AMERICAN PSYCHOLOGICAL ASSOCIATION

Emotion

© 2022 American Psychological Association
ISSN: 1528-3542

2023, Vol. 23, No. 2, 357–374
https://doi.org/10.1037/emo0001097

Emotion Regulation in Everyday Life: Mapping Global Self-Reports to Daily Processes

Peter Koval[1, 2], Elise K. Kalokerinos[1], Katharine H. Greenaway[1], Hayley Medland[1], Peter Kuppens[2], John B. Nezlek[3, 4], Jordan D. X. Hinton[1, 5], and James J. Gross[6]

[1] Melbourne School of Psychological Sciences, University of Melbourne
[2] Faculty of Psychology and Educational Sciences, KU Leuven
[3] Institute of Psychology, Center for Climate Action and Social Transformation, SWPS University of Social Sciences and Humanities
[4] Department of Psychological Sciences, College of William and Mary
[5] School of Behavioural and Health Sciences, Australian Catholic University
[6] Department of Psychology, Stanford University

Recent theory conceptualizes emotion regulation as occurring across three stages: (a) identifying the need to regulate, (b) selecting a strategy, and (c) implementing that strategy to modify emotions. Yet, measurement of emotion regulation has not kept pace with these theoretical advances. In particular, widely used global self-report questionnaires are often assumed to index people's typical strategy selection tendencies. However, it is unclear how well global self-reports capture individual differences in strategy selection and/or whether they may also index other emotion regulation stages. To address this issue, we examined how global self-report measures correspond with the three stages of emotion regulation as modeled using daily life data. We analyzed data from nine daily diary and experience sampling studies (total N = 1,097), in which participants provided daily and global self-reports of cognitive reappraisal, expressive suppression, and rumination. We found only weak-to-moderate correlations between global self-reports and average daily self-reports of each regulation strategy (indexing strategy selection). Global self-reports also correlated with individual differences in the degree to which (a) preceding affect experience predicted regulation strategies (representing the identification stage), and (b) regulation strategies predicted subsequent changes in affective experience (representing the implementation stage). Our findings suggest that global self-report measures of reappraisal, suppression, and rumination may not strongly and uniquely correlate with individual differences in daily selection of these strategies. Moreover, global self-report measures may also index individual differences in the perceived need to regulate, and the affective consequences of regulation in daily life.

Keywords: emotion regulation, individual differences, extended process model, daily life, trait-state

Supplemental materials: https://doi.org/10.1037/emo0001097.supp

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

A growing literature on emotion regulation has documented how people seek to influence their emotions. Early work focused on developing taxonomies of emotion-regulation strategies (e.g., Gross, 1998; Koole, 2009; Parkinson & Totterdell, 1999) and understanding each strategy's distinct consequences (e.g., Aldao et al., 2010; Webb, Miles, & Sheeran, 2012). Building from this work, recent theory has conceptualized emotion regulation as a multistage process, involving identification of a need to regulate, selection of regulation strategies, and implementation of selected strategies (e.g., Gross, 2015; Webb, Schweiger Gallo, et al., 2012). Yet, measurement of emotion regulation has not entirely kept pace with these theoretical advances. Global self-report measures are routinely assumed to assess the extent to which people typically select specific regulation strategies (John & Eng, 2014). However, it remains unclear how well global self-report measures index everyday strategy selection, and whether they may also index other regulation stages.[1]

Editor's Note. Tamlin Conner served as the action editor for this article.—PRP

This article was published Online First May 19, 2022.

Peter Koval https://orcid.org/0000-0003-2460-0943
Elise K. Kalokerinos https://orcid.org/0000-0002-3282-6806
Katharine H. Greenaway https://orcid.org/0000-0002-0271-5312
Hayley Medland https://orcid.org/0000-0002-5015-4150
Peter Kuppens https://orcid.org/0000-0002-2363-2356
John B. Nezlek https://orcid.org/0000-0003-4963-3637
Jordan D. X. Hinton https://orcid.org/0000-0003-0922-5620
James J. Gross https://orcid.org/0000-0003-3624-3090

This research was supported by a Discovery Project Grant (DP160102252), Discovery Early Career Researcher Awards (DE190100203; DE180100352), and a Future Fellowship (FT190100300) from the Australian Research Council, a Horizon 2020 Marie Skłodowska-Curie fellowship (704298) and by a KU Leuven Research Council Grant (C14/19/054). Open data and analyses available on the Open Science Framework at https://osf.io/q5dz6/.

Correspondence concerning this article should be addressed to Peter Koval, Melbourne School of Psychological Sciences, University of Melbourne, Redmond Barry Building, Parkville VIC 3010, Australia. Email: p.koval@unimelb.edu.au

[1] There is also a substantial literature on experimentally instructed emotion regulation (e.g., Morawetz et al., 2017; Webb, Miles, & Sheeran, 2012). For discussion of how the stages of emotion regulation can be operationalized in experimental paradigms, see Sheppes (2020). Our focus, in the current article, is on understanding the processes involved in spontaneous (i.e., *uninstructed*) emotion regulation in daily life.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Research using daily diary (e.g., Nezlek & Kuppens, 2008) and experience sampling methods (ESM; e.g., Brans et al., 2013) provides a means to capture the multistage processes theorized to underpin emotion regulation (Colombo et al., 2020). Thus, to determine how global self-reports align with theorized dynamics of emotion regulation, we need studies combining daily life methods and global questionnaires. To this end, we analyzed data from nine diary and ESM studies to investigate how global self-reports correspond with the identification, selection, and implementation of three frequently studied regulation strategies: (a) *cognitive reappraisal*, which involves reframing situations to alter their emotional impact; (b) *expressive suppression*, the inhibition of emotionally expressive behavior; and (c) *rumination*, a cognitive strategy involving passive engagement with emotions.[2]

Emotion Regulation as a Multistage Process

Recent theoretical accounts of emotion regulation emphasize its dynamic, iterative, and cyclical nature, including bidirectional links with emotions (e.g., Gross, 2015; Tamir, 2021; Webb, Schweiger Gallo, et al., 2012). In particular, Gross's (2015) extended process model proposes three sequential stages: (a) an *identification* stage, during which people appraise their current emotions as "good" or "bad" for them and activate a goal to regulate; (b) a *selection* stage, during which people choose which regulation strategies to use; and (c) an *implementation* stage, involving the deployment of selected strategies to influence emotions.

A major implication of the extended process model, and other recent theoretical work (e.g., Sheppes, 2020; Tamir, 2021), is that to understand emotion regulation requires us to move beyond a singular focus on *which* strategies people select, to consider *when* (e.g., Haines et al., 2016) and *how effectively* (e.g., Ford et al., 2017) people deploy their chosen regulation strategies. However, only a few empirical studies have attempted to operationalize emotion regulation as a dynamic multistage process, incorporating both the antecedents and consequences of regulation (e.g., Lennarz et al., 2019; Livingstone & Isaacowitz, 2021; Pavani et al., 2017).

Global Self-Reports of Emotion Regulation

The dominant approach to studying emotion regulation relies on global (or "trait") questionnaires (for reviews, see John & Eng, 2014; Naragon-Gainey et al., 2017). These measures ask respondents how much they habitually or typically use regulation strategies in their daily lives (e.g., De France & Hollenstein, 2017; Garnefski et al., 2001; Gratz & Roemer, 2004; Gross & John, 2003; Nolen-Hoeksema & Morrow, 1991). Such global self-reports are commonly assumed to measure individual differences in people's habitual selection of emotion-regulation strategies (John & Eng, 2014; McMahon & Naragon-Gainey, 2020). For example, in their meta-analysis of associations between global self-reported emotion regulation and psychopathology, Aldao et al. (2010) argue that "self-report scales typically measure dispositional tendencies toward certain emotion-regulation strategies and supposedly assess what participants do across time and different contexts" (p. 219). Yet, as Naragon-Gainey et al. (2017) point out, it remains unclear how well such global measures map onto how people identify, select, and implement regulation strategies in daily life. In line with this, we argue that although global self-report measures are inherently static—being taken at one time point—they may nevertheless index dynamic aspects of daily emotion regulation, such as temporal associations between regulation strategies and affective experience. Testing this claim requires methods capable of capturing dynamic aspects of emotion regulation.

Daily Self-Reports of Emotion Regulation

Daily life methods provide a window into the dynamic process of emotion regulation by obtaining intensive, repeated momentary self-reports in everyday life (e.g., Colombo et al., 2020). As such, researchers are increasingly using daily life methods to study emotion regulation (e.g., Blanke et al., 2020; Brans et al., 2013; Heiy & Cheavens, 2014; Medland et al., 2020; Nezlek & Kuppens, 2008; Troy et al., 2019). Because daily life methods involve repeated assessment of people's momentary or recent use of regulation strategies, they can be used to index *state* and *trait* strategy selection. Specifically, daily life measures can be decomposed into within-person variance (reflecting state strategy selection) and between-person variance (reflecting trait strategy selection; Hamaker et al., 2007, 2017). Findings to date have revealed that strategy selection in daily life varies considerably both within and between individuals.

Yet, daily life methods can also be used to assess other stages of the regulation process beyond strategy selection. Specifically, daily self-reports can be used to model within-person *contingencies* of state emotion-regulation strategy use and other states, such as affect. This offers an opportunity to model processes occurring in the identification and implementation stages of emotion regulation (Gross, 2015). In the first stage, identifying a need to regulate relies, in part, on a representation of current affect (Gross et al., 2019). Thus, one way to operationalize identification is to assess the degree to which state strategy selection is predicted by preceding affect intensity. In contrast, the implementation stage is where regulation processes reach their target, as strategies influence how emotions unfold over time (Gross et al., 2019). Thus, the extent to which state strategy selection predicts change in subsequent affective experience is one way to operationalize the implementation stage. As outlined in Table 1, in the current study we applied these operationalizations of the three regulation stages proposed in Gross's (2015) extended process model to daily life data.

Although preliminary and imperfect, these operationalizations of emotion regulation stages can be used to inform understanding of existing global measures of emotion regulation. Specifically, in the present research we investigated how global self-reports correlate with individual differences in the identification, selection, and implementation stages of emotion regulation, operationalized using daily self-reports of emotion regulation and affect. Table 1 also explains different possible patterns of association between global scores and our proposed operationalization of each emotion-regulation stage.

Correspondence Between Global and Daily Self-Reports of Emotion Regulation

In the following paragraphs, we outline research and theory relevant to the correspondence between global-self reports and each of the three stages of emotion regulation in daily life. We begin by

[2] Consistent with most research on rumination, we focused on the maladaptive *brooding* component of rumination (Treynor et al., 2003; see also Trapnell & Campbell, 1999).

Table 1
Operationalization of Emotion Regulation Stages Using Daily Self-Reports and Possible Associations With Global Self-Reports

Emotion regulation stage	Operationalization using daily self-reports	Interpretation	Interpretation of association with global self-reports
Identification	$Affect_{t-1} \rightarrow ER_t$ Latent slope of affect at occasion $t-1$ predicting ER strategy use at occasion t	Negative slope: Increases in affect predict decreases in daily use of ER strategy Positive slope: Increases in affect predict increases in daily use of ER strategy	Negative correlation: Higher global scores associated with more negative (or less positive) slope Positive correlation: Higher global scores associated with more positive (or less negative) slope
Selection	$\frac{\sum_{t=0}^{n} ER_t}{t}$ Latent mean (intercept) of ER strategy across all measurement occasions t	Higher values: Greater tendency to select ER strategy in daily life	Negative correlation: Higher global scores associated with less daily ER strategy selection Positive correlation: Higher global scores associated with more daily ER strategy selection
Implementation	$ER_{t-1} \rightarrow Affect_t$ Latent slope of ER strategy at occasion $t-1$ predicting affect at occasion t	Negative slope: Increases in daily ER strategy use predict decreases in affect Positive slope: Increases in daily ER strategy use predict increases in affect	Negative correlation: Higher global scores associated with more negative (or less positive) slope Positive correlation: Higher global scores associated with more positive (or less negative) slope

Note. ER = emotion-regulation strategy.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

discussing how global self-reports correspond with daily strategy selection. We begin here because researchers have commonly (albeit implicitly) assumed that global self-report scales assess trait strategy selection, that is, *which* emotion regulation strategies people habitually select. Next, we turn our attention to correspondence between global self-reports and identification and implementation processes in daily life.

That is, we explore the possibility that, despite targeting strategy selection, global self-reports may also index *when* people use certain strategies (identification), and *how* using those strategies influences subsequent affect (implementation). Together, these tests of global-daily self-report correspondence aim to yield greater insight into which stages of emotion regulation are assessed in common global measures.

Selection Correspondence

Previous research in this area has been limited to examining how global self-report scales correlate with between-person variance in daily self-reports of emotion-regulation strategy selection (e.g., Brockman et al., 2017; McMahon & Naragon-Gainey, 2020; Schwartz et al., 1999). We refer to this correlation between global and daily self-reports of strategy selection as *selection correspondence*. Two existing theoretical frameworks suggest distinct predictions about the likely strength of selection correspondence.

