

# The Influence of Daily Events on Emotion Regulation and Well-Being in Daily Life

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## Abstract

We examined within-person relationships among daily events, emotion regulation strategies, and well-being in daily life. Each day for 2 to 3 weeks, participants in two studies (total  $N = 445$ ) reported the extent to which they reappraised and suppressed their positive and negative emotions, the types of events they experienced, and their well-being. Using multilevel modeling, we found that the extent to which people reappraised positive and negative emotions and suppressed negative emotions was positively related to the number/importance of daily positive events, whereas the suppression of positive emotions was negatively related. Furthermore, the positive relationships between well-being and reappraisal of positive and negative emotions and the suppression of negative emotions were stronger as the number of negative events increased. These results demonstrate that most emotion regulation strategies are employed when the day is going well but are most beneficial for people's well-being when the day is not going well.

## Keywords

emotion regulation, daily events, well-being, affect, diary

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Affective states can vary from one day to the next, depending on contexts or situations, and the strategies people use to regulate their emotions can vary across contexts and situations. Moreover, these fluctuating emotion regulation strategies may have important consequences for people's well-being. Much of the research on emotion regulation has relied on cross-sectional or experimental methods (Tamir, 2016). Although informative, such techniques ignore within-person variation and can lack ecological validity. That is, the results of cross-sectional studies and experiments may be difficult to generalize to the context of everyday life. More recently, several daily diary and experience sampling studies have examined emotion regulation strategies in daily life (Brans et al., 2013; Farmer & Kashdan, 2012; Nezlek & Kuppens, 2008; Troy et al., 2019). These studies have examined how frequently people use various emotion regulation strategies (Brans et al., 2013; Nezlek & Kuppens, 2008; Troy et al., 2019) and how emotion regulation strategies relate to well-being (Brockman et al., 2017; Heiy & Cheavens, 2014), particularly in the context of negative stressors (Kalokerinos, Tamir, & Kuppens, 2017; Kashdan & Steger, 2006; Troy et al., 2019).

Nevertheless, to our knowledge, no study has examined how emotion regulation strategies are related to the variety of positive and negative events that occur each day (e.g., are people more likely to regulate emotions on days when positive events occur or when negative events occur?). Furthermore, to our knowledge, no study has examined how daily events might moderate the relationships between emotion regulation strategies and

well-being in daily life (e.g., is it more beneficial for people's well-being to regulate emotions when positive events occur than when negative events occur?).

The goal of the present research was to address these questions using daily reports of emotional regulation, well-being, and daily experiences. First, we outline a conceptualization of emotion regulation, and this is followed by a review of the relationships between emotion regulation and well-being from studies that have used individual difference measures and experimental methods. Next, we describe the results of studies that have used daily diary and experience sampling techniques to study emotional regulation, and this is followed by an overview and theoretical framework of the present research.

## Types of Emotion Regulation

Emotion regulation refers to the processes people use to maintain, decrease, or increase their emotional states (Gross, 2015b). Although some researchers have defined emotion

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regulation using various forms or categorizations (Kooze, 2009), most of the research on emotion regulation has been informed by Gross' process model (Gross, 2015a), which has distinguished between reappraisal and suppression. Reappraisal entails the process of reframing the subjective interpretation of a particular situation, which may include changes in thoughts that occur in response to the situation.

An important goal of reappraisal is to increase positive emotions or decrease negative emotions, and behaviors in service of these goals are measured as part of measures of reappraisal (Gross & John, 2003). Positive reappraisal refers to the attempt to increase positive emotions by changing the way they think about a particular situation.<sup>1</sup> For example, after feeling angry in response to getting yelled at by a friend, people could try to increase their positive emotions by focusing instead on their interactions with other friends. Negative reappraisal refers to the attempt to lower negative emotions by reframing how they think about the situation. In this same example, people could try to feel less angry by attempting to understand what caused the friend to yell. In contrast, suppression refers to the process of inhibiting an emotional expression. For example, some people might try to not express sadness in response to watching a sad movie.

In addition to distinguishing reappraisal and suppression, emotion regulation strategies can also be differentiated based on the valence of the emotion being regulated. Differentiating positive and negative valence has been a core emphasis in theories of emotions (Feldman Barrett & Russell, 1998). Although initial theories and models of emotion regulation did not make such a distinction (Gross & John, 2003), reappraisals of positive emotions (e.g., wanting to feel more positive emotions) may differ from reappraisals of negative emotions (e.g., wanting to reduce negative emotions). Similarly, suppressing positive emotions may differ from suppressing negative emotions.

Research about emotional regulation in daily life has found that it is valuable to distinguish the regulation of positive and negative emotions. For example, Nezlek and Kuppens (2008) found that reappraisal of positive emotions was consistently and positively related to well-being, whereas reappraisal of negative emotions was not consistently related to well-being. They also found that suppressing positive emotions was consistently and negatively related to well-being, whereas suppressing negative emotions was less consistently and negatively related to well-being. Some experimental studies have shown that suppressing positive emotions can lower the level of positive emotions, whereas suppressing negative emotions does not lower the level of negative affect (Gross & Levenson, 1997; Stepper & Strack, 1993; Strack et al., 1988).

### *Individual Differences and Experimental Paradigms*

Much of the research on emotion regulation has relied on trait reports and experimental methods. When measured as an individual difference, the use of reappraisal has been found to

be positively related to well-being and social functioning (e.g., Gross & John, 2003). In contrast, the use of suppression has been found to be negatively related to well-being (e.g., Gross & John, 2003), although some meta-analyses have reported mixed effects (Aldao et al., 2010; Webb et al., 2012). Although informative, such methods rely on participants' recall, which may consist of biased reconstructions that could differ from actual experience (Schwarz, 2012).

In experimental settings, participants are randomly assigned to conditions in which they are instructed to reappraise or suppress their emotions in the presence of stimuli chosen and presented by the experimenters. For example, some studies have shown that suppression is more taxing on cognitive capabilities than reappraisal (Richards & Gross, 2000). Suppressing emotions can also increase stress during social interactions (Butler et al., 2003). Similar to studies that measure emotion regulation as individual differences, studies that rely on experimental manipulation have certain strengths and weaknesses. One limitation of such studies is that the situations created by experimenters may not be representative of the situations people encounter in the real-world, and thus the findings may not generalize well to daily life (Shiffman et al., 2008).

### *Regulating Emotions in Daily Life*

One way of addressing the limitations of studies that examine dispositional individual difference measures or use experimental methods is to assess emotion regulation strategies during the ebb and flow of daily life (Bolger et al., 2003). The goal of methods such as daily diaries and ecological momentary assessment techniques is to capture representative samples of time points from people's lives (Newman & Stone, 2019; Shiffman et al., 2008), which provides a basis for researchers to generalize their findings to daily life. Measuring emotion regulation strategies, daily events, and well-being in daily life also allows for the examination of within-person analyses, a level of analysis that is mathematically independent from between-person analyses (Nezlek, 2001). Moreover, within-person relationships may represent psychological processes that are different from the processes represented by between-person relationships (Affleck et al., 1999).

