



Stockholm University

Stress Research Institute

Effects of 25 mg Oxazepam on self-reported and psychophysiological measures of empathy

Gustav Nilsson¹, Sandra Tamm², Armita Golkar², Katarina Gospic², Andreas Olsson², Martin Ingvar², and Predrag Petrovic²

¹Stress Research Institute, Stockholm University, Stockholm, Sweden and ²Karolinska Institutet, Stockholm

Background

Pharmacological manipulation of empathy has not been previously investigated. Case series reports from forensic psychiatry indicate that benzodiazepines can be used by violent criminals to inhibit their empathic responses.

Experimental setup

We used a double-blind placebo-controlled between-group design. Healthy volunteers were randomised to 25 mg Oxazepam or placebo. A skin electrode was attached to subjects' forearms and pain titration was performed to determine a high pain (VAS 80) and a low pain (VAS 10) level.

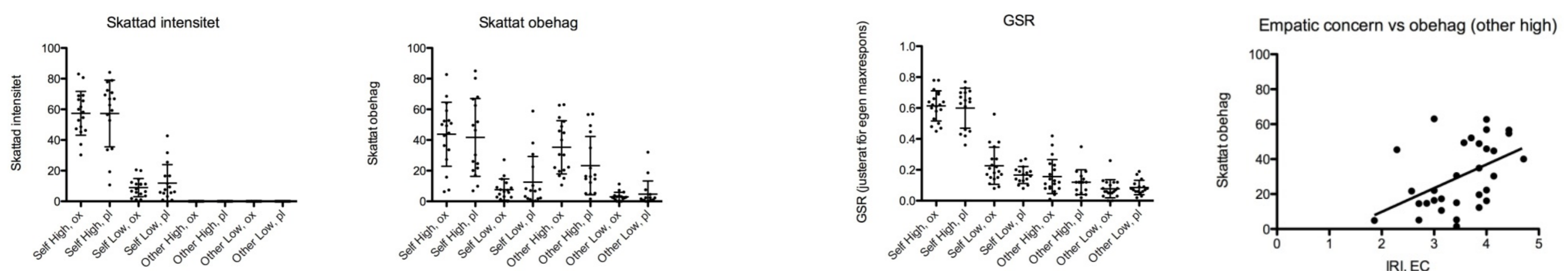
Subjects underwent the experiment together with another person whom they believed was also a volunteer, but who was actually a member of the research team, and who only pretended to receive electric shocks.

The experiment contained 10 high-intensity and 10 low-intensity shocks to each person. After every shock, the subject rated their pain intensity and unpleasantness. Skin conductance responses were recorded from the hand.

Subjects completed the Interpersonal Reactivity Index and the State-Trait Anxiety Inventory. Before the experiment, they underwent a psychomotor vigilance task. This task was repeated at the end together with a new pain titration.

Results & Conclusion

Results



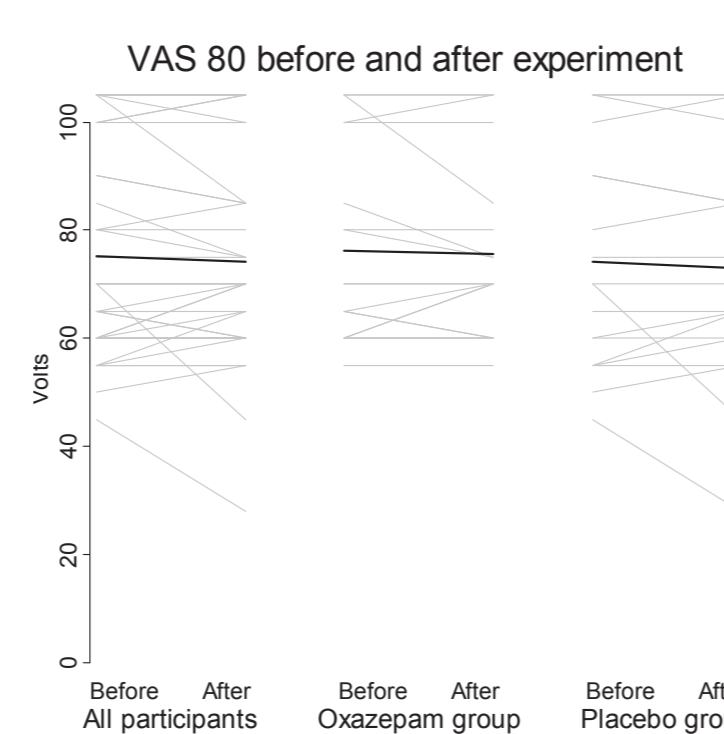
Oxazepam did not significantly affect subjects' rated pain intensity nor unpleasantness.

Oxazepam did not significantly affect subjects' skin conductance responses. Self-rated empathy using the Empathic Concern subscale of the Interpersonal Reactivity Index predicted self-rated unpleasantness to pain in the other.