According to whole trait theory (Fleeson & Jayawickreme, 2015), traits can be defined as density distributions of states, such that the mean of repeatedly sampled states represents a person's typical standing along a trait dimension. Because global self-reports also capture people's perceived typical trait level, they should correlate relatively strongly with mean daily self-reports. Supporting this prediction, Fleeson and Gallagher (2009) found that mean state self-reports of the Big Five personality dimensions correlated at r = .40 to .60 with global self-reports of the same dimensions (see also Augustine & Larsen, 2012; Finnigan & Vazire, 2018). If emotion regulation fits within whole trait theory, we would expect to find relatively strong selection correspondence, in line with how global self-reports of emotion-regulation strategies have been interpreted to date. However, as whole trait theory was developed to explain broad personality dimensions it may be less applicable to narrower constructs, such as emotion-regulation strategies.

As an alternative view, Robinson and Clore's (2002) accessibility model of emotional self-report proposes that people draw on different knowledge when reporting global versus momentary feelings. Momentary reports are a direct read-out of experiential knowledge, which is highly contextualized, embodied, and decays rapidly in episodic memory. In contrast, because feelings are context-dependent and fleeting, people rely on abstract semantic knowledge about the self when providing global self-reports of how they typically feel (Robinson & Clore, 2002; see also Conner & Barrett, 2012). Thus, the accessibility model predicts weak or no correspondence between global and momentary measures of feelings. Given that daily emotion regulation is also dynamic, fluctuating in response to affect (e.g., Feldman & Freitas, 2021; Pavani et al., 2017), goals (e.g., English et al., 2017; Kalokerinos et al., 2017), and other situational factors (e.g., Sheppes et al., 2014; Young & Suri, 2020), global and momentary reports of emotion regulation-strategies may similarly derive from different sources of information. From this perspective, we would predict weak selection correspondence. Yet, unlike feelings, emotion-regulation strategies involve deliberate behavioral or cognitive efforts and may be easier to encode as discrete "events" for later retrieval. If this were the case, Robinson and Clore's (2002) model may be less applicable to emotion-regulation strategies.

Previous studies provide mixed evidence regarding the strength of selection correspondence, with some studies finding no reliable convergence between daily and global ratings of emotion-regulation strategy selection (e.g., Brockman et al., 2017; Schwartz et al., 1999), and others reporting reliable, yet relatively weak, correspondence (rs $\leq$ .35; e.g., Ford et al., 2017; Kircanski et al., 2015; Pasyugina et al., 2015; Peters et al., 2020). A recent study by McMahon and Naragon-Gainey (2020), which examined correlations among global and daily self-reports of 10 emotion-regulation strategies in two daily diary studies, represents the most comprehensive test of selection correspondence to date. Despite assessing daily regulation strategy selection in a highly relevant context (i.e., intense emotional episodes), McMahon and Naragon-Gainey found mixed support for strategy-specific selection correspondence (rs = −.03 to .64). Further,

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

global self-reports of each emotion-regulation strategy tended to correlate as strongly with daily reports of *other* strategies as with daily reports of the same strategy, suggesting that global measures show low discriminant validity.

Taken together, previous research provides mixed evidence regarding how well global self-report measures capture people's typical selection of emotion-regulation strategies in daily life. In the present research, we sought to provide a robust test of selection correspondence for three widely studied regulation strategies (reappraisal, suppression, and rumination) across nine diary and ESM studies, more than quadrupling the sample size of previous investigations of selection correspondence (McMahon & Naragon-Gainey, 2020).

Identification Correspondence

The current study goes beyond previous tests by examining how global self-reports correlate with two dynamic aspects of daily emotion regulation. First, emotion regulation occurs when people evaluate their current emotion as requiring adjustment and should vary as a function of affective experience. Accordingly, we examine how global self-reports correlate with the within-person contingency between daily strategy use and preceding affective experience, which we propose as a measure of *identification correspondence*.

Previous studies have demonstrated that daily use of emotion-regulation strategies is contingent on recent affective experience (Brans et al., 2013) and that such dynamics vary as a function of personality (Pavani et al., 2017). However, to our knowledge, the current research is the first to investigate how individual differences in identification (operationalized as the contingency between state emotion regulation and preceding affect) correlate with global self-reports.

We reasoned that identification correspondence may emerge because many global self-report emotion regulation questionnaires bake affective input into their items or scale instructions. For instance, the Ruminative Responses Scale (RRS; Nolen-Hoeksema & Morrow, 1991) instructs participants to indicate how much they engage in rumination when feeling "down, sad, or depressed." Similarly, several items in the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) explicitly invoke emotional antecedents (e.g., "When I am feeling negative emotions . . .") of strategy selection.

Two recent studies are consistent with this claim that global emotion regulation scales may index the identification of a need to use regulation strategies. Tamir et al. (2019) recently demonstrated that the ERQ reappraisal subscale partly measures prohedonic emotion goals (i.e., wanting to decrease negative affect or increase positive affect), which become activated during the identification stage (Gross, 2015). Similarly, self-reported habitual expressive suppression (assessed with the ERQ) has been found to correlate more strongly with suppression in daily life in the context of more (vs. less) intense negative emotions (Peters et al., 2020). This suggests that global self-report measures, such as the ERQ, may capture the tendency to use regulation strategies specifically when there is a greater need to regulate, rather than across all contexts (Peters et al., 2020).

Implementation Correspondence

Second, the key goal of emotion regulation is to influence the trajectory of emotions (Gross, 2015), which occurs during the final implementation stage. Thus, we also examine how global self-reports relate to the within-person contingency between daily strategy use and subsequent affect, which we label *implementation correspondence*.

Previous research shows that daily use of emotion-regulation strategies reliably impacts subsequent affective experience (e.g., Brans et al., 2013) and that these implementation effects differ substantially between individuals (e.g., Pavani et al., 2017; Pe et al., 2013; Troy et al., 2019). Although we are not aware of any studies investigating whether individual differences in strategy implementation correlate with global self-reports of emotion regulation, there are theoretical reasons to suppose such implementation correspondence may occur. Specifically, theories of personality dynamics suggest that associative learning processes may increase people's tendency to engage in behaviors that are rewarding when implemented (Wrzus & Roberts, 2017). That is, people may be more likely to use a regulation strategy if implementing that strategy results in desired emotional change. Alternatively, people may simply be more likely to remember using a regulation strategy to the extent that it has any (desired or undesired) affective consequences (Kensinger, 2009).

In line with this reasoning, Ford et al. (2017) found that global self-reports of cognitive reappraisal correlated equally strongly with a daily measure of perceived reappraisal success ($r = .23$) as with mean daily use of reappraisal ($r = .18$), suggesting that global self-report measures of reappraisal may not only index habitual selection of this strategy, but also how effectively it is implemented. Other studies have similarly found that global self-reports of reappraisal are associated with reappraisal effectiveness (e.g., Kanske et al., 2015; McRae et al., 2012), suggesting that global self-reports of emotion regulation may index individual differences in strategy implementation, as well as selection.

The Present Research

Our aim was to investigate how global self-reports of emotion regulation map onto the identification, selection, and implementation of regulation strategies in daily life (Gross, 2015). Given the prevalence of global self-report scales, this mapping is critical to theoretically situating and interpreting research on emotion regulation.

To test for selection correspondence, we estimated correlations between global self-reports and individual differences in the between-person (mean) component of daily self-reports of emotion regulation. To test for identification correspondence, we estimated how global self-reports correlated with the degree to which daily emotion regulation is contingent on preceding positive and negative affective experience. Finally, to investigate implementation correspondence, we modeled how global self-reports of emotion regulation corresponded with the impact of daily emotion regulation on subsequent positive and negative affective experience. In each case, we examined correspondence both within and across regulation strategies to provide evidence of convergent and discriminant associations, respectively, among daily and global measures.

To address these questions, we analyzed data from nine studies, in which participants completed global and daily self-reports of reappraisal, suppression, and rumination—three often studied, and distinct, emotion-regulation strategies. Participants completed global questionnaires at baseline, and subsequently completed daily diary or ESM reports of their state use of each strategy 1–10 times per day for 7–21 consecutive days.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Method

We analyzed data from nine daily life studies (total N = 1,097), including two daily diary studies and seven ESM studies. Three of the ESM studies assessed emotion-regulation strategies in response to emotional or stressful events (labelled "ESM-Event"), whereas the others assessed emotion-regulation strategies across normal daily contexts.[3] Combining data from these nine studies with diverse designs and samples served to maximize statistical power and increase the generalizability of our findings. Below, we report analyses for each study followed by meta-analyses summarizing results across all relevant studies.

All studies received appropriate ethical clearance (or were exempt from ethics review) and have been previously analyzed to answer research questions distinct from those addressed in this paper (see Table S1 in online supplemental materials for more information about each study). Below, we report only the measures relevant to the current research.

Participants and Procedure

Participants were undergraduates (six studies), general community members (two studies), or Amazon Mechanical Turk (MTurk) workers (one study) recruited in Australia, Belgium, or the United States. In all studies, participants completed both global and daily self-report measures of cognitive reappraisal, expressive suppression, and rumination. We followed exclusion criteria applied in previous analyses of each dataset. Further details of participants and procedure for each study are summarized in Table S1 in online supplemental materials.

Materials and Measures

Global Self-Reports of Emotion-Regulation Strategies

Global reappraisal and suppression use were assessed with Gross and John's (2003) ERQ, comprising six reappraisal items (e.g., "When I want to feel less negative emotion [such as sadness or anger], I change what I'm thinking about"), and four suppression items (e.g., "When I am feeling negative emotions, I make sure not to express them") rated from 1 (*strongly disagree*) to 7 (*strongly agree*).

In all but two studies, global rumination was measured with the *brooding* subscale of the RRS (Treynor et al., 2003), comprising five items (e.g., "I think 'Why do I always react this way?'") rated on a scale from 1 (*almost never*) to 4 (*almost always*). Two studies (diary Study 2, ESM Study 3) assessed global rumination using the rumination subscale of Trapnell and Campbell's (1999) Reflection-Rumination Questionnaire, comprising 12 statements (e.g., "I never ruminate or dwell on myself for very long"; reverse-scored) rated from 1 (*strongly disagree*) to 5 (*strongly agree*). Descriptive statistics and reliability estimates for the global emotion regulation scales are reported in Table S4 in online supplemental materials.

Daily Self-Reports of Emotion-Regulation Strategies

As is typical for diary and ESM studies, emotion-regulation strategies were measured with single items in most studies. Specifically, single-item measures were used in six studies to measure reappraisal (e.g., "Have you looked at the cause of your feelings from another perspective?"), in seven studies to assess suppression (e.g., "I was careful not to express my emotions to others"), and in five studies to measure rumination (e.g., "I ruminated or dwelled on the event or my emotions"). The remaining studies included two- or three-item measures of daily emotion-regulation strategies (see Table S2 in online supplemental materials). Descriptive statistics (and reliability estimates for multi-item measures) for daily self-report measures of emotion-regulation strategies are reported in Table S5 in online supplemental materials.

Daily Self-Reports of Affect

In all but one study (ESM-Event Study 3), momentary negative affect (NA) and positive affect (PA) were assessed with two or more items including at least one low-arousal (e.g., sad, relaxed) and one high-arousal (e.g., angry, happy) adjective. In ESM-Event Study 3, NA and PA were assessed using single items (see Table S3 in online supplemental materials for complete NA and PA items in all ESM and ESM-Event studies). Multilevel reliability (Cronbach's α) for daily NA and PA scales are reported in Table S6 in online supplemental materials. We do not provide details of affect measures in the two diary studies as we only conducted analyses including affect for ESM and ESM-Event studies (see below).

Data Analyses

Power and Sample Size

The current project involved secondary analysis of existing data. Thus, sample sizes for each study were determined according to various theoretical and pragmatic criteria. As such, some individual studies (e.g., ESM Study 3, N = 46) are likely underpowered to test our research questions. To mitigate this concern, we conducted meta-analyses (see below) to maximize statistical power and synthesize findings across studies. Given the diversity of methods and measures across studies, we report variance and heterogeneity estimates for our main meta-analyses (see Tables S14 to S18 in online supplemental materials). Finally, to ensure that our meta-analyses were sufficiently powered, we ran post hoc power analyses, which we also report (see Table S19 in online supplemental materials).

Multilevel Structural Equation Models (MSEM)

To account for the nested data structure (surveys nested within participants), we analyzed data using multilevel structural equation modeling (MSEM) in M*plus* Version 8.5 (Muthén & Muthén, 1998). MSEM uses latent centering to decompose observed multilevel outcomes into latent within-person (state) and between-person (trait) components and allowed us to specify models with both regressions and correlations among multiple outcomes. Due to the inclusion of random slopes for predictors with missing data, using maximum likelihood estimation for our analyses would have required high-dimensional numerical integration, which is computationally intensive and leads to poor model convergence. Thus, we used Bayesian estimation as recommended by Asparouhov and Muthén (2019).

[3] Diary Study 1 also assessed emotion-regulation strategies in response to the most negative event of the day but we group it with the other diary study on methodological grounds.

Bayesian estimation also allowed us to obtain standardized parameter estimates, which we subsequently meta-analyzed (see below).[4] We report standardized estimates and 95% Bayesian credible intervals (CIs) for all parameters, which we considered as "statistically significant" when their 95% CIs did not include zero.

