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Regulating for a Reason: Emotion Regulation Goals are Linked to Spontaneous Strategy Use

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Abstract

Objective: We investigated how individual differences in emotion regulation goals predict emotion regulation strategy use in daily life.

Method: Across three studies, we assessed two common types of emotion regulation goals (hedonic, social) and strategies spanning the entire process model of emotion regulation (Gross, 1998b). We conducted two studies using global measures with undergraduates (N = 394; 18–25 years; 69% female; 56% European-American) and community members (N = 302; 19–74 years; 50% female; 75% European-American), and a 9-day daily diary study with another community sample (N = 272; 23–85 years; 50% female; 84% European-American).

Results: Globally and in daily life, pro-hedonic goals were positively associated with all antecedent-focused strategies (situation selection, situation modification, distraction, reappraisal), pro-social goals were positively linked to reappraisal, and impression management goals positively predicted suppression. Contra-hedonic goals were negatively associated with reappraisal and positively associated with suppression in some studies.

Conclusions: The reasons why people regulate their emotions are predictive of the strategies they use in daily life. These links may be functional, such that people typically use strategies that are suitable for their goals. These findings demonstrate the value of an individual difference approach and highlight the motivational component of emotion regulation.

Keywords

emotion regulation; emotion regulation goals; strategy use; functional approach; process model

The ways we manage our emotions have important consequences for our emotional well-being (Webb, Miles, & Sheeran, 2012) and social relationships (e.g., English, Srivastava, John, & Gross, 2012; Srivastava, Tamir, McGonigal, John, & Gross, 2009). However, little is known about the factors that predict emotion regulation strategy use. Examining the factors

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that predict emotion regulation strategy use is important because it might shed light on the functions of different emotion regulation strategies. For example, although expressive suppression is harmful for emotional well-being (Webb et al., 2012), people might be motivated to use it for a different reason, such as impression management (English, Lee, John, & Gross, 2017). In addition, identifying relevant factors can inform our understanding of how to most effectively change people's strategy use. For example, if we want to help someone use suppression less, then we can target the factors that motivate them to use suppression in the first place. In the current paper, we evaluate one factor that may be critical for predicting emotion regulation strategy use: *emotion regulation goals*, or the reasons why people regulate their emotions. Emotion regulation goals should be central to the strategies people use because goals guide our thinking and motivate our decisions (Carver, Sutton Scheier, 2000; Elliot, 1999).

Although experimental paradigms can elucidate the consequences of emotion regulation (Webb et al., 2012), and even certain underlying motives (Sheppes, Scheibe, Suri, Radu, Blechert, & Gross, 2014), individual difference approaches are optimal for capturing how strategy use spontaneously unfolds in daily life. Prior research has examined how personality factors, such as attachment style and the Big Five traits, relate to individual differences in emotion regulation strategy use (Gresham & Gullone, 2012; Gross & John, 2003). However, an individual difference approach has rarely been used to examine the role of emotion regulation goals in strategy use (English et al., 2017). In addition, the existing studies on strategy use have had some important limitations.

First, research in this area has focused on only a few strategies, namely suppression, reappraisal, and distraction (English et al., 2017; Sheppes et al., 2014). Thus, we know little about what factors predict the use of other important strategies (e.g., situation selection). By including a broader range of strategies we can test whether some goals are important for the use of certain strategies, but not others. For instance, might people who often regulate their emotions to feel better rely more on certain types of strategies (e.g. reappraisal or other antecedent-focused tactics) than on other types (e.g., suppression or other response-focused tactics)? Second, most studies have relied on undergraduate samples. However, it is important to examine questions about strategy use in age-diverse samples. There is some evidence of age differences in emotion regulation goals (e.g., Riediger, Schmiedek, Wagner, & Lindenberger, 2009) and strategies (e.g., Brummer et al., 2014). In addition, researchers propose that people regulate their emotions more effectively as they age (English & Carstensen, 2013). As a result, older adults might have more adaptive links between goals and strategies, or associations may become more stable with age.

We extend and address the limitations of prior research across three studies using global trait measures administered to undergraduates (Study 1) and an age-diverse community sample (Study 2), as well as daily diary measures (Study 3). We examine specific emotion regulation goals as predictors of the use of a broad range of strategies that span the entire process model of emotion regulation (Gross, 1998b). Drawing on functional approaches to emotion (e.g., Keltner & Haidt, 1999; Tamir, 2009), we test the hypothesis that strategies are linked to the distinct goals they can best serve.

Emotion Regulation Goals

People do not typically regulate their emotions unless they have a reason to do so (Tamir, 2009). And yet, little research has considered how emotion regulation goals predict strategy use. In fact, it was only recently that a taxonomy of emotion regulation motives was even proposed (Tamir, 2016). We focus on two categories from this taxonomy: hedonic goals and social goals. *Hedonic goals* capture the desire to change one's emotional state. They include two main sub-types: *pro-hedonic goals*, which involve the motivation to feel positively, and *contra-hedonic goals*, which involve the motivation to feel negatively. *Social goals* refer to the desire to influence social interactions or relationships and are one type of instrumental goal. They differ from hedonic goals in that they are not focused on simply wanting to change how one feels, but rather, focus on wanting to achieve a secondary, or instrumental, outcome. Although Tamir's (2016) taxonomy does not delineate between specific social goals, it can be useful to do so because social goals are a broad category.

Outside the context of emotion regulation, developmental researchers have distinguished between social goals that are other-oriented (e.g., maintaining a relationship) and self-oriented (e.g., avoiding social rejection; Jones, Abbey, & Cumberland, 1998; Martini, 2011). Similar frameworks for social goals have been proposed in the close relationships literature. For instance, Crocker and Canevello (2008) distinguish between self-image goals and compassionate goals, which map onto self-oriented and other-oriented goals, respectively. Relatedly, Gable (2006) distinguishes between appetitive social goals and aversive social goals, which are also akin to self-oriented and other-oriented goals, respectively. Using these conceptualizations, we distinguish between two social emotion regulation goals: *pro-social goals*, which focus on promoting one's relationships, and *impression management goals*, which focus on controlling how one appears to others. Recent studies have in fact shown that people differ in their habitual and daily pursuit of both social goals (Eldesouky & English, 2018b; English et al., 2017).

