

# Oxytocin: The Prosocial Hormone?

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## **Oxytocin and Trust (Kosfeld et al., 2005)**

1. Aim: Does oxytocin affect trust in humans?
2. Method: Humans were given either oxytocin intranasally or a placebo
3. The independent variable was what chemical the humans received
4. The dependent variable was their behavior in a trust game: do you trust the investor?
  - a. In the trust game the participant was an investor who could choose to invest 4 monetary units and possibly get 12 monetary units in return
5. Results: The oxytocin group was more willing to trust the investor
6. Conclusion: This suggests that oxytocin increases our feelings of trustworthiness in others
7. Evaluation: The participants did not earn the money they used in the study
8. You can argue that people are more careful with money they have earned themselves
9. They did a follow up study to ensure that oxytocin was not just increasing riskier behavior

## **Oxytocin and Empathy (Domes et al., 2007)**

1. Aim: Does oxytocin affect empathy in humans?
2. Method: Humans were given either oxytocin intranasally or a placebo
3. The independent variable was what chemical the humans received
4. The dependent variable was their performance on an empathy test called the reading the mind in the eyes test
5. Participants took the reading mind in eyes test before the spray and one week later after they were given the spray
6. Results: Oxytocin group scored higher on the reading mind in the eyes test
7. Conclusion This suggests that when oxytocin levels are elevated we become better at reading the emotions in people's eyes
8. Evaluation: Well-controlled study that established a baseline of empathy for all participants before administering the spray
  - a. Is the reading the mind eyes test the best measure of empathy?
  - b. Empathy is related to feeling what others may be experiencing and not just reading emotions from eyes
  - c. The study therefore lacks some external validity

## **Oxytocin Genes and Empathy (Rodrigues et al., 2009)**

1. Aim: Do people with different oxytocin producing genes have different empathy capacities?
2. Method: They compared two gene groups AA/AG genes have low oxytocin and GG genes produce more oxytocin
3. The independent variable was the gene group
4. The dependent variable was their performance on the reading the mind in the eyes test
  - a. Another dependent variable was their trait empathy measured by a questionnaire
5. Results: The GG group scored higher on the reading the mind in the eyes test
  - a. The GG group also scored higher on the empathy questionnaire

6. Conclusion: Naturally higher levels of oxytocin produced by your genes increases your empathy level
7. Evaluation: Well-controlled study that used 2 measures of empathy to establish a cause and effect relationship between the genes and empathy
  - a. Is the reading the mind eyes test the best measure of empathy?
  - b. Empathy is related to feeling what others may be experiencing and not just reading emotions from eyes
  - c. The study therefore lacks some external validity
  - d. To add external validity researchers could give participants the opportunity to help someone else in distress which would be a more ecologically valid way of measuring empathy

### **Oxytocin and Generosity (Zak et al., 2007)**

1. Aim: Does oxytocin increase generosity to strangers?
2. Method: Give participants oxytocin or a placebo intranasally and have them split money
3. The independent variable was whether participants received placebo or oxytocin
4. Participants are given 10 USD that they can choose to split with a stranger or keep for themselves
5. The dependent variable was how much participants gave to the stranger
6. Results: Oxytocin group gave larger amounts to the stranger, they were 80% more generous than the placebo group
7. Conclusion: Having higher oxytocin levels can increase generosity in humans toward strangers
8. Evaluation: Well-controlled study to establish a cause and effect relationship between oxytocin and generosity
  - a. Lacks some ecological validity because the participants did not have a normal social interaction with the strangers

### **Oxytocin Research Evaluation**

1. There is a problem of reductionism. Most research on oxytocin focuses only on positive social behavior
2. There is evidence that oxytocin can actually lead to antisocial behavior
3. Participants who were given oxytocin and won a game were more likely to gloat ([Shamay-Tsoory et al., 2009](#))
4. The participants were happy about the opponent losing and rubbed it in their face
5. Oxytocin has been suggested as a treatment for antisocial behavior like autism
6. Shamay-Tsoory's work shows that it is important not to assume that oxytocin is exclusively positive