Research that has studied emotional regulation in daily life is limited but growing. Several studies have used daily diary methods and asked participants to reflect on their day and to report on various emotion regulation strategies and affective experiences during the day. A consistent finding across these studies is that suppression is negatively related to positive affect and is positively related to negative affect, whereas the opposite pattern is found with reappraisal (Brockman et al., 2017; Nezlek & Kuppens, 2008; Troy et al., 2019). In some studies, participants reflect on specific negative episodes during the day and recall how long the episodes lasted (Kalokerinos, Résibois, et al., 2017; Kalokerinos, Tamir, & Kuppens, 2017). Reappraisal has been found to be

more beneficial when employed toward the beginning of an emotional episode than when employed toward the end (Kalokerinos, Résibois, et al., 2017). A few ecological momentary assessment studies have yielded results similar to that of diary studies, namely that reappraisal tends to be positively associated with well-being and suppression is negatively related to well-being at the current moment (Brans et al., 2013; Heiy & Cheavens, 2014). In sum, although daily diary and experience sampling studies have examined how emotion regulation strategies relate to concurrent affective states, they have not shown how emotion regulation strategies covary with a range of positive and negative events during the day. Moreover, they have not demonstrated how daily events may moderate within-person relationships between emotion regulation and affect.

### *Importance of Daily Events*

Examining relationships between emotional regulation and daily events can contribute to an understanding of emotion regulation in two ways. First, understanding how emotional regulation covaries with daily experiences may provide insights into the situational characteristics that elicit emotion regulation strategies. Previous research is limited in that studies of daily emotional regulations have not examined the types of daily experiences that covary with emotion regulation or have examined only negative events and stressors. In the present research, we examined positive and negative experiences and also distinguished social and achievement-related experiences.

As discussed by Nezlek (2005), the distinction between the social and achievement domains has a long history in psychology, dating at least from Freud's classic distinction between love and work (*Lieben und Arbeiten*). Consistent with this, Nezlek (2005) found that relationships between daily events and daily psychological states (including affect) varied as a function of whether social events (e.g., having pleasant/unpleasant interactions with friends) or achievement events (e.g., doing well/poorly on work) were being examined. Because social and achievement events can influence emotional states, it is possible that these types of events would prompt people to regulate their emotions in some manner. Many studies of emotion regulation have only measured negative events because emotion regulation strategies that occur in response to negative stimuli in experiments are understood much better than emotion regulation strategies that occur in response to positive stimuli (McRae & Mauss, 2016). Nevertheless, people may reappraise or suppress various emotions on days when positive events occur. Because no study has examined this, our study has the potential to extend research on emotion regulation by describing when people are likely to use each strategy. This also situates the present studies within the broad tradition of social psychology by taking into account situational effects, which are represented by different types of common daily events in our studies.

Second, we considered the possibility that daily events may moderate the within-person relationships between emotion regulation and well-being. Previous research has shown that reappraisal is positively related to well-being, whereas suppression is negatively related to well-being (Gross & John, 2003; Nezlek & Kuppens, 2008). Nevertheless, the strengths of these relationships may vary as a function of the type of daily events experienced on that day under the assumption that daily events constitute a context within which relationships between emotional regulation and well-being unfold.

Measuring daily events also allowed us to test competing predictions derived from different theoretical perspectives. On one hand, reappraisal of emotions may be more beneficial when negative events occur than when positive events occur. Support for this possibility has been documented by studies that have tested the strategy-situation-fit hypothesis (e.g., Haines et al., 2016). According to this model, emotion regulation strategies are not uniformly beneficial for well-being. Rather, reappraisal may be most beneficial for people's well-being when daily experiences are perceived as uncontrollable (Haines et al., 2016). Presumably, uncontrollable situations tend to be negative, and how people reframe the situation can improve their well-being during these negative experiences. In a related vein, reappraisal has been found to be more beneficial for people low in socioeconomic status than for those high in status, which suggests that reappraisal is most useful when life is more challenging and difficult (Troy et al., 2017). In difficult circumstances, how people regulate their emotions might be an important influence on their well-being. Conversely, when life is going well, how people regulate their emotions may not matter very much because the positive events they experience might be the driving determinant of their well-being.

On the other hand, relationships between emotion regulation strategies and well-being could be stronger as the number and importance of positive events increase and as the number of negative events decrease. Negative events tend to have a stronger influence on well-being than positive events (Baumeister et al., 2001), and because of the strong influence of negative events, emotion regulation strategies may not be as effective in the presence of negative events as they are in their absence. That is, negative events could overpower the effects that emotion regulation strategies might have on well-being. One of the goals of the present research was to test these competing predictions.

### *Present Research*

We examined these questions and tested these hypotheses across two daily diary studies. In Study 1, two samples of participants completed the same procedures and measures. In Study 2, we analyzed previously unanalyzed data collected in a daily diary study described by Nezlek and Kuppens (2008). This study used very similar procedures and methods

to the first study. Nezlek and Kuppens (2008) described within-person relationships between emotion regulation strategies and well-being, but daily events were also measured in their study. These data provided an opportunity to replicate the within-person relationships involving daily events we found in Study 1, and the slight differences in procedures and measures across the studies allowed us to generalize our findings more broadly.

## Study 1

### Method

**Participants and procedure.** The study was approved by the Protection of Human Subjects Committee at The College of William and Mary. Participants were undergraduate students who received course credit, and we collected data from as many students as possible within the constraints of the participant pool. Simulations by Maas and Hox (2005) indicated that samples of 100 units at Level 2, that is, people, provide unbiased estimates of regression coefficients and standard errors at both levels of analysis. Our sample of 292 participants exceeded this, ensuring adequate power to detect the effects in our analyses.

We also ran sensitivity power analyses to determine the power the design provided to detect different effects. We used the *simr* (Green & MacLeod, 2016) package in R to run simulations to estimate the power to detect the smallest effect sizes of interest (Lakens et al., 2018). We found that the present design provided sufficient power to detect within-person relationships between daily events and emotion regulation strategies as small as .15 (90.0%, 95% CI = [82.38, 95.10]). The design also provided sufficient power to detect within-person relationships between emotion regulation strategies and well-being as small as .08 (100.0%, 95% CI = [96.38, 100.0]). The study also had sufficient power to detect interaction effects as small as .12 (90.0%, 95% CI = [82.38, 95.10]). These unstandardized coefficients translated to relatively small effects. In short, the study had sufficient power to detect even small effects.

Data were collected across two semesters ( $N_s = 164$  and 128; 2,071 and 1,630 daily reports, respectively), and because the procedures and measures were similar, the data were combined. Moreover, the results of analyses for separate semesters were quite similar. See the Supplemental material.

Participants attended a brief instructional meeting during which the study was explained to them. Each day for 2 weeks, they received an email with a questionnaire link at approximately 9:00 p.m., and they were instructed to complete the questionnaire at the end of their day before going to bed. Responses were accepted until noon of the following day.

Incomplete entries and entries completed in less than 2 minutes were dropped from the final analyses. In one semester, entries that contained repeated answers across multiple

reverse-coded scales as identified by two research assistants/authors were dropped. In the second semester, entries with an incorrect answer to instructed response item (e.g., "Please select the choice 'Disagree' for this question") were eliminated from final analyses as recommended by Meade and Craig (2012). Of the remaining entries, participants completing less than 5 valid days were also dropped ( $N = 6$ ). Of the initial 4,073 entries, 353 (8.67%) were eliminated from final analyses. This level of compliance is typical for daily diary studies of this nature (Nezlek, 2012). The final sample consisted of 292 participants ( $M_{\text{age}} = 18.72$  years,  $SD = 1.07$  years, 56.8% female) who completed 3,701 daily reports ( $M = 12.67$ ,  $SD = 2.04$ , minimum = 5, median = 13). These data are available at the Open Science Framework ([https://osf.io/wqxppe/?view\\_only=fdc012c1915f4fd2aca817a5a330487e](https://osf.io/wqxppe/?view_only=fdc012c1915f4fd2aca817a5a330487e)).