We focus on hedonic and social goals specifically because they have received significant attention in the literature and are some of the most commonly pursued goals. In daily life, people typically regulate their emotions to change their emotional state (Gross, Richards, & John, 2006; Kalokerinos, Tamir, & Kuppens, 2017; Riediger et al., 2009) and emotion regulation primarily occurs in social contexts (Heiy & Cheavens, 2014; Zaki & Williams, 2013). Given how often hedonic and social goals are pursued, they likely play a fundamental role in how people typically regulate their emotions and are ideal candidates for beginning to understand the links between goals and strategies. Furthermore, the consequences of emotion regulation for the domains associated with these goals – affective and social functioning – are well-established (e.g., Srivastava, 2009; Webb et al., 2012), whereas the consequences of emotion regulation for domains linked to other goals are not (e.g., task performance). This is crucial since we use research on emotion regulation's impact on these domains to make our predictions about the links between goals and strategies.

Emotion Regulation Strategy Use

Gross' (1998b) process model of emotion regulation proposes five families of strategies. *Situation selection* describes approaching or avoiding situations based on how one expects to feel. *Situation modification* describes altering an aspect of a situation to influence its emotional impact. Attentional deployment describes selectively directing one's attention towards or away from an emotional stimulus (e.g., distraction). *Cognitive change* describes altering the meaning of an emotional stimulus (e.g., cognitive reappraisal). *Response-modulation* describes influencing an emotion's response tendencies (e.g., expressive suppression). These families of strategies are arranged on a spectrum based on when they target an emotional response. The first four families are *antecedent-focused,* occurring before a full emotional response has been elicited, while the fifth family is *response-focused,* occurring after an emotional response.

The differing time points targeted by emotion regulation strategies can provide important clues as to how strategies might be motivated by distinct goals. Depending on when a strategy influences an emotion's trajectory, there are differing consequences for emotional well-being and social functioning. We discuss these consequences in the next section and use them to make the argument that strategies should *typically* be associated with goals for which they are useful in achieving. We recognize that people do not always regulate their emotions adaptively (e.g., Aldao, Nolen-Hoeksema, & Schweizer, 2010; Gratz & Roemer, 2004). However, prior research shows that at least when asked to make a choice, people prefer to use the strategies that are most effective for reaching their goals. Consider the role of emotional intensity in emotion regulation strategy choice. Experimental studies show that distraction is more effective in reducing negative emotional experience in high-intensity contexts, and reappraisal is more effective in reducing negative emotional experience in low-intensity contexts (Scheibe, Sheppes, & Staudinger, 2015; Shafir, Scwartz, Blechert, & Sheppes, 2015; Sheppes et al., 2014). More importantly though, regulators' choices of these strategies are consistent with their consequences: people prefer distraction in high-intensity contexts and reappraisal in low-intensity contexts. Thus, we draw on this literature to test whether people also typically use strategies that are useful for their goals.

Hedonic goals.

Antecedent-focused strategies primarily target emotional experience. Accordingly, they are more effective in changing emotional experience than response-focused strategies (Gross, 1998a; Webb et al., 2012). Situation selection and situation modification increase positive emotion when they involve engaging with positive stimuli and increase negative emotion if used to engage with negative stimuli (Livingstone & Issacowitz, 2015). Similarly, experiments show that reappraisal can successfully increase the experience of positive emotion (Kim & Hamann, 2007) and reduce the experience of both negative (McRae, Ochsner, Mauss, Gabrieli, & Gross, 2008) and positive emotion (Kalokerinos, Greenaway, & Denson, 2015). In contrast to antecedent-focused strategies, suppression tends to leave the experience of negative emotion intact (Gross, 1998a; Kalokerinos et al., 2015). When it does change emotional experience though, suppression increases negative emotion (Gross & Levenson, 1997) and decreases positive emotion (Vrticka, Sander, & Vuilleumier, 2011).

Given that antecedent-focused strategies are typically more effective for changing emotional experience, we hypothesize that people who frequently pursue hedonic goals will be more motivated to use these strategies, rather than response-focused ones. Consistent with this idea, English et al. (2017) found that greater daily pro-hedonic regulation was associated with greater daily use of distraction and reappraisal, but lesser use of suppression. Given that suppression can sometimes be effective for feeling negatively though, we expect less strong strategy preferences for people who often pursue contra-hedonic goals. That is, these individuals will be less likely to use antecedent-focused strategies over response-focused ones compared to those who frequently pursue pro-hedonic goals.

Social goals.

There is significantly less research on the social consequences of emotion regulation strategies than on their affective consequences. Thus, we focus our predictions on the two strategies with the largest base of evidence (i.e., reappraisal and suppression) and take an exploratory approach to other strategies. People higher in habitual reappraisal use have greater peer-rated closeness (English et al., 2012; Gross & John, 2003), whereas those higher in habitual suppression use have lower peer-rated closeness, social support, and social satisfaction (Impett et al., 2012; Srivastava et al., 2009). Researchers propose that reappraisal has interpersonal benefits because it helps people see others' perspectives (Reeck et al., 2016). For instance, Israeli adults who used reappraisal in regards to the Israeli-Palestinian conflict felt less negative emotion towards Palestinians and were more willing to resolve the conflict than control participants (Halperin et al., 2013). Similarly, couples who reappraised their martial conflicts were protected from a normative decline in marital quality (Finkel et al., 2013). On the other hand, suppression blocks important relational information conveyed by emotional expressions (e.g., motivations, intentions; Ekman, 1993; Graham, Huang, Clark, & Helgeson, 2008). It decreases responsiveness in conversations with strangers (Butler et al., 2003) and intimacy behaviors with romantic partners (Bloch, Haase, & Levenson, 2014; Peters & Jamieson, 2016). Thus, we expect that people who pursue pro-social goals more often will be higher in reappraisal use, but not suppression use.

