

TARGETING FAMILY ENVIRONMENTS IN SCHIZOPHRENIA: AN OXYTOCIN INTERVENTION STUDY

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BACKGROUND

- Critical, hostile and intrusive family environments, or environments high in negative “expressed emotion” (EE), are a major predictor of relapse and poor outcome in schizophrenia.
- Psychosocial interventions that include family participation improve outcomes in schizophrenia; no studies so far have investigated pharmacological interventions specifically targeting the family environment .
- Past research provides evidence that the exogenous administration of the hormone oxytocin may improve social bonding and cooperation and thus may improve EE in families of those with schizophrenia.

Current Study

- We examined whether exogenous oxytocin administered to parents of people with and without schizophrenia has acute effects on self-reported criticism, warmth, and closeness following emotional interactions.
- **Hypothesis:** *Following emotional conversations with their parent, people with and without schizophrenia will rate them as closer, warmer, and less critical if the parent received exogenous oxytocin (versus placebo) prior to the conversation.*
- We explored whether schizophrenia diagnosis moderates the effect of oxytocin on the self-report measures listed above.

| Table 1. Demographic Data | Schizophrenia (dyad n= 29) | | Control (dyad n= 33) | |
|---------------------------|----------------------------|---------------|----------------------|--------------|
| | Young adult | Parents | Young adult | Parents |
| Age Mean (SD) | 23.90 (6.47) | 55.24 (10.34) | 20.19 (5.55) | 50.97 (7.75) |
| % male | 79.3% | 27.6% | 42.4% | 12.1% |
| % White | 51.7% | 58.6% | 33.3% | 48.5% |

METHOD

Participants

- Young adults with schizophrenia (N =29) and without schizophrenia (N = 33) participated with a parent (Total Dyads = 62).
- Young adult participants in the schizophrenia group had schizophrenia spectrum disorder diagnosis. Young adults in the control group had no history of psychiatric diagnosis.
- Parent participants had to be considered “significant caregivers” by the young adult participant and have at least 4 hours of contact with them a week.

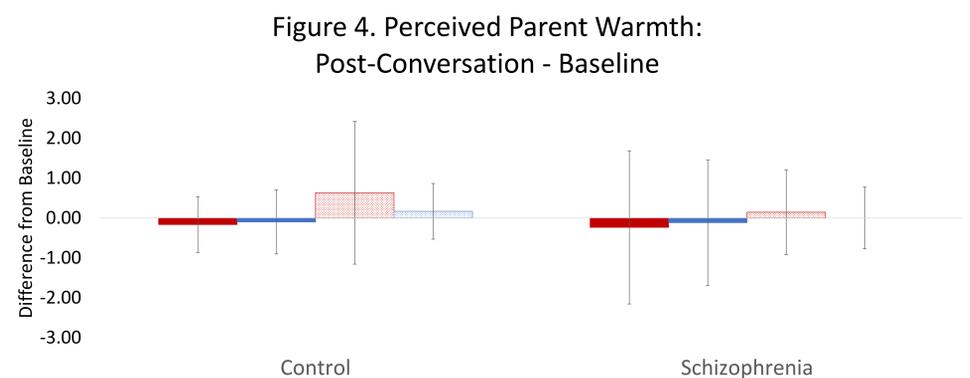
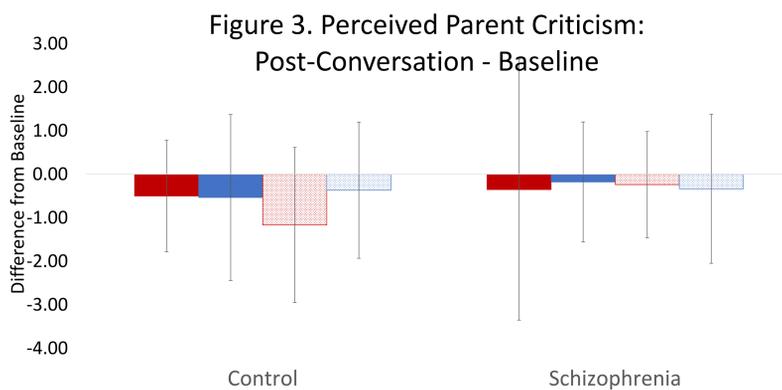
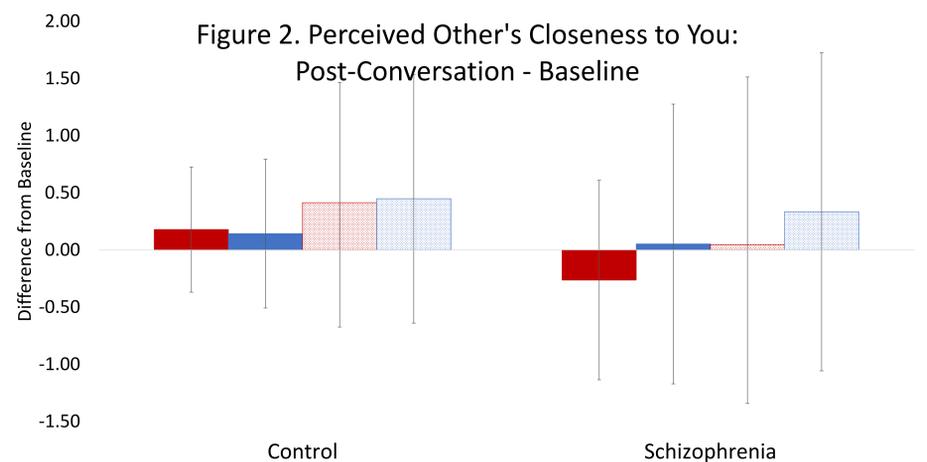
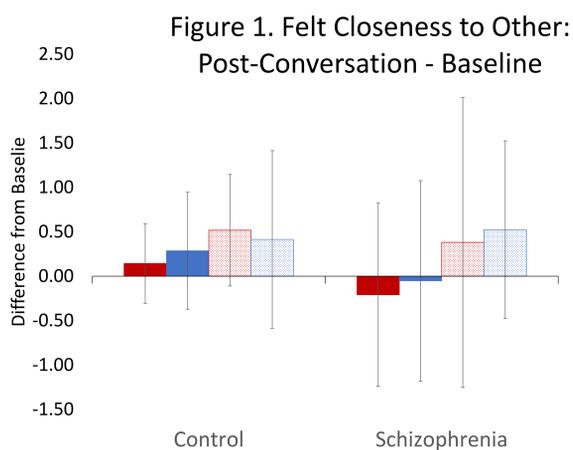
Procedure

