

SHORT ABSTRACT:

Word count: 75 or less - 75

Some individuals with diabetes actively reject counterfactual thinking (CFT). Because diabetes is a chronic illness for which there is no “cure,” we examined the relationship between CFT rejection and chronic illness status. Data from an online sample (N = 175) indicated no relationship between chronic illness and CFT rejection. However, individuals who reject the activity of CFT score lower on brooding. Individuals who are averse to the emotional component of CFT tend to brood more.

LONG ABSTRACT:

Word count: 957

INTRODUCTION

As defined by Roese and Olson (1995), counterfactual thinking (CFT) is imagining an event differently than it actually occurred, and it is formed by an antecedent (the event that one alters as they think about it) and a consequent (the result of such a change in the factual event). Counterfactual thinking is often used in situations involving negative events in which one imagines an alternative outcome (Roese & Olson, 1995). Previous research suggests that the availability of counterfactual scenarios can lead the victim to feel responsible for their fate, which has strong implications for their emotional affect and behavioral choices (Kahneman & Miller, 1986).

Our ongoing research has focused primarily on how counterfactual thinking relates to self-care for individuals with diabetes. Past research from our laboratory revealed a sample of individuals with diabetes who actively rejected counterfactual thinking (DePalma, Sarnie, & Faith, 2020). Because diabetes is a chronic illness which can be controlled, but not “cured,” many of these individuals believed that engaging in CFT was useless and potentially harmful. In the present study, we continued our investigation of this phenomenon with an expanded sample to determine how the tendency to reject counterfactual thinking might differ depending on chronic illness status. Thus, it was hypothesized that individuals with a chronic illness would have a greater tendency to reject counterfactual thinking, as thinking about “what might have been” may not serve a useful purpose if their condition is chronic and unchanging.

METHODS

Participants in the study were 175 Prolific Academic workers, ranging in age from 18 to 78 years ($M = 31.60$, $SD = 10.76$). Of the sample, there were 68 males (38.9%), 105 females (60.0%), one participant chose the option of “other” (0.6%), and one individual chose not to report their biological sex (0.6%). The majority of the sample was White (69.1%), but also included individuals who were Black or African American (9.7%), Asian (9.1%), American Indian and Alaska Native (2.9%), 6.3% reported to be of mixed race, and two individuals reported “other” (1.1%) or preferred not to answer (1.1%).

An 8-minute online survey included a Likert-type scale to assess CFT rejection, in which participants were asked to indicate how strongly they agree or disagree with statements about their tendency to imagine “what could have been.” The survey also included the Ruminative Response Scale (RRS), a 10-item scale which assessed participants’ likelihood to engage in thoughts of brooding and/or reflection. Items which measured brooding tended to represent prolonging distress and reliving negative events (e.g. “What am I doing to deserve this?”), while reflection items represented purposeful thinking and problem solving (e.g. “Write down what you are thinking and analyze it”). Participants were also asked to report demographic information and chronic illness status.

RESULTS

Of this sample, 40.5% of the sample ($n = 70$) reported having a chronic illness. Participants reported having asthma (14.8%), chronic pain (10.8%), as well as hypertension (7.4%). Only 3.4% of the sample reported having diabetes. Many of the participants (12.7%) reported having multiple chronic illnesses, ranging from 2-4 illnesses.

Principal component factor analysis with a varimax rotation revealed two CFT rejection factors. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .822, and Bartlett’s Test of Sphericity [$\chi^2(28) = 408.38$, $p < .001$] indicated that our sample size was sufficient for our analyses. Factor 1, CFT-Rejection-Activity, incorporated 4 items and revealed an Eigenvalue of 3.44, explaining 43.03% of the variance. The items that loaded on this factor were those that most closely represented avoidance of engaging in the activity of CFT. Factor 2, CFT-Rejection - Emotion, incorporated 4 items and revealed an Eigenvalue of 1.40, explaining 17.44% of the variance. These items were those that emphasized the emotional consequences of engaging in CFT.

A general linear model was constructed that included CFT-Rejection-Activity and CFT-Rejection – Emotion as dependent variables, with chronic illness as a predictor variable. Contrary to our initial hypothesis, chronic illness diagnosis was not related to CFT-Rejection, [$F(2, 169) = 1.73$, $p = .18$, $\eta^2 = .020$ and power = .36].

However, a multivariate general linear model indicated that CFT rejection tendencies were significantly related to rumination scores [$F(2, 168) = 20.61$, $p < .001$, $\eta^2 = .20$ and power = 1.00]. Univariate analyses indicated that CFT rejection-activity tendencies were negatively related to brooding scores, [$F(1, 169) = 7.50$, $p = .007$, $\eta^2 = .06$ and power = .92]. Individuals who were least likely to brood were most likely to reject the activity of counterfactual thinking. However, CFT rejection-emotion tendencies were positively related to brooding scores, [$F(1, 169) = 11.55$, $p = .001$, $\eta^2 = .04$ and power = .78]. Individuals who were most likely to brood were most likely to reject counterfactual thinking on the basis of the strong emotional consequences.

DISCUSSION

This study replicated earlier work insofar as some individuals evidenced a stronger tendency to reject the activity of counterfactual thinking than others. However, contrary to our initial hypotheses, this was not due to the presence of a chronic illness, nor was it related to the number of chronic illnesses an individual reported. Recall that the tendency to reject counterfactual thinking was evidenced in a sample of 53 individuals who had diabetes. The present sample, however, drew only six individuals with diabetes, and so it will be necessary to conduct additional research to effectively test the hypothesis that this tendency is related to a diabetes diagnosis.

The tendency to reject the activity of CFT was also associated with a decreased tendency to brood at all. In this case, individuals are not investing time in thinking about an alternate reality. Those individuals who are most susceptible to brooding also recognize how useless and hurtful engaging in thoughts about “what might have been” can be. It might prove useful to identify those who tend to brood to help bolster their ability to identify and avoid counterfactual thoughts that are detrimental.

References

- DePalma, M., Sarnie, H., & Faith, B. (2020, in preparation). Counterfactual thoughts about diabetes are related to diabetes self-care.
- Kahneman, D., & Miller, D. T. (1986). Norm theory: Comparing reality to its alternatives. *Psychological Review*, 93(2), 136-153.
- Roese, N. J., & Olson, J. M. (1995). *What Might Have Been: The Social Psychology of Counterfactual Thinking*. Lawrence Erlbaum Associates, Inc.

Roese, N. J., Hur, T., & Pennington, G. L. (1999). Counterfactual thinking and regulatory focus: Implications for action versus inaction and sufficiency versus necessity. *Journal of Personality and Social Psychology*, 77(6), 1109-1120.

- B RRS_1 Think "What am I doing to deserve this?"
- R RRS_2 Analyze recent events to try to understand why you are depressed
- B RRS_3 Think "Why do I always react this way?"
- R RRS_4 Go away by yourself and think about why you feel this way
- R RRS_5 Write down what you are thinking and analyze it
- B RRS_6 Think about a recent situation, wishing it had gone better
- B RRS_7 Think "Why do I have problems other people don't have?"
- B RRS_8 Think "Why can't I handle things better?"
- R RRS_9 Analyze your personality to try to understand why you are depressed
- R RRS_10 Go someplace alone to think about your feelings