Beliefs about Emotion:

Links to Emotion Regulation, Well-Being, and Psychological Distress

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Abstract

People differ in their implicit beliefs about emotions. Some believe emotions are fixed (*entity theorists*), while others believe that everyone can learn to change their emotions (*incremental theorists*). We extend the prior literature by demonstrating: (1) entity beliefs are associated with lower well-being, and increased psychological distress, (2) people's beliefs about *their own* emotions explain greater unique variance than their beliefs about emotions in *general*, and (3) implicit beliefs are linked with well-being/distress via cognitive reappraisal. These results suggest people's implicit beliefs – particularly about *their own* emotions – may predispose them towards emotion regulation strategies that have important consequences for psychological health.

The ability to adaptively regulate emotion is crucial for healthy functioning, and many psychological disorders involve some kind of emotion dysregulation (Werner & Gross, 2009). This observation has fueled interest in the consequences that different emotion regulation strategies have for well-being and psychological health (Aldao & Nolen-Hoeksema, 2012; Gross, 2007; Webb, Miles & Sheeran, 2012).

One emotion regulation strategy that has a broadly adaptive profile is reappraisal. This cognitive form of emotion regulation involves changing the way one thinks about an emotion-eliciting situation in order to change its emotional impact (Gross & Thompson, 2007). While it is true that reappraisal can be used in ways that are beneficial or detrimental, in general, reappraisal is considered an effective emotion regulation strategy for decreasing negative, and increasing positive emotions in the present moment (Goldin et al., 2009). Habitual use of reappraisal as an emotion regulation strategy is also associated with higher levels of positive, and lower levels of negative affect and depressive symptoms, as well as improved interpersonal functioning, self-esteem, and satisfaction with life (Gross & John, 2003).

Despite reappraisal's many advantages, not everyone makes use of this strategy in day-to-day life. Why is this? We hypothesize that one important determinant of emotion regulation use is the beliefs people hold about the *nature* of the emotions they experience. In particular, not all people view emotions as things that can be controlled (Tamir, John, Srivastava & Gross, 2007). Some people believe that you cannot really change the emotions that you experience (*entity theorists*), while others believe that everyone can learn to control or regulate their emotions (*incremental theorists*). These beliefs – about the controllability or malleability of particular attributes such as emotions – are also referred to as 'implicit theories' (see Dweck, 1999 for a review). While limited research exists on implicit beliefs about emotion, these beliefs have been studied in other domains.

Implicit Beliefs Across Domains

Work by Dweck and colleagues indicates that people hold implicit beliefs about the fixed or malleable nature of a wide range of abilities and traits including: intelligence (Blackwell, Trzesniewski & Dweck, 2007), personality (Erdley et al., 1997; Chiu, Hong & Dweck, 1997), athletic ability (Chen et al., 2008; Ommundsen, 2001), social skills (Rhodewalt, 1994), relationships (Knee, 1998; Knee, Patrick & Lonsbary, 2003), memory (Werth & Förster, 2002), fame (Maltby et al., 2008), and even one's morality or the nature of the world in general (Chiu, Dweck, Tong & Fu, 1997). Compared to *incremental* theorists (who believe in the potential for change), people holding *entity* beliefs typically believe in the fixed, unchanging nature of these attributes and traits.

These beliefs have important implications for self-regulation as well as social and emotional functioning. For example, research indicates that people holding entity beliefs often make global positive and negative trait judgments about people based on their actions and are also more likely to blame or condemn these personal qualities when they or others encounter setbacks (Chiu, Hong & Dweck, 1997; Gervey, Chiu, Hong & Dweck, 1999). Because entity theorists believe their weaknesses cannot be improved, they are also vulnerable to disengagement and helplessness (Hong, Chiu, Dweck, Lin & Wan, 1999; Ommundsen, et al., 2005; Rhodewalt, 1994), poorer coping strategies under stress (Doron, Stephan, Boiche & Le Scanff, 2009), reduced self-esteem (Rhodewalt, 1994), and more negative affect over time (Tamir et al., 2007; Robins & Pals, 2002).