Figure 1 illustrates the MSEM fitted to each dataset. The left panel shows the decomposition of observed diary/ESM variables into latent within-person and between-person components. Using data from all nine studies, we tested for selection correspondence by correlating global self-reports with the between-person component (i.e., random intercept; represented in Figure 1 by the β) of daily self-reports for each emotion-regulation strategy (see Figure 1, top-right panel).

We modeled identification and implementation slopes using the within-person state components of diary/ESM measures (see Figure 1, bottom-right panel). We only fitted this within-person model to the seven ESM/ESM-Event studies because we reasoned that identification and implementation processes unfold within, but not across, days. This aligns with the finding that most daily emotional episodes have a duration of 1–2 hr (Verduyn et al., 2009). In the two diary studies, it would have only been possible to model how emotion-regulation strategy use on a given day predicts affect the next day (or vice versa), which we do not believe appropriately reflects the timescale of identification and implementation dynamics.

Within-person identification slopes were estimated by regressing each emotion-regulation strategy at *time t* onto affect at $t-1$, while controlling for regulation strategies at $t-1$. Thus, within-person identification slopes represent the extent to which state emotion regulation is contingent upon preceding affect (represented in Figure 1 by the α). We tested for identification correspondence by correlating global self-reports of emotion regulation with (random) identification slopes at the between-person level.

Within-person implementation slopes were estimated by regressing affect at *time t* onto emotion-regulation strategy use "since the last survey" reported at *time t*, controlling for affect at $t-1$. Within-person implementation slopes represent how the state use of each emotion-regulation strategy is associated with change in affect from $t-1$ to t (represented in Figure 1 by the γ). We tested for implementation correspondence by correlating global emotion regulation scores with (random) implementation slopes at the between-person level.

All within-person regression paths (including autoregressive effects) were estimated as random slopes. At the between-person level, all random within-person parameters were allowed to freely covary with each other, and with global emotion-regulation scores (see top-right panel in Figure 1). Thus, our main tests of identification, selection, and implementation correspondence were zero-order correlations (i.e., standardized covariances) taken from these models, meaning each set of analyses does not control for the other components. However, we also report supplemental analyses testing for unique relationships among identification, selection, and implementation of each strategy with global reports of the same regulation strategy (described below and in the online supplemental materials).

Meta-Analyses

We extracted standardized covariances (i.e., correlations) and regression coefficients from each study (Peterson & Brown, 2005) and synthesized these using random-effects meta-analyses conducted with the *metafor* R-package (Viechtbauer, 2010). Meta-analyses for selection correspondence included estimates from all nine studies, whereas those for identification and implementation correspondence used estimates from the seven ESM/ESM-Event studies. We also report meta-analytic estimates of average identification (Tables S8 and S9) and implementation (Tables S10 and S11) slopes. We report variance and heterogeneity estimates for our main meta-analyses (see Tables S14–S18) and post hoc power for significant meta-analytic effects (see Table S19 in online supplemental materials).

Open Practices

All data and analysis scripts required to reproduce the analyses reported in this article are available at Open Science Framework (https://osf.io/q5dz6/).

Results

Selection Correspondence

Table 2 contains correlations among global self-reports and the between-person (trait) component of daily self-reports, representing selection correspondence. Shaded cells contain within-strategy correlations among global and daily self-reports of the same emotion-regulation strategy (e,g., between global reappraisal and daily reappraisal), and unshaded cells contain cross-strategy correlations (e.g., between global reappraisal and daily rumination).

Meta-analyses of results across all nine studies revealed that global self-reports showed reliable positive correlations with the between-person component of daily self-ratings for all three emotion-regulation strategies. Nevertheless, there were substantial differences among strategies, with the strongest selection correspondence for rumination (r_{meta} = .40, 95% CI [.30, .49]), followed by suppression (r_{meta} = .30, 95% CI [.19, .42]), and the weakest selection correspondence for reappraisal (r_{meta} = .14, 95% CI [.01, .28]).

We also found evidence of reliable cross-strategy correlations. Specifically, global rumination correlated with the between-person components of daily reappraisal (r_{meta} = .13, 95% CI [.03, .24]) and suppression (r_{meta} = .25, 95% CI [.15, .35]) to a similar degree as global self-reports of reappraisal and suppression correlated with their daily counterparts. Finally, global suppression scores correlated reliably with daily rumination (r_{meta} = .13, 95% CI [.03, .22]).

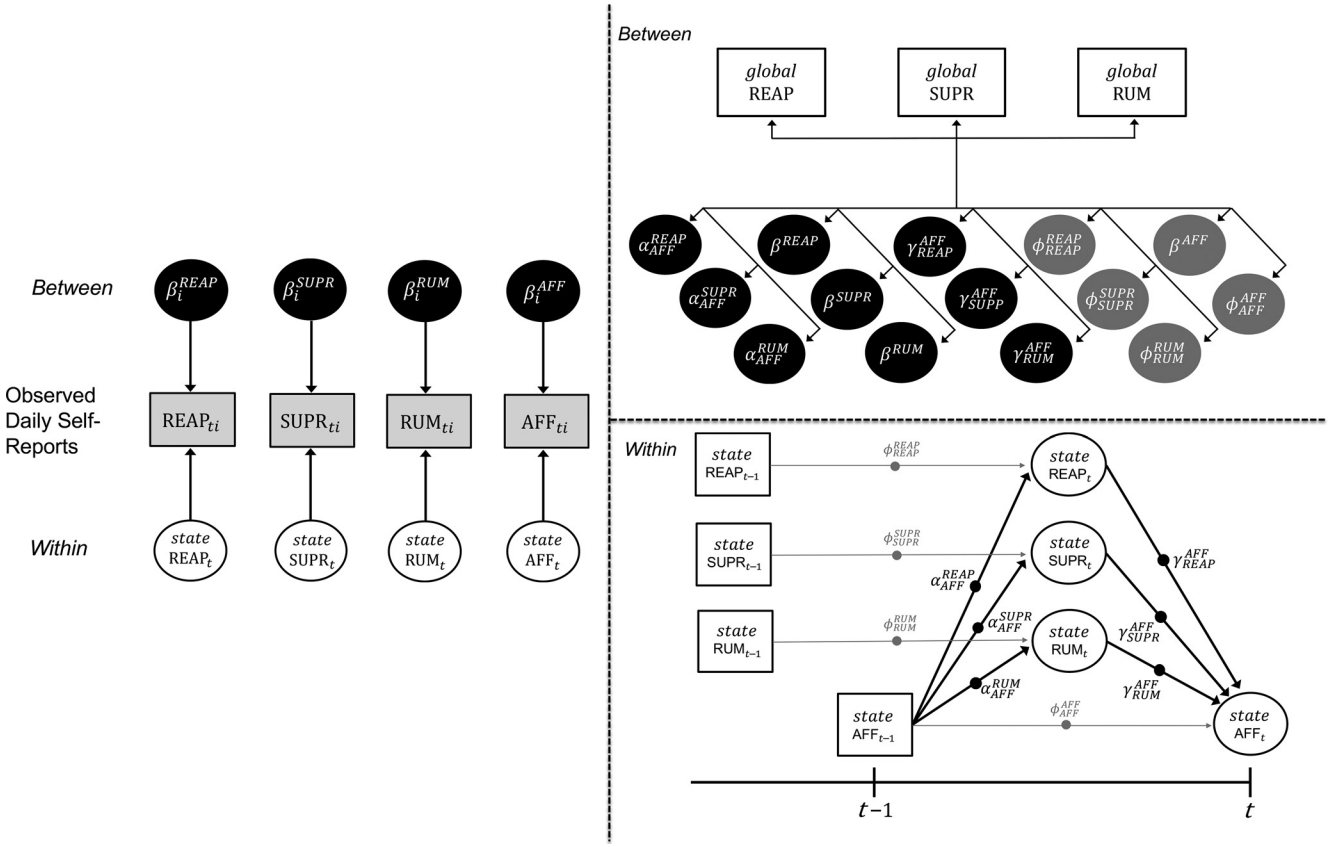
Additional Exploratory Analyses

We ran a series of exploratory analyses testing whether individuals with greater variability in daily self-reports of emotion regulation may be less accurate in their global self-reports. Meta-analyses of these models revealed that selection correspondence was not reliably moderated by within-person variability in daily self-reports for any of the regulation strategies (see Table S7 in online supplemental materials).

[4] We used M*plus*'s default noninformative Bayesian priors ensuring that our results are asymptotically equivalent to those obtained under maximum likelihood (Zyphur & Oswald, 2015). To obtain stable parameter estimates, we specified a minimum of 20,000 Bayesian iterations before checking for model convergence, which was defined as a posterior scale reduction value below 1.05.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Figure 1
MSEM Model Diagram



Note. Left panel shows decomposition of observed daily self-reports (grey rectangles) into latent within-person (white ellipses) and between-person (black ellipses) components. Bottom-right panel shows the within-person model: identification slopes (e.g., α_{AFF}^{REAP}) were estimated by regressing each regulation strategy at *time t* (reported as "since the last survey") onto state affect reported at *time t* – 1, controlling for state regulation strategy use at *time t* – 1; implementation slopes (e.g., γ_{REAP}^{AFF}) were estimated by regressing state affect at *time t* onto state regulation strategies at *time t*, controlling for affect at *time t* – 1; autoregressive slopes (e.g., ϕ_{REAP}^{REAP}) were estimated using observed person-mean centered lagged variables. All within-person intercepts and slopes had random effects. Top-right panel shows the between-person model: all random effects were allowed to covary freely with each other and with observed global self-reports of each emotion-regulation strategy (e.g., $global^{REAP}$). MSEM = multilevel structural equation models.

Identification Correspondence

Tables 3 and 4 contain within-strategy (shaded) and cross-strategy (unshaded) correlations between global self-reports and within-person NA and PA identification slopes, respectively. As explained in Table 1, positive correlations would indicate that individuals with higher global self-reports tend to have more positive (or less negative) identification slopes (i.e., they have a greater tendency to use a strategy after increases in PA or NA). Before reporting our meta-analytic findings for identification correspondence, we first briefly summarize average identification slopes for each strategy to aid in the interpretation of our key findings.

Average Identification Slopes

Meta-analyses of the average identification slopes revealed that NA predicted increases in state rumination whereas PA predicted decreases in state rumination. In contrast, neither state reappraisal nor suppression were consistently predicted by preceding NA or PA (see Tables S8 and S9 in online supplemental materials).

NA Identification Correspondence

In terms of within-strategy correlations, meta-analyses revealed that there was reliable NA identification correspondence for rumination (r_{meta} = –.09, 95% CI [–.16, –.02]), but not for reappraisal or suppression. This finding indicates that although the average NA identification slope for rumination was positive (see Table S8 in online supplemental materials), this slope was weaker among individuals with higher global rumination self-reports. This suggests that for those higher in global rumination, their use of rumination was less contingent on NA. We also found evidence of reliable cross-strategy NA identification correspondence. Specifically, global rumination scores correlated negatively with NA identification slopes for state reappraisal (r_{meta} = –.19, 95% CI [–.29, –.10]) and state suppression (r_{meta} = –.08, 95% CI [–.15, –.01]); and global suppression scores correlated negatively with NA identification slopes for state reappraisal (r_{meta} = –.15, 95% CI [–.22, –.08]) and state rumination (r_{meta} = –.08, 95% CI [–.15, –.01]). These cross-strategy findings indicate that for individuals scoring higher on

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 2
Correlations Among Global Self-Reports and the Trait-Component of Daily Self-Reports Representing Selection Correspondence