### Measures

**Daily events.** Daily events were taken from the Daily Event Schedule (Butler et al., 1994), the Objective/Subjective Event Checklist (Seidnitz & Diener, 1993), and from Gable et al. (2000). In total, 17 items measured positive events (e.g., "Spent pleasant or relaxing time with friends/date/family" and "Made progress toward assignment/task that has a deadline") and 19 items measured negative events (e.g., "Friends were not available when I wanted to socialize" and "Fell behind in course work or work duties").

Responses were recorded on a 5-point scale (0 = *did not occur*, 1 = *occurred and not important*, 2 = *occurred and somewhat important*, 3 = *occurred and pretty important*, 4 = *occurred and extremely important*). For present purposes, we calculated a set of scores that distinguished positive versus negative events, that is, the mean rating for all positive events and the mean rating for all negative events. These scores were what are called "composite scores." See Nezlek and Plesko (2001) for a discussion of the use of composite scores instead of frequency counts.

**Emotion regulation.** Daily emotion regulation items were adapted from items on the Emotion Regulation Questionnaire (Gross & John, 2003), which was designed to assess individual differences in cognitive reappraisal and suppression. We selected items from the trait measure that had high factor loadings based on previous research (Gross & John, 2003), and we followed procedures outlined by Nezlek (2012) for rewording trait items for daily administration. Moreover, these four items have been used successfully in diary studies (Farmer & Kashdan, 2012; Nezlek & Kuppens, 2008). Positive reappraisal was measured with the statement, "Today when I wanted to feel more positive emotion (such as joy or amusement), I changed what I was thinking about"; negative reappraisal was measured with the statement, "When I wanted to feel less negative emotion today, I changed the way I was thinking about the

**Table 1.** Descriptive Statistics.

| Measure                     | Variability |      |        |      |         |      |             |      |
|-----------------------------|-------------|------|--------|------|---------|------|-------------|------|
|                             | Mean        |      | Within |      | Between |      | Reliability |      |
|                             | S1          | S2   | S1     | S2   | S1      | S2   | S1          | S2   |
| Positive events             | 1.12        | 1.41 | 0.16   | 0.27 | 0.21    | 0.35 |             |      |
| Negative events             | 0.58        | 0.61 | 0.11   | 0.15 | 0.17    | 0.22 |             |      |
| Positive reappraisal        | 3.90        | 3.69 | 1.44   | 1.28 | 1.53    | 1.82 |             |      |
| Negative reappraisal        | 3.95        | 3.62 | 1.34   | 1.30 | 1.41    | 1.69 |             |      |
| Positive suppression        | 2.45        | 2.53 | 1.08   | 1.07 | 1.02    | 1.28 |             |      |
| Negative suppression        | 3.63        | 3.37 | 1.66   | 1.74 | 1.64    | 1.78 |             |      |
| Positive activated affect   | 4.15        | 4.10 | 1.16   | 0.81 | 0.91    | 0.74 | 0.68        | 0.79 |
| Positive deactivated affect | 3.95        | 4.19 | 0.77   | 0.88 | 0.87    | 0.60 | 0.75        | 0.52 |
| Negative activated affect   | 3.22        | 2.27 | 1.05   | 0.62 | 0.89    | 0.59 | 0.56        | 0.74 |
| Negative deactivated affect | 2.38        | 3.27 | 1.05   | 0.80 | 0.87    | 0.65 | 0.65        | 0.47 |
| Self-esteem                 | 5.24        | 5.51 | 0.80   | 0.68 | 0.76    | 0.78 | 0.52        | 0.62 |
| Satisfaction with life      | 4.80        |      | 1.20   |      | 0.65    |      | 0.81        |      |

Note. S1 = Study 1; S2 = Study 2. Reliabilities of emotion regulation strategies were not calculated because they were single-item measures. Following the recommendation of Stone et al. (1991), reliabilities were not calculated for daily events.

situation”; positive suppression was measured with the statement, “When I was feeling positive emotions today, I was careful not to express them”; and negative suppression was measured with the statement, “When I felt negative emotions today, I was careful not to express them.” Responses were recorded on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). See Nezlek (2012) for guidelines for creating state-level analogs of trait level measures.

**Well-being.** Affect was measured with a circumplex model that distinguishes valence and arousal (Feldman Barrett & Russell, 1998). Participants were asked to think about their day as they reported the extent to which they experienced each adjective that day. Positive activated (PA) affect was measured with enthusiastic, alert, happy, proud, and excited; positive deactivated (PD) affect was measured with calm, peaceful, relaxed, contented, and satisfied; negative activated (NA) affect was measured with stressed, embarrassed, upset, tense, and nervous; negative deactivated (ND) affect was measured with depressed, disappointed, sluggish, bored, and sad. Responses were recorded on a 7-point scale (1 = *did not feel this way at all*, 4 = *felt this way moderately*, 7 = *felt this way very strongly*).

We also included measures of daily self-esteem and daily life satisfaction. Self-esteem was measured with four items from Rosenberg’s (1965) 10-item self-esteem scale, and they were reworded to fit a daily diary study. The items were “Today, I felt like a failure,” (reverse-coded) “Today, I felt that I had many good qualities,” “Today, I thought I was no good at all,” (reverse-coded), and “Today, on the whole, I was satisfied with myself.” Responses were recorded on a 7-point scale (1 = *very uncharacteristic of me today*, 7 = *very characteristic of me today*). Daily life satisfaction was

measured with two items taken from Oishi et al. (2007): “How was today?” and “How satisfied were you with your life today?” Responses were recorded on a 7-point scale (1 = *terrible*, 7 = *excellent*; 1 = *very dissatisfied*, 7 = *very satisfied*, respectively). Daily life satisfaction was measured in the second semester only.

## Results

**Reliability and descriptive statistics.** The data were multilevel in structure, such that days were nested within people, and we used the program HLM (Raudenbush et al., 2011) to analyze the data. Prior to conducting the primary analyses, we examined the reliability of the well-being measures. To do so, we created three-level models in which items were nested within days, and days were nested within persons. A response variable that contained the value of each item within a scale was the outcome measure, and no predictors were entered into the model. The reliability of the intercept provides a ratio of the true variance to total variance, the conceptual equivalent of Cronbach’s alpha. See Nezlek (2017), for a discussion of this technique.

The reliabilities of the initial measures PA, NA, and ND were lower than expected (.55, .44, and .48, respectively), and so items were eliminated to improve these reliabilities. The final measures of PA included enthusiastic, excited, and happy; NA included nervous, upset, stressed, and tense; and ND included sad, depressed, and disappointed. All resulting well-being measures had reliabilities of .52 or greater (see Table 1).

The next set of models were two-level (days within persons) null or unconditional models, which provide estimates of the means and the within- and between-person variances.

**Table 2.** Within-Person Correlations Between Daily Emotion Regulation Strategies.

|                      | Positive reappraisal |     | Negative reappraisal |     | Positive suppression |     |
|----------------------|----------------------|-----|----------------------|-----|----------------------|-----|
|                      | S1                   | S2  | S1                   | S2  | S1                   | S2  |
| Negative reappraisal | .51                  | .65 |                      |     |                      |     |
| Positive suppression | .04                  | .09 | .04                  | .09 |                      |     |
| Negative suppression | .14                  | .21 | .17                  | .21 | .22                  | .33 |

Note. S1 = Study 1; S2 = Study 2.

The results of these analyses are summarized in Table 1. None of the means were too close to the minimum or maximum values, which means that ceiling and floor effects were likely not an issue. All measures had sufficient within-person variation to examine within-person relationships. We used *Mplus* Version 8.4 (Muthén & Muthén, 1998–2017) to estimate within-person correlations. The correlations ranged from  $r = .04$  to  $r = .51$  (see Table 2).