Implicit Beliefs About Emotions

In the context of implicit beliefs about emotions, Tamir et al. (2007) found that these beliefs have important consequences for students during the transition to college. In a large longitudinal study with undergraduates, students holding entity beliefs about emotions reported fewer positive and more negative emotional experiences, as well as

increased feelings of depression, loneliness, and isolation from their peers. Other recent research with undergraduates has linked different kinds of beliefs about emotions (e.g., as overwhelming, shameful, and damaging) with clinical indications of anxiety and depression (Manser, Cooper, & Trefusis, 2012).

While these findings highlight the importance of various emotion beliefs, what is not yet clear is *why* beliefs about emotions have these affective and social correlates. One possibility is that implicit beliefs about emotions are linked with key emotion regulation tendencies. In particular, implicit beliefs may be one factor that explains individual differences in the use of adaptive emotion regulation strategies like reappraisal. When people believe that emotions cannot readily be controlled, they may be less inclined to use intentional cognitive strategies (like reappraisal) to regulate their emotions in daily life. Research with undergraduates (Tamir et al., 2007) found that prior to college, students holding entity beliefs about emotions do indeed report using reappraisal less frequently than their incremental counterparts. The potential mediating role of reappraisal however, has not yet been explored.

A second important gap in the literature has to do with the way that implicit beliefs are assessed. Traditionally, implicit beliefs have been measured by asking people to indicate how much they agree with statements describing a certain attribute either as a fixed or malleable trait. For example, in the domain of emotions: "No matter how hard they try, people can't really change the emotions that they have". While these domain-general beliefs predict a wide range of outcomes, it is not clear if, and to what extent, people's general beliefs about emotions differ from their beliefs about *their own* personal ability to change or control the emotions they experience. Because personal and domain specific beliefs are typically better predictors of goals, attributions, motivation and performance (Bandura, 1997; 2006; De Castella & Byrne, 2012), a first-person measure

of people's implicit beliefs about *their own* emotion may serve as an even better predictor of emotion regulation, well-being, and psychological distress.

The Current Study

Our goal was to extend initial findings by Tamir et al. (2007) by examining the relationship between implicit beliefs about emotion and emotion regulation, well-being, and psychological distress. We were also interested in examining how people's beliefs about the controllability of emotions *in general* might differ from their beliefs about the controllability of *their own emotions*. We expected (H1) entity beliefs about emotions would be associated with lesser use of reappraisal, lower levels of well-being (reduced self-esteem and satisfaction with life), and increased psychological distress (stress and depression). For each outcome, we predicted (H2) people's beliefs about their ability to control *their own* emotions (personal beliefs) would be a better predictor than their beliefs about the controllability of emotions in general (general beliefs). Finally, we expected that (H3) that implicit beliefs would be related to well-being/psychological distress via reappraisal frequency.

Methods

Participants and Procedure

Participants consisted of 216 undergraduate psychology students (67% female) from Stanford University. Students ranged from 17 to 29 years of age (M = 19.1, SD = 1.6). The sample consisted of 45% White Caucasian, 12% Chinese, 8% South/East Asian, 8% Hispanic, 8% African American, 6% Mixed, 5% Indian, 4% Mexican, and 3% Other. Students were invited to participate in exchange for course credit. All students were informed that participation was voluntary, that they could withdraw at any time, and that

there were no right or wrong answers. They were also informed that the information would be kept confidential.

Measures

Implicit Beliefs about Emotions

General beliefs about the malleability of emotions were assessed with the 4-item Implicit Beliefs about Emotion Scale (Tamir et al., 2007). Two items measured *incremental beliefs*, e.g., "If they want to, people can change the emotions that they have," "Everyone can learn to control their emotions," and two measured *entity beliefs*, e.g., "The truth is, people have very little control over their emotions," "No matter how hard they try, people can't really change the emotions that they have". Participants were asked to rate their agreement on a 5-point Likert scale. Incremental theory items were then reverse-scored and averaged with higher scores reflecting an entity theory and lower scores an incremental theory of emotions. In past research with undergraduates, the scale showed good internal consistency ($\alpha = .75$, Tamir et al., 2007). In the present sample, internal consistency was .77.