	Between-person component of daily self-reports					
	Reappraisal (β_i^{REAP})		Suppression (β_i^{SUPR})		Rumination (β_i^{RUM})	
Global self-reports	*r*	95% CI	*r*	95% CI	*r*	95% CI
Reappraisal						
Diary Study 1 (*N* = 114)	**.34**	**[.15, .55]**	.08	[−.15, .30]	**−.31**	**[−.50, −.10]**
Diary Study 2 (*N* = 153)	**.38**	**[.23, .52]**	−.01	[−.18, .16]	−.02	[−.19, .15]
ESM Study 1 (*N* = 176)	**.20**	**[.04, .36]**	.06	[−.11, .22]	.06	[−.11, .22]
ESM Study 2 (*N* = 200)	.06	[−.09, .21]	−.02	[−.17, .13]	.07	[−.09, .22]
ESM Study 3 (*N* = 46)	.10	[−.46, .64]	−.01	[−.57, .53]	.05	[−.50, .60]
ESM Study 4 (*N* = 95)	.08	[−.17, .34]	−.13	[−.37, .12]	−.07	[−.32, .19]
ESM-Event Study 1 (*N* = 101)	−.22	[−.44, .02]	−.17	[−.40, .07]	−.17	[−.40, .06]
ESM-Event Study 2 (*N* = 100)	−.05	[−.29, .20]	.01	[−.24, .25]	−.11	[−.34, .14]
ESM-Event Study 3 (*N* = 112)	**.32**	**[.11, .51]**	.12	[−.10, .34]	.19	[−.03, .40]
Meta-analysis [a] (*N* = 1,097)	**.14**	**[.01, .28]**	−.01	[−.06, .06]	−.03	[−.13, .07]
Suppression						
Diary Study 1 (*N* = 114)	−.20	[−.40, .03]	**.24**	**[.03, .45]**	.06	[−.15, .28]
Diary Study 2 (*N* = 153)	.03	[−.14, .19]	**.56**	**[.45, .68]**	**.21**	**[.04, .36]**
ESM Study 1 (*N* = 176)	**.17**	**[.01, .33]**	**.45**	**[.31, .57]**	**.37**	**[.22, .51]**
ESM Study 2 (*N* = 200)	.01	[−.14, .17]	**.18**	**[.02, .32]**	.07	[−.09, .22]
ESM Study 3 (*N* = 46)	.03	[−.55, .56]	.21	[−.37, .70]	.08	[−.48, .61]
ESM Study 4 (*N* = 95)	−.06	[−.30, .20]	**.26**	**[.01, .48]**	.01	[−.23, .27]
ESM-Event Study 1 (*N* = 101)	.00	[−.23, .25]	.13	[−.11, .36]	−.02	[−.26, .22]
ESM-Event Study 2 (*N* = 100)	.12	[−.14, .34]	**.28**	**[.04, .49]**	.23	[−.01, .45]
ESM-Event Study 3 (*N* = 112)	−.12	[−.34, .10]	**.22**	**[.01, .43]**	.03	[−.19, .25]
Meta-analysis [a] (*N* = 1,097)	.00	[−.08, .08]	**.30**	**[.19, .42]**	**.13**	**[.03, .22]**
Rumination						
Diary Study 1 (*N* = 114)	−.13	[−.34, .09]	−.05	[−.26, .18]	**.43**	**[.24, .60]**
Diary Study 2 (*N* = 153)	.14	[−.03, .30]	**.36**	**[.20, .50]**	**.56**	**[.44, .67]**
ESM Study 1 (*N* = 176)	**.26**	**[.11, .41]**	**.43**	**[.30, .57]**	**.46**	**[.32, .58]**
ESM Study 2 (*N* = 200)	**.26**	**[.12, .40]**	**.26**	**[.12, .40]**	**.45**	**[.32, .57]**
ESM Study 3 (*N* = 46)	−.21	[−.69, .38]	.03	[−.53, .59]	.11	[−.46, .63]
ESM Study 4 (*N* = 95)	.10	[−.15, .34]	**.26**	**[.02, .49]**	**.31**	**[.07, .53]**
ESM-Event Study 1 (*N* = 101)	.22	[−.01, .45]	**.29**	**[.06, .50]**	**.26**	**[.02, .47]**
ESM-Event Study 2 (*N* = 100)	**.25**	**[.01, .46]**	**.27**	**[.04, .50]**	**.34**	**[.11, .54]**
ESM-Event Study 3 (*N* = 112)	.13	[−.09, .34]	.21	[−.01, .42]	**.24**	**[.02, .44]**
Meta-analysis [a] (*N* = 1,097)	**.13**	**[.03, .24]**	**.25**	**[.15, .35]**	**.40**	**[.30, .49]**

Note. CI = confidence interval; ESM = experience sampling methods. Shaded cells contain within-strategy correlations representing selection correspondence for each emotion-regulation strategy; estimates in bold have 95% CIs that do not include zero.
[a] Meta-analyses based on Fisher *z*-transformed correlations with frequentist 95% CIs.

global rumination and suppression, state use of *other* regulation strategies is also less contingent on recent NA intensity.

PA Identification Correspondence

In terms of within-strategy correlations, results revealed evidence of PA identification correspondence for suppression (r_{meta} = .11, 95% CI [.01, .22]), but not for reappraisal or rumination. This indicates that although the average PA identification slope for state suppression was not significantly different from zero (Table S9 in online supplemental materials), this slope tended to be more positive among individuals with higher global suppression self-reports. Put more simply, this suggests that those higher in global suppression tended to engage in greater state suppression when experiencing higher levels of PA.

We also found evidence of cross-strategy PA identification correspondence. Specifically, global reappraisal was associated with more positive PA identification slopes for state rumination (r_{meta} = .09, 95% CI [.02, .16]). This finding suggests that whereas decreases in PA tended to predict increased state rumination (on average), individuals higher in global reappraisal showed a weaker tendency to engage in state rumination after decreases in PA. Moreover, both global suppression (r_{meta} = .15, 95% CI [.03, .27]) and global rumination (r_{meta} = .17, 95% CI [.09, .26]) were reliably associated with more positive PA identification slopes for state reappraisal, suggesting those higher in global suppression and rumination tended to increase their use of reappraisal after higher intensity experiences of PA.

Implementation Correspondence

Tables 5 and 6 contain within-strategy (shaded) and cross-strategy (unshaded) correlations between global self-reports and within-person NA and PA implementation slopes, respectively. As outlined in Table 1, positive correlations would indicate that individuals with higher global self-reports for a particular strategy tend to have more positive (or less negative) implementation slopes. Put otherwise, a positive correlation would mean that global scores were associated with a stronger effect of implementing a particular regulation strategy on subsequent PA or NA. We first report meta-analyses of the average implementation slopes, before reporting meta-analyses for NA and PA implementation correspondence.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 3
Correlations Among Global Self-Reports and Within-Person Negative Affect (NA) Identification Slopes

	NA identification slopes ($NA_{t-1} \rightarrow ER_t$)					
	α_{NA}^{REAP}		α_{NA}^{SUPP}		α_{NA}^{RUM}	
Global self-reports	*r*	95% CI	*r*	95% CI	*r*	95% CI
Reappraisal						
ESM Study 1 (N = 176)	.05	[−.16, .26]	.18	[−.07, .40]	−.08	[−.29, .14]
ESM Study 2 (N = 200)	.00	[−.22, .20]	.20	[−.03, .40]	−.04	[−.25, .18]
ESM Study 3 (N = 46)	−.20	[−.77, .41]	.13	[−.51, .69]	.01	[−.62, .62]
ESM Study 4 (N = 95)	**.38**	**[.09, .65]**	−.15	[−.45, .17]	.06	[−.28, .40]
ESM-Event Study 1 (N = 101)	.22	[−.03, .46]	.10	[−.16, .35]	.14	[−.12, .40]
ESM-Event Study 2 (N = 100)	−.18	[−.46, .12]	.04	[−.30, .37]	−.04	[−.35, .26]
ESM-Event Study 3 (N = 112)	.09	[−.25, .44]	−.14	[−.47, .20]	.03	[−.31, .35]
Meta-analysis [a] (N = 830)	.06	[−.09, .21]	.06	[−.06, .17]	.00	[−.07, .07]
Suppression						
ESM Study 1 (N = 176)	**−.25**	**[−.44, −.05]**	−.04	[−.26, .19]	−.04	[−.25, .16]
ESM Study 2 (N = 200)	−.14	[−.33, .07]	.01	[−.20, .22]	−.07	[−.26, .14]
ESM Study 3 (N = 46)	.01	[−.61, .60]	−.41	[−.85, .20]	.00	[−.62, .60]
ESM Study 4 (N = 95)	−.03	[−.35, .30]	−.20	[−.50, .11]	.02	[−.31, .36]
ESM-Event Study 1 (N = 101)	−.11	[−.36, .14]	.14	[−.11, .40]	−.13	[−.39, .13]
ESM-Event Study 2 (N = 100)	−.19	[−.48, .11]	−.31	[−.61, .02]	−.10	[−.41, .21]
ESM-Event Study 3 (N = 112)	−.14	[−.47, .20]	−.03	[−.36, .32]	−.23	[−.53, .10]
Meta-analysis [a] (N = 830)	**−.15**	**[−.22, −.08]**	−.11	[−.24, .03]	**−.08**	**[−.15, −.01]**
Rumination						
ESM Study 1 (N = 176)	−.21	[−.41, .00]	−.16	[−.37, .08]	−.01	[−.21, .20]
ESM Study 2 (N = 200)	**−.26**	**[−.45, −.06]**	−.04	[−.24, .17]	−.04	[−.25, .15]
ESM Study 3 (N = 46)	.14	[−.48, .71]	−.04	[−.62, .58]	−.06	[−.65, .56]
ESM Study 4 (N = 95)	**−.37**	**[−.65, −.08]**	−.11	[−.42, .20]	−.09	[−.42, .24]
ESM-Event Study 1 (N = 101)	−.05	[−.30, .21]	.00	[−.25, .26]	−.20	[−.43, .07]
ESM-Event Study 2 (N = 100)	−.15	[−.45, .14]	.03	[−.29, .38]	−.17	[−.48, .14]
ESM-Event Study 3 (N = 112)	−.24	[−.57, .09]	−.18	[−.51, .17]	−.16	[−.47, .15]
Meta-analysis [a] (N = 830)	**−.19**	**[−.29, −.10]**	**−.08**	**[−.15, −.01]**	**−.09**	**[−.16, −.02]**

Note. CI = confidence interval; ER = emotion-regulation strategy; ESM = experience sampling methods. Shaded cells contain within-strategy correlations representing identification correspondence for each emotion-regulation strategy; estimates in bold have 95% CIs that do not include zero.
[a] Meta-analyses based on Fisher *z*-transformed correlations with frequentist 95% CIs.

Average Implementation Slopes

Meta-analyses of the average within-person implementation slopes revealed that daily rumination predicted increases in NA and decreases in PA, suppression predicted increases in NA and reappraisal predicted increases in PA (see Tables S10 and S11 in online supplemental materials).

NA Implementation Correspondence

In terms of within-strategy correlations, we found evidence of NA implementation correspondence for reappraisal (r_{meta} = –.07, 95% CI [–.14, –.002]), and rumination (r_{meta} = .10, 95% CI [.03, .17]) but not for suppression. For reappraisal, although the average NA implementation slope was not significantly different from zero (see Table S10 in online supplemental materials), individuals scoring higher on global reappraisal tended to have more negative NA implementation slopes. This suggests that those higher on global reappraisal tended to experience larger reductions in NA after state reappraisal. For rumination, the average NA implementation slope was positive (see online Supplemental Materials Table S10) and was stronger among individuals with higher global rumination scores. This suggests that individuals with higher global rumination scores tended to experience larger increases in NA after ruminating in daily life. Furthermore, we found evidence of cross-strategy implementation correspondence among global rumination and state reappraisal (r_{meta} = –.14, 95% CI [–.26, –.02]), implying that state reappraisal was associated with greater decreases in NA among individuals higher on global rumination.

PA Implementation Correspondence

Meta-analyses across all ESM and ESM-Event studies revealed no reliable evidence of PA implementation correspondence either within or across emotion-regulation strategies.

Unique Effects of Selection, Identification, and Implementation on Global Self-Reports

To test whether our main correlational findings held when controlling for potential overlap among the three stages of daily emotion regulation, we repeated our main analyses using multiple regression. Global scores on each strategy were regressed onto selection, identification, and implementation for each strategy (as simultaneous predictors). To reduce multicollinearity, these models did not include cross-strategy effects and we ran separate analyses using identification and implementation slopes for NA (Table S12) and PA (Table S13). Results of these analyses (reported in Tables S12 and S13) largely mirrored our main correlational findings: global reappraisal was not reliably predicted by selection, identification, or implementation of state reappraisal, for either NA or PA. In contrast, global suppression was uniquely positively

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 4
Correlations Among Global Self-Reports and Within-Person Positive Affect (PA) Identification Slopes