**Relationships between daily events and emotion regulation strategies.** To examine when people use emotion regulation strategies, we regressed individual emotional regulation strategies onto measures of positive and negative events.<sup>2</sup> Event scores were group-mean centered and were modeled as randomly varying. The model was as follows:

$$\begin{aligned}
 \text{Day level: } & y_{ij}(\text{emotion regulation strategy}) = \\
 & \beta_{0j} + \beta_{1j}(\text{positive events}) + \\
 & \beta_{2j}(\text{negative events}) + r_{ij} \\
 \text{Person level: } & \beta_{0j} = \gamma_{00} + u_{0j} \\
 & \beta_{1j} = \gamma_{10} + u_{1j} \\
 & \beta_{2j} = \gamma_{20} + u_{2j}
 \end{aligned} \tag{1}$$

The results from these models are summarized in Table 3. Positive event scores were positively related to positive reappraisal, negative reappraisal, and negative suppression, and they were negatively related to positive suppression. Negative event scores were positively related to positive suppression and negative suppression and were not significantly related to positive reappraisal or negative reappraisal. People were likely to use positive reappraisal, negative reappraisal, and negative suppression and were less likely to use positive suppression on days when positive events were more important/frequent than on days when positive event scores were less frequent/important. In contrast, people were likely to use positive suppression and negative suppression on days when negative events were more frequent/important than on days when they were less frequent/important.

Effect sizes, which typically refer to reductions of variance, are complicated to estimate in multilevel models (e.g., Kreft & de Leeuw, 1998). Nevertheless, we estimated effect

sizes following the recommendations of Raudenbush and Bryk (2002) and Rights and Sterba (2019; model  $R_w^{2(fv)}$ ). These estimates relied upon the reductions in within-person variance that occurred when predictors were added to a model. The within-person relationships between daily events and emotion regulation strategies ranged from the conceptual equivalent of  $r = .17$  to  $r = .26$ . These estimates are presented in Table 3.

**Relationships between emotion regulation strategies and well-being.** Previous studies have examined within-person relationships between emotion regulation strategies and affect. Generally speaking, reappraisal strategies have been positively related to well-being, whereas suppression has been negatively related to well-being. Before conducting the interaction effects involving daily events and emotion regulation strategies, we examined the simple within-person relationships between emotion regulation strategies and well-being. The models used to test these relationships were similar to the models described above:

$$\begin{aligned}
 \text{Day level: } & y_{ij}(\text{well-being}) = \beta_{0j} + \beta_{1j} \\
 & (\text{emotion regulation strategy}) + r_{ij} \\
 \text{Person level: } & \beta_{0j} = \gamma_{00} + u_{0j} \\
 & \beta_{1j} = \gamma_{10} + u_{1j}
 \end{aligned} \tag{2}$$

The results from these models are presented in Table 4, and many of the effects were similar to those reported by Nezlek and Kuppens (2008). We found that reappraisal strategies were positively related to well-being and that suppression was negatively related to well-being. Whereas some of the relationships involving negative reappraisal and well-being reported by Nezlek and Kuppens (2008) were weak or not significant, we found that negative reappraisal was consistently positively related to well-being with most effect sizes ranging from  $r = .20$  to  $r = .30$ . In sum, the results suggest that reappraisal strategies are positively related to well-being, whereas suppression strategies are negatively related to well-being.

**Daily events as moderators of relationships between emotion regulation and well-being.** In addition to examining relationships between daily events and daily emotional regulation strategies, we were also interested in knowing if the within-person relationships between daily well-being and emotional regulation varied as a function of daily events. To examine this possibility, we created interaction terms by multiplying each measure of emotion regulation strategy by each measure of daily events. Before this, we centered each measure on the means for an individual. An emotion regulation strategy and an event score were entered as group-mean centered predictors, and the interaction terms were entered uncentered. See Nezlek (2011) for an explanation of this technique,

**Table 3.** Relationships Between Daily Events and Emotion Regulation Strategies.

| ER strategy          | Study | Positive events |         | Negative events |         | $R_w^{2(fr)}$ |
|----------------------|-------|-----------------|---------|-----------------|---------|---------------|
|                      |       | Slope           | t ratio | Slope           | t ratio |               |
| Positive reappraisal | 1     | .38***          | 6.31    | -.09            | 1.20    | .066          |
|                      | 2     | .26***          | 4.62    | -.03            | 0.38    | .086          |
| Negative reappraisal | 1     | .41***          | 6.92    | -.07            | 0.95    | .067          |
|                      | 2     | .20***          | 3.60    | -.03            | 0.33    | .082          |
| Positive suppression | 1     | -.12*           | 2.40    | .30***          | 5.02    | .029          |
|                      | 2     | -.06            | 1.35    | .28***          | 3.88    | .067          |
| Negative suppression | 1     | .22**           | 3.52    | .15†            | 1.84    | .051          |
|                      | 2     | .07             | 1.17    | .18*            | 2.17    | .057          |

Note. ER = emotion regulation.

† $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 4.** Within-Person Relationships Between Emotion Regulation Strategies and Well-Being.

| DV  | Study | Positive reappraisal |      |               | Negative reappraisal |      |               | Positive suppression |      |               | Negative suppression |      |               |
|-----|-------|----------------------|------|---------------|----------------------|------|---------------|----------------------|------|---------------|----------------------|------|---------------|
|     |       | b                    | t    | $R_w^{2(fr)}$ | b                    | t    | $R_w^{2(fr)}$ | b                    | t    | $R_w^{2(fr)}$ | b                    | t    | $R_w^{2(fr)}$ |
| PA  | 1     | .13***               | 6.43 | .064          | .11***               | 5.59 | .045          | -.13***              | 5.77 | .049          | .03†                 | 1.74 | .024          |
|     | 2     | .12***               | 5.07 | .079          | .09***               | 4.02 | .065          | -.07**               | 3.23 | .032          | .00                  | 0.12 | .042          |
| PD  | 1     | .12***               | 7.37 | .057          | .10***               | 6.36 | .040          | -.05**               | 2.94 | .030          | .04**                | 2.92 | .030          |
|     | 2     | .09**                | 3.50 | .069          | .05*                 | 2.29 | .060          | -.05*                | 2.21 | .022          | .00                  | 0.12 | .037          |
| NA  | 1     | -.07**               | 3.38 | .056          | -.04*                | 2.06 | .041          | .09***               | 4.41 | .031          | .03                  | 1.49 | .044          |
|     | 2     | .00                  | 0.04 | .044          | .01                  | 0.67 | .072          | .09***               | 4.25 | .061          | .04†                 | 1.86 | .081          |
| ND  | 1     | -.10***              | 4.78 | .087          | -.08***              | 3.59 | .070          | .12***               | 5.60 | .047          | .03†                 | 1.85 | .036          |
|     | 2     | .01                  | 0.46 | .029          | .01                  | 0.63 | .078          | .12***               | 5.70 | .034          | .06**                | 3.05 | .041          |
| RSE | 1     | .13***               | 7.20 | .093          | .13***               | 7.06 | .074          | -.10***              | 4.98 | .070          | .01                  | 0.71 | .052          |
|     | 2     | .05†                 | 1.97 | .106          | .01                  | 0.53 | .094          | -.09***              | 4.48 | .044          | .01                  | 0.53 | .071          |
| SWL | 1     | .17***               | 5.06 | .096          | .15***               | 4.47 | .079          | -.24***              | 6.70 | .071          | .03                  | 0.89 | .050          |
|     | 2     |                      |      |               |                      |      |               |                      |      |               |                      |      |               |

Note. DV = dependent variable; PA = positive activated affect; PD = positive deactivated affect; NA = negative activated affect; ND = negative deactivated affect; RSE = Rosenberg's self-esteem; SWL = satisfaction with life.