Personal beliefs about the malleability of emotions were assessed using a variant of the original 4-item measure (Tamir et al., 2007). All items were modified to reflect a first-person claim about the extent to which one could personally change or control their emotions. Efforts were made to ensure items stayed closely aligned to the originals. Items were as follows: "If I want to, I can change the emotions that I have," "I can learn to control my emotions," "The truth is, I have very little control over my emotions," and "No matter how hard I try, I can't really change the emotions that I have." In the present sample, internal consistency was .79.

Both scales were treated as continuous variables. This approach is consistent with previous research (Plaks & Stecher, 2007; Robins & Pals, 2002; Tamir et al., 2007) and

avoids loss of power associated with typologizing dimensional variables (Cohen, 1983).

For ease of interpretation, we refer to those with higher scores as holding entity beliefs

and those with lower scores as holding incremental beliefs. Psychometric properties of

these four implicit theories of emotion scale are presented in Table 1.

Emotion Regulation

Cognitive reappraisal use was assessed using the 6-item cognitive reappraisal

scale from the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) (e.g.,

"When I want to feel less negative emotion, I change the way I'm thinking about the

situation"). Responses are rated on a 7-point Likert scale ranging from 1 (*strongly*

disagree) to 7 (*strongly agree*). Research indicates that the scale is internally consistent

(values ranging from .83 to .86, Moscovitch et al., 2011) and displays strong convergent

and discriminant validity (Gross & John, 2003). In the present sample, internal

consistency was .89.

Well-Being

Self-esteem was assessed using The Single-Item Self-Esteem Scale (SISE;

Robins, Hendin & Trzensniewski, 2001). The SISE asks subjects to rate their agreement

with the following item: "I have high self-esteem". Responses are recorded on a 5-point

Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Research with the

SISE indicates that the scale is reliable and displays good criterion validity across a wide

range of measures. For this reason it has been presented as a practical alternative to the

Rosenberg Self-Esteem Scale (RSES) in adult samples (Robins et al., 2001).

Life satisfaction was measured using the 5-item Satisfaction With Life Scale

(SWLS; Diener, Emmons, Larsen & Griffin, 1985). The SWLS is a commonly used

measure of life satisfaction (e.g., "In most ways my life is close to ideal"). Items are rated

on a 7-point Likert scale with total scores ranging from 5 to 35. Research indicates the

scale is internally consistent and displays good test-retest reliability (Pavot & Diener,

1993; Pavot, Diener, Colvin & Sandvik, 1991). In the present sample, internal

consistency was .89.

Psychological Distress

Stress was measured with the 4-item Perceived Stress Scale (PSS-4; Cohen,

Kamarck & Mermelstein, 1983). The PSS-4 asks about the extent to which life situations

are appraised as stressful over the past month (e.g., "I felt that difficulties were piling up

so high that I could not overcome them"). Items are scored on a 4-point Likert scale

ranging from 1 (*rarely or none of the time*) to 4 (*most or all of the time*). Total scores

range from 4 to 16. The PSS-4 has been shown to be a reliable and internally consistent

measure of stress (Hewitt, Flett, & Mosher, 1992). In the present sample, internal

consistency was .81.

Depressive symptoms were measured using the Center for Epidemiological

Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a 20-item self-report

scale and is widely used as measure of depressive symptoms among adults (Radloff,

1977) and adolescents (Radloff, 1991) in the community. Participants are asked to rate

the frequency of various thoughts and feelings over the last week (e.g., "I felt hopeful

about the future" and "I had crying spells"). Responses are recorded on a 4-point Likert

scale ranging from 0 (*rarely or none of the time*) to 3 (*most or all of the time*). Total

scores range from 0 to 60 with scores of 15 and above indicative of mild to moderate

depression. Research with the CES-D indicates that it is internally consistent and displays

good construct validity and test-retest reliability (Radloff, 1977). In the present sample,

internal consistency was .91.

