</sup> – has been shown to influence economic decisions. On the basis of this experimental evidence, our study evaluates the effects of whether participants acting as P1 could see an image of their opponent's face and whether the participant believed that their image would be seen by P2. We also examined trusting decisions in relation to measures of the self-rated attractiveness of P1.

## Instructions to Participants

In this task we will ask you to make decisions about money. You will be participating with other people at another university, and you will see a picture of them each time you make a decision. You are very unlikely to know these people and you will never interact with the same person twice.

These other participants will be making their choices next week, so you will not know the outcomes of your interactions today. Depending on your choices and the choices of the other participants, you will earn real money at the end of the experiment.

You will be given a choice between two options. You can either (1) split a sum of money evenly between yourself and the other participant OR (2) let the other participant decide how much of a larger sum of money to split with you. There is no right or wrong answer. The amount of money for each choice is provided for you.

For example, you can choose to keep £3 and give £3 to the other participant. Alternatively, you can choose to let the other participant decide to either (a) keep £4 and give you £4 OR (b) keep £5 and give you £2.

**Conclusions** People who rated themselves as more attractive than average were more likely to trust P2 when they believed P2 would see them than when they believed P2 would not see them. Conversely, participants who rated themselves as less attractive than average trusted P2 to a greater degree when they believed P2 would not see them than when they believed P2 would see them. This suggests that attractive individuals utilise their perceived physical appearance as part of a strategy to predict whether others will treat them fairly or not, and so affects the decisions they make involving trust.

**References** [1] DeBruine (2002) *Proc Roy Soc Lond B*, 269, 1307-12. [2] Berg, Dickhaut & McCabe (1995) *Game Econ Behav*, 10, 122-42 [3] McCabe, Rassenti & Smith (1996) *Proc Natl Acad Sci*, 93, 13, 421-428. [4] Hoffman, McCabe & Smith (1998) *Econ Inquiry*, 36, 335-352. [5] Scharlemann, Eckel, Kacelnick & Wilson (2001) *J Econ Psychol* 22, 617-640. [6] Eckel & Wilson (2005) "Attractiveness and Trust: Does Beauty Confound Intuition?" *Working Paper*. [7] Burnham & Hare (in press) *Hum Nature*. [8] Hayley & Fessler (2005) *Evol Hum Behav*, 26, 245-256.

To contact the authors email [faceresearch@abdn.ac.uk](mailto:faceresearch@abdn.ac.uk) or visit <http://www.facelab.org>

You can see the other player and he WILL be able to see you.