	PA identification slopes ($PA_{t-1} \rightarrow ER_t$)					
	α_{PA}^{REAP}		α_{PA}^{SUPR}		α_{PA}^{RUM}	
Global self-reports	*r*	95% CI	*r*	95% CI	*r*	95% CI
Reappraisal						
ESM Study 1 (*N* = 176)	−.15	[−.35, .06]	−.04	[−.27, .17]	.08	[−.13, .29]
ESM Study 2 (*N* = 200)	−.01	[−.26, .23]	−.10	[−.36, .18]	.09	[−.15, .31]
ESM Study 3 (*N* = 46)	.10	[−.51, .68]	−.21	[−.75, .38]	.04	[−.55, .64]
ESM Study 4 (*N* = 95)	−.21	[−.53, .14]	.29	[−.04, .60]	.26	[−.08, .57]
ESM-Event Study 1 (*N* = 101)	−.03	[−.28, .23]	−.01	[−.27, .25]	.03	[−.23, .29]
ESM-Event Study 2 (*N* = 100)	.06	[−.23, .36]	.04	[−.31, .38]	−.08	[−.40, .23]
ESM-Event Study 3 (*N* = 112)	.11	[−.21, .42]	.02	[−.27, .34]	.16	[−.14, .45]
Meta-analysis [a] (*N* = 830)	−.03	[−.12, .06]	.00	[−.10, .11]	**.09**	**[.02, .16]**
Suppression						
ESM Study 1 (*N* = 176)	**.28**	**[.09, .47]**	.12	[−.10, .33]	−.03	[−.24, .17]
ESM Study 2 (*N* = 200)	.18	[−.07, .40]	−.05	[−.30, .20]	.14	[−.08, .34]
ESM Study 3 (*N* = 46)	−.03	[−.63, .57]	.38	[−.21, .82]	.04	[−.55, .63]
ESM Study 4 (*N* = 95)	.03	[−.30, .37]	.04	[−.29, .38]	−.13	[−.46, .18]
ESM-Event Study 1 (*N* = 101)	−.10	[−.35, .16]	.00	[−.27, .25]	.12	[−.14, .37]
ESM-Event Study 2 (*N* = 100)	**.31**	**[.01, .58]**	.15	[−.21, .48]	.01	[−.31, .33]
ESM-Event Study 3 (*N* = 112)	.25	[−.05, .54]	.28	[−.01, .53]	**.31**	**[.01, .58]**
Meta-analysis [a] (*N* = 830)	**.15**	**[.03, .27]**	**.11**	**[.01, .22]**	.07	[−.04, .18]
Rumination						
ESM Study 1 (*N* = 176)	**.30**	**[.10, .49]**	.12	[−.10, .34]	.03	[−.19, .22]
ESM Study 2 (*N* = 200)	.14	[−.11, .36]	−.15	[−.38, .10]	**−.22**	**[−.42, −.01]**
ESM Study 3 (*N* = 46)	−.04	[−.64, .55]	.12	[−.48, .68]	.17	[−.43, .72]
ESM Study 4 (*N* = 95)	.26	[−.08, .59]	.02	[−.32, .36]	−.15	[−.47, .18]
ESM-Event Study 1 (*N* = 101)	.02	[−.23, .28]	.02	[−.24, .28]	.06	[−.20, .31]
ESM-Event Study 2 (*N* = 100)	.19	[−.10, .49]	.03	[−.34, .38]	−.05	[−.37, .27]
ESM-Event Study 3 (*N* = 112)	.18	[−.12, .49]	.37	[.08, .61]	.20	[−.09, .49]
Meta-analysis [a] (*N* = 830)	**.17**	**[.09, .26]**	.07	[−.06, .20]	−.01	[−.13, .11]

Note. CI = confidence interval; ER = emotion-regulation strategy; ESM = experience sampling methods. Shaded cells contain within-strategy correlations representing identification correspondence for each emotion-regulation strategy; estimates in bold have 95% CIs that do not include zero.
[a] Meta-analyses based on Fisher *z*-transformed correlations with frequentist 95% CIs.

predicted by selection and PA identification slopes for daily suppression. Finally, global rumination scores were uniquely positively predicted by selection and NA implementation slopes for daily rumination; and were negatively predicted by NA identification slopes for daily rumination.

Summary of Results

Table 7 provides a summary of our findings across strategies and stages of the emotion regulation process, considering both our main correlational analyses (see Tables 2 to 6) and our supplemental analyses controlling for shared variance among regulation stages for each strategy (see Tables S12 and S13).

Overall, our findings suggest that global self-report measures of reappraisal, suppression, and rumination may not strongly and uniquely correlate with individual differences in daily selection of these strategies. Indeed, meta-analytic correlations representing selection correspondence ranged from weak (reappraisal: r = .14) to moderate (suppression: r = .30; rumination: r = .40) and these associations were not unique to each strategy: global rumination scores also correlated at r = .13 and .25 with daily selection of reappraisal and suppression, respectively. Similarly, global suppression correlated at r = .13 with daily reports of rumination.

In terms of identification correspondence, global rumination and suppression scores were consistently negatively associated with NA identification slopes. This suggests that those higher in global rumination and suppression used emotion regulation strategies in a way that was *less* contingent on their preceding NA intensity. Once again, however, these associations were not strategy-specific: global rumination scores correlated negatively with NA identification slopes for rumination (r = –.09), reappraisal (r = –.19), and suppression (r = –.08), whereas global suppression correlated negatively with NA identification slopes for reappraisal (r = –.15) and rumination (r = –.08), but not with daily NA identification slopes for suppression itself. We also found consistently positive associations between daily PA identification slopes and global self-reports, suggesting people who score higher on the trait scales used emotion regulation strategies more when they felt more PA. Again, however, these were not strategy-specific: global suppression scores correlated positively with daily PA identification slopes for suppression (r = .11) and reappraisal (r = .15). In contrast, global reappraisal correlated only with daily PA identification for rumination (r = .09), and global rumination scores correlated only with daily PA identification for reappraisal (r = .17).

We found more limited, strategy-specific, evidence for implementation correspondence in the case of rumination, indicating that people scoring higher on trait rumination tended to feel worse after using daily rumination. This was reflected in a positive correlation between global rumination scores and daily NA implementation slopes for rumination (r = .10), but not with implementation

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 5
Correlations Among Global Self-Reports and Within-Person Negative Affect (NA) Implementation Slopes

	NA implementation slopes ($ER_t \rightarrow NA_t$)					
	γ^{NA}_{REAP}		γ^{NA}_{SUPR}		γ^{NA}_{RUM}	
Global self-reports	*r*	95% CI	*r*	95% CI	*r*	95% CI
Reappraisal						
ESM Study 1 (*N* = 176)	−.05	[−.24, .14]	.06	[−.15, .26]	−.17	[−.34, .02]
ESM Study 2 (*N* = 200)	−.15	[−.35, .06]	−.11	[−.30, .08]	−.15	[−.34, .02]
ESM Study 3 (*N* = 46)	.06	[−.53, .62]	−.11	[−.69, .49]	−.16	[−.72, .43]
ESM Study 4 (*N* = 95)	−.04	[−.38, .27]	−.08	[−.37, .23]	.07	[−.21, .34]
ESM-Event Study 1 (*N* = 101)	.00	[−.27, .27]	.10	[−.26, .41]	.04	[−.23, .30]
ESM-Event Study 2 (*N* = 100)	−.14	[−.43, .15]	.20	[−.12, .49]	−.05	[−.35, .24]
ESM-Event Study 3 (*N* = 112)	−.04	[−.35, .26]	−.16	[−.43, .13]	.14	[−.14, .41]
Meta-analysis [a] (*N* = 830)	**−.07**	**[−.14, −.002]**	−.01	[−.11, .09]	−.04	[−.14, .05]
Suppression						
ESM Study 1 (*N* = 176)	−.18	[−.35, .02]	**−.23**	**[−.44, −.03]**	−.01	[−.20, .17]
ESM Study 2 (*N* = 200)	.08	[−.13, .27]	.04	[−.14, .23]	−.11	[−.29, .07]
ESM Study 3 (*N* = 46)	−.09	[−.64, .50]	−.04	[−.62, .54]	.01	[−.58, .57]
ESM Study 4 (*N* = 95)	**.34**	**[.00, .62]**	−.19	[−.47, .10]	−.16	[−.41, .14]
ESM-Event Study 1 (*N* = 101)	−.02	[−.29, .25]	.02	[−.29, .34]	.11	[−.16, .37]
ESM-Event Study 2 (*N* = 100)	.18	[−.47, .11]	.06	[−.27, .36]	.08	[−.22, .35]
ESM-Event Study 3 (*N* = 112)	−.01	[−.33, .30]	−.11	[−.38, .19]	.01	[−.27, .29]
Meta-analysis [a] (*N* = 830)	−.01	[−.14, .13]	−.07	[−.17, .03]	−.02	[−.09, .05]
Rumination						
ESM Study 1 (*N* = 176)	**−.35**	**[−.52, −.17]**	−.18	[−.38, .04]	.12	[−.07, .31]
ESM Study 2 (*N* = 200)	**−.23**	**[−.41, −.03]**	−.02	[−.22, .17]	.02	[−.17, .21]
ESM Study 3 (*N* = 46)	−.27	[−.76, .31]	.04	[−.54, .62]	.35	[−.22, .81]
ESM Study 4 (*N* = 95)	−.03	[−.35, .30]	.02	[−.29, .32]	.16	[−.12, .44]
ESM-Event Study 1 (*N* = 101)	.00	[−.27, .26]	.10	[−.20, .41]	.01	[−.25, .28]
ESM-Event Study 2 (*N* = 100)	−.12	[−.39, .18]	.01	[−.31, .31]	.21	[−.07, .48]
ESM-Event Study 3 (*N* = 112)	.04	[−.26, .36]	−.08	[−.38, .21]	.03	[−.25, .31]
Meta-analysis [a] (*N* = 830)	**−.14**	**[−.26, −.02]**	−.03	[−.11, .04]	**.10**	**[.03, .17]**

Note. CI = confidence interval; ER = emotion-regulation strategy; ESM = experience sampling methods. Shaded cells contain within-strategy correlations representing implementation correspondence for each emotion-regulation strategy; estimates in bold have 95% CIs that do not include zero.
[a] Meta-analyses based on Fisher *z*-transformed correlations with frequentist 95% CIs.

slopes for other strategies. Although global reappraisal correlated negatively with NA implementation slopes for daily reappraisal ($r = -.07$), so did global rumination scores ($r = -.14$), suggesting that people scoring higher on these scales tended to feel better after using daily reappraisal. We found no evidence of correspondence between global self-reports and daily PA implementation slopes for any of the regulation strategies.

Finally, our supplemental analyses controlling for shared variance among daily strategies revealed that global suppression scores were uniquely predicted by daily selection and PA identification slopes, and global rumination scores were uniquely predicted by daily selection, NA identification, and NA implementation. In contrast, no unique predictors of global reappraisal scores emerged.

Discussion

Thousands of studies have used global self-report questionnaires to assess habitual emotion-regulation strategy selection. Yet, we know little about how such global measures correspond with daily emotion regulation processes. Drawing on the stages of emotion regulation proposed in Gross's (2015) extended process model, we mapped global emotion regulation measures onto operationalizations of the identification, selection, and implementation stages of daily emotion regulation using data from nine daily life studies. Below, we interpret our main findings relating to each stage of regulation, discuss their theoretical and methodological implications, and finally acknowledge limitations and propose future directions for research on emotion regulation in daily life.

Selection Correspondence

Our meta-analyses revealed weak-to-moderate positive correlations ($.14 \leq rs \leq .40$) between global self-reports and the stable between-person component of daily self-reports, representing individual differences in selection of emotion-regulation strategies (see Table 7). This correspondence between global and daily self-reports was weaker than what is typically observed for broad personality dimensions, such as the Big Five domains (e.g., Augustine & Larsen, 2012; Finnigan & Vazire, 2018; Fleeson & Gallagher, 2009). Rather, our findings were closer to the degree of correspondence between global and momentary self-reports of narrower constructs, such as specific emotions (e.g., anxiety and anger; Edmondson et al., 2013) or Big Five aspects (Rauthmann et al., 2019).

Selection correspondence differed across strategies (see Table 2), with stronger evidence of selection correspondence for rumination and suppression than for reappraisal. Indeed, the weak meta-analytic correlation between global and daily reappraisal selection ($r = .14$) suggests that the ERQ reappraisal scale cannot be

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 6
Correlations Among Global Self-Reports and Within-Person Positive Affect (PA) Implementation Slopes

	PA implementation slopes ($ER_t \rightarrow PA_t$)					
	γ^{PA}_{REAP}		γ^{PA}_{SUPR}		γ^{PA}_{RUM}	
Global self-reports	*r*	95% CI	*r*	95% CI	*r*	95% CI
Reappraisal						
ESM Study 1 ($N = 176$)	.05	[−.14, .23]	.05	[−.16, .26]	.12	[−.07, .30]
ESM Study 2 ($N = 200$)	−.04	[−.29, .23]	−.04	[−.27, .19]	.10	[−.11, .32]
ESM Study 3 ($N = 46$)	−.14	[−.70, .48]	.02	[−.57, .61]	.10	[−.51, .68]
ESM Study 4 ($N = 95$)	.19	[−.18, .51]	.30	[−.04, .61]	−.16	[−.44, .13]
ESM-Event Study 1 ($N = 101$)	−.18	[−.43, .08]	−.08	[−.40, .26]	−.01	[−.28, .27]
ESM-Event Study 2 ($N = 100$)	.11	[−.21, .40]	−.05	[−.34, .26]	.09	[−.21, .38]
ESM-Event Study 3 ($N = 112$)	−.01	[−.31, .27]	.15	[−.12, .43]	.02	[−.25, .28]
Meta-analysis[a] ($N = 830$)	.01	[−.08, .09]	.05	[−.05, .15]	.05	[−.02, .12]
Suppression						
ESM Study 1 ($N = 176$)	**.28**	**[.10, .44]**	**.27**	**[.06, .46]**	.13	[−.06, .31]
ESM Study 2 ($N = 200$)	.04	[−.22, .29]	−.05	[−.27, .17]	.05	[−.15, .26]
ESM Study 3 ($N = 46$)	−.08	[−.64, .54]	.17	[−.41, .72]	−.20	[−.74, .39]
ESM Study 4 ($N = 95$)	−.11	[−.47, .26]	−.05	[−.38, .28]	.12	[−.18, .40]
ESM-Event Study 1 ($N = 101$)	.06	[−.21, .32]	.06	[−.24, .36]	−.05	[−.33, .23]
ESM-Event Study 2 ($N = 100$)	.19	[−.12, .47]	.06	[−.25, .34]	.14	[−.15, .41]
ESM-Event Study 3 ($N = 112$)	.13	[−.19, .42]	.07	[−.23, .34]	−.24	[−.48, .03]
Meta-analysis[a] ($N = 830$)	.09	[−.02, .20]	.07	[−.03, .17]	.01	[−.11, .12]
Rumination						
ESM Study 1 ($N = 176$)	**.49**	**[.34, .64]**	.17	[−.04, .38]	−.04	[−.23, .15]
ESM Study 2 ($N = 200$)	.11	[−.15, .35]	−.07	[−.29, .16]	.03	[−.18, .25]
ESM Study 3 ($N = 46$)	.15	[−.47, .70]	−.28	[−.75, .33]	.10	[−.47, .68]
ESM Study 4 ($N = 95$)	.03	[−.32, .41]	−.03	[−.38, .32]	−.11	[−.40, .19]
ESM-Event Study 1 ($N = 101$)	−.04	[−.30, .22]	−.09	[−.39, .20]	−.03	[−.30, .24]
ESM-Event Study 2 ($N = 100$)	.18	[−.13, .47	.08	[−.22, .37]	−.15	[−.43, .14]
ESM-Event Study 3 ($N = 112$)	.00	[−.29, .29]	.09	[−.20, .38	−.05	[−.36, .18]
Meta-analysis[a] ($N = 830$)	.14	[−.01, .30]	.00	[−.10, .10	−.04	[−.11, .03]