Results

Preliminary Analyses

Prior to analysis, all variables were examined for missing values and

distributional assumptions of multivariate analysis. Of the total sample, 8 surveys were

left blank or incomplete (missing data $> 10\%$) and were excluded from the analysis. This

reduced the total sample to 208. Across all variables, missing data were rare ($< 1\%$), and

were imputed with the overall mean for that variable – a conservative technique in such

cases (Tabachnick & Fidell, 2007). As in previous work on implicit theories (Tamir et al.,

2007), beliefs about emotion were not significantly related to gender or ethnicity and

these variables are not discussed further. Means (M), standard deviations (SD), ranges,

internal consistencies (α), and correlations for all variables are presented in Table 1.

Hypothesis 1: Links to Emotion Regulation, Well-Being, and Psychological Distress

Consistent with H1, both the general and personal scales demonstrated significant

correlations with emotion regulation, well-being, and psychological distress. Entity

beliefs were associated with lower levels of cognitive reappraisal, self-esteem, and

satisfaction with life, and higher levels of stress and depression.

[Table 1 about here]

A within-subjects t-test between the general and personal scales was used to

examine whether people's general beliefs about emotions differed significantly from their

appraisal of their *own* emotions. Consistent with previous research (De Castella & Byrne,

2012), people endorsed entity beliefs less on the personal measure ($M_{Personal} = 9.66$, $M_{General}$

$= 10.37$, $t(208) = 4.98$, p $< .001$, $d = .26$), indicating greater perceived control over *their*

own emotions.

Hypothesis 2: Personal vs. General Scale

To examine whether personal beliefs explained greater variance in emotion

regulation, well-being, and psychological distress, when compared to general beliefs (H2),

we conducted a series of two-step hierarchical regression analyses to examine the unique

variance explained by each scale. For each dependent variable, we tested two models. In the first model, the general scale was entered first, followed by the personal scale in the second step. In the second model, this pattern was reversed to control for the variance explained by the personal scale. To avoid problems associated with multicollinearity, variables were first centered by subtracting the mean (Tabachnick & Fidell, 2007). Table 2 displays the standardized regression coefficients (β), R^2 and R^2 change for the full and restricted models in each analysis.

[Table 2 here].

Both scales accounted for a significant portion of variance in all variables. The belief that emotions were fixed predicted decreased use of reappraisal, increased psychological distress (stress and depression), and decreased well-being (lower self-esteem and satisfaction with life). The personal scale consistently explained unique variance on these measures over and above the general scale. The general scale however, failed to contribute unique outcome variance when controlling for the personal measure.

Hypothesis 3: The Indirect Effect of Reappraisal

To test whether implicit beliefs would be related to well-being/psychological distress via cognitive reappraisal (H3), we examined the indirect effect of implicit beliefs via reappraisal using separate analyses for each of our dependent variables (self-esteem, satisfaction with life, stress, depression).

Specifically, using the Preacher and Hayes (2008) SPSS macros for indirect effects, we conducted a bootstrap of 5,000 samples and generated an empirically derived sampling distribution; confidence intervals were derived from this distribution and used to test for significance of the indirect effect. Unlike other traditional tests of mediation, such as the Sobel test (1982, 1986) and those presented by Baron and Kenny (1986), the bootstrap method does not assume standard errors are normally distributed and does not

compromise statistical power with multiple tests. It is also the preferred approach for small-to-medium samples (Preacher & Hayes, 2008). In all analyses, we used the personal measure of implicit beliefs about emotion. Gender, age and ethnicity were not associated with implicit beliefs, reappraisal, or any of the dependent variables.