Although suppression may not facilitate relationship closeness, it can still be useful for protecting one's self-image (Kalokerinos, Greenaway, & Casey, 2017). The modulation of emotional expression plays an important role in impression management (Leary & Kowalski, 1990). A meta-analysis found that suppression effectively changes expression, even more so than reappraisal (Webb et al., 2012). Accordingly, there is evidence that suppression can lead to positive impressions on others. For instance, outside observers rated people who suppressed their emotions while watching a racy film clip as more polite than those who expressed their emotions (Tackman & Srivastava, 2016). People who suppressed their positive emotions after winning an award were also viewed more favorably than people who expressed them (Kalokerinos, Greenaway, Pedder, & Margetts, 2013). Thus, we hypothesize that people higher in their pursuit of impression management goals will be higher in suppression use, but not reappraisal use. Notably, in their undergraduate sample, English and colleagues (2017) found that daily impression management goals predicted greater daily suppression, but not reappraisal.

The Present Research

Emotion regulation processes are activated by goals (Mauss & Tamir, 2014). We propose that the specific goals people typically pursue guide how they typically regulate their emotions. To test this idea, we evaluated how two theoretically important and commonly pursued types of emotion regulation goals (i.e., hedonic, social) are linked to the use of various strategies. We examined these associations using global trait (Studies 1 and 2) and daily measures (Study 3). Taken together, these studies are an important extension of past work by evaluating how a key motivational factor guides the use of a wide array of emotion regulation strategies in daily life.

Study 1

In Study 1, we tested whether self-reported habitual pursuit of hedonic and social goals predict self-reported habitual use of emotion regulation strategies in an undergraduate sample. As an initial investigation, we focused on reappraisal and suppression because there was a stronger basis for the functions of these strategies given that their affective and social consequences have been extensively studied (e.g., Srivastava et al., 2009; Webb et al., 2012). We expected people who report pursuing pro-hedonic and pro-social goals more often to be higher in reappraisal use. In contrast, those who reported pursuing impression management goals more often would be higher in suppression use.

Participants and Procedure

The sample had 394 undergraduates (69.3% female), ages 18–25 years (M = 19.63 years, SD = 1.30); 55.7% were European-American, 26.7% were Asian-American, 6.7% were Latino, 5.2% were African-American, 5.7% were multi-racial or identified with other ethnicities. They received one credit. We determined sample size based on participant availability. Participants completed a survey with measures of habitual emotion regulation goals and strategies.

Measures

Emotion regulation goals.

We used the Emotion Regulation Goals Scale (ERGS; Eldesouky & English, 2018b) to assess the habitual pursuit of emotion regulation goals. Participants were asked “when you regulate your emotions how often do you do so for the following reasons?” These reasons included pro-hedonic goals (3 items; e.g., e.g., “to feel more positive emotion (e.g., joy, contentment)”), contra-hedonic goals (3 items; e.g., “to feel more negative emotion (e.g., anger, sadness)”), pro-social goals (5 items; e.g., “to maintain a close relationship with others”), and impression management goals (4 items; e.g., “to avoid being rejected by others”). Each subscale in the ERGS is balanced with items that are approach-oriented (e.g., “to make a positive impression) and avoidance-oriented (e.g., to avoid being rejected by others”). Participants rated the items on a 7-point scale (1 = *never*; 7 = *always*).

Emotion regulation strategies.

We used the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) to assess habitual reappraisal (6 items; "I control by emotions by changing the way I think about them") and suppression (4 items; "I control my emotions by not expressing them"). Participants rated the items on a 7-point scale (1 = *strongly disagree*; 7= *strongly agree*).

Results and Discussion

Descriptives and reliabilities for Study 1 variables are shown in Table 1. There were small to moderate correlations between the goal categories (*r*s = −.04 to .62), with the weakest correlation being between the hedonic goals and the strongest association being between the social goals. We accounted for the moderate overlap among goals by conducting regression analyses whereby the four goals were included as simultaneous predictors of each emotion regulation strategy (see Table 2).

There were differential associations between global emotion regulation goals and strategies. As expected, people who reported frequently pursuing pro-hedonic goals chronically relied on reappraisal more and suppression less. Interestingly, reappraisal was less likely to be used among individuals who endorsed contra-hedonic goals. Thus, while reappraisal is effective in achieving a range of hedonic goals (e.g., Kalokerinos et al., 2015), it might only be used more often when people have the desire to feel positively, not negatively. Suppression was unrelated to contra-hedonic goals. Meanwhile, there was also specificity in the links between social goals and strategies. Supporting our hypotheses, reappraisal use was higher among those who pursued pro-social goals more often, whereas suppression use was higher among those who pursued impression management goals more. Unexpectedly, less pursuit of impression management goals predicted greater reappraisal use. In sum, reappraisal and suppression were each linked to a unique profile of hedonic and social goals.

Study 2

In Study 2, we expanded on Study 1 by examining how individual differences in hedonic and social goals predict the habitual use of five emotion regulation strategies, capturing all families of the process model of emotion regulation (Gross, 1998b). We also sought to replicate Study 1 within an age-diverse community sample. We expected that people who tend to pursue hedonic goals would be higher in their use of antecedent-focused strategies and lower in their use of suppression. In addition, we expected that those who often pursue pro-social goals would be higher in reappraisal, whereas people who frequently pursue impression management goals would be higher in suppression. We did not have hypotheses about how social goals relate to situation selection, situation modification, or distraction and thus, conducted exploratory analyses for these associations.