† $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

and see Nezelek et al. (2017) for an application. The model is presented below, and the results of these analyses are presented in Table 5:

$$\begin{aligned} \text{Day level: } y_{ij}(\text{well-being}) &= \beta_{0j} + \beta_{1j} \\ &(\text{emotion regulation}) + \beta_{2j}(\text{daily event}) + \\ &\beta_{3j}(\text{interaction term}) + r_{ij}. \end{aligned} \quad (3)$$

The interactions involving positive reappraisal, negative reappraisal, and negative suppression followed a similar pattern. These emotion regulation strategies were more beneficial to well-being as the number/importance of negative events increased and as the number/importance of positive events decreased.

To understand these interactions, we estimated well-being scores for days that were  $1SD$  above and below scores on an emotional regulation strategy and an event measure (see

Table 6). Standard deviations were the square root of the Level 1 variance from the unconditional model for each predictor (Nezelek, 2011). For example, consider the model with daily life satisfaction as the outcome measure and positive reappraisal and positive events as predictors. When positive events were low ( $-1SD$ ), the estimated effect of positive reappraisal on self-esteem was .46, whereas the estimated effect was .11 when positive events were high ( $+1SD$ ). This pattern is also depicted visually in Figure 1. For all well-being measures, relationships with positive reappraisal were stronger on days when positive events were low than when they were high, and when negative events were high.

A similar pattern emerged for negative reappraisal. When positive event scores were low, the positive relationship between well-being and negative reappraisal was stronger than when positive event scores were high. See Figure 2 for an example of this effect involving NA affect.<sup>3</sup> In parallel, when negative event scores were high,

**Table 5.** Interaction Coefficients of the Moderating Effects of Daily Events and Emotion Regulation Strategies on Well-Being.

| DV  | Study | Positive reappraisal        |                             | Negative reappraisal        |                             | Positive suppression        |                             | Negative suppression        |                             |
|-----|-------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|     |       | Positive events interaction | Negative events interaction | Positive events interaction | Negative events interaction | Positive events interaction | Negative events interaction | Positive events interaction | Negative events interaction |
| PA  | 1     | -.06                        | .05                         | -.07 <sup>†</sup>           | .05                         | -.06                        | .14**                       | -.08*                       | .13**                       |
|     | 2     | -.06 <sup>†</sup>           | .05                         | -.06 <sup>†</sup>           | .01                         | -.06 <sup>†</sup>           | .11**                       | -.08**                      | .04                         |
| PD  | 1     | -.06 <sup>†</sup>           | .11**                       | -.08**                      | .05                         | .03                         | .11**                       | -.05                        | .06                         |
|     | 2     | -.03                        | .03                         | -.06                        | .02                         | -.01                        | .11**                       | -.03                        | .03                         |
| NA  | 1     | .09*                        | -.16***                     | .08*                        | -.05                        | -.03                        | -.01                        | .12**                       | -.05                        |
|     | 2     | .07*                        | -.06                        | .06 <sup>†</sup>            | -.04                        | .06 <sup>†</sup>            | -.02                        | .04 <sup>†</sup>            | -.07*                       |
| ND  | 1     | .09*                        | -.19**                      | .06                         | -.15**                      | .01                         | .14*                        | .06                         | .01                         |
|     | 2     | .04                         | -.04                        | .05                         | .01                         | .09*                        | -.02                        | .06 <sup>†</sup>            | -.04                        |
| RSE | 1     | -.11**                      | .13**                       | -.09*                       | .09*                        | -.04                        | .02                         | -.04                        | .05                         |
|     | 2     | -.07 <sup>†</sup>           | .05                         | -.09**                      | .01                         | -.10*                       | .00                         | -.05                        | .02                         |
| SWL | 1     | -.18*                       | .07                         | -.12                        | .15*                        | -.20*                       | .11                         | -.17**                      | .17*                        |
|     | 2     |                             |                             |                             |                             |                             |                             |                             |                             |

Note. Effect size estimates for the interaction terms could not be calculated. Although Rights and Sterba (2019) mentioned effect size estimates of single predictors could, theoretically, be calculated by subtracting the variance reduction values of a smaller model that does not include the interaction term from the variance reduction values of the full model, this method has not been empirically tested. We found this approach was problematic when the presence/absence of random effects differed across the full and small models. DV = dependent variable; PA = positive activated affect; PD = positive deactivated affect; NA = negative activated affect; ND = negative deactivated affect; RSE = Rosenberg's self-esteem; SWL = satisfaction with life. <sup>†</sup>*p* < .10. \**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

**Table 6.** Estimated Effects of Emotion Regulation Strategies on Well-Being at One Standard Deviation Above and Below the Means of Positive and Negative Events.

| High vs. low ER strategy | Study | Positive reappraisal |      | Negative reappraisal |      | Positive suppression |      | Negative suppression |      | Positive reappraisal |      | Negative reappraisal |      | Positive suppression |      | Negative suppression |      |
|--------------------------|-------|----------------------|------|----------------------|------|----------------------|------|----------------------|------|----------------------|------|----------------------|------|----------------------|------|----------------------|------|
|                          |       | Positive events      |      |                      |      |                      |      |                      |      | Negative events      |      |                      |      |                      |      |                      |      |
|                          |       | Low                  | High | Low                  | High | Low                  | High | Low                  | High | Low                  | High | Low                  | High | Low                  | High | Low                  | High |
| PA                       | 1     | .26                  | .14  | .20                  | .06  | -.19                 | -.28 | .10                  | -.06 | .26                  | .33  | .19                  | .28  | -.35                 | -.15 | -.03                 | .19  |
|                          | 2     | .25                  | .12  | .22                  | .08  | -.08                 | -.20 | .10                  | -.12 | .19                  | .28  | .18                  | .20  | -.20                 | -.02 | -.03                 | .05  |
| PD                       | 1     | .27                  | .16  | .24                  | .08  | -.12                 | -.07 | .12                  | .02  | .16                  | .34  | .17                  | .24  | -.15                 | .01  | .07                  | .18  |
|                          | 2     | .18                  | .10  | .16                  | .02  | -.08                 | -.11 | .02                  | -.06 | .14                  | .20  | .08                  | .12  | -.13                 | .04  | -.02                 | .04  |
| NA                       | 1     | -.23                 | -.06 | -.16                 | -.00 | .20                  | .15  | -.06                 | .18  | .01                  | -.25 | -.04                 | -.12 | .10                  | .08  | .07                  | -.01 |
|                          | 2     | -.07                 | .09  | -.03                 | .10  | .12                  | .25  | .05                  | .15  | .06                  | -.06 | .06                  | -.01 | .12                  | .09  | .14                  | -.01 |
| ND                       | 1     | -.30                 | -.12 | -.19                 | -.08 | .22                  | .23  | .02                  | .14  | -.04                 | -.36 | -.05                 | -.28 | .06                  | .26  | .04                  | .05  |
|                          | 2     | .00                  | .10  | -.01                 | .10  | .14                  | .33  | .06                  | .23  | .04                  | -.03 | .00                  | .02  | .20                  | .17  | .16                  | .07  |
| RSE                      | 1     | .36                  | .16  | .31                  | .15  | -.16                 | -.23 | .05                  | -.04 | .18                  | .38  | .19                  | .33  | -.15                 | -.13 | .02                  | .10  |
|                          | 2     | .14                  | -.01 | .11                  | -.10 | -.07                 | -.29 | -.08                 | -.21 | .04                  | .13  | .01                  | .03  | -.12                 | -.11 | -.12                 | -.08 |
| SWL                      | 1     | .46                  | .11  | .34                  | .11  | -.25                 | -.59 | .19                  | -.16 | .31                  | .42  | .21                  | .44  | -.47                 | -.31 | -.04                 | .25  |
|                          | 2     |                      |      |                      |      |                      |      |                      |      |                      |      |                      |      |                      |      |                      |      |