Results indicated that the indirect effect of emotion beliefs via cognitive reappraisal was significant in each analysis with 95% confidence intervals excluding zero: self-esteem ($ab = -.03$, 95% CI = [-.06, -.01]); satisfaction with life ($ab = -.24$, 95% CI = [-.47, -.10]); stress ($ab = .07$, 95% CI = [.02, .14]), and depression ($ab = .31$, 95% CI = [.10, .67]).

[Figures 1 and 2 here].

Secondary Analyses

In addition to testing the proposed causal model, we tested 3 alternative models of indirect effects: 1) Reverse causation – well-being and clinical symptoms linked with entity beliefs via reappraisal 2) Entity beliefs predicting reappraisal via well-being and clinical symptoms and, 3) Reappraisal predicting well-being and clinical symptoms via entity beliefs. Model 1 was significant for all DVs except depression. Model 2 was significant for all DVs. For model 3, the indirect effect of reappraisal via entity beliefs was only significant for stress and depression and not for self-esteem or life satisfaction.

Analyses of indirect effects were also repeated to examine the unique contribution of the personal and general emotion belief scales in predicting each of the dependent variables. Consistent with H2 in each analysis, the effect of *personal beliefs* via reappraisal was significant when controlling for general beliefs about emotions (all CIs excluding 0). And, in each analysis, the effect of *general beliefs* via reappraisal was not significant when controlling for personal beliefs about emotions (all CIs including 0).

Discussion

Despite a great deal of research on implicit beliefs in social and educational psychology (Blackwell et al., 2007; Chiu, Hong & Dweck, 1997; Hong, Chiu, Dweck, Lin & Wan, 1999; see Dweck 1999 for a review), very little is known about how various types of implicit beliefs might be related more broadly to clinical symptoms and psychological health. The primary aim of the current study was to extend findings reported by Tamir et al. (2007) by examining people's beliefs about *their own* emotions and possible links to emotion regulation, well-being, and psychological distress. Findings indicated that the more people endorsed entity beliefs about emotions, the less likely they were to use reappraisal in daily life. Entity beliefs about emotions were also associated with decreased well-being (reduced self-esteem and satisfaction with life) and increased psychological distress of stress and depression – results that were partly explained by differences in peoples' use of reappraisal.

Implications for Implicit Beliefs

Results from the current study indicate that people's beliefs about their ability to control *their own* emotions are an even better predictor of well-being and psychological distress than their beliefs about emotions in general. This was true both in explaining variance in the dependent variables (H2) and in using the two scales to test the indirect effect of reappraisal (H3). The personal scale may thus offer theoretical and practical advantages over the general scale in research on emotion regulation and affective functioning. Given similar findings with implicit beliefs about *one's own* intelligence (De Castella & Byrne, 2012), the development of other personal scales may also have potential in many areas where self-efficacy and ability attributions play a key role.

It also bears noting that on average, people scored higher in their endorsement of incremental items when asked about their ability to control their own emotions, and

displayed higher endorsement of entity items when considering emotions as a broader construct. These results suggest that domain-general beliefs are not necessarily a precursor of subsequent beliefs about one's *personal* abilities as suggested by Tamir and colleagues (2007). The results are also consistent with research in non-clinical settings on positive illusions, self-presentational biases, and self-enhancing contrast effects (Gramzow, Elliot, Asher & McGregor, 2003; Story & Dunning, 2002; Taylor & Brown, 1998; 1994; Taylor & Armor, 1996). The belief that emotions are 'more malleable' for the self than others may thus reflect another way in which people seek to boost self-esteem and enhance or protect a positive self-concept.