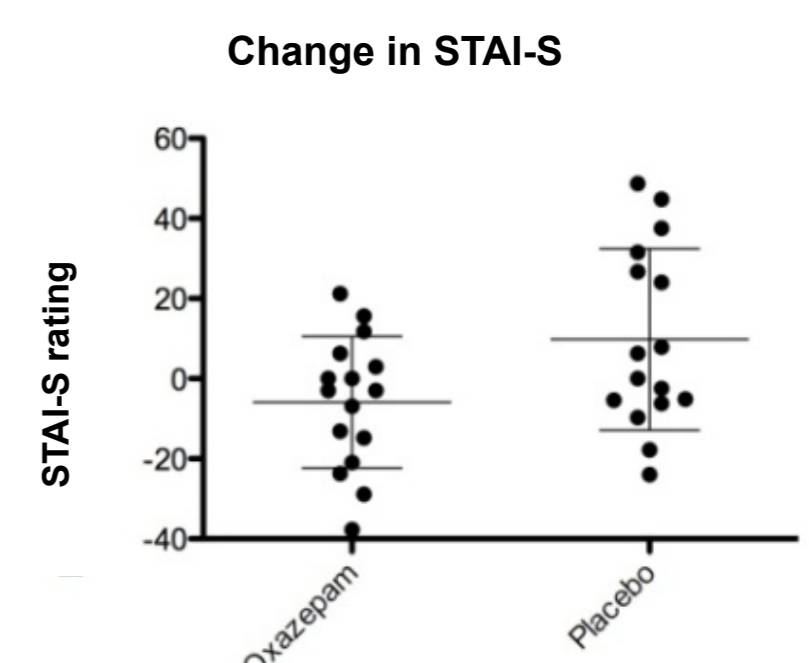
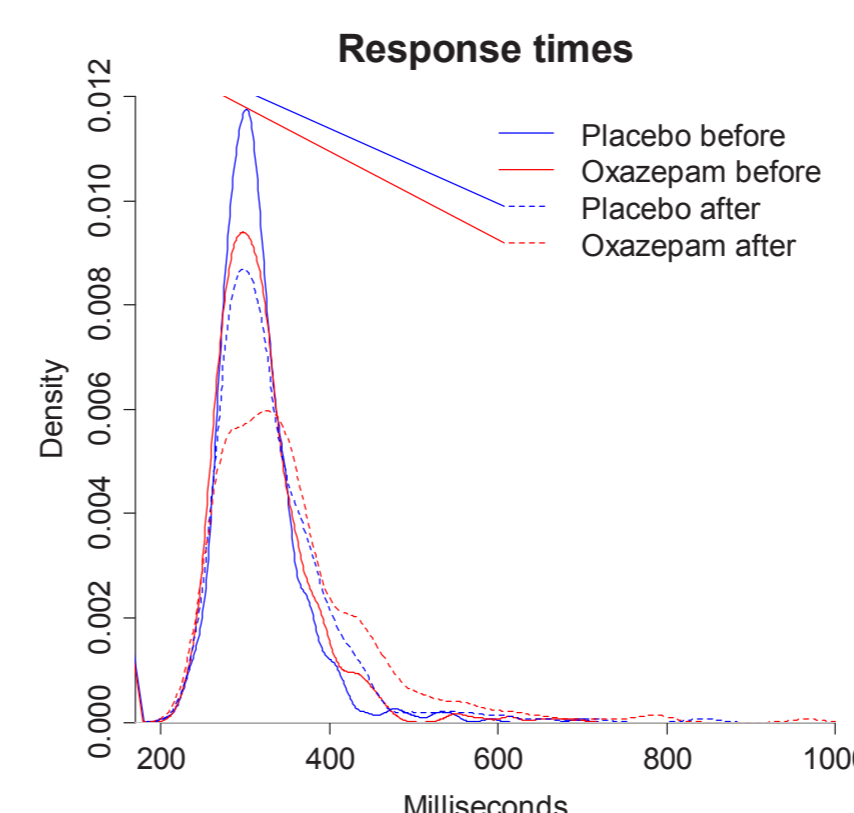
Conclusion

25 mg Oxazepam did not significantly alter subjects' skin conductance responses nor self-rated unpleasantness when they viewed another person receiving electric shocks.

Self-rated unpleasantness to others' pain was predicted by trait empathy (Interpersonal Reactivity Index).



Subjective ratings of own pain were unaffected by 25 mg Oxazepam, confirming that Oxazepam did not interfere with primary pain processing. Reaction times in a psychomotor vigilance task were lower in the Oxazepam group, confirming the sedative effects of Oxazepam.



Self-rated anxiety was lower in the Oxazepam group, confirming the anxiolytic effects of the drug.

CONTACT