- Double-blind placebo-controlled study.
- Dyads attended two study sessions one week apart.
- Parent randomized to receive oxytocin or placebo at first study session. Administered other drug at second session.
- Dyads engaged in 3 conversations:
 - A neutral conversation about a film clip (5 minutes)
 - A positive conversation about a shared memory (5 minutes)
 - A negative conversation about a point of conflict (10 minutes)
- At both study sessions, both dyad members completed self-report measures at **baseline** before drug administration and **following the conversations** measuring:
 - **Closeness** felt toward other dyad member (Inclusion of Other in Self Scale; IOSS)
 - Perceived parental **warmth** (Perceived Warmth; PW)
 - Perceived parental **criticism** (Perceived Criticism; PC)

Data Analytic Plan

- Mixed 2x2 ANOVAs (drug x diagnostic group) examined baseline between-group differences in self-reported closeness, warmth, and criticism.
- Difference scores were formed between post-conversation and baseline self-report to measure changes in closeness, warmth, and criticism following drug administration and conversations.
- Mixed 2x2 ANOVAs (drug x diagnostic group) predicted post-conversation changes in closeness, warmth, and criticism.

- Key:
- Young Adult Oxytocin Day
 - Young Adult Placebo Day
 - Parent Oxytocin Day
 - Parent Placebo Day



RESULTS AND DISCUSSION

- At baseline, **young adults with schizophrenia felt less close to their parent**; $F(1, 49) = 13.81, p = .001$; **believed that their parent felt less close to them**; $F(1, 49) = 16.39, p < .001$; and rated their **parent as less warm** $F(1, 48) = 6.02, p = .02$ compared to young adults in the control group. There were no significant group differences at baseline on young adult ratings of parental criticism $F(1, 48) = .006, p = .94$.
 - Challenges associated with schizophrenia symptoms may disrupt family relationships, contributing to less perceived closeness and warmth.
- There was **no significant difference between parents of people with and without schizophrenia on any self-report measure** at baseline, all p 's $>.05$.
- Overall, there was **little difference between pre- and post-conversation self-report** from either parent or young adult participants on either day on any measure (See Figures 1-4 for means and standard deviations).
- There was **no significant effect of oxytocin on changes in self-reports** of closeness, warmth and criticism from baseline for either parent or young adult participants. Schizophrenia diagnosis in young adults did not moderate this effect.
- Limitations include a small sample size and that young adults in the schizophrenia group were significantly older and more male than the control group.
- Future work may examine longitudinal effects of repeated oxytocin administration on relationship quality in high EE families.