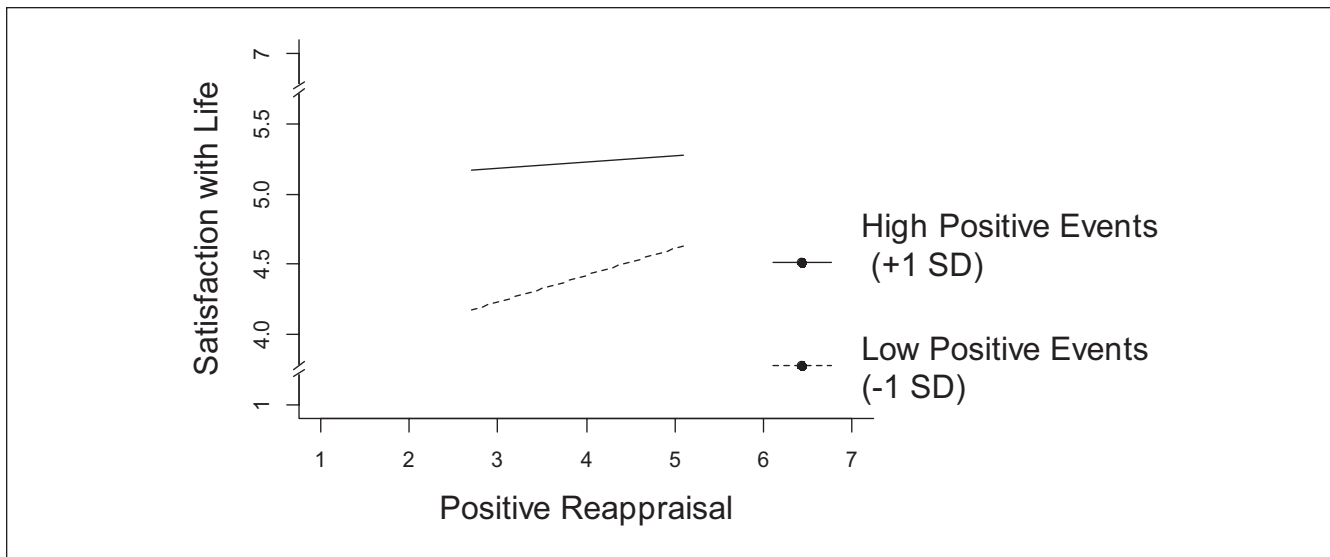
Note. ER = emotion regulation; DV = dependent variable; PA = positive activated affect; PD = positive deactivated affect; NA = negative activated affect; ND = negative deactivated affect; RSE = Rosenberg's self-esteem; SWL = satisfaction with life.

the positive relationship between well-being and negative reappraisal was stronger than when negative event scores were low. The results of the analyses of negative suppression followed a similar pattern. For instance, the relationship between negative suppression and PA was stronger (and more positive) when positive event scores were low than when positive event scores were high, and when

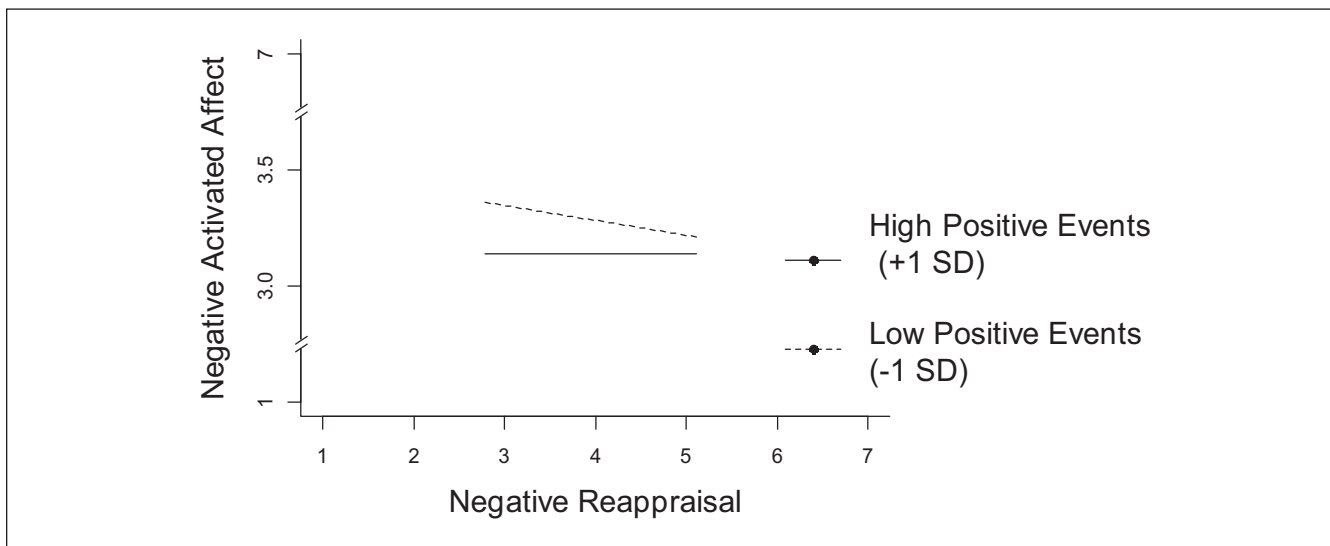
negative event scores were high than when negative event scores were low. Thus, suppressing negative emotions when many negative events are occurring may be somewhat beneficial.

The interactions involving positive suppression followed a different pattern. Suppressing positive emotions was more detrimental to well-being as the number/importance of positive





**Figure 1.** The effect of positive reappraisal on daily life satisfaction is moderated by positive events.  
 Note. Estimated effects of positive reappraisal on daily life satisfaction are depicted at 1SD above and below mean levels of positive events. The positive effect is stronger at lower levels of positive events (i.e., when the day is not going very well) than at higher levels of positive events (i.e., when the day is going well). Slashed lines indicate the figure was zoomed in to highlight the nature of the interaction effect.



**Figure 2.** The effect of negative reappraisal on daily negative activated affect is moderated by positive events.  
 Note. Estimated effects of negative reappraisal on daily negative activated affect are depicted at 1SD above and below mean levels of positive events. The negative effect is stronger (i.e., more beneficial) at lower levels of positive events (i.e., when the day is not going very well) than at higher levels of positive events (i.e., when the day is going well). Slashed lines indicate the figure was zoomed in to highlight the nature of the interaction effect.

events increased and as the number/importance of negative events decreased. For example, suppressing positive emotions was more strongly negatively related to PA and satisfaction when negative events were low and when positive events were high than when negative events were high and when positive events were low. The one exception to this pattern occurred for the interaction effect of negative events and positive suppression on ND. When considered as a whole, the general pattern of interaction effects suggests that suppressing positive emotions

is particularly harmful when positive emotions are occurring concomitantly with positive events.