Participants and Procedure

The sample consisted of 302 adults (50.3% female), ages 19–74 years (*M* = 35.68 years, *SD* = 11.15), recruited from Amazon Mechanical Turk; 74.5% were European/European-American, 10.3% were African-American, 9.9% were Asian/Asian-American, 6.6% were

Latino, and 3.3% identified with other ethnicities. Participants received $2.00 as compensation. We used the average effect size for associations between emotion regulation goals and strategies from Study 1 (r = .20) to determine our sample size. As in Study 1, participants completed a survey with measures of individual differences in emotion regulation goals and strategies.

Measures

Emotion regulation goals.

Participants rated their habitual pursuit of pro-hedonic, contra-hedonic, pro-social, and impression management goals using the ERGS (Eldesouky & English, 2018b). They rated all items on the same 7-point scale (1 = *never*; 7 = *always*).

Emotion regulation strategies.

Participants reported their habitual pursuit of five strategies: situation selection (5 items, e.g., "I control my emotions by carefully choosing the situations I get myself into;" English, John, & Gross, 2017), situation modification (2 items; e.g., "I control my emotions by trying to change something in my situation"), and distraction (3-items, e.g., "I control my emotions by focusing my attention on something other than the situation"), as well as reappraisal and suppression (as in Study 1, both assessed with the ERQ; Gross & John, 2003). Participants rated all items on a 7-point scale (1 = *strongly disagree*; 7 = *strongly agree*).

Results and Discussion

Descriptives and reliabilities for Study 2 variables are shown in Table 1. As in Study 1, hedonic goals were most weakly correlated (r = .06) and social goals were most strongly correlated (r = .52). Thus, we conducted regression analyses with the four emotion regulation goals as simultaneous predictors of each strategy (see Table 2). Neither age nor gender moderated any of our findings, so we did not include them in the final models presented.

Overall, the main findings from Study 1 replicated in our age-diverse community sample. Specifically, individuals higher in habitual reappraisal use endorsed pro-hedonic and pro-social goals more, while those higher in habitual suppression use reported pursuing impression management goals more. These results are important because they suggest that reappraisal and suppression not only vastly differ in their affective and social consequences (Srivastava et al., 2009; Webb et al., 2012), but also in their sources of motivation. Expanding on Study 1, all other antecedent-focused strategies (e.g., situation selection) were also positively associated with pro-hedonic goals. Thus, people who often regulate their emotions to feel positively are not just more likely to use reappraisal, but they also chronically rely on other antecedent-focused strategies. Our exploratory analyses revealed one association between social goals and other antecedent-focused strategies: individuals who reported pursuing more pro-social goals were higher in habitual distraction. Thus, while pro-hedonic goals appear to motivate the use of antecedent-focused strategies, people might avoid strategies very early in the process model when regulating for social reasons. It is also worth noting though that the two antecedent-focused strategies tied to social goals (i.e.,

reappraisal, distraction) were not tied to impression management. Thus, the social goals that motivate antecedent-focused strategies may still be distinct from those that motivate strategies that focus on modulating emotional expression.

Study 3

In Study 3, we sought to replicate the links between emotion regulation goals and strategies in a daily diary study within another age-diverse sample. Daily measures are sometimes considered more accurate than global measures because they involve making judgments about a more constrained time frame (Fleeson, 2009; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004) and because people are less likely to be influenced by beliefs about themselves (Robinson & Clore, 2002). Daily methods can also help us better understand how psychological processes naturally unfold (Bolger, Davis, & Rafaeli, 2003). Furthermore, they provide the opportunity to examine within-person associations, or how one's own responses change across time. In this case, we can use daily measures to determine whether fluctuations in one's goals can predict changes in their strategy use across days. At both the between-person and within-person levels, we expected pro-hedonic goals to be positively associated with reappraisal and other antecedent-focused strategies. We also predicted that pro-social goals would be positively associated with reappraisal, while impression management goals would be positively associated with suppression. As in Study 2, we took an exploratory approach to examining how daily social goals predict daily situation selection, situation modification, and distraction.

Participants and Procedure

There were 136 married couples (N = 272), ages 23–85 years (M = 53.24, SD = 18.23) recruited in St. Louis for a larger study on emotion regulation in adulthood. Couples had to be married to someone who was no more than 10 years older, have internet access, and not have dementia (screened with the Mini-Mental State Examination; Folstein, Folstein, & McHugh, 1975). Couples were in a relationship from 1 to 63 years (M = 22.23, SD = 18.94) and were 83.6% European/European-American, 9.3% African American, 1.9% Hispanic/Latin-American, and 5.2% other/interracial. Relevant to the current study, participants completed a 5-min daily survey every evening on their computer for 9 consecutive days, which assessed their emotion regulation goals and strategies. Each participant received $20.

Measures

Emotion regulation goals.

Each day participants rated the extent to which they pursued pro-hedonic, contra-hedonic, pro-social, and impression management goals. Pro-hedonic goals were a composite of six items about how much they tried to upregulate (i.e., feel *more*) six positive emotions (excited, content, enthusiastic, relaxed, happy, calm) and six items about how much they tried to downregulate (i.e., feel *less*) six negative emotions (lonely, bored, sluggish, sad, angry/frustrated, anxious/nervous) that day (α = .95). Conversely, contra-hedonic goals were a composite of items about how much they tried to downregulate those six positive emotions and upregulate those six negative emotions (α = .93). We chose a wide range of emotions to

represent the two key dimensions of emotion: valence and arousal (Russell, 1978). Prior studies have used similar composites for pro-hedonic and contra-hedonic goals (Ridieger et al., 2009). Daily pro-social and impression management goals were assessed by asking how often participants managed their emotions "to make someone else feel better" and "to avoid making a bad impression," respectively. Participants rated all items on a 7-point scale (1 = *not at all*; 7 = *a great deal*).

Emotion regulation strategies.

