

# An Investigation of Counterfactual Thinking in Individuals Diagnosed with Diabetes

Hannah Sarnie, Bailey Faith, Alexander Spanos, Anna Schmieder, Sara Kearney, Gianna Todaro, Anna O'Neil, Caitlyn Strauss, & Mary T. DePalma (Faculty Sponsor)

Ithaca College

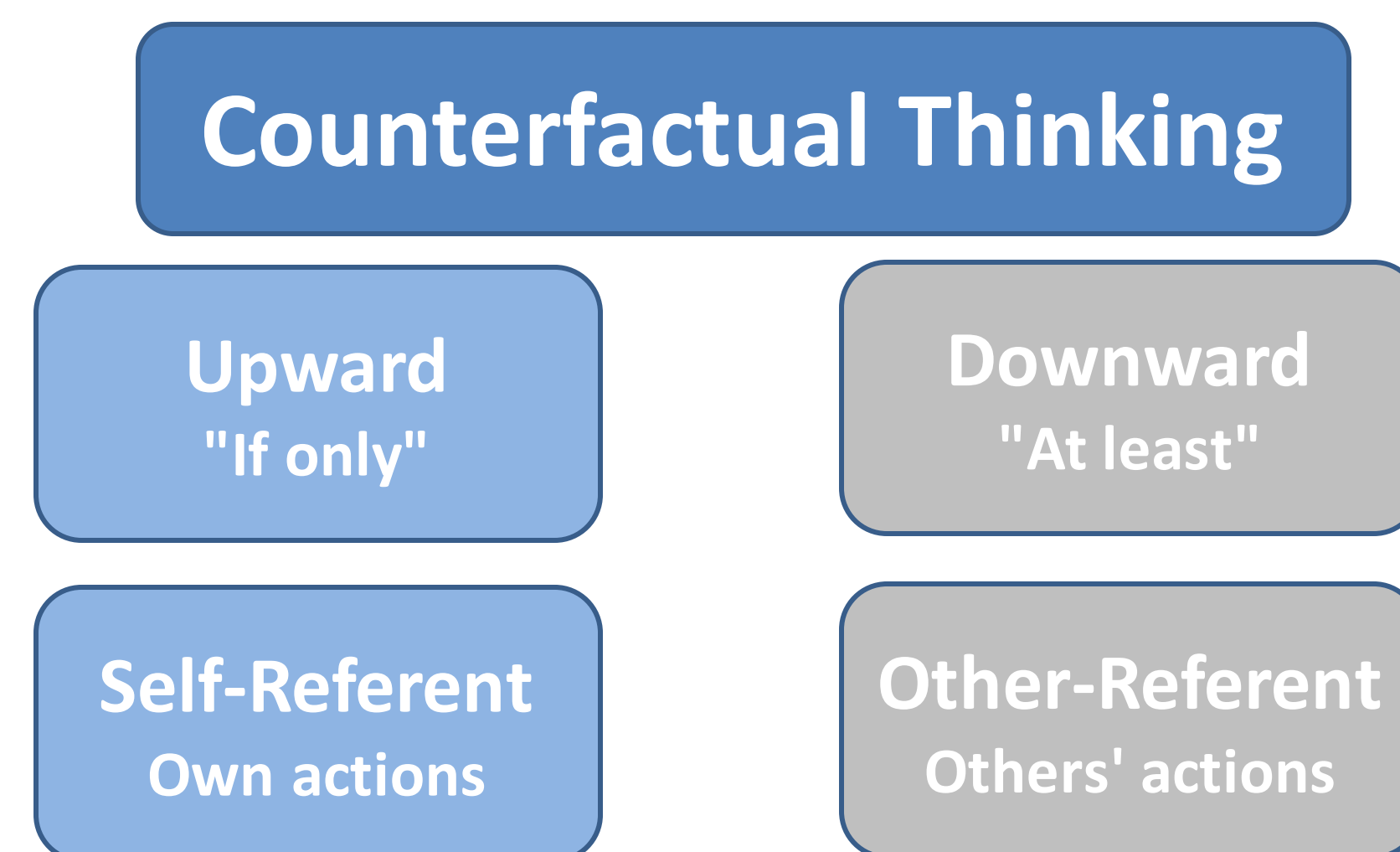
## ABSTRACT

Diabetes affects both the physical and emotional well-being of over 34 million Americans. Thus, it is important to investigate the psychological factors that can influence appropriate diabetes self-care. The present study investigated how counterfactual thinking is related to the utilization of diabetes coping strategies. The study utilized a mixed-methods approach, consisting of a quantitative survey which assessed psychosocial factors, and a qualitative interview. The interview included questions about the participant's thoughts and feelings regarding their experience with diabetes. The sample consisted of 53 participants (15 males, 37 females, and 1 participant identified as both). Results suggest that an increase in ruminative brooding is associated with significantly higher levels of guilt. Furthermore, these higher levels of guilt are strongly associated with increased behavioral disengagement, a maladaptive coping strategy. Finally, high levels of self-blame are associated with higher levels of behavioral disengagement and lower levels of diabetes