### Study 2

To replicate the findings from Study 1, we reanalyzed the data collected by Nezlek and Kuppens (2008), which included measures of daily events in addition to the measures of emotion regulation strategies and well-being. Because the

procedure and measures were very similar to those from Study 1, we describe the few differences and refer interested readers to Nezlek and Kuppens (2008) for additional details.

## Method

**Participants and procedure.** Participants were 153 undergraduate students ( $M_{\text{age}} = 18.72$  years,  $SD = 1.08$  years, 55.6% female) who completed end-of-day reports each evening for 3 weeks ( $N = 2,866$ ,  $M = 18.73$ ,  $SD = 3.79$ , median = 19, minimum = 6, maximum = 28). Responses were accepted if they were completed between 8:00 p.m. and 7:00 a.m. of the following morning.

**Measures.** The daily events were similar to the ones used in Study 1 and included 26 total daily events (14 positive and 12 negative). The emotion regulation items were the exact same as those reported in Study 1. The adjectives used to measure affect were similar to the ones used in Study 1. PA affect was measured with enthusiastic, happy, active, energetic, alert, proud, joyful, and interested; PD affect was measured with calm, satisfied, and relaxed; NA affect was measured with guilty, nervous, afraid, ashamed, embarrassed, upset, and disgusted; ND affect was measured with sluggish, sad, tired, bored, and sleepy. Self-esteem was measured in the same manner as in Study 1.

## Results

Because the models were exactly the same as those reported in Study 1, we provide general descriptions of the pattern of findings and how they compared with those from Study 1. The results from Study 2 are presented alongside the results from Study 1 in each table.

**Reliability and descriptive statistics.** The means, variances, and reliabilities in Study 2 were similar to those in Study 1. Mean levels of NA affect were slightly lower, and mean levels of ND affect were slightly higher in Study 2 than they were in Study 1 (see Table 1). Within-person correlations between the emotion regulation strategies ranged from  $r = .09$  to  $r = .65$ , similar to the correlations in Study 1 (see Table 2).

**Relationships between daily events and emotion regulation strategies.** Similar to Study 1, positive event scores were positively related to positive reappraisal, negative reappraisal, and negative suppression (although trending and not significant). They were not significantly related to positive suppression, although they were trending in the negative direction, similar to Study 1. Negative event scores were positively related to positive suppression and negative suppression and were not significantly related to positive reappraisal or negative reappraisal. These findings largely replicated those reported in Study 1 (see Table 3).

**Relationships between emotion regulation strategies and well-being.** Nezlek and Kuppens (2008) reported the within-person relationships between emotion regulation strategies and well-being. In their models, they entered all four emotion regulation strategies together, whereas we entered each emotion regulation strategy separately in different models in Study 1. To be consistent, we examined these relationships in the same manner as we did in Study 1. Many of the relationships from Nezlek and Kuppens (2008) were similar to those reported in Study 1 (see Table 4). We found that reappraisal strategies were positively related to positive affect and were not significantly related to negative affect. Positive suppression was negatively related to well-being. Negative suppression was not related to positive affect or self-esteem but was positively related to negative affect. Considering the pattern of effects across studies, reappraisal strategies were positively related to well-being, whereas suppression strategies were either negatively or not consistently related to well-being.

**Daily events as moderators of relationships between emotion regulation and well-being.** The interaction effects in Study 2 replicated many of the interactions in Study 1 (see Table 5). In some cases, the interaction coefficients were stronger in Study 2 than they were in Study 1 (e.g., those involving positive suppression and positive events). In the few cases where the statistical significance of the interaction terms was not the same across the two studies, the pattern of the effects was the same. Given the number of interactions, the relationships we found are reasonably consistent across the two studies. Following the advice of Amrhein et al. (2019), when considering the results as a whole, we considered the pattern of effects rather than categorizing some effects as significant and others as not significant at the arbitrary threshold of  $p < .05$ .

Taken together, the interactions showed that positive reappraisal, negative reappraisal, and negative suppression were more beneficial for daily well-being as the number and importance of negative events increased and as the number and importance of positive events decreased. In contrast, suppressing positive emotions was more detrimental to well-being as the number/importance of positive events increased and as the number/importance of negative events decreased.

## Discussion

This is the first study of which we are aware to examine the within-person relationships among a broad range of common daily events, reappraisal and suppression of both positive and negative emotions, and well-being. The present studies replicated the findings from prior research that daily states of reappraisal are positively related to well-being and daily states of suppression are negatively related to well-being (Brans et al., 2013; Brockman et al., 2017; Nezlek & Kuppens, 2008). The present study extended the growing body of research on emotion regulation in daily life in two important ways. First, the

findings showed that people were more likely to use reappraisal of positive and negative emotions and suppression of negative emotions and were less likely to use suppression of positive emotions on days when more versus less positive events occurred. As daily negative events increased, people were more likely to suppress positive emotions and were somewhat more likely to suppress negative emotions.

Second, many of the within-person relationships between emotion regulation strategies and well-being were moderated by the types of daily events experienced during the day. Generally speaking, the positive effects of positive and negative reappraisal and negative suppression on well-being were stronger on days when more negative events had occurred than on days when fewer negative events had occurred and were stronger on days when fewer versus more positive events had occurred (i.e., when days had not gone so well). The interactions involving positive suppression were the mirror image of these interactions. The negative effect of suppressing positive emotions was stronger as the number and importance of positive events increased and as negative events decreased (i.e., when days were going well). Each of these findings provides insights to the processes of emotion regulation and each warrant further discussion.

### *Influence of Daily Events on Emotion Regulation Strategies*

It is important to keep in mind that many studies have examined emotion regulation strategies that occur in response to negative events, such as stressors (e.g., Kalokerinos, Tamir, & Kuppens, 2017; Kashdan & Steger, 2006; Troy et al., 2019). Our data show that people reappraise their positive and negative emotions to a greater extent on days when many positive events occur as opposed to days when fewer positive events occur. This means that the specific *momentary* contexts in which reappraisal has typically been studied in previous research have not considered the broader *daily* context, a context that we believe is important.

One potential explanation for the present results is that positive events that occur in a day may motivate people to change how they think about difficult situations in that same day. For example, pleasant interactions with friends in the morning may provide cognitive resources that provide a basis for people to change how they think about a slight annoyance that occurs in the afternoon. In the absence of these pleasant interactions, people may be less inclined to change the way they think about a difficult situation. Examining such possibilities requires research that is designed to do so.

Whether people suppressed positive or negative emotions depended on the context in which they experienced their emotions, and in our case, this was represented by daily events. On more positive days (in terms of daily events), people were less likely to suppress their positive emotions and were more likely to suppress their negative emotions

than they were on less positive days. On more negative days, they were more likely to suppress both positive and negative emotions than they were on less negative days.

One possible explanation for this involves social intelligence (Salovey & Mayer, 1990). To befriend others, it is important to regulate your emotions in response to their situations. For example, when friends are sad, it may be important to express sympathy rather than joy in response to the positive events that are specific to your life. Similarly, when friends share positive news, it may be important to express positive emotions with them. Thus, suppressing positive emotions when others are upset and expressing positive emotions when friends are doing well can be adaptive. Conversely, when people experience many positive events, such as socializing with close friends, it may be beneficial to suppress any negative emotions they feel due to minor incidents. The positive interactions with friends may continue longer if they try to remain positive. Future studies are needed to examine such a process.

