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Optimists: It could have been worse; Pessimists: It could have been better Dispositional optimism and pessimism and counterfactual thinking

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ABSTRACT

Optimism and pessimism are cognitive expectancies regarding future events, whereas counterfactual thinking is the cognitive process of imagining alternatives to events that occurred in the past. The purpose of this study was to conceptualize dispositional optimism and pessimism within the context of norm theory and examine relationships between dispositional optimism and pessimism and counterfactual thinking. Undergraduate students ($N = 833$) completed measures of counterfactual thinking and optimism and pessimism. After controlling for the effects of positive and negative affect, it was found that downward counterfactual thinking (imagining how things could have been worse) was associated with optimism and that upward styles of counterfactual thinking (imagining how things could have been better) were associated with pessimism. These results suggest that thinking about past events is consistent with expectations about the future.

1. Dispositional optimism and pessimism

Optimism may be defined as having positive expectancies for the future (Scheier, Carver, & Bridges, 1994), and it has been linked with many positive outcomes, including healthy coping strategies (Scheier, Weintraub, & Carver, 1986) and higher levels of subjective well-being, better physical health, persistence in education, higher incomes, and quality of relationships (Carver, Scheier, & Segerstrom, 2010). Scheier et al. (1994) initially conceptualized optimism as being unidimensional in nature. However, subsequent research (e.g., Glaesmer et al., 2013; Scheier et al., 1994) has found that optimism and pessimism are two separate constructs. Carver and Scheier (1998) offered a theoretical framework for optimism rooted in values-expectancy theory as generalized positive outcome expectancy. The purpose of this study was to conceptualize dispositional optimism and pessimism within the context of norm theory and examine relationships between dispositional optimism and pessimism and counterfactual thinking.

2. Norm theory

Norm theory (Kahneman & Miller, 1986) contends that reactions to an event are strongly influenced by the perceived normality of the event; thus, events that are perceived as being more abnormal will generally provoke stronger reactions. Norms, or standards of judgment, are either retrieved from pre-existing expectancies or they are constructed in an ad-hoc manner. Within the framework of norm theory, dispositional optimism and pessimism would perhaps best be understood as the dispositional tendency toward more positive or negative pre-existing expectancies for the future. Norms deal with reality – experiences of current events and memories of past events – but norm theory contends that, especially when norms are challenged, individuals also mentally simulate alternatives to reality in a process called counterfactual thinking (Kahneman & Tversky, 1982).

3. Counterfactual thinking

If dispositional optimism and pessimism are general expectancies for the future, counterfactual thinking is cognition about the past. Counterfactual thinking is the cognitive process of imagining alternatives to events that occurred in the past, including scenarios that would have been better (upward) or worse (downward; Rye, Cahoon, Ali, & Daftry, 2008). Counterfactual thinking can be conceptualized as four styles: nonreferent downward (thinking situations could have been worse, generally), other-referent upward (thinking situations could have been better if it were not for other people), self-referent upward (thinking situations could have been better if it were not for one's own actions), and nonreferent upward (thinking situations could have been better, generally).

Roese (1994) found evidence that downward counterfactual thinking is associated with more positive affect and thus may serve to make individuals feel better, while upward counterfactual thinking is associated with intentions to perform success-facilitating behaviors. Similarly, dispositional optimism is associated with positive affect, and

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dispositional pessimism is associated with negative affect (Carver & Scheier, 2014; Monzani, Steca, & Greco, 2014), suggesting possible links between downward counterfactual thinking and optimism as well as between upward counterfactual thinking and pessimism. This would make sense within the framework of norm theory: individuals have a dispositional tendency toward more positive or negative pre-existing expectancies for the future, and these are associated with a dispositional tendency to employ more downward and upward counterfactual thinking, respectively.

4. The current study

Although researchers have explored counterfactual thinking and prefactual thinking with defensive pessimism (del Valle & Mateos, 2008; Sanna, 1996), no extant research has examined relationships between counterfactual thinking and dispositional optimism and pessimism. With previous research having found links between counterfactual thinking and affect (Boninger, Gleicher, & Strathman, 1994; Roese, 1994), the purpose of this study was to explore whether counterfactual thinking is associated with cognitive patterns – dispositional optimism and pessimism – while controlling for affect. It was hypothesized that, after controlling for positive and negative affect: (H_1) downward counterfactual thinking would be associated with optimism; and (H_2) upward counterfactual thinking styles, other referent upward, self-referent upward, and nonreferent upward would be associated with pessimism.