Note. CI = confidence interval; ER = emotion-regulation strategy; ESM = experience sampling methods. Shaded cells contain within-strategy correlations representing implementation correspondence for each emotion-regulation strategy; estimates in bold have 95% CIs that do not include zero.
[a] Meta-analyses based on Fisher *z*-transformed correlations with frequentist 95% CIs.

straightforwardly interpreted as an index of the tendency to habitually select reappraisal in daily life. This is problematic given the widespread assumption that this scale taps individual differences in trait reappraisal use. In light of these findings, we suggest that researchers interpret the ERQ reappraisal subscale cautiously, and call for future methodological research to further probe how the measure may be adapted to align more closely with its intended measurement target (see, e.g., Tamir et al., 2019). In contrast, selection correspondence was comparatively stronger for suppression, suggesting that the ERQ suppression subscale may better index regular use of this strategy than its reappraisal-subscale counterpart.

Finally, the strongest selection correspondence was between global and daily self-reports of rumination, an association that was more than twice as strong as that for reappraisal. We offer three possible reasons for these findings. The first relates to memory encoding: rumination is inherently perseverative, temporally extended, and intrusive (Kircanski et al., 2015; Nolen-Hoeksema et al., 2008), which may make daily use of this strategy more memorable. This should lead to fairly strong encoding of rumination episodes into memory, which may influence people's global self-reports (Schwarz, 2012). Relatedly, our findings suggest that rumination may be more strongly tied with daily affective experience than other regulation strategies. Specifically, relative to reappraisal and suppression, daily rumination was more strongly (a) predicted by affect at the previous occasion (see Tables S8 and S9), and (b) predictive of future affect (see Tables S10 and S11). Given that emotions tend to be weighted heavily in human memory (e.g., Kensinger, 2009; Rozin & Royzman, 2001), the strong links between affect and rumination may make it easier for people to recall episodes of rumination relative to other regulation strategies. These memory traces may become integrated into abstract self-knowledge, leading to fairly strong correspondence between global and daily self-reports of rumination use—a kind of associative mechanism linking repeated short-term state dynamics with long-term trait tendencies (Wrzus & Roberts, 2017).

A second explanation for the stronger selection correspondence we observed for rumination is that global self-reports of rumination may be a proxy for general distress. This may partly account for our finding that global rumination scores also correlated reliably with the between-person components of daily reappraisal and suppression (see Table 7). If global rumination is a proxy for general distress, it may be associated with higher regulatory effort across multiple strategies. Supporting this view, Aldao et al.'s (2010) meta-analysis revealed that global rumination scores correlated more strongly with psychopathology symptoms than global self-reports of other emotion-regulation strategies.

Finally, we note that matching between daily and global items may also partly account for differences in selection correspondence between strategies. Whereas suppression and rumination (or

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 7
Summary of Results Across Studies, Strategies, and Stages of Emotion Regulation Theory

Daily regulation strategy and stage		Global regulation strategy		
		Reappraisal	Suppression	Rumination
Reappraisal	Selection	.14	×	.13
	NA identification	×	–.15	–.19
	PA identification	×	.15	.17
	NA implementation	–.07	×	–.14
	PA implementation	×	×	×
Suppression	Selection	×	.30✓	.25
	NA identification	×	×	–.08
	PA identification	×	.11✓	×
	NA implementation	×	×	×
	PA implementation	×	×	×
Rumination	Selection	×	.13	.40✓
	NA identification	×	–.08	–.09✓
	PA identification	.09	×	×
	NA implementation	×	×	.10✓
	PA implementation	×	×	×

Note. PA = Positive Affect; NA = Negative Affect. Estimates above are statistically significant meta-analytic correlations from the main analyses reported in Tables 2–6. Within-strategy effects are shown in shaded cells. × = nonsignificant associations; ✓ = effect replicated in supplemental analyses controlling for shared variance among regulatory stages for each strategy (see Tables S12 and S13).

at least its brooding component) are arguably unidimensional constructs, reappraisal may be more heterogeneous (see, e.g., McRae, Ciesielski, & Gross, 2012; Uusberg et al., 2019). The multifaceted nature of reappraisal makes it more difficult to assess comprehensively, particularly in daily life studies, which often use single-item measures. Thus, future studies should focus on assessing reappraisal selection correspondence using multi-item measures in daily life, paying particular attention to the specific form(s) of reappraisal being measured.

Identification Correspondence

Our meta-analyses for NA identification correspondence showed that global rumination scores correlated negatively with NA identification slopes for state rumination. Given that, on average, state rumination tended to increase after heightened NA (see NA identification slopes in Table S8), this finding implies that global rumination scores were associated with a weaker contingency between state rumination and preceding levels of unpleasant affect. Similarly, global rumination scores were negatively related to NA identification slopes for state reappraisal and suppression (see Table 7). Thus, daily use of all three regulation strategies was less contingent upon recent levels of unpleasant affect among individuals reporting higher levels of global rumination.

Taken together with our findings for selection correspondence, these results suggest that global rumination is associated with greater, and less context-sensitive, use of multiple emotion-regulation strategies in daily life. In other words, individuals scoring higher on global rumination may tend to deploy multiple emotion-regulation strategies relatively indiscriminately, regardless of whether they feel mildly or intensely unpleasant. This aligns with a recent study showing global rumination was associated with more unpredictable patterns of state rumination in daily life (Fang et al., 2019). Such behavior may be driven by context-inappropriate activation of a goal to regulate unpleasant affect during the identification stage (Sheppes et al., 2015).

In terms of PA identification correspondence, we found that global suppression was associated with more positive PA identification slopes for state suppression. Thus, although PA did not predict subsequent state use of suppression on average (see Table S9 in online supplemental materials), high-global suppressors were more likely to use suppression in daily life when experiencing above-average PA. Here, our findings deviate from previous research examining how global measures of suppression relate to affect-dependent use of state suppression in the lab and in daily life (Peters et al., 2020). For instance, whereas Peters and colleagues reported that ERQ suppression scores were associated with a greater tendency to deploy situational suppression in response to negative emotions, we did not find reliable evidence of NA identification correspondence for suppression. This may be because we assessed state suppression in everyday life, where negative emotions may be less frequent and intense, whereas Peters et al. (2020) measured suppression during negative social interactions and romantic conflicts. Although Peters et al. (2020) did not assess positive emotions, the current findings align with their speculation that global suppression measures (e.g., the ERQ suppression subscale) may correlate with greater state use of suppression in response to PA. This finding is also broadly consistent with previous research linking global self-reported suppression with a tendency to inhibit the expression of positive emotions (Kashdan & Breen, 2008).

Implementation Correspondence

Our meta-analyses testing implementation correspondence revealed that global reappraisal correlated negatively with NA implementation slopes for state reappraisal. Although state reappraisal did not predict decreases in NA on average (see Table S10 in online supplemental materials), people scoring higher on the ERQ reappraisal subscale tended to report larger NA decreases after their use of reappraisal in daily life. In line with some past work (Ford et al., 2017; McRae et al., 2012), our finding suggests the ERQ reappraisal subscale may measure how effectively reappraisal is implemented as well as indexing its habitual selection. Thus, although reappraisal may be relatively

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

difficult to implement, and had no overall influence on unpleasant feelings in daily life, individuals who use reappraisal more often may become more proficient at implementing it (cf. Denny & Ochsner, 2014).

However, tempering the above conclusions, this finding was not robust to controlling for individual differences in identification and selection of reappraisal in daily life (see multiple regression results in Table S12 in online supplemental materials). Furthermore, global rumination scores were also associated with more negative NA implementation slopes for state reappraisal, indicating that people who reported being high in habitual rumination also showed larger decreases in NA after state reappraisal, an indicator of more effective implementation of reappraisal in daily life. One possibility is that processes common to rumination and reappraisal may play a role here (Grisham et al., 2011), but given the dearth of studies on such shared mechanisms this requires further investigation.

Finally, global rumination scores correlated positively with NA implementation slopes for state rumination. Given that, on average, state rumination predicted increases in NA across time (see Table S10 in online supplemental materials), this indicates that state rumination is more harmful (in terms of increasing NA) among individuals scoring higher on global rumination (Gerin et al., 2006; Johnson et al., 2012). Considered together with our findings for selection and identification correspondence, this suggests that individuals scoring high on global rumination not only have a greater tendency to select rumination as a regulation strategy in daily life, but also engage in state rumination regardless of how unpleasant they are feeling, and with more detrimental effects on their subsequent affective experience.

Theoretical and Methodological Implications

Our results caution against a straightforward interpretation of global measures as representing individual differences in strategy selection. Indeed, our meta-analytic findings indicate that global self-report measures of a given emotion-regulation strategy may not align strongly or specifically with trait selection of that strategy in daily life. In particular, the ERQ reappraisal subscale appears to correspond only weakly with the tendency to select reappraisal in daily life. In contrast, global self-reports of suppression and rumination showed stronger correspondence with average daily strategy selection. However, these associations were not strategy-specific: global rumination scores correlated almost as strongly with daily reappraisal and suppression as did global reports of these same strategies (see also McMahon & Naragon-Gainey, 2020). We also found that global self-reports of rumination and suppression correlated reliably with identification and implementation slopes for other strategies. Thus, taken together, these findings undermine the discriminant validity of self-report measures of emotion regulation and suggest that more sensitive, strategy-specific, assessment is needed.

The fact that global self-reports correlated with identification and implementation, albeit less strongly than with selection, highlights an important misalignment between theory and measurement: while theoretical models of emotion regulation have moved beyond a predominant focus on strategy selection, our measurement tools have not caught up. As noted earlier, existing global self-report measures may already (unintentionally) capture identification or implementation by referring to emotional antecedents or consequences of regulation in their items (e.g., as in the ERQ suppression item: "When I am feeling negative emotions, I make sure not to express them"; or in the ERQ reappraisal item: "When I want to feel less negative emotion [such as sadness or anger], I change what I'm thinking about"). This partly mitigates our concerns regarding the relatively weak selection correspondence observed, but at the same time may amplify the concern that we did not observe stronger or more consistent identification and/or implementation correspondence. Thus, there is a clear need to develop global self-report instruments that map onto recent theory by separately assessing the identification, selection, and implementation stages of emotion regulation (see, e.g., Preece et al., 2021), and to examine how such new global measures correspond with daily regulation processes. Overall, however, our findings indicate that popular global self-report measures may index other aspects of the regulation process aside from strategy selection, suggesting that they should not be considered purely as measures of habitual strategy use.

Our selection correspondence findings also have implications for theorizing on the alignment between global and momentary self-reports more generally. Our results align with Robinson and Clore's (2002) accessibility model, which predicts divergence between global and daily measures. In contrast, whole trait theory predicts relatively strong correspondence between global and daily measures of the Big Five (Fleeson & Jayawickreme, 2015). However, it does not appear to generalize to narrower constructs, such as emotion-regulation strategies. Whereas the Big Five represent broad dimensions, each subsuming several affective, behavioral, and cognitive tendencies (DeYoung, 2015), emotion-regulation strategies are more specific cognitive or behavioral actions. Thus, we speculate that selection correspondence may be stronger for higher-order dimensions of emotion regulation (e.g., avoidance, engagement; McMahon & Naragon-Gainey, 2020). In addition, our findings suggest that global self-report measures of emotion regulation not only index the location (i.e., central tendency) of a person's density distribution of states (Fleeson & Jayawickreme, 2015), but also index individual differences in dynamics, such as the temporal contingencies between state emotion regulation and state affect (cf. Geukes et al., 2018).