### *Moderating Effect of Daily Events on Relationships Between Emotion Regulation Strategies and Well-Being*

Another contribution of the present study concerns the moderating effects of daily events on within-person relationships between emotion regulation strategies and well-being. The results of analyses of relationships between well-being and reappraisal supported the strategy-situation-fit hypothesis proposed by Haines et al. (2016). When life is out of control or generally not going well, how people reappraise their emotions can have a strong influence on their well-being. In contrast, when life is going well and is presumably under control, positive events influence well-being to a greater extent than emotion regulation strategies do. It is worth noting that well-being was measured as an individual difference by Haines et al. (2016), whereas well-being in our study was measured as a daily state. This extends the evidence for the strategy-situation-fit hypothesis to the within-person level of analysis, a level of analysis that is distinct from between-person analyses (Nezlek, 2001).

We found the moderation of relationships between suppression and well-being was more complex than those involving reappraisal. This could be due to the differences between suppressing positive emotions and suppressing negative emotions. The moderating effects of suppressing negative emotions were quite similar to the moderating effects of reappraisal, namely that suppressing negative emotions was more beneficial to well-being as the number of daily negative events increased. This suggests that the extent to which people suppress feelings of sadness and anxiety, for example, in response to arguments with friends or failing an exam, can improve people's positive mood and satisfaction on that day. Of course, suppressing negative emotions in response to

negative events could have more negative, perhaps delayed, consequences in the future (English et al., 2012).

In contrast, suppressing positive emotions is particularly harmful to daily well-being when the day is going well. It is natural for people to express joy, excitement, and happiness when friends spend time with them or pay them a compliment. Suppressing these positive feelings may disrupt a natural process and may have a negative effect on friends. This negative effect on the friends could reciprocate and diminish the individual's well-being.

### *Implications*

Our findings have both theoretical and practical implications. Theoretically, our findings pertain to important components of the process model of emotion regulation. The earliest stages of the process model entail situation selection and situation modification. These give rise to attentional deployment, cognitive change, and response modulation (Gross, 2015a). When people attend to a particular situation or aspect of the situation, they can typically reappraise or suppress their emotional expressions. The type of situation can dictate which strategy people will likely use. Our findings suggest that reappraisal of both positive and negative emotions and suppression of negative emotions is likely to occur when the situations are positive in nature, and suppression of both positive and negative emotions are likely to occur when the situations are negative. This level of granularity clarifies some of the unknown aspects of the beginning stages of the process model.

The process model of emotion regulation also assumes that emotion regulation strategies are not inherently good or bad (e.g., Haines et al., 2016; Troy et al., 2013). Rather, they depend on the situation. For example, not laughing in response to a funny joke could be beneficial if the joke were made by a coworker during a serious meeting, but it could be detrimental to suppress a laugh if the joke were made by a boss who expects all employees to laugh. Our results support this model by showing that relationships between emotion regulation strategies and well-being depended on the types of events experienced during the day.

Our findings also have important practical implications. People are more likely to use the strategies of reappraisal of positive and negative emotions when the day is going well than when the day is not going well, but reappraisal tends to be most beneficial for well-being when negative events occur. This means that people should be encouraged to use reappraisal particularly on days when many negative events occur, even though this may not be when they naturally or typically engage in reappraisal.

### *Limitations and Future Directions*

Although we believe that the present results advance our understanding of when people regulate their emotions in

daily life and what effect they have on well-being, the present studies have limitations. First, because participants completed all daily measures at the same time (at the end of each day), we cannot know the sequence of states that our measures concerned. We assumed that certain daily events triggered emotion regulation strategies and that well-being resulted from both daily events and emotion regulation strategies. Nevertheless, it is possible, for example, that people used certain emotion regulation strategies early in the day, and daily events occurred in the afternoon or evening. To address such possibilities, future research can use ecological momentary assessment techniques to capture these events and states as they occur in the present moment (Newman & Stone, 2019; Shiffman et al., 2008). Such data could provide a basis for drawing more specific conclusions about relationships among events, emotion regulation strategies, and well-being. This could include more precise estimates about which specific positive events covary with reappraisal and negative suppression.

Second, because all variables were measured as opposed to manipulated, we cannot make firm causal claims about the within-person relationships. For example, although we assumed emotion regulation strategies caused well-being states, the reverse causal direction is possible. Feeling a particular way could lead someone to use one type of emotion regulation strategy later in the day, and this effect could be moderated by the types of daily events. This type of limitation is inherent in daily diary methods, but it is typically offset by the ecological validity advantage that many experiments lack.

It is important to remember, as noted by McGrath (1982), that all methods have flaws. Therefore, the best approach is to combine methods that address the limitations of the other methods. In future studies, experiments could rely on information from daily diary and ecological momentary assessment studies by manipulating emotion regulation strategies in situations that look similar to the types of situations in which people use these strategies.

Third, all participants were undergraduate students. Although it seems reasonable to assume that the within-person relationships examined in this study would generalize beyond our sample, the types of daily events people experience might differ at different stages of life. For instance, how an undergraduate student reacts to receiving a poor grade on a midterm exam may differ from the way a middle-aged person reacts to a negative job performance review at work.

Finally, when people reappraise their emotions, they may change what they are thinking about or they may change the way they think about the situation. We used items that tapped into both of these ideas when assessing positive and negative reappraisal. Although we found that these measures had similar effects on well-being and were similarly influenced by daily events, the wording of these items could have directed participants' attention to different aspects about their situations. In future studies, researchers may wish to use several items to measure these constructs.

Regarding future directions, we believe it is important to distinguish positive and negative emotions when describing how people regulate their emotions. Most studies distinguish reappraisal from suppression, but they fail to distinguish the reappraisal or suppression of positive versus negative emotions. Although our results showed that people were likely to reappraise both positive and negative emotions when positive events occurred, this was not the case for suppression. Suppression of positive emotions was used less frequently when positive events occurred and was used more often when negative events occurred. In contrast, suppression of negative emotions occurred on days when both positive and negative events occurred.

Regarding the moderating effect of daily events on the relationships between emotion regulation strategies and well-being, reappraisal of positive and negative emotions showed a similar pattern, namely that they were more effective on more versus less negative days (in terms of events) and on less positive days than on more positive days. This pattern was also quite similar for suppression of negative emotions, but this was not the case for suppression of positive emotions. Therefore, it appears that researchers should consider this distinction in future studies.

Future studies can also examine how daily events influence the effect of other emotion regulation strategies, such as rumination and distraction, on well-being. We believed it was informative to examine reappraisal and suppression as these two strategies have received the most attention and are widely agreed upon as common emotion regulation strategies.

## Conclusion

The present research adds to the growing body of research on emotion regulation strategies in daily life by providing important information about within-person variation in emotion regulation strategies. The exact strategies people employ depend on the events of their day. Finally, how emotion regulation strategies relate to well-being depends on the types of events experienced during the course of the day. Reappraisal appears to be most beneficial for well-being when the day is not going well, whereas suppression's relationship with well-being and daily events further depends on the specific type of suppression.

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## Supplemental Material

Supplemental material is available online with this article.

## Notes

1. Positive reappraisal could also refer to reappraising a positive stimulus such that it becomes perceived as less positive (e.g., Krompinger et al., 2008). We define positive reappraisal as the amplification of positive emotions, a common way of defining positive reappraisal (e.g., Gross & John, 2003; Nezelek & Kuppens, 2008).
2. Because we did not want to overburden the data in the interaction models below, we entered just one emotion regulation strategy in each model, whereas the models created by Nezelek and Kuppens (2008) included all emotion regulation strategies as predictors simultaneously. Differences between the results of the two types of models were negligible.
3. Graphs of all interactions are presented in the Supplemental material (Supplemental Figures 1–48).

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