Participants rated how much they used five strategies to manage their emotions each day: situation selection ("seeking out people or situations that I expected to put me in a good mood"), situation modification ("trying to change something in my current situation to change how I was feeling"), distraction ("trying to think about something else to change how I was feeling (i.e., distract myself)"), reappraisal ("trying to think about something more positively;" "trying to think about something more objectively"; averaged because they were highly correlated, $r = .86$, $p < .001$; $\alpha = .90$), and suppression ("trying not to let my feelings show"). Participants rated all items on a 7-point scale (1 = *not at all*; 7 = *a great deal*).

Results and Discussion

Analysis Plan

There were 2,289 daily observations across the 272 participants ($M = 4.89$, $SD = 2.59$). We conducted multi-level models (MLM) with days (Level 1) nested within persons (Level 2) to test the associations between emotion regulation goals and strategies[1]. Although the data have a three-level structure (persons nested within couples), there was very little variance at the couple level[2] so we conducted two-level models, as recommended in situations with this type of variance distribution (Snijders & Bosker, 1999). Maximum likelihood (ML) estimation was used to account for missing data (Rubin, 1976). We used all emotion regulation goals to predict each emotion regulation strategy and simultaneously tested for between-person and within-person effects. As recommended by Bolger & Laurenceau (2013), we separated these different effects by grand-mean centering each goal and then person-centering the grand-mean centered goals. Level 1 predictors included time and within-person goals, while Level 2 included between-person goals. To further isolate the effects of goals on strategies, we also controlled for the previous day's strategy use. In terms of random effects, we only included random intercepts because models with random slopes did not converge. We used an autoregressive covariance structure to account for correlations between observations at adjacent time points.

[1]In exploratory analyses, we had also conducted dyadic data analysis (i.e., Actor Partner Interdependence Model; Kenny & Cook, 2006). As with multi-level modeling, this form of analysis can take into account dependency between dyads. However, it also allows one to simultaneously determine whether one's goals predict their strategy use (i.e., actor effect), as well as whether one's *partner's* goals predict their strategy use (i.e., partner effect). There were only a few partner effects. Specifically, people reported using situation selection (B = −.15, SE = .07, $p = .04$) and situation modification (B = −.14, SE = .07, $p = .04$) less if their partner reported pursuing impression management goals more, and reported using distraction more if their partner reported pursuing more pro-social goals (B = .20, SE = .08, $p = .01$). There were no partner effects for predicting reappraisal or suppression.

[2]There was an absence of similarity between partners in their daily emotion regulation patterns, such that there were non-significant correlations between partners' goals ($rs = -.03$ to .01) and partners' strategies ($rs = -.07$ to .10).

There were significant between-person (*rs* = .48-.73) and within-person (*rs* = .06-.31) correlations between nearly all goal-strategy pairings at $p < .01$, so we focus on effect sizes. We calculated semi-partial R^2 (R_β^2) values as an index of effect size (Edwards et al., 2008). The interpretation of effect size magnitude are as follows: .02 for a small effect, .13 for a medium effect, and .26 for a large effect. Results from our MLM analyses are in Table 3 and we highlight the strongest associations in the text. In initial analyses, we examined age and gender as moderators. However, there were no interactive effects between these variables and goals in predicting daily strategy use. We also explored reverse order models in which emotion regulation strategies were simultaneously used to predict each goal (controlling for prior day goal pursuit); the results are briefly described below.

Main Analyses

Descriptives and intraclass correlation coefficients for all variables are shown in Table 1. Pro-social goals were reported as being pursued the most frequently and contra-hedonic goals were reported as being pursued the least frequently. The ICCs for emotion regulation goals ranged from .59 to .87 (with higher values for hedonic goals than for social goals). Thus, most of the variance in goals was between-persons. In addition, emotion regulation goals had relatively high ICCs compared to most strategies except for reappraisal.

Between-person analyses showed that emotion regulation goals not only predict individual differences in global emotion regulation strategy use (Studies 1 and 2), but also individual differences in daily strategy use. In terms of hedonic goals, people who reported pursuing pro-hedonic goals also reported using all antecedent-focused strategies more. Notably though, the strongest associations were for earlier antecedent-focused strategies (i.e., situation selection, situation modification). Meanwhile, contra-hedonic goals were only weakly related to situation selection and suppression, and unrelated to other strategies. In terms of social goals, both pro-social goals and impression management goals were positively associated with all strategies. However, people who frequently pursued pro-social goals most strongly used reappraisal, whereas people who often pursued impression management goals most strongly used suppression. Thus, there are differential motivations for reappraisal and suppression even at the daily level. Unlike in Study 2 though, pro-social goals were only weakly predicted distraction and instead, were moderately linked to situation selection and situation modification. Moreover, impression management goals were moderately associated with situation modification and distraction. Given these different exploratory findings, future studies are needed to better understand when people are generally motivated to use antecedent-focused strategies besides reappraisal for social reasons.

Within-person associations were mostly similar to the between-person associations. For example, antecedent-focused strategies were used on days when people pursued pro-hedonic goals more than usual, and suppression was used on days with greater impression management. Thus, fluctuations in people's daily strategy use could be predicted by their goals. However, between-person associations were substantially stronger than the within-person associations.

When we examined the reverse order (i.e., strategies predicting goals), there were very few significant associations. Importantly, most associations had a small effect size (within-person: R_{β}^2 s = < .01-.14; between-person: R_{β}^2 s = < .01-.01), and these effects were smaller than those in our original models (i.e., goals predicting strategies). Together, these findings suggest that daily strategy-goal associations are more likely due to goals influencing strategy use.