Limitations and Future Directions

We note several limitations of the current study and suggest possible directions for future research. First, our operationalizations of the three stages of emotion regulation in daily life should be considered preliminary. For example, our operationalization of identification (i.e., the slope of lagged affect predicting current regulation strategy use) did not directly represent the activation of a regulation goal—a key element of the identification stage (Gross, 2015). Further, because we operationalized identification in a strategy-specific manner, we may have also captured strategy selection to a certain extent. Finally, because we cannot definitively conclude that regulation strategy use reported "since the last survey" temporally preceded affect in our operationalization of implementation (i.e., the slope of regulation strategy use predicting affect at the same occasion), we may also have indexed identification processes, such as the activation of regulation goals, in our measure of implementation. Our multiple regression analyses (see Tables S12 and S13 in online supplemental materials) sought to mitigate these concerns by

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

examining the unique associations between each stage of daily regulation with global self-reports. However, future research should explore alternate operationalizations of identification and implementation in daily life, such as measuring self-reported regulation goals (identification) and regulation success (implementation) as a way of validating our proposed operationalizations.

Second, we focused on three strategies among many that people routinely use to regulate emotions in daily life (Heiy & Cheavens, 2014; Parkinson & Totterdell, 1999). We selected these three strategies because they are among the most widely studied in the emotion regulation literature (see, e.g., Naragon-Gainey et al., 2017; Webb, Miles, & Sheeran, 2012). Thus, we believe that despite our limited focus, the current investigation is relevant to a large proportion of emotion regulation research. Nevertheless, future studies should investigate correspondence between global and daily self-reports of other emotion-regulation strategies (see, e.g., Lavender et al., 2017; Medland et al., 2020).

Third, although our meta-analytic approach aimed to increase the robustness of our findings, our analyses are nevertheless based on a relatively small number of studies, collected using similar methods and samples. This limits our ability to draw more fine-grained conclusions about the boundary conditions and moderators of correspondence between global and daily self-reports of emotion regulation. For example, future studies should investigate the potential influence of methodological factors, such as ESM sampling frequency (approximately 1–2 hr in the studies reported here) and study duration (that was 7–9 days in all but one of the studies included here), which have been shown to influence correspondence between daily and global measures in other domains (Fleeson & Gallagher, 2009). Similarly, given that relatively low levels of NA were reported across most of our studies (see Table S6 in online supplemental materials), future research should explore how daily global correspondence for emotion-regulation strategies differs in samples characterized by greater emotional distress, who presumably have a greater need for emotion regulation. For instance, McMahon and Naragon-Gainey's (2020) findings suggest that selection correspondence for a range of regulation strategies may be stronger in treatment-seeking adults.

Fourth, the current study cannot speak to the validity of daily self-reports. Although daily self-reports reduce retrospective biases by assessing emotion-regulation strategies closer to the time and context in which they are used, they are not immune from other sources of bias (Conner & Barrett, 2012; Finnigan & Vazire, 2018; Schwarz, 2012). For instance, daily self-reports may be biased because people have imperfect insight into their momentary behavior (Sun & Vazire, 2019) or because they are motivated to deny socially undesirable behavior (Gosling et al., 1998). Further research is needed to establish the validity of daily measures of emotion regulation. However, recent research examining the correspondence between daily self-reported feelings and observed verbal (Sun & Vazire, 2019) and written (Kross et al., 2019) expression of emotions highlights the challenges in finding a suitable validation criterion for daily self-reports. Given the limitations inherent in all self-report methods (Paulhus & Vazire, 2007), we submit that neither global nor daily self-reports should be considered "gold-standard" measures of emotion-regulation strategy use in daily life. Rather, in combination, these measures can be used to provide new insights into emotion regulation in ways that we and others have begun to explore.

Concluding Remarks

Research on emotion regulation has grown exponentially over the past few decades and much of this work has relied on global self-report measures. In this study, we mapped global self-report measures to operationalizations of identification, selection, and implementation of emotion-regulation strategies in daily life. Overall, our findings suggest that global self-report measures of rumination and suppression (but not reappraisal) correspond relatively well with trait strategy selection in daily life, but not necessarily in a strategy- or process-specific manner. Thus, global self-reports of one emotion-regulation strategy may index individual differences in the selection of other strategies, as well as processes occurring during the identification and implementation stages of regulation. This research begins the work of understanding how daily and global measures relate to one another, with the promise of better understanding how to deploy these to accurately understand and study emotion regulation.

References

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, *30*(2), 217–237. https://doi.org/10.1016/j.cpr.2009.11.004

Asparouhov, T., & Muthén, B. (2019). Latent variable centering of predictors and mediators in multilevel and time-series models. *Structural Equation Modeling*, *26*(1), 119–142. https://doi.org/10.1080/10705511.2018.1511375

Augustine, A. A., & Larsen, R. J. (2012). Is a trait really the mean of states? Similarities and differences between traditional and aggregate assessments of personality. *Journal of Individual Differences*, *33*(3), 131–137. https://doi.org/10.1027/1614-0001/a000083

Ben-Shachar, M., Lüdecke, D., & Makowski, D. (2020). Effectsize: Estimation of effect size indices and standardized parameters. *Journal of Open Source Software*, *5*(56), 2815. https://doi.org/10.21105/joss.02815

Blanke, E. S., Brose, A., Kalokerinos, E. K., Erbas, Y., Riediger, M., & Kuppens, P. (2020). Mix it to fix it: Emotion regulation variability in daily life. *Emotion*, *20*(3), 473–485. https://doi.org/10.1037/emo0000566

Brans, K., Koval, P., Verduyn, P., Lim, Y. L., & Kuppens, P. (2013). The regulation of negative and positive affect in daily life. *Emotion*, *13*(5), 926–939. https://doi.org/10.1037/a0032400

Brockman, R., Ciarrochi, J., Parker, P., & Kashdan, T. (2017). Emotion regulation strategies in daily life: Mindfulness, cognitive reappraisal and emotion suppression. *Cognitive Behaviour Therapy*, *46*(2), 91–113. https://doi.org/10.1080/16506073.2016.1218926

Colombo, D., Fernández-Álvarez, J., Suso-Ribera, C., Cipresso, P., Valev, H., Leufkens, T., Sas, C., Garcia-Palacios, A., Riva, G., & Botella, C. (2020). The need for change: Understanding emotion regulation antecedents and consequences using ecological momentary assessment. *Emotion*, *20*(1), 30–36. https://doi.org/10.1037/emo0000671

Conner, T. S., & Barrett, L. F. (2012). Trends in ambulatory self-report: The role of momentary experience in psychosomatic medicine. *Psychosomatic Medicine*, *74*(4), 327–337. https://doi.org/10.1097/PSY.0b013e3182546f18

De France, K., & Hollenstein, T. (2017). Assessing emotion regulation repertoires: The Regulation of Emotion Systems Survey. *Personality and Individual Differences*, *119*, 204–215. https://doi.org/10.1016/j.paid.2017.07.018

Dejonckheere, E., Kalokerinos, E. K., Bastian, B., & Kuppens, P. (2019). Poor emotion regulation ability mediates the link between depressive

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

symptoms and affective bipolarity. *Cognition and Emotion*, *33*(5), 1076–1083. https://doi.org/10.1080/02699931.2018.1524747

Denny, B. T., & Ochsner, K. N. (2014). Behavioral effects of longitudinal training in cognitive reappraisal. *Emotion*, *14*(2), 425–433. https://doi.org/10.1037/a0035276

DeYoung, C. G. (2015). Cybernetic Big Five Theory. *Journal of Research in Personality*, *56*, 33–58. https://doi.org/10.1016/j.jrp.2014.07.004

Edmondson, D., Shaffer, J. A., Chaplin, W. F., Burg, M. M., Stone, A. A., & Schwartz, J. E. (2013). Trait anxiety and trait anger measured by ecological momentary assessment and their correspondence with traditional trait questionnaires. *Journal of Research in Personality*, *47*(6), 843–852. https://doi.org/10.1016/j.jrp.2013.08.005

English, T., Lee, I. A., John, O. P., & Gross, J. J. (2017). Emotion regulation strategy selection in daily life: The role of social context and goals. *Motivation and Emotion*, *41*(2), 230–242. https://doi.org/10.1007/s11031-016-9597-z

Fang, L., Marchetti, I., Hoorelbeke, K., & Koster, E. H. W. (2019). Do daily dynamics in rumination and affect predict depressive symptoms and trait rumination? An experience sampling study. *Journal of Behavior Therapy and Experimental Psychiatry*, *63*, 66–72. https://doi.org/10.1016/j.jbtep.2018.11.002

Feldman, J. L., & Freitas, A. L. (2021). The generality of effects of emotional experience on emotion-regulation choice. *Emotion*, *21*(1), 211–219. https://doi.org/10.1037/emo0000611

Finnigan, K. M., & Vazire, S. (2018). The incremental validity of average state self-reports over global self-reports of personality. *Journal of Personality and Social Psychology*, *115*(2), 321–337. https://doi.org/10.1037/pspp0000136

Fleeson, W., & Gallagher, P. (2009). The implications of Big Five standing for the distribution of trait manifestation in behavior: Fifteen experience-sampling studies and a meta-analysis. *Journal of Personality and Social Psychology*, *97*(6), 1097–1114. https://doi.org/10.1037/a0016786

Fleeson, W., & Jayawickreme, E. (2015). Whole Trait Theory. *Journal of Research in Personality*, *56*, 82–92. https://doi.org/10.1016/j.jrp.2014.10.009

Ford, B. Q., Karnilowicz, H. R., & Mauss, I. B. (2017). Understanding reappraisal as a multicomponent process: The psychological health benefits of attempting to use reappraisal depend on reappraisal success. *Emotion*, *17*(6), 905–911. https://doi.org/10.1037/emo0000310

Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and Individual Differences*, *30*(8), 1311–1327. https://doi.org/10.1016/S0191-8869(00)00113-6

Geldhof, G. J., Preacher, K. J., & Zyphur, M. J. (2014). Reliability estimation in a multilevel confirmatory factor analysis framework. *Psychological Methods*, *19*(1), 72–91. https://doi.org/10.1037/a0032138

Gerin, W., Davidson, K. W., Christenfeld, N. J., Goyal, T., & Schwartz, J. E. (2006). The role of angry rumination and distraction in blood pressure recovery from emotional arousal. *Psychosomatic Medicine*, *68*(1), 64–72. https://doi.org/10.1097/01.psy.0000195747.12404.aa

Geukes, K., van Zalk, M., & Back, M. D. (2018). Understanding personality development: An integrative state process model. *International Journal of Behavioral Development*, *42*(1), 43–51. https://doi.org/10.1177/0165025416677847

Gosling, S. D., John, O. P., Craik, K. H., & Robins, R. W. (1998). Do people know how they behave? Self-reported act frequencies compared with on-line codings by observers. *Journal of Personality and Social Psychology*, *74*(5), 1337–1349. https://doi.org/10.1037/0022-3514.74.5.1337

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, *26*(1), 41–54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

Grisham, J. R., Flower, K. N., Williams, A. D., & Moulds, M. L. (2011). Reappraisal and rumination during recall of a sad memory. *Cognitive Therapy and Research*, *35*(3), 276–283. https://doi.org/10.1007/s10608-009-9288-0

Grommisch, G., Koval, P., Hinton, J. D. X., Gleeson, J., Hollenstein, T., Kuppens, P., & Lischetzke, T. (2019). Modeling individual differences in emotion regulation repertoire in daily life with multilevel latent profile analysis. *Emotion*, *20*(8), 1462–1474. https://doi.org/10.1037/emo0000669

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, *2*(3), 271–299. https://doi.org/10.1037/1089-2680.2.3.271

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, *26*(1), 1–26. https://doi.org/10.1080/1047840X.2014.940781

Gross, J. J., Uusberg, H., & Uusberg, A. (2019). Mental illness and well-being: An affect regulation perspective. *World Psychiatry*, *18*(2), 130–139. https://doi.org/10.1002/wps.20618

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, *85*(2), 348–362. https://doi.org/10.1037/0022-3514.85.2.348

Haines, S. J., Gleeson, J., Kuppens, P., Hollenstein, T., Ciarrochi, J., Labuschagne, I., Grace, C., & Koval, P. (2016). The wisdom to know the difference: Strategy-situation fit in emotion regulation in daily life is associated with well-being. *Psychological Science*, *27*(12), 1651–1659. https://doi.org/10.1177/0956797616669086

Hamaker, E. L., Nesselroade, J. R., & Molenaar, P. C. M. (2007). The integrated trait–state model. *Journal of Research in Personality*, *41*(2), 295–315. https://doi.org/10.1016/j.jrp.2006.04.003

Hamaker, E. L., Schuurman, N. K., & Zijlmans, E. A. O. (2017). Using a few snapshots to distinguish mountains from waves: Weak factorial invariance in the context of trait-state research. *Multivariate Behavioral Research*, *52*(1), 47–60. https://doi.org/10.1080/00273171.2016.1251299

Heiy, J. E., & Cheavens, J. S. (2014). Back to basics: A naturalistic assessment of the experience and regulation of emotion. *Emotion*, *14*(5), 878–891. https://doi.org/10.1037/a0037231

John, O. P., & Eng, J. (2014). Three approaches to individual differences in affect regulation: Conceptualizations, measures, and findings. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 321–345). Guilford Press.

