

Rumination Partially Mediates the Relationship between Negative Climate Emotions and Pro-Environmental Behavior

Maya Lopez Foresythe, Lilou-Carole Agostini,
Jin Qian, & Kimberly A. Barchard
University of Nevada, Las Vegas

Negative climate emotions and rumination both predict pro-environmental behavior

INTRODUCTION

- Climate change causes more severe storms, longer and more extreme droughts, and rising sea levels, leading to habitat destruction, mass extinctions, loss of property, and forced migration.
- People who feel guilty, angry, anxious, and sad about climate change are working hard to fight it (e.g., reducing their own carbon footprint, talking with others about climate change, attending protests, voting).
- Our research focuses on the potential mediating effect of rumination on climate action. Rumination is persistent, repetitive thinking that disrupts normal cognitive functioning.

METHODS

Participants

- We re-analyzed data collected by Kovacs et al. (2023), which is freely available on the Open Science Framework.
- After we removed 40 multivariate outliers, 1000 participants remained.
 - 515 females, 479 males, 5 nonbinary, 1 did not answer
 - Ages ranged from 18 to 93 (M = 45.79, SD = 15.96)

Measures

- Negative climate emotions were measured using 4 items. Respondents indicated how sad, angry, anxious, and guilty they felt about climate change on a scale of *not at all* (0) to *a great deal* (100).
- Pro-environmental behavior was measured using 4 items addressing activism and private actions. Participants responded using a 4-point frequency scale ranging from *hardly ever or never* (1) to *very often* (4).
- Rumination was measured using 6 items addressing intrusive thoughts and concentration issues. Participants responded using a 5-point Likert-type scale ranging from *not at all* (1) to *a great deal* (5).

Procedure

- Participants completed all measures online. The survey was anonymous, and each respondent was awarded \$1.46.

Data Analysis

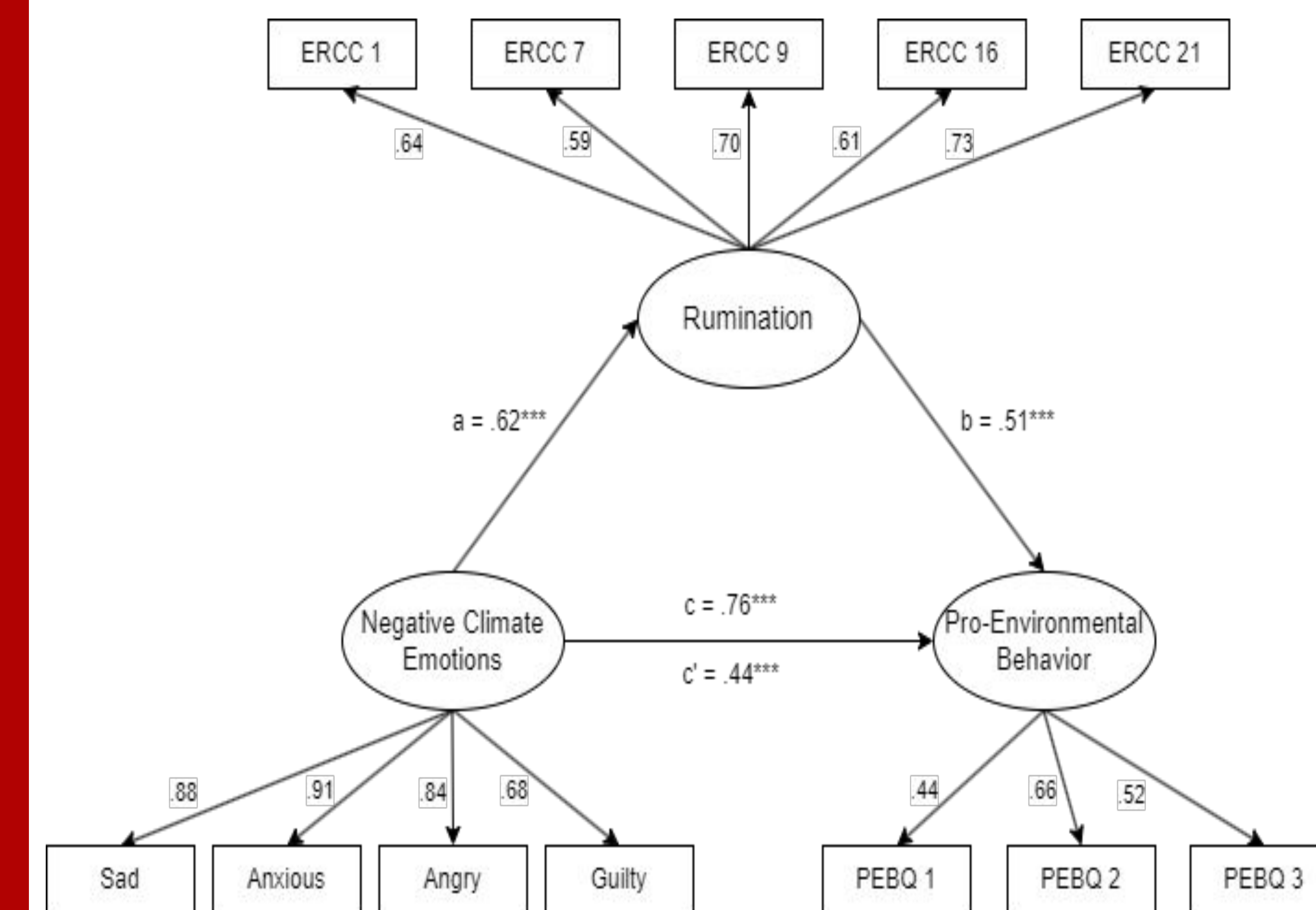
- We used R (v 4.3.2) with package *lavaan*.
- We conducted a mediation analysis using negative climate emotions as the predictor, pro-environmental behavior as the outcome variable, and rumination as the mediator.
- To assess model fit, we calculated the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR).

RESULTS

- The model had an acceptable fit to our data (CFI = .96; TLI = .93; RMSEA = .08; SRMR = .06).
- The direct and indirect effects were all statistically significant.
- Rumination partially mediates the relation between negative climate emotions and pro-environmental behavior.

DISCUSSION

- Negative climate emotions and rumination were both positively related to pro-environmental behavior. However, our participants were all from the United States and so these results might not generalize to other countries.
- Negative emotions might lead to rumination which might lead to greater action; however, our study cannot make causal claims because of the cross-sectional design.
- Future research should randomly assign participants to interventions (including a period of rumination and other activities) to determine if rumination changes pro-environmental behavior (such as donations to pro-environmental causes).



*** $p < .001$