General Discussion

The aim of this paper was to determine how emotion regulation goals predict spontaneous emotion regulation strategy use. We used global trait (Studies 1 and 2) and daily measures (Study 3) of goals and strategies to address this key aim. Across all studies, emotion regulation goals differentially predicted the strategies people typically use; see Table 4 for a summary of the results. Our findings align with the broader idea that goals guide emotion regulation strategy use (Mauss et al., 2007; Thompson, 1994). They also extend experimental research (Sheppes et al., 2014) by showing that goals can help us better understand why people often regulate the way they do.

Links Between Emotion Regulation Goals and Strategies

Overall, the present set of studies provided consistent evidence of how hedonic and social goals are associated with distinct strategies at the individual difference level. People who often pursued pro-hedonic goals consistently reported using antecedent-focused strategies more, but not a response-focused strategy (suppression). Given that antecedent-focused strategies are more effective than response-focused strategies for achieving pro-hedonic goals (e.g., McRae et al., 2008), the systematic associations we found between pro-hedonic goals and strategies are functional (at least at the between-person level). Interestingly though, while antecedent-focused strategies are also effective for contra-hedonic goals (Webb et al., 2012), people who report pursuing contra-hedonic goals more did not generally use these strategies more. Thus, there might not be a functional link between contra-hedonic goals and the strategies we measured. Moreover, we found a positive link between contra-hedonic goals and suppression. Notably, this effect only emerged in one sample (Study 2), but it replicates findings from a prior daily diary study (English et al., 2017). One reason for mixed findings regarding contra-hedonic regulation may be because people do not frequently want to feel negatively. Thus, there might not be enough variance to reliably detect the motivating factors underlying contra-hedonic regulation. Alternatively, contra-hedonic goals might be tied to other forms of emotion regulation that we did not assess, such as rumination, which increases negative emotion (Nolen-Hoeksema, 2000).

In terms of social goals, reappraisal was used more by those who prioritize pro-social goals and on days when people pursued those goals more often; suppression was used more by those who pursued impression management goals and, also on days when people pursued those goals more frequently. Although we did not assess the outcomes of these specific social goals, our findings might still support a functional approach since reappraisal promotes relationship closeness (e.g., Finkel et al., 2013) and suppression can help with impression management (e.g., Kalokerinos et al., 2017). It will be important to directly test

the consequences of emotion regulation strategies for pro-sociality and impression management. Notably, the other strategies we measured were not consistently associated with social goals. However, when we found associations, they were most often with pro-social goals as opposed to impression management goals. Thus, antecedent-focused strategies besides reappraisal might also be effective for promoting relationship closeness. Meanwhile, since impression management goals were most consistently and strongly linked to suppression, response-focused strategies that target emotional expression (e.g., masking) may generally be more effective for impression management.

Broader Themes

In addition to finding largely consistent links between emotion regulation goals and strategies, we also addressed the limitations of prior work in important ways. One major contribution of our work is that we took a personality-based approach. This builds on previous work to show how emotion regulation goals can vary across people and that there may be stable individual differences in goals (Eldesouky & English, 2018b), just as there are with strategies (Gross & John, 2003). ICCs (intra-class correlation coefficients) obtained from daily measures (Study 3) indicate that this may be especially true for hedonic goals, perhaps because they can be pursued in a wider range of situations than social goals. At the same time, the ICCs also suggest that goals in general are more stable across situations than strategies. These findings suggest that goals may serve as a reliable predictor of strategy use, but that less stable factors may also affect strategy use (e.g., contextual features such as location). Nonetheless, almost all goals had sufficient within-person variance, indicating that they can still be examined using daily methods.

Second, we found that individual differences in emotion regulation goals differentially predicted individual differences in strategy use across the full range of strategies in the process model (Gross, 1998b). Our inclusion of a broad range of strategies allowed us to examine how goals predict the use of understudied strategies and identify strategy patterns. For instance, we found that pro-hedonic goals consistently predicted situation selection and situation modification, two strategies that remain understudied. More research is now needed on the social consequences of these strategies to determine when they are most useful. More broadly, we also found that the same goals were linked to the use of conceptually-related strategies: people who frequently reported pursuing pro-hedonic goals reported using all antecedent-focused strategies more. However, there is a wide range of other emotion regulation goals people can pursue, especially instrumental ones (Tamir, 2016). Measuring other goals could help predict strategy use at even greater levels of specificity. Eudaimonic goals, which involve gaining meaning in one’s life (Tamir, 2016), might be typically associated with cognitively engaging strategies, such as reappraisal, because they require self-reflection (Ryan & Deci, 2001). Moreover, it might be useful to delve into goal sub-types even further, such as hedonic goals based on arousal, rather than valence. As previously noted, experimental studies show that the preference for antecedent-focused strategies varies based on emotional intensity (Sheppes et al., 2014), so, arousal-based hedonic goals might also differentially predict antecedent-focused strategies.

By examining a more comprehensive set of goals, researchers might also be able to identify the profile of goals for various strategies and take an even more person-centered approach. For instance, we found that certain strategies, such as reappraisal, were sensitive to more goals than others. Reappraisal was positively associated with pro-hedonic goals and pro-social goals, as expected. However, reappraisal also had unexpected negative associations with some other goals, such as impression management (at least globally). Given that reappraisal is a cognitively demanding strategy (Sheppes et al., 2014), people might avoid using it in situations where it is not the most effective strategy. For instance, suppression, which directly targets emotional expression may be more effective than reappraisal for impression management.

To the extent that the systematic associations between emotion regulation goals and strategies are functional, it will be important to investigate why such associations exist in daily life. The utility of certain strategies might be more apparent than others. For example, it might be easier for people to learn suppression's utility for pro-hedonic goals as opposed to pro-social goals because they can directly access their own emotional experiences, but not others' emotional experiences. At the same time, people learn to regulate their emotions by watching how others express, model, and react to emotions early in life (Eisenberg et al., 1998). Thus, one possibility is that systematic associations between goals and strategies are learned and become automatic over time. Further, it may be easier to pick up on the effectiveness of strategies with obvious short-term effects, such as the immediate benefits of distraction for pro-hedonic goals (e.g., Sheppes et al., 2014). Notably, our findings also replicated across undergraduate and age-diverse community samples, indicating that younger and older adults rely on the same strategies to achieve their goals. Thus, systematic associations between goals and strategies might become embedded early in life.

