# Investigating Cognitive Mediation and Stress Generation Approaches to the Development of Social Anxiety in Children

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## Introduction

- Negative life events (NLE) and social threat (ST) cognitions are thought to play key roles in the onset and maintenance of social anxiety (SA) in children (Rapee & Spence, 2004).
- Two approaches have been proposed to explain relations between stress and cognitions in the development of psychopathology, including SA.
  - First, the **cognitive mediation approach** suggests that underlying cognitive vulnerabilities to different forms of psychopathology remain latent until activated by NLE (Gibb & Coles, 2005).
  - Second, the **stress generation approach** proposes that individuals with psychological difficulties generate higher rates of NLE by way of their own maladaptive thoughts and behaviors (Cole, Nolen-Hoeksema, Girgus, & Paul 2006).
- While evidence supports both approaches in studies of youth depressive symptoms (Hamilton et al., 2013), it has also been suggested that such approaches may help explain the development of SA (Farmer & Kashdan, 2015).
- For example, with respect to the cognitive mediation approach, individuals with SA may experience ST cognitions that are activated by the occurrence of social stress (Heimberg, Brozovich, & Rapee, 2010). The process of selectively attending to and reviewing socially threatening aspects of recent NLE may reinforce an individual's pre-existing social fears in anticipation of similar future events.
- With respect to the stress generation approach, individuals with SA may selectively attend to negative social information that confirms ST cognitions, creating an ongoing cycle of perceiving and avoiding socially threatening situations. This cycle may hinder interpersonal relationships and continuously generate NLE that strengthen social fear over time.
- To our knowledge, however, no studies have explored the cognitive mediation or stress generation approaches in the context of SA in children.

## Aim

To examine whether cognitive mediation or stress generation approaches better explain the development of social anxiety in children over time.

## Methods

**Participants**: Children (53% males) from five suburban elementary schools participated in 4th/5th grade (T1; *N* = 189, ages 8-11) and 5th/6th grade (T2; *N* = 138, ages 9-12)

**Measures** (all self-report questionnaires completed at school at both T1 and T2):

**Children's Automatic Thoughts Scale (CATS)**
a) 40 items, including subscale assessing ST cognitions (e.g., people are thinking bad things about me)
b) 4-point scale, from *not at all* to *all the time*

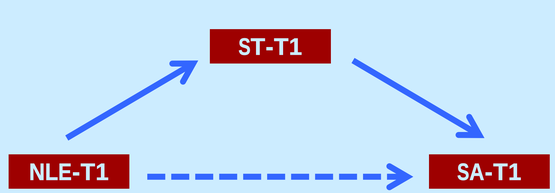
**Life Events Checklist (LEC)**
a) Assesses presence of 46 events in the past year (e.g., parents divorced)
b) Youth rate events as *good* or *bad*
c) NLEs = total number of *bad* events

**Revised Child Anxiety and Depression Scale (RCADS)**
a) 47 item self-report questionnaire, including 9-item subscale assessing SA (e.g., I feel afraid that I will make a fool of myself in front of people)
b) 4 point scale, from *never* to *always*

## Results

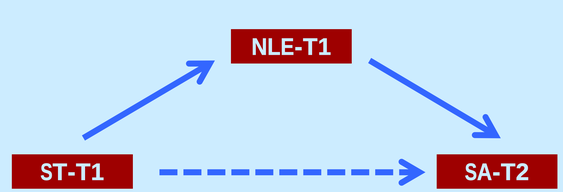
- Correlational analyses indicated that ST at T1 was associated with SA at T1 ($r$ = .47, $p$ < .001) and T2 ($r$ = .13, $p$ < .10). NLE at T1 was also associated with SA at T1 ($r$ = .20, $p$ < .01) and T2 ($r$ = .32, $p$ < .001).
- Four regression analyses were conducted using the PROCESS macro (Field, 2013) in SPSS.
- **Cognitive Mediation:** ST at T1 was examined as a mediator between NLE at T1 and SA at T1. As shown in Figure 1, there was an indirect effect of NLE at T1 and SA at T1 through ST at T1, $b$ = .79, BCa CI [.300, 1.358], representing a medium effect, $k^2$ = .133, 95% BCa CI [.053, .220]. No indirect effect was found between NLE at T1 and SA at T2 through ST at T1.
- **Stress Generation:** NLE at T1 was examined as a mediator between ST at T1 and SA at T1 and T2. No indirect effect was observed between ST at T1 and SA at T1 through NLE at T1. As shown in Figure 2, there was an indirect effect of ST at T1 and SA at T2 through NLE at T1, $b$ = .29, BCa CI [.111, .308], representing a medium effect, $k^2$=.085, 95% BCa CI [.034, .188]. Findings were maintained after controlling for SA at T1.

**Figure 1. Cognitive Mediation**




**Indirect effect of NLE at T1 and SA at T1 through ST at T1**

**Figure 2. Stress Generation**




**Indirect effect of ST at T1 and SA at T2 through NLE at T1**

## Discussion

- Findings suggest that the stress generation approach may help explain the development of SA in children prospectively over time, while the cognitive mediation approach may help explain concurrent SA symptoms.
- It may be beneficial to conduct research evaluating interventions designed to prevent the cumulative generation of NLE by redirecting ST cognitions in socially anxious children.

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