You can choose to take £3 and give P2 £3

OR

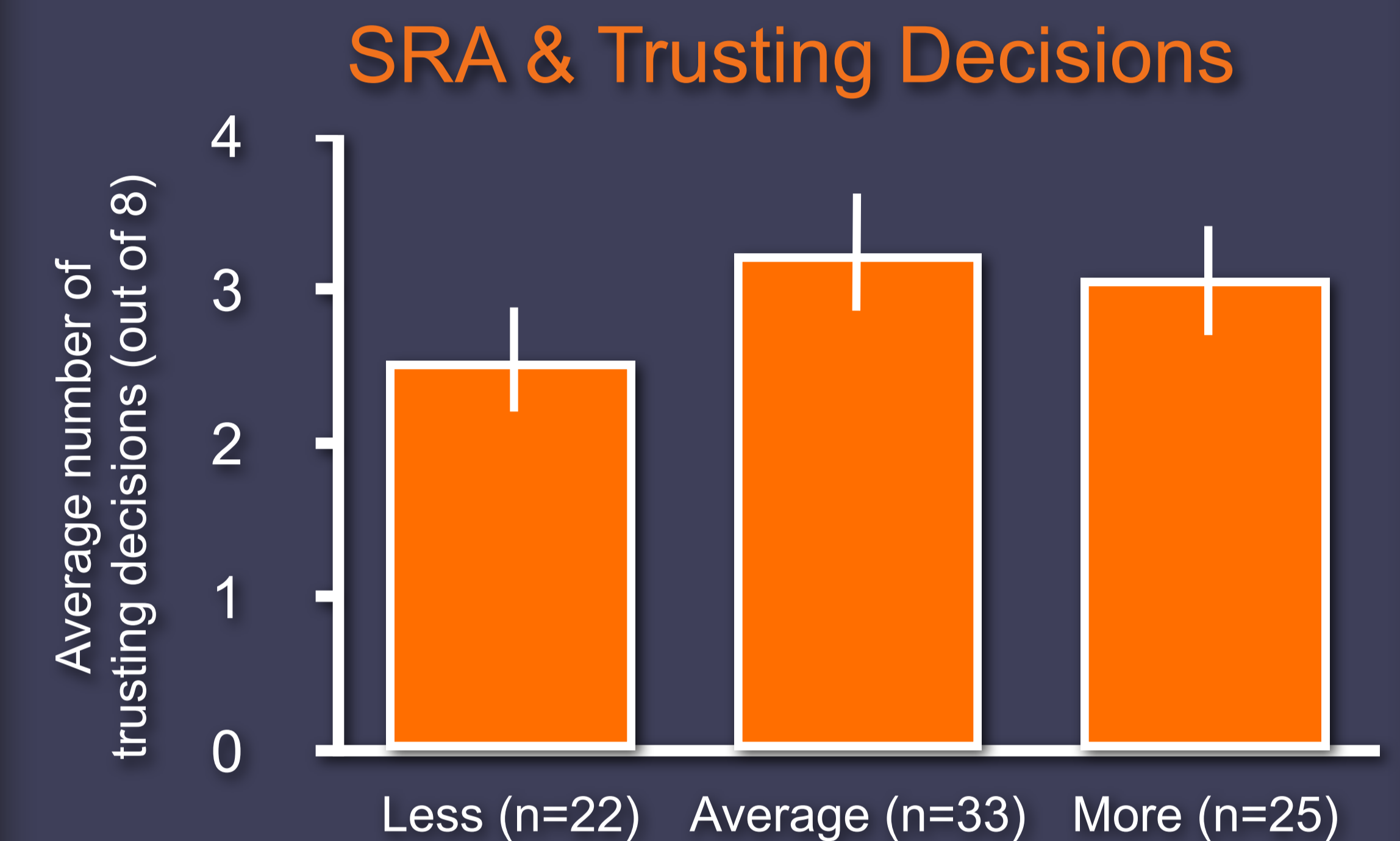
You can allow P2 to choose to either:  
a) give you £4 and take £4  
b) give you £2 and take £5

Participants (26 men, 54 women; age 17-24) played eight games under the eight following conditions:

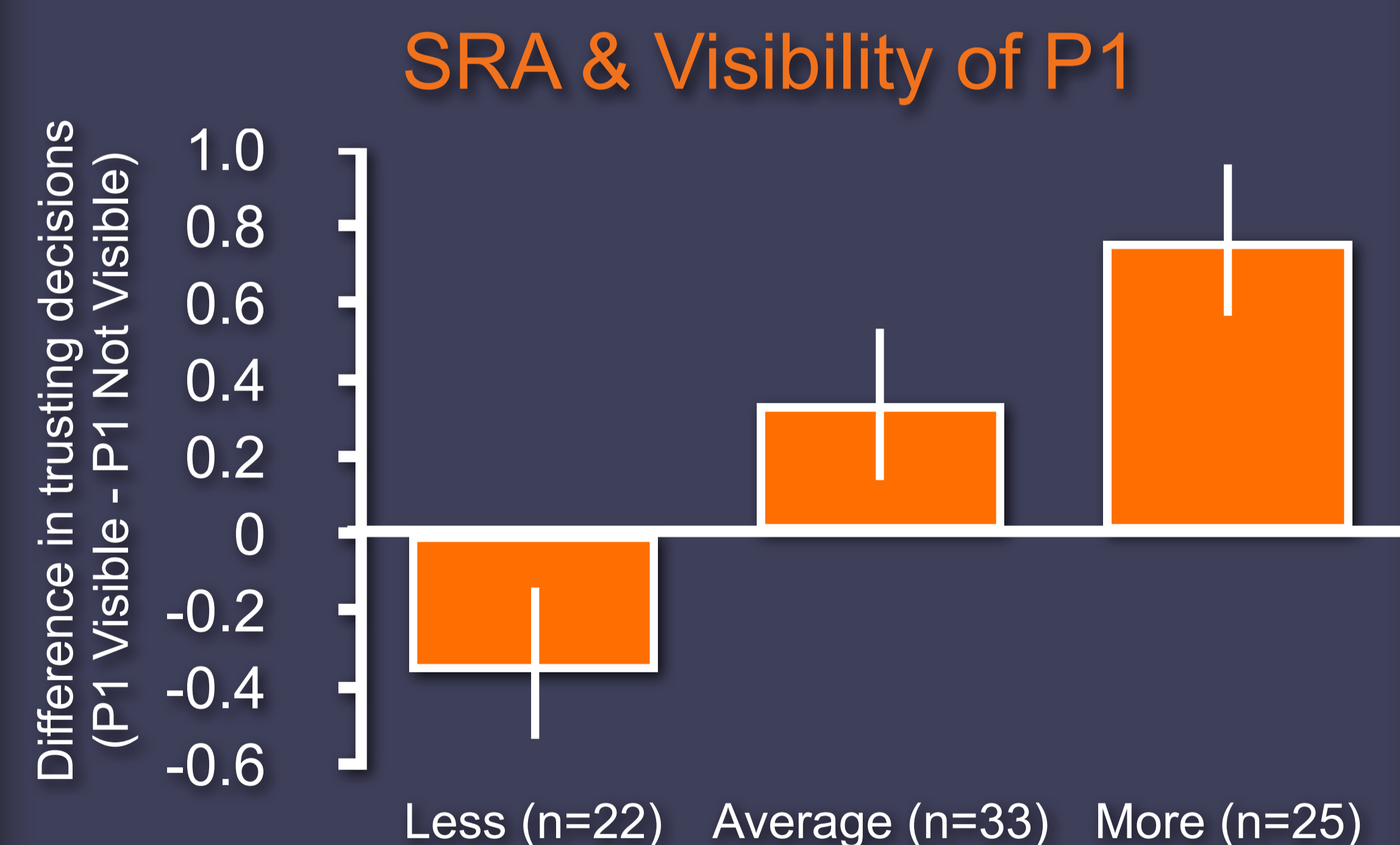
P1	P2	Sex of P2	Instructions
Visible to P2	Visible to P1	Same-sex	You can see the other player and s/he WILL be able to see you.
Visible to P2	Visible to P1	Opposite-sex	
Visible to P2	Not visible to P1	Same-sex	You cannot see the other player and s/he WILL be able to see you.
Visible to P2	Not visible to P1	Opposite-sex	
Not visible to P2	Visible to P1	Same-sex	You can see the other player and s/he WILL NOT be able to see you.
Not visible to P2	Visible to P1	Opposite-sex	
Not visible to P2	Not visible to P1	Same-sex	You cannot see the other player and s/he WILL NOT be able to see you.
Not visible to P2	Not visible to P1	Opposite-sex	

## Results

We used Kruskal-Wallis to compare participants with lower-than-average, average, and higher-than-average self-rated attractiveness (SRA):



SRA did not predict overall trusting behaviour. ( $\chi^2 = 1.56, df = 2, p = .46$ )



SRA did predict the difference in trusting behaviour to P2 who would see P1 versus P2 who would not see P1. ( $\chi^2 = 8.05, df = 2, p = .018$ ).