5. Method

5.1. Participants

Participants consisted of undergraduate students ($N = 833$) at a large public university in the south. Participants were recruited through the department research website. The sample was 71.2% female, 28.6% male, and .2% identified as transgender or gender nonconforming. Age ranged from 18 to 62 (M = 21.00, SD = 3.86).

5.2. Procedure

The study received approval from the university IRB. Participants completed an online survey and received course credit for participating.

5.3. Measures

5.3.1. Counterfactual Thinking for Negative Events Scale

The Counterfactual Thinking for Negative Events Scale (CTNES; Rye et al., 2008) is a self-report measure of counterfactual thinking. The CTNES instructs participants: "Please think of an event that occurred somewhat recently that had a negative impact on you. Take a few moments to vividly recall that experience and what it was like for you. Now, think about the types of thoughts you experienced following that undesirable event." Participants respond to 16 statements about how they responded to the negative event using a 5-point Likert-type format ranging from 1 = *never* to 5 = *very often*. The CTNES consists of 4 subscales reflecting the four styles of counterfactual thinking: nonreferent downward ("I think about how much worse things could have been"), other-referent upward ("If another person or other people had not been so inconsiderate, things would have been better"), self-referent upward ("I think about how much better things could have been if I had acted differently"), and nonreferent upward ("I think about how much better things could have been"). A higher score represents more of that type of counterfactual thinking. In this study, Cronbach's alpha was: nonreferent downward ($\alpha = .810$), other-referent upward ($\alpha = .873$), self-referent upward ($\alpha = .759$), and nonreferent upward ($\alpha = .819$).

5.3.2. Life Orientation Test — Revised

The Life Orientation Test — Revised (LOT-R; Scheier et al., 1994) is a self-report measure of dispositional optimism and pessimism. The LOT-R consists of 10 items: 4 filler items, 3 measuring optimism (e.g., "Overall, I expect more good things to happen to me than bad"), and 3 measuring pessimism (e.g., "I hardly ever expect things to go my way"). Participants respond on a Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Items were summed so that higher optimism scores represented higher levels of optimism while higher pessimism scores indicated higher levels of pessimism. In this study, Cronbach's α was: optimism ($\alpha = .751$) and pessimism ($\alpha = .792$).

5.3.3. The International Positive and Negative Affect Schedule Short Form

The International Positive and Negative Affect Schedule Short Form (I-PANAS-SF; Thompson, 2007) is a self-report measure of positive and negative affect. Participants were given ten emotions (e.g., upset, hostile, alert) and were asked to rate how they feel "in general" each item on a 5-point scale ranging from 1 = *never* to 5 = *always*. Positive affect items were summed so that higher scores indicate higher levels of positive affect, and negative affect items were summed so that higher scores indicate higher levels of negative affect. In this study, Cronbach's α was: positive affect ($\alpha = .776$) and negative affect ($\alpha = .805$).

6. Results

Preliminary analyses found no violation of assumptions. Correlations between all variables are displayed in Table 1. Two hierarchical multiple regression analyses were conducted using the four counterfactual thinking styles to predict optimism and pessimism, while controlling for positive and negative affect. The first hierarchical multiple regression found that the nonreferent downward style (B = .150, β = .188, $p < .001$, 95% CI [.099, .201]) was the only statistically significant predictor of optimism after controlling for positive and negative affect, $F(6, 826) = 43.662$, $p < .001$, $R = .491$, $R^2 = .241$, adjusted $R^2 = .235$, and R^2 change = .032 (Table 2). A second multiple regression found

Table 1
Correlations, mean, and standard deviations for variables.

	Nonreferent downward	Other referent upward	Self-referent upward	Nonreferent upward	Optimism	Pessimism	Positive affect	Negative affect	M (SD)
Nonreferent downward	1	.230**	.271**	.197**	.232**	.036	.225**	−.005	12.80 (3.330)
Other referent upward	–	1	.460**	.483**	−.120**	.242**	−.011	.300**	11.64 (3.976)
Self-referent upward	–	–	1	.715**	−.105**	.308**	−.014	.340**	12.14 (3.494)
Nonreferent upward	–	–	–	1	−.142**	.343**	−.045	.373**	12.56 (3.678)
Optimism	–	–	–	–	1	−.395**	.368**	−.301**	10.31 (2.651)
Pessimism	–	–	–	–	–	1	−.146**	.301**	8.72 (2.821)
Positive affect	–	–	–	–	–	–	1	−.083*	17.42 (3.40)
Negative affect	–	–	–	–	–	–	–	1	12.22 (3.459)

* $p < .05$.
** $p < .01$.