self-efficacy. This evidence suggests that certain types of counterfactual thoughts may undermine appropriate diabetes self-care, which is essential to the prevention of serious complications, such as blindness and amputation. Further research on counterfactual thinking may assist in the design of educational initiatives to encourage successful diabetes self-care.

## INTRODUCTION

### Counterfactual Thinking

- ❖ Counterfactual thinking refers to the thoughts one has regarding alternative outcomes to events that have already happened.



### Coping Mechanisms

- ❖ Various ways of coping with a negative stressor include self-blame, planning, behavioral disengagement, and denial (Carver, Scheier, & Weintraub, 1989).

## PURPOSE

The study investigates how an individuals' thoughts, attitudes, and emotions regarding their diabetes might influence appropriate diabetes self-care.

## METHODS

**Participants.** The sample included 53 participants diagnosed with diabetes (15 males, 37 females, and 1 participant identified as both). The participants ranged in age from 18 to 96 years old ( $M = 55.57$ ,  $SD = 20.38$ ). Twenty-one individuals reported having type 1 diabetes, and thirty-two reported having type 2 diabetes. They have lived with the disease for an average of 14.1 years ( $SD = 12.81$ ).

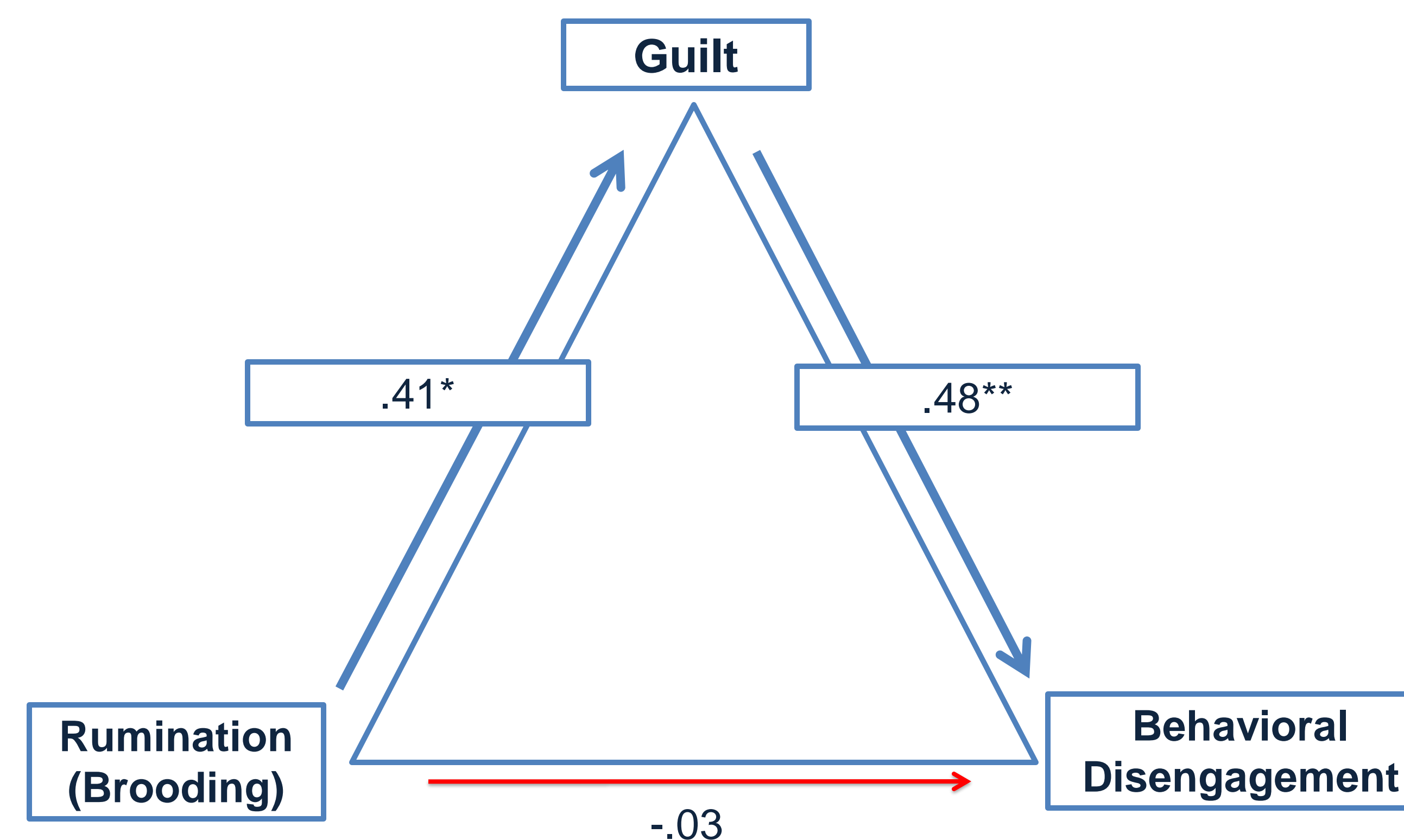
**Materials.** The survey included:

- Counterfactual Thinking for Negative Events Scale (CTNES)
- Diabetes Self-Efficacy (MDQ)
- Summary of Diabetes Self-Care Activities Questionnaire (SDSCA)
- Shame and Guilt Scale
- Brief COPE
- Ruminative Responses Scale – Short Form (RRS)
- Center for Epidemiologic Studies Depression Scale (CESD-10)

**Procedure.** Participants were recruited through local senior living facilities, and a snowball method. In addition to administering the quantitative measures, we conducted a 60-75-minute semi-structured interview in order to examine each participant's cognitive and affective experiences with diabetes. Each participant received a \$25 gift card for their participation.

## QUANTITATIVE RESULTS

- ❖ Brooding was associated with significantly higher levels of guilt ( $r(31) = .41$ ,  $p = <.026$ ).
- ❖ Increased levels of guilt were associated with a tendency to cope through behavioral disengagement ( $r(53) = .48$ ,  $p = <.001$ ).



## QUANTITATIVE RESULTS

(CONTINUED)

	CTNES	Guilt	COPE-SB	CES-D	COPEBehDis	RuminBrood
CTNES	1.00	.12	.36*	.31*	-.03	.15
Guilt		1.00	.70**	.53**	.48**	.41*
COPE-SB			1.00	.46**	.42**	.57**
CES-D				1.00	.28*	.36*
COPEBehDis					1.00	-.07
RuminBrood						1.00

### Average Self-Efficacy and SDSCA Scores

	Type 1	Type 2
Self-efficacy*	70.00	53.43
SDSCA Diet	4.94	4.22
SDSCA Exercise	3.71	2.94
SDSCA BGT*	6.17	3.29

## QUALITATIVE RESULTS

- ❖ "It just makes me feel guilty, but it doesn't change my actions. When I hear people around the table in the dining room, you know, passing up dessert--and a lot of them do--I just think to myself, 'Well, I can't do that.'"
- ❖ "It could lead to my longevity. I mean I know that, and still I don't shape up."
- ❖ "I wish that I could have avoided it, but I didn't so now I have to manage it."
- ❖ "I like to think that my actions and my willingness to take responsibility have had a direct impact on my ability to manage this."

## DISCUSSION

- ❖ Brooding, a type of rumination, is strongly related to feelings of guilt which may lead to coping by behavioral disengagement.
- ❖ The challenge may be to encourage upward counterfactuals without a concomitant increase in guilt.

## IMPLICATIONS

- ❖ This research may be of direct relevance to understanding the implications of counterfactual thinking for diabetes patients. However, it is plausible that the effects of information about responsibility for diabetes onset could extend further. These results may be applicable to individuals living with other potentially preventable diseases, such as lung cancer or heart disease.

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