Recognizing that there may be discrepancies between people's broader implicit beliefs and their beliefs about *themselves* may become particularly important in the context of treatments and interventions. Research on implicit beliefs about intelligence indicates that while people's beliefs are often stable, simple interventions can lead to long-lasting effects (Aronson et al., 2002; Good, Aronson & Inzlicht, 2003; Blackwell et al., 2007). Much of this work has taught incremental beliefs to students explicitly through messages, case studies, and vignettes (Bergen 1992), or indirectly through letter writing tasks, feedback, praise, and criticism (Kamins & Dweck, 1999; Muller & Dweck, 1998). Other interventions have also sought to teach an incremental theory through videos, mentoring, and letter writing tasks (Aronson et al., 2002; Good et al., 2003), workshops (Blackwell et al., 2007), and computer programs like *Brainology* (2010). While these interventions teach people about their potential for change and growth, results from the current study suggest knowing that change is possible for *some* is not the same as believing in one's ability to *personally* change. The extent, then, to which incremental beliefs are personally internalized may determine how, and for whom, this message is most effective.

Implications for Emotion Regulation

In addition to extending research on implicit beliefs, these results may have important implications for work on emotion regulation and psychopathology. The current study examined emotion beliefs, cognitive reappraisal, and clinical outcomes in an undergraduate sample. However, the relationship between implicit beliefs, reappraisal, and psychological distress indicates that these beliefs may potentially have an important role to play in the etiology and subsequent treatment of clinical disorders.

Emotion dysregulation is a core feature of many Axis I and Axis II disorders (Gross, 1998b) and training in emotion regulation strategies like cognitive reappraisal is a key component of many forms of psychotherapy (Werner & Gross, 2009). However, the strategies patients ultimately use to regulate their emotions – and whether they even make such attempts at all – may be linked to the implicit beliefs they hold about their ability to control the emotions they experience. This is an important area for future investigation as it may have substantial impact on treatment.

Our results indicate that cognitive reappraisal may be an important intervening variable between people's beliefs about their emotions and their general psychological health and well-being. While these findings begin to explain *how* implicit beliefs operate, there may also be other mechanisms at play. For example, people holding entity beliefs about their emotions might also be more likely to avoid situations that could arouse a strong negative reaction. They might also seek to modulate their physiological reactions by more readily turning to prescription or recreational drugs, tobacco, alcohol or caffeine.

Recent work by Berking et al. (2012) indicates that a wide range of skills are involved in emotion regulation and coping, for example: emotional awareness and identification; interpretation of sensations; understanding of emotional triggers; and a willingness to confront and respond compassionately to oneself in distressing situations.

Interestingly, in their research with both students and psychiatric inpatients, the relationship between these skills and reductions in psychological distress was mediated by how effectively subjects were able to *modify* their negative emotions. The process model of emotion regulation (Gross & Thompson, 2007) points to a wide range emotion regulation strategies available to people at different stages in the emotion generation process. Given that many features of psychopathology involve poorly implemented, inflexible or context-insensitive strategies (Werner & Gross, 2009), we believe that an examination of the relationship between implicit beliefs and different emotion regulation strategies will be a fruitful area for future research. One exciting avenue for future work in this area might involve using longitudinal methods to examine whether existing forms of psychotherapy lead to reliable long-term shifts in patients' implicit beliefs about their own emotions and whether these changes are predictive of emotion regulation strategies and treatment outcomes. Experimentally manipulating patients' perceived control over their emotions would also provide greater evidence for the causal role these beliefs play in emotion regulation and psychological health.

Limitations and Future Directions

The current study represents an important first step towards understanding the role of implicit beliefs in psychological health, and well-being. However, several limitations should be noted.

First, despite our large sample it is important to note that data collected in the current study are self-reports and based on a student sample. As with much of the research on implicit beliefs in other domains (see Dweck, 1999), this limits generalizability beyond non-clinical student samples. Given that implicit beliefs about emotions may have important clinical implications, we believe future work in adult

community samples and clinical populations may improve our understanding of the role these beliefs play in psychological illness.

