**THE IMPACT OF OXYTOCIN ON EMOTION RECOGNITION AND TRUST IN AN AT-RISK EATING DISORDER STUDENT POPULATION**

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### INTRODUCTION

*Individuals with eating disorders (EDs) often have difficulties in emotion recognition, theory of mind, and trust.*

*They are also associated with increased state (i.e. current moment) anxiety and negative mood levels.*

*Oxytocin has been shown to improve state anxiety, negative mood and trust in healthy individuals, and emotion recognition in females with EDs.*

*There have not been any studies to examine the efficacy of an oxytocin intervention on these risk and maintaining factors in an at-risk female student population.*

### OBJECTIVES

1. to determine whether compared to placebo, an Oxytocin intervention was associated with better performance on an emotion recognition task and an investor trust game;
2. to examine whether, Oxytocin decreased state anxiety and negative mood and increased state body satisfaction at post-assessment;
3. to explore if there were differences in 1 and 2 comparing an at-risk for ED sample to a not at-risk counter-group.

### METHODS

**Participants**

- Total sample = 149 female undergraduate students
  - Oxytocin group = 76
  - Placebo group = 73
  - Mean age = 18.79
- *The Eating Attitudes Test (EAT-26)* was used to divide individuals at risk for an ED using a cut off score of > 11.
- *At risk for an ED = 52*
- *Non-at risk for an ED = 97*

**State Measures**

- Assessed at T1 and T2
  - State-Trait Anxiety Inventory
  - Positive and Negative Affect Schedule (PANAS)
  - Body Image States Scale (BISS)

**Experimantal Measures**

- Assessed at T2
  - Emotion Evaluation Test of The Awareness of Social Inference Test – Revised (TASIT)
  - The Investor Trust Game
  - Trait measure (wait period)
  - Toronto Alexithymia Scale (TAS) to control for in the analyses

**Procedure**

- Pre-intervention measures:
  - *STAI* 
  - *PANAS*
  - *BISS*

- Intranasal spray administered:
  - Oxytocin (24 International Units) or
  - Placebo (saline)
  - Wait period: - 10 minutes
  - 5 minutes

- Post-intervention measures:
  - *STAI* 
  - *PANAS*
  - *BISS*
  - *Emotion Recognition (TASIT)*
  - *Investor Trust Game* (45 minutes)

### RESULTS

**STATE BASED MEASURES ASSESSED AT T1 and T2**

- **ANXIETY (STAI)**
  - Oxytocin = placebo condition
  - *NO interaction effect for ED status*

- **AFFEKT (PANAS)**
  - Oxytocin: Positive affect decreased after the intervention
  - *NO interaction effect for ED status*

- **BODY IMAGE (BISS)**
  - Oxytocin = placebo
  - *NO interaction effect for ED status*

**EXPERIMENTAL MEASURES (T2)**

- **Emotion Recognition (TASIT)**
  - Overall Scores: Oxytocin > placebo
  - Positive scores: Oxytocin > placebo
  - *NO interaction effect for ED status*

- **Trust game**
  - Oxytocin > placebo
  - *NO interaction effect for ED status*

### DISCUSSION

*We found a reduction in positive Affect scores for the Oxytocin group post intervention, which is opposite to what we expected.*

*There were no significant differences in the pre-post scores for Anxiety and Body Image for both the Oxytocin and the Placebo groups.*

*The Oxytocin group was associated with better overall & positive emotion recognition and trust scores than the Placebo group.*

*Non of these findings were moderated by an at risk for ED status.*

*These findings indicate that Oxytocin has beneficial effects for some of the assessed variables, but this is independent of ED status.*

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