Future Directions and Clinical Implications

Our use of global trait and daily measures provided two complementary ways of assessing naturalistic links between goals and strategies. Such personality-based approaches help us understand *why* people have stable patterns of thought, feeling, and behavior. For example, someone might frequently use suppression *because* they often regulate for impression management reasons. This knowledge can then be used to help predict future behavior and important life outcomes. For instance, when regulating their emotions, someone high in impression management goals might be more likely to use suppression than reappraisal. More generally, correlational designs often used in personality research are crucial for documenting whether potential relationships exist between variables (i.e., goals and strategies), and for delineating the strength and patterns of these relationships under naturalistic conditions. However, we recognize that correlational designs cannot be used to establish causal relationships. That is, while we expect that goals motivate strategy use, it is also possible that strategy use predicts the value people place on certain goals. We attempted to address this concern with daily diaries (Study 3) by testing the reverse direction. Notably, we found little support for bi-directionality, at least in daily life. However, non-correlational designs, such as experiments and longitudinal studies will be imperative for more thoroughly testing the causal link between goals and strategies. For instance, does activating a pro-hedonic goal increase the likelihood that people will use reappraisal? Combined with an

individual differences approach, we can also start to investigate whether changes in goals contribute to changes in people's strategy use. For example, do people high in suppression decrease in suppression use if they start to care less about impression management? Although age did not moderate the links between goals and strategies, longitudinal changes in emotion regulation goals could also help us better understand developmental trajectories of strategy use.

Further, while we replicated our findings in an age-diverse sample, it will also be important to thoroughly consider other sampling characteristics that shape behavior. For instance, prior research suggests there may be cultural differences in both emotion regulation goals (Tsai, 2007) and strategy use (Butler, Lee, & Gross, 2007). However, it is unknown how goals predict strategies across different cultures. We may expect for instance, that social goals are stronger predictors of strategy use in collectivistic cultures than in individualistic cultures because social goals are highly pursued by people from collectivistic cultures (Tsai, 2007). Clinical samples will also be critical to consider. Goal dysregulation is a key characteristic of many mental disorders (Dickson & Moberly, 2013). People with various forms of psychopathology (e.g., major depressive disorder) may have a greater tendency to pursue goals that are typically maladaptive for well-being (e.g., contra-hedonic goals; Millgram, Joormann, Huppert, & Tamir, 2015). Another important emotion-related deficit may be found in the strategies people use for their goals. Ideally, people should flexibly adjust their strategy use based on the context (Aldao, Sheppes, & Gross, 2015). However, this is not always the case in clinical populations. For instance, under varying loads of emotional intensity, patients with borderline personality disorder do not use the most effective strategy (Sauer et al., 2016). Thus, patients may struggle to use the "right" strategy depending on their goal. Accounting for this possibility may allow us to better understand emotion-related deficits and inform future interventions. Clinicians may not only want to target patient's goals, but also the strategies they use to achieve them. This holistic approach to emotion regulation highlights the importance of recognizing that strategies are not inherently good or bad, but rather that strategies may be useful in their own way when used under the right circumstances.

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Table 1

Descriptives, Reliabilities, and Intra-class Correlation Coefficients for Study Variables

	M(SD)			α		ICC
	S1	**S2**	**S3**	**S1**	**S2**	**S3**
Emotion regulation goals						
1. Pro-hedonic	4.95(1.05)	4.46(1.09)	2.97(1.37)	.74	.66	.78
2. Contra-hedonic	2.29(1.15)	2.19(1.28)	1.35(.42)	.80	.84	.87
3. Pro-social	4.98(.96)	4.22(1.26)	3.20(1.40)	.84	.89	.60
4. Impression management	5.10(1.03)	3.75(1.38)	2.47(1.33)	.85	.90	.59
Emotion regulation strategies						
5. Reappraisal	5.20(0.91)	4.89(1.23)	3.47(1.47)	.76	.91	.68
6. Suppression	3.84(1.23)	3.98(1.36)	3.08(1.36)	.76	.82	.40
7. Situation selection	--	4.21(.71)	2.68(1.32)	--	.76	.45
8. Situation modification	--	4.89(1.17)	3.09(1.85)	--	.79	.47
9. Distraction	--	4.78(1.26)	3.02(1.39)	--	.83	.45

Note. S1 = Study 1; S2 = Study 2. S3 = Study 3. Situation selection, situation modification, and distraction were not measured in Study 1. Standard deviations are in parentheses. Cronbach's alpha reflects internal consistency (not calculated in Study 3 because assessed with single daily items). ICC = intra-class correlations, which reflect between-person variance in daily measures.

Table 2

Regression Analyses of Habitual Emotion Regulation Goals Predicting Habitual Emotion Regulation Strategy Use (Studies 1 and 2)

	Emotion regulation goal			
	Pro-hedonic	**Contra-hedonic**	**Pro-social**	**Impression management**
Strategies				
Study 1				
Reappraisal	.42* [.28,.44]	−.14* [−.18,−.05]	.17* [.09,.31]	−.21* [−.25,−.05]
Suppression	−.12* [−.27,−.02]	.02 [−.07,.13]	.08 [−.07,.28]	.16* [.05,.35]
Study 2				
Reappraisal	.34* [.26,.51]	−.10 [−.20,.01]	.23* [.10,.35]	−.22* [−.30,−.08]
Suppression	−.07 [−.24,.06]	.16* [.05,.29]	−.06 [−.22,.09]	.19* [.06,.32]
Situation Selection	.20* [.05,.21]	.05 [−.03,.09]	.10 [−.02,.13]	.01 [−.06,.07]
Situation Modification	.35* [.25,.50]	−.05 [−.15,.05]	.11 [−.02,.23]	−.05 [−.15,.07]
Distraction	.22* [.12,.40]	−.11 [−.21,.01]	.19* [.05,.32]	−.08 [−.19,.04]

Note. Values reflect standardized beta coefficients with 95% confidence intervals listed in brackets. Emotion regulation goals were entered as simultaneous predictors of each strategy. Situation selection, situation modification, and distraction were only measured in Study 2.

