

The Relationship Between Oxytocin and Coping Skills on Conflict Resolution in Couples

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Background

- Oxytocin is a neuropeptide known for its anxiolytic, prosocial, and pair-bonding effects.
- The literature is mixed regarding how oxytocin affects human behavior depending on contextual and individual characteristics (i.e. sex, coping skills, substance misuse).
- While oxytocin might increase positive communication among normative couples, the Social Salience Theory¹ states that oxytocin might enhance detrimental behaviors such as competitiveness, aggression, and anxiety, rather than exclusively enhancing prosocial behavior^{2,3}
- The present study sought to examine the moderating role of preexisting coping skills in relation to oxytocin on a couples' laboratory-based conflict resolution task, these effects were analyzed separately by sex.

Hypotheses

- Adaptive coping skills would **increase** the effects of oxytocin on frequency of Relationship Enhancing Attributions, and **reduce** the frequency of Distress Maintaining Attributions.
- Maladaptive coping skills would **reduce** the effects of oxytocin on frequency of Relationship Enhancing Attributions, and **increase** the frequency of Distress Maintaining Attributions.

Methods

- Participants were 30 different-sex couples (n=60) consisting of at least one partner with recent substance misuse.
- Participants were randomly assigned in a double-blind manner to 40 IU intranasal oxytocin or placebo. Couples completed the Brief COPE⁴, which was then coded into two subscales:
 - Adaptive Coping** (active coping, positive reframing, planning, acceptance, seeking emotional support, and seeking informational support).
 - Maladaptive coping** (denial, substance use, venting, behavioral disengagement, self-distraction and self-blame).
- Couples completed a Conflict Resolution Task where behaviors were observationally coded by independent raters **Relationship Enhancing Attributions** and **Distress Maintaining Attributions** subscales.

Demographics

Characteristics	Oxytocin n = 32 couples	Placebo n = 28 couples
	Mean (SD)	Mean (SD)
Age (in years)	32.0 (10.2)	32.4 (9.8)
Education (in years)	12.8 (1.8)	13.3 (2.3)
Relationship Length (in months)	60.6 (75.9)	42.2 (32.3)
	n (%)	n (%)
Gender		
Male	16 (50)	14 (50)
Female	16 (50)	14 (50)
Race		
Caucasian/White	13 (40.6)	10 (35.7)
African American/Black	17 (53.1)	15 (53.6)
Asian	1 (3.1)	0
NA/ Alaskan Native	1 (3.1)	2 (7.1)
More than once race/Other	0	1 (3.6)
Clinical Characteristics		
	Mean (SD)	Mean (SD)
Drug Abuse Screening Test (DAST)	1.8 (1.6)	1.9 (1.7)
Patient Health Questionnaire-9 (PHQ-9)	3.9 (3.8)	4.6 (5.8)
Perceived Stress Scale (PSS)	8.9 (1.8)	8.5 (1.7)
Alcohol Use Disorders Identification Test (AUDIT)	6.1 (6.0)	6.1 (5.3)
Dyadic Adjustment Scale (DAS)	94.6 (12.4)	93.5 (10.1)

Results

- Finding 1:** Among men, neither adaptive coping nor maladaptive coping were significant moderators for the relationship between oxytocin and Relationship Enhancing Attributions.
- Finding 2:** Among women, there was a significant moderating effect of adaptive coping on the effects of oxytocin such that participants with higher adaptive coping demonstrated fewer Relationship Enhancing Attributions ($p = .03$). Similarly, there was a marginally significant moderating effect of maladaptive coping on the effects of oxytocin, such that, participants with higher maladaptive coping demonstrated fewer Relationship Enhancing Attributions ($p = 0.11$).

Table 1
Summary of Interactive Effects of Drug Condition and Coping on Relationship Enhancing Attributions

	Variable	β	SE	F	P
Men	Maladaptive Coping x Drug Condition	-0.0238	0.130	0.03	0.86
	Adaptive Coping x Drug Condition	-0.0317	0.070	0.21	0.65
Women	Maladaptive Coping x Drug Condition	-0.2284	0.140	2.66	0.11
	Adaptive Coping x Drug Condition	-0.1658	0.074	4.98	0.03**

** $p < .05$

- Finding 3:** Among men, adaptive coping was not a significant moderator of the relationship between oxytocin and Distress Maintaining Attributions. There was a significant moderating effect of maladaptive coping on the effects of oxytocin such that, participants with higher maladaptive coping demonstrated fewer Distress Maintaining Attributions ($p = 0.006$).
- Finding 4:** Among women, there was a marginally significant moderating effect of adaptive coping on the effects of oxytocin such that, participants with higher adaptive coping demonstrated more Distress Maintaining Attributions ($p = 0.07$). Maladaptive coping was not a significant moderator for the relationship between oxytocin and Distress Maintaining Attributions.

Table 2
Summary of Interactive Effects of Drug Condition and Coping on Distress Maintaining Attributions

	Variable	β	SE	F	p
Men	Maladaptive Coping x Drug Condition	-0.2847	0.100	8.03	.006**
	Adaptive Coping x Drug Condition	0.0039	0.060	0.00	0.95
Women	Maladaptive Coping x Drug Condition	-0.0832	0.126	0.44	0.51
	Adaptive Coping x Drug Condition	0.1296	0.069	3.54	0.07*

** $p < .05$, $p < .10$

Conclusions

- Results show that overall, oxytocin had differential effects for women and men.
- Women showed no positive effects with oxytocin, regardless of their coping mechanisms being adaptive or maladaptive.
- The moderation analyses showed that men with higher scores on maladaptive coping showed a decrease in negative behaviors during the couple's task.
- Limitations & Future Directions:**
 - Statistical power is low, it is possible that non-significant effects would have emerged in a larger sample.
 - Replicate the study with a larger sample size, including same-sex couples, to increase power.
 - Investigate oxytocin in different circumstances and populations.

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References