A second limitation relates to measurement. In the current study, we included a variety of clinical and well-being indicators, and focused on reappraisal as a variable that might explain links between implicit beliefs and these outcomes. However, it may also be interesting to examine whether implicit beliefs orient people towards other emotion regulation strategies that have more or less adaptive consequences. Future research might consider possible links between implicit beliefs and other emotion regulatory strategies such as situation selection and response modulation, as well as the possibility of incorporating a wider variety of measures that assess psychological distress and well-being. This work would be strengthened with the inclusion of data from multiple sources – such as independent evaluations, psychophysiological assessments, and behavioral tasks.

A final limitation relates to the causal relationship among variables. The current study has identified important links among implicit beliefs about emotion, emotion regulation strategies, well-being, and psychological distress. We have presented a model in which implicit beliefs about emotion guide emotion regulation strategies, which in turn have important consequences for well-being and psychological health. This model is theoretically motivated and consistent with a large body of research on implicit theories (Aronson et al., 2002; Blackwell et al., 2007; Good, Aronson & Inzlicht, 2003; Muller & Dweck, 1998; Tamir et al., 2007). It also fits nicely with research on the impact of reappraisal on affect and emotional experience (e.g., Gross, 1998a; John & Gross, 2004; Jamieson, Nock, & Mendes, 2012; Rood, Roelofs, Bogels, & Arntz, 2012; Wolgast, Lundh, & Viborg, 2011). None the less, it is important to recognize that the cross-sectional nature of this study makes it impossible to establish clear causal relationships

between variables. For example, entity beliefs about emotion may also reflect existing deficiencies in emotion regulation or lead to poorer well-being and psychological health which in-turn impact on people's ability to use cognitive reappraisal as a strategy to regulate their emotions. Bi-directional relationships of this kind may be particularly important in the context of clinical disorders like depression where cognitive biases and neural dysfunction are also associated with difficulties implementing cognitive regulation strategies (Foland-Ross & Gotlib, 2012; Johnstone et al., 2007). According to Social Cognitive Theory – which underpins much of the work on implicit theories – personal, behavioral and environmental factors mutually influence one another in a bidirectional, reciprocal fashion. This assumption – often referred to as triadic reciprocal determinism – does not detract from the important and often causal role of belief change in this process (Bandura, 1997).

Despite these limitations, the current study makes a number of important contributions to the fields of social and clinical psychology. Consistent with findings reported by Tamir et al. (2007), our results suggest that not all people view emotions as things that can be controlled. Those who do, however, are more likely to use adaptive emotion regulation strategies like cognitive reappraisal in daily life and this, in turn, partly accounts for their increased levels of well-being and decreased psychological distress. These findings suggest that the implicit beliefs that people hold – particularly about *their* emotions – may have important implications for emotion regulation and experience. Understanding where these beliefs come from and how they may be altered promises to be a constructive area for future research.

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Table 1

Descriptive Statistics, Cronbach's Alphas, and Correlations

Variable	M	SD	Range	α	1	2	3	4	5	6	7
						Correlations					
1. General Entity Beliefs	10.37	2.76	4.00 – 20.00	.77	1	.73**	-.26**	-26**	-.18*	.31**	.15^
2. Personal Entity Beliefs	9.66	2.82	4.00 – 20.00	.79		1	-.34**	-.37**	-.24**	.38**	.27**
3. Cognitive Reappraisal	30.44	5.78	10.00 – 70.00	.89			1	.34**	.37**	-.33**	-.38**
4. Self-esteem	3.60	1.01	1.00 – 5.00	-				1	.53**	-.51**	-.43**
5. Satisfaction with life	26.54	6.09	5.00 – 35.00	.89					1	-.57**	-.48**
6. Stress	7.09	2.49	4.00 – 16.00	.81						1	.67**
7. Depression	26.75	8.00	0.00 – 60.00	.91							1

$^\wedge p<0.05$ $*p<0.01$ $** p < 0.001$

Table 2

The Personal vs. General Implicit Beliefs About Emotion Scales: Hierarchical Multiple Regressions Predicting Reappraisal Use, Well-Being, and Psychological Distress