* $p < .05$.

Table 3

Multi-level Modeling Lagged Analyses for Daily Emotion Regulation Goals Predicting Daily Strategy Use (Study 3)

	Emotion regulation strategy									
	Reappraisal		Suppression		Situation selection		Situation modification		Distraction	
	B(SE) 95% CI	R_β^2	B(SE) 95% CI	R_β^2	B(SE) 95% CI	R_β^2	B(SE) 95% CI	R_β^2	B(SE) 95% CI	R_β^2
Intercept	2.91		3.02		2.38		2.68		2.20	
Day	.00(.01)[−.02,.02]		.01(.01)[−.00,.04]		.01(.01)[−.00,.03]		.00(.01)[−.02,.02]		−.00(.01)[−.02,.01]	
Previous day's strategy	.16(.02) *[.12,.20]		.13(.02) *[.09,.17]		.09(.02) *[.03,.13]		.12(.02) *[.07,.16]		.27(.02) *[.23,.31]	
Goals										
Pro-hedonic										
Between-person	.18(.05) *[.07,.28]	.11	.11(.04) *[.01,.20]	.04	.24(.04) *[.15,.34]	.21	.23(.04) *[−.13,.39]	.18	.18(.03) *[.08,.28]	.10
Within-person	.20(.03) *[.13,.27]	.02	.23(.03) *[.15,.31]	.02	.30(.03) *[.22,.37]	.04	.29(.03) *[.22,.36]	.04	.29(.03) *[.21,.36]	.04
Contra-hedonic										
Between-person	.15(.14)[−.13,.44]	.01	.22(.13)[−.04,.50]	.02	.42(.13) *[.14,.70]	.09	.12(.13)[−.13,.39]	<.01	.11(.14)[−.16,.39]	<.01
Within-person	.10(.06)[−.02,.24]	<.01	.04(.08)[−.11,.20]	<.01	.05(.07)[−.09,.19]	<.01	.06(.07)[−.08,.20]	.04	.04(.07)[−.10,.19]	<.01
Pro-social										
Between-person	.34(.05) *[23,.46]	.26	.20(.05) *[.09,.31]	.10	.25(.05) *[.14,.36]	.19	.24(.05) *[.13,.24]	.16	.27(.05) *[.15,.38]	.02
Within-person	.17(.02) *[.13,.21]	.04	.14(.02) *[.09,.20]	.02	.10(.02) *[.05,.14]	.01	.18(.02) *[.13,.23]	<.01	.08(.02) *[.03,.14]	<.01
Impression management										
Between-person	.21(.06) *[.09,.33]	.11	.37(.05) *[.26,.49]	.25	.15(.05) *[.03,.26]	.07	.27(.05) *[.16,.38]	.18	.29(.03) *[.21,.36]	.14
Within-person	.10(.02) *[.05,.14]	.01	.23(.02) *[.18,.29]	.04	.09(.02) *[.04,.14]	<.01	.06(.02) *[.01,.11]	.01	.08(.02) *[.03,.14]	<.01
Random effects	B(SE) 95% CI	Z	B(SE) 95% CI	Z	B(SE) 95% CI	Z	B(SE) 95% CI	Z	B(SE) 95% CI	Z
Level 2 residual	.51(.08) *[.36,.72]	5.77	.36(.06) *[.25,.52]	5.29	.40(.07) *[.27,.58]	5.11	.34(.06) *[.23,.50]	5.03	.46(.07) *[.33,.64]	5.92
Level 1 residual	1.41(.05) *[1.31,1.52]	26.75	1.94(.07) *[1.81,2.09]	27.17	1.66(.06) *[1.55,1.79]	27.49	1.60(.05) *[1.49,.172]	27.40	1.83(.07) *[1.69,1.99]	24.39
Autocorrelation	−.09(.06)[−.21,.02]	−1.48	−.09(.04) *[−.19,−.00]	−1.99	−.04(.06)[−.17,.08]	−.71	.03(.06)[−.08,.15]	.56	−.23(.04) *[−.31,−.14]	−5.55

Note. B(SE) = unstandardized fixed effect estimates with standard errors in parentheses; 95% CI = 95% confidence intervals; $R\beta^2$ = semi-partial $R\beta^2$ effect size; Z = Wald's Z. Day was centered at the first sampling occasion (day 1 = 0). Previous day's strategy = the use of a given strategy from the prior day. Emotion regulation goals were entered as simultaneous predictors in each model.

*$p < .05$.

Table 4

Summary of Associations Between Emotion Regulation Goals and Strategies Across Studies 1–3

	Emotion regulation goal											
	Pro-hedonic			Contra-hedonic			Pro-social			Impression management		
Strategies	**S1**	**S2**	**S3**	**S1**	**S2**	**S3**	**S1**	**S2**	**S3**	**S1**	**S2**	**S3**
Reappraisal	+	+	+	-	na	na	+	+	+	-	-	na
Suppression	-	na	na	na	+	na	na	na	na	+	+	+
Situation Selection		+	+		na	na		na	+		na	na
Situation Modification		+	+		na	na		na	+		na	+
Distraction		+	+		na	na		+	na		na	+

Note. S1 = Study 1; S2 = Study 2. S3 = Study 3. + = positive association; - = negative association; na = no association. For Study 3, we focus on the largest between-person effects, which were R_{β}^{2} > =.10. Blank spaces indicate the strategies were not measured in that study.