

Cognitive and emotion regulation change processes in cognitive behavioral therapy for social anxiety disorder

O'Toole, M. S., Mennin, D. S., Hougaard, E., Zachariae, R., Garcia, E., & Rosenberg, N. K
e-mail: mia@psy.au.dk

INTRODUCTION

While cognitive behavioral therapy (CBT) is a well-documented, effective treatment for social anxiety disorder (SAD; Pontoski, Heimberg, Turk, & Coles, 2010), little is known about *how* CBT works for SAD (Kazdin, 2007).

An understanding of why and how treatment can facilitate change, could aid in focusing more specifically on the effective components of treatment packages, thereby making it possible to develop effective augmentation strategies (Kazdin, 2007).

AIM

The aim of the study was to investigate change processes in CBT for SAD. Several proposed processes of change derived from cognitive and emotion regulation theories were simultaneously investigated at three measuring points: pre, mid, and post therapy.

HYPOTHESES

Based on prior findings, it was hypothesized that a change in (1) cognitive distortions (estimated probability and cost) (SPCQ), (2) safety behaviors, including expressive suppression (SAFE, ERQ), (3) cognitive reappraisal (ERQ), and (4) acceptance (AAQ) would mediate change in symptoms of SAD.

PARTICIPANTS AND PROCEDURES

50 patients [64% women, Mean age: 31.7 (9.5)] with SAD were recruited from an outpatient anxiety clinic.

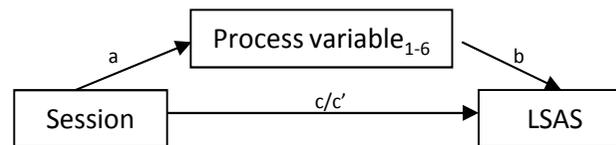
Participants received a 10-12 session manualized CBT course (N = 40 (80%) received group therapy).

Measures were administered at three times: Before therapy, after the fifth session of therapy (the midpoint in most therapeutic courses), and after therapy.



ANALYTIC STRATEGY

Process analyses followed the principles of lower-level mediation models that specifies mediation for individual participants and determination of mediated effects were based on the *product-of-coefficients* approach.



Four models were tested

Model 1: $LSAS_{ij} = \gamma_0 + cSESSION_{ij} + c_qSESSION^2_{ij} + U_{0j} + R_{ij}$

Model 2: $Process\ Variable_{ij} = \gamma_1 + aSESSION_{ij} + a_qSESSION^2_{ij} + U_{1j} + R_{ij}$

Model 3: $LSAS_{ij} = \gamma_2 + cSESSION_{ij} + bPROCESS\ VARIABLE_{ij} + b_qPROCESS\ VARIABLE^2_{ij} + U_{3j} + R_{ij}$

Model 4: $LSAS_{ij} = \gamma_3 + cSESSION_{ij} + b_{1-6}PROCESS\ VARIABLE_{ij} + b_{q1-6}PROCESS\ VARIABLE^2_{ij} + U_{4j} + R_{ij}$

$LSAS_{ij}$, $SESSION_{ij}$, and $PROCESS\ VARIABLE_{ij}$ refer to observations of person j (upper level) at i point of time (lower level), where U_{j0-3} is the individual's deviation from the intercept (γ_{0-3}), and R_{ij} is a term of error.

We tested both a linear and a quadratic polynomial model, denoted as q , to express temporal trends across the three observation points (pre-, mid-, and post-therapy).

RESULTS

Three variables were identified as significant mediators when investigated together in model 4:

- ❖ Estimated probability, $t(120.2) = 2.3, p = .024, r = .21$
- ❖ Estimated cost, $t(120.5) = 6.4, p = .001, r = .51$
- ❖ Acceptance, $t(132.6) = -2.7, p = .008, r = -.23$

Cognitive reappraisal and expressive suppression did not mediate clinical improvement.

A change in safety behaviors only mediated clinical improvement when analyzed separately in model 3.



DISCUSSION

Estimated probability and cost:

❖ This finding is in accordance with classic cognitive models of SAD (Clark & Wells, 1995; Rapee & Heimberg, 1997) and aligns with previous studies exploring the association between distorted cognitions and symptoms of social anxiety.

❖ The results further align with studies indicating the mediating role of threat reappraisal in CBT for anxiety disorders (Smits, Julian, Rosenfiled & Powers, 2012).

❖ Since change in the two types of cognitive distortions may be considered antecedent-focused emotion regulation in the form of stimulus (re)appraisal (cf. Gross & Thompson, 2007), the present results are in line with newer emotion regulation conceptualizations that also consider reappraisal an adaptive and effective way to change negative emotions (Gross & Thompson, 2007; Mennin, Ellard, Fresco, & Gross, 2013).

Acceptance of emotions:

❖ Acceptance may not be fundamentally different from cognitive restructuring, and may constitute an implicit reframing of cognitions about the averseness of emotional experience and the need for it to be controlled (Mennin et al., 2013).

❖ Finding acceptance to be a mediator of change could be interpreted as support for the more contemporary CBT approaches that include acceptance-based strategies (e.g. Hayes, 2004; Mennin & Fresco, 2013).

References

- Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. Heimberg, M. Liebowitz, D.A. Hope, & F. R. Schneier (Eds.), *Social phobia: Diagnosis, assessment and treatment*. (pp. 69–93). New York: Guilford Press.
- Gross, J. J., & Thompson, R. A. (2007). Emotion regulation. In: J. J. Gross (ed.), *Handbook of emotion regulation* (pp. 3-24). New York: Guilford Press.
- Kazdin, A. E., (2007). Mediators and mechanisms of change in psychotherapy research. *Annual Review of Clinical Psychology, 3*, 1–27.
- Mennin, D. S., & Fresco, D. M. (2013). Emotion regulation therapy. In: J. J. Gross. *Handbook of Emotion Regulation (Second Edition)*. New York: Guilford Press.
- Pontoski, K. E., Heimberg, R. G., Turk, C. L., & Coles, M. E. (2010). Psychotherapy for social anxiety disorder. In D.J. Stein, E. Hollander, & B.O. Rothbaum (Eds.), *Textbook of anxiety disorders* (pp. 501-521). Washington, DC: American Psychiatric Publishing, Inc.
- Rapee, R. M., & Heimberg, R. G. (1997). A cognitive-behavioral model of anxiety in social phobia. *Behaviour Research and Therapy, 35*, 741- 756.
- Smits, J. A., Julian, K., Rosenfield, D., and Powers, M. B. (2012). Threat reappraisal as a mediator of symptom change in cognitive-behavioral treatment of anxiety disorders: a systematic review. *Journal of Consulting and Clinical Psychology, 80*, 624-635.