Dependent Variable and Step	β		R^2	R^2 Change
	Step	Final		
Reappraisal Use				
1. General Entity Beliefs	-.26**	-.01	.06**	
Personal Entity Beliefs		-.34**	.11**	05**
2. Personal Entity Beliefs	-.34**	-.34**	.11**	
General Entity Beliefs		-.01	.11**	.00
Well-being				
Self Esteem				
1. General Entity Beliefs	-.26**	.01	.06**	
Personal Entity Beliefs		-.37**	.13**	.07**
2. Personal Entity Beliefs	-.37**	-.37**	.13**	
General Entity Beliefs		.01	.13**	.00
Life Satisfaction				
1. General Entity Beliefs	-.18**	-.01	.03**	
Personal Entity Beliefs		-.24**	.05**	.02*
2. Personal Entity Beliefs	-.24**	-.24**	.05**	
General Entity Beliefs		.01	.05**	.00

Psychological Distress

Stress

1.	General Entity Beliefs	.31**	.07	.09**	
	Personal Entity Beliefs		.33**	.14**	.05**
2.	Personal Entity Beliefs	.38**	.33**	.14*	
	General Entity Beliefs		.07	.14*	.00

Depression

1.	General Entity Beliefs	.15*	-.10	.02*	
	Personal Entity Beliefs		.34**	.07**	.06**
2.	Personal Entity Beliefs	.27**	.34**	.07**	
	General Entity Beliefs		-.10	.07**	.00

$**p < .001$ $* p < .05$ Beta is the standardized regression coefficient. Adjusted R^2 values and increments for R^2 Change significance levels are based upon F tests for

Figure 1.

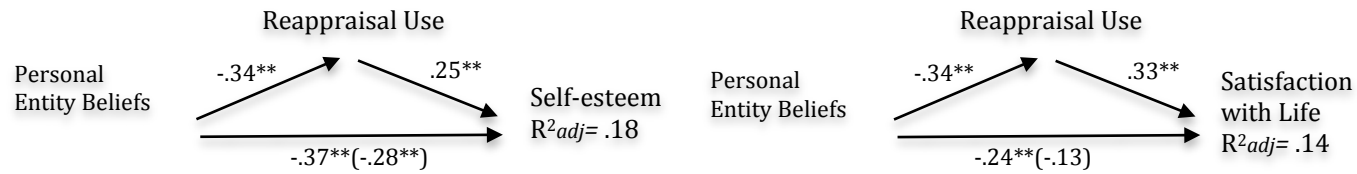The indirect effect of entity beliefs about emotions on well-being via reappraisal

Figure 1. Values are standardized coefficients. When controlling for cognitive reappraisal use, the regression coefficient for the effect of implicit beliefs (in parentheses) decreases to non-significance for satisfaction with life but remains significant for self-esteem.
**P < .001

Figure 2.

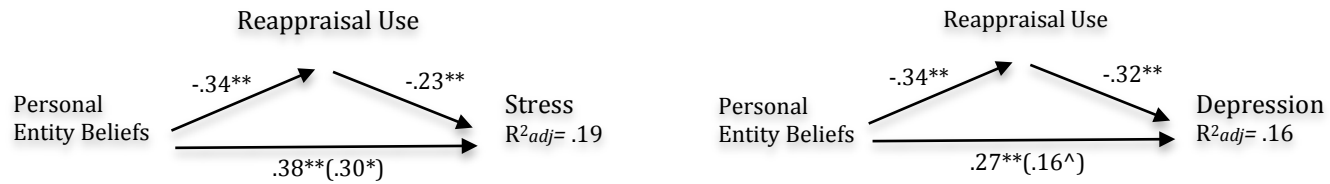The indirect effect of entity beliefs about emotions on psychological distress via reappraisal

Figure 2. Values are standardized coefficients. The regression coefficient for the effect of implicit beliefs (in parentheses) decreases when controlling for cognitive reappraisal but not to non-significance.

^ *p < .05 *P < .01 **P < .001*