Johnson, J. A., Lavoie, K. L., Bacon, S. L., Carlson, L. E., & Campbell, T. S. (2012). The effect of trait rumination on adaptation to repeated stress. *Psychosomatic Medicine*, *74*(3), 258–262. https://doi.org/10.1097/PSY.0b013e31824c3ef2

Kalokerinos, E. K., Erbas, Y., Ceulemans, E., & Kuppens, P. (2019). Differentiate to regulate: Low negative emotion differentiation is associated with ineffective use but not selection of emotion-regulation strategies. *Psychological Science*, *30*(6), 863–879. https://doi.org/10.1177/0956797619838763

Kalokerinos, E. K., Tamir, M., & Kuppens, P. (2017). Instrumental motives in negative emotion regulation in daily life: Frequency, consistency, and predictors. *Emotion*, *17*(4), 648–657. https://doi.org/10.1037/emo0000269

Kanske, P., Schönfelder, S., Forneck, J., & Wessa, M. (2015). Impaired regulation of emotion: Neural correlates of reappraisal and distraction in bipolar disorder and unaffected relatives. *Translational Psychiatry*, *5*, e497. https://doi.org/10.1038/tp.2014.137

Kashdan, T. B., & Breen, W. E. (2008). Social anxiety and positive emotions: A prospective examination of a self-regulatory model with tendencies to suppress or express emotions as a moderating variable. *Behavior Therapy*, *39*(1), 1–12. https://doi.org/10.1016/j.beth.2007.02.003

Kensinger, E. A. (2009). Remembering the details: Effects of emotion. *Emotion Review*, *1*(2), 99–113. https://doi.org/10.1177/1754073908100432

Kircanski, K., Thompson, R. J., Sorenson, J., Sherdell, L., & Gotlib, I. H. (2015). Rumination and worry in daily life: Examining the naturalistic

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

validity of theoretical constructs. *Clinical Psychological Science*, *3*(6), 926–939. https://doi.org/10.1177/2167702614566603

Koole, S. L. (2009). The psychology of emotion regulation: An integrative review. *Cognition and Emotion*, *23*(1), 4–41. https://doi.org/10.1080/02699930802619031

Koval, P., Brose, A., Pe, M. L., Houben, M., Erbas, Y., Champagne, D., & Kuppens, P. (2015). Emotional inertia and external events: The roles of exposure, reactivity, and recovery. *Emotion*, *15*(5), 625–636. https://doi.org/10.1037/emo0000059

Kross, E., Verduyn, P., Boyer, M., Drake, B., Gainsburg, I., Vickers, B., Ybarra, O., & Jonides, J. (2019). Does counting emotion words on online social networks provide a window into people's subjective experience of emotion? A case study on Facebook. *Emotion*, *19*(1), 97–107. https://doi.org/10.1037/emo0000416

Lavender, J. M., Tull, M. T., DiLillo, D., Messman-Moore, T., & Gratz, K. L. (2017). Development and validation of a state-based measure of emotion dysregulation. *Assessment*, *24*(2), 197–209. https://doi.org/10.1177/1073191115601218

Lennarz, H. K., Hollenstein, T., Lichtwarck-Aschoff, A., Kuntsche, E., & Granic, I. (2019). Emotion regulation in action: Use, selection, and success of emotion regulation in adolescents' daily lives. *International Journal of Behavioral Development*, *43*(1), 1–11. https://doi.org/10.1177/0165025418755540

Livingstone, K. M., & Isaacowitz, D. M. (2021). Age and emotion regulation in daily life: Frequency, strategies, tactics, and effectiveness. *Emotion*, *21*(1), 39–51. https://doi.org/10.1037/emo0000672

McMahon, T. P., & Naragon-Gainey, K. (2020). Ecological validity of trait emotion regulation strategy measures. *Psychological Assessment*, *32*(8), 796–802. https://doi.org/10.1037/pas0000827

McRae, K., Ciesielski, B., & Gross, J. J. (2012). Unpacking cognitive reappraisal: Goals, tactics, and outcomes. *Emotion*, *12*(2), 250–255. https://doi.org/10.1037/a0026351

McRae, K., Jacobs, S. E., Ray, R. D., John, O. P., & Gross, J. J. (2012). Individual differences in reappraisal ability: Links to reappraisal frequency, well-being, and cognitive control. *Journal of Research in Personality*, *46*(1), 2–7. https://doi.org/10.1016/j.jrp.2011.10.003

Medland, H., De France, K., Hollenstein, T., Mussoff, D., & Koval, P. (2020). Regulating emotion Systems in everyday life: Reliability and validity of the RESS-EMA scale. *European Journal of Psychological Assessment*, *36*(3), 437–446. https://doi.org/10.1027/1015-5759/a000595

Morawetz, C., Bode, S., Derntl, B., & Heekeren, H. R. (2017). The effect of strategies, goals and stimulus material on the neural mechanisms of emotion regulation: A meta-analysis of fMRI studies. *Neuroscience and Biobehavioral Reviews*, *72*, 111–128. https://doi.org/10.1016/j.neubiorev.2016.11.014

Muthén, L. K., & Muthén, M. (1998). *Mplus user's guide* (8th ed.). Author.

Naragon-Gainey, K., McMahon, T. P., & Chacko, T. P. (2017). The structure of common emotion regulation strategies: A meta-analytic examination. *Psychological Bulletin*, *143*(4), 384–427. https://doi.org/10.1037/bul0000093

Nezlek, J. B., & Kuppens, P. (2008). Regulating positive and negative emotions in daily life. *Journal of Personality*, *76*(3), 561–580. https://doi.org/10.1111/j.1467-6494.2008.00496.x

Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, *3*(5), 400–424. https://doi.org/10.1111/j.1745-6924.2008.00088.x

Nolen-Hoeksema, S., & Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: The 1989 Loma Prieta Earthquake. *Journal of Personality and Social Psychology*, *61*(1), 115–121. https://doi.org/10.1037/0022-3514.61.1.115

Parkinson, B., & Totterdell, P. (1999). Classifying affect-regulation strategies. *Cognition and Emotion*, *13*(3), 277–303. https://doi.org/10.1080/026999399379285

Pasyugina, I., Koval, P., De Leersnyder, J., Mesquita, B., & Kuppens, P. (2015). Distinguishing between level and impact of rumination as predictors of depressive symptoms: An experience sampling study. *Cognition and Emotion*, *29*(4), 736–746. https://doi.org/10.1080/02699931.2014.932755

Paulhus, D. L., & Vazire, S. (2007). The self-report method. In R. W. Robins, R. C. Fraley, & R. F. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 224–239). Guilford Press.

Pavani, J.-B., Le Vigouroux, S., Kop, J.-L., Congard, A., & Dauvier, B. (2017). A network approach to affect regulation dynamics and personality trait-induced variations: Extraversion and neuroticism moderate reciprocal influences between affect and affect regulation strategies. *European Journal of Personality*, *31*(4), 329–346. https://doi.org/10.1002/per.2109

Pe, M. L., Raes, F., Koval, P., Brans, K., Verduyn, P., & Kuppens, P. (2013). Interference resolution moderates the impact of rumination and reappraisal on affective experiences in daily life. *Cognition and Emotion*, *27*(3), 492–501. https://doi.org/10.1080/02699931.2012.719489

Peters, B. J., Overall, N. C., Cameron, L. D., Hammond, M. D., Low, R. S. T., & Girme, Y. U. (2020). Do habitual emotional suppression measures predict response-focused situational suppression during social interactions? *Emotion*, *20*(6), 1005–1019. https://doi.org/10.1037/emo0000620

Peterson, R. A., & Brown, S. P. (2005). On the use of beta coefficients in meta-analysis. *Journal of Applied Psychology*, *90*(1), 175–181. https://doi.org/10.1037/0021-9010.90.1.175

Preece, D. A., Becerra, R., Sauer-Zavala, S., Boyes, M., McEvoy, P., Villanueva, C., Ibonie, S., Gruber, J., Hasking, P., & Gross, J. J. (2021). Assessing emotion regulation ability for negative and positive emotions: Psychometric properties of the Perth emotion regulation competency inventory (PERCI) in united states adults. *Journal of Affective Disorders*, *294*, 558–567. https://doi.org/10.1016/j.jad.2021.07.055

Quintana, D. (2017, July 29). *How to calculate statistical power for your meta-analysis* Towards Data Science. Retrieved from https://towardsdatascience.com/how-to-calculate-statistical-power-for-your-meta-analysis-e108ee586ae8

Rauthmann, J. F., Horstmann, K. T., & Sherman, R. A. (2019). Do self-reported traits and aggregated states capture the same thing? A nomological perspective on trait-state homomorphy. *Social Psychological and Personality Science*, *10*(5), 596–611. https://doi.org/10.1177/1948550618774772

Robinson, M. D., & Clore, G. L. (2002). Belief and feeling: Evidence for an accessibility model of emotional self-report. *Psychological Bulletin*, *128*(6), 934–960. https://doi.org/10.1037/0033-2909.128.6.934

Rozin, P., & Royzman, E. B. (2001). Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review*, *5*(4), 296–320. https://doi.org/10.1207/S15327957PSPR0504_2

Schwartz, J. E., Neale, J., Marco, C., Shiffman, S. S., & Stone, A. A. (1999). Does trait coping exist? A momentary assessment approach to the evaluation of traits. *Journal of Personality and Social Psychology*, *77*(2), 360–369. https://doi.org/10.1037/0022-3514.77.2.360

Schwarz, N. (2012). Why researchers should think "real-time": A cognitive rationale. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 22–42). Guilford Press.

Sheppes, G. (2020). Transcending the "good & bad" and "here & now" in emotion regulation: Costs and benefits of strategies across regulatory stages. *Advances in Experimental Social Psychology*, *61*, 185–236. https://doi.org/10.1016/bs.aesp.2019.09.003

Sheppes, G., Scheibe, S., Suri, G., Radu, P., Blechert, J., & Gross, J. J. (2014). Emotion regulation choice: A conceptual framework and supporting evidence. *Journal of Experimental Psychology: General*, *143*(1), 163–181. https://doi.org/10.1037/a0030831

Sheppes, G., Suri, G., & Gross, J. J. (2015). Emotion regulation and psychopathology. *Annual Review of Clinical Psychology*, *11*, 379–405. https://doi.org/10.1146/annurev-clinpsy-032814-112739

Sun, J., & Vazire, S. (2019). Do people know what they're like in the moment? *Psychological Science*, *30*(3), 405–414. https://doi.org/10.1177/0956797618818476

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Tamir, M. (2021). Effortful emotion regulation as a unique form of cybernetic control. *Perspectives on Psychological Science*, *16*(1), 94–117. https://doi.org/10.1177/1745691620922199

Tamir, M., Halperin, E., Porat, R., Bigman, Y. E., & Hasson, Y. (2019). When there's a will, there's a way: Disentangling the effects of goals and means in emotion regulation. *Journal of Personality and Social Psychology*, *116*(5), 795–816. https://doi.org/10.1037/pspp0000232

Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: Distinguishing rumination from reflection. *Journal of Personality and Social Psychology*, *76*(2), 284–304. https://doi.org/10.1037/0022-3514.76.2.284

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, *27*(3), 247–259. https://doi.org/10.1023/A:1023910315561

Troy, A. S., Saquib, S., Thal, J., & Ciuk, D. J. (2019). The regulation of negative and positive affect in response to daily stressors. *Emotion*, *19*(5), 751–763. https://doi.org/10.1037/emo0000486

Uusberg, A., Taxer, J. L., Yih, J., Uusberg, H., & Gross, J. J. (2019). Reappraising reappraisal. *Emotion Review*, *11*(4), 267–282. https://doi.org/10.1177/1754073919862617

Valentine, J. C., Pigott, T. D., & Rothstein, H. R. (2010). How many studies do you need? A primer on statistical power for meta-analysis. *Journal of Educational and Behavioral Statistics*, *35*(2), 215–247. https://doi.org/10.3102/1076998609346961

Verduyn, P., Delvaux, E., Van Coillie, H., Tuerlinckx, F., & Van Mechelen, I. (2009). Predicting the duration of emotional experience: Two experience sampling studies. *Emotion*, *9*(1), 83–91. https://doi.org/10.1037/a0014610

Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*, *36*(3), 1–48. https://doi.org/10.18637/jss.v036.i03

Webb, T. L., Miles, E., & Sheeran, P. (2012). Dealing with feeling: A meta-analysis of the effectiveness of strategies derived from the process model of emotion regulation. *Psychological Bulletin*, *138*(4), 775–808. https://doi.org/10.1037/a0027600

Webb, T. L., Schweiger Gallo, I., Miles, E., Gollwitzer, P. M., & Sheeran, P. (2012). Effective regulation of affect: An action control perspective on emotion regulation. *European Review of Social Psychology*, *23*(1), 143–186. https://doi.org/10.1080/10463283.2012.718134

Wrzus, C., & Roberts, B. W. (2017). Processes of personality development in adulthood: The TESSERA framework. *Personality and Social Psychology Review*, *21*(3), 253–277. https://doi.org/10.1177/1088868316652279

Young, G., & Suri, G. (2020). Emotion regulation choice: A broad examination of external factors. *Cognition and Emotion*, *34*(2), 242–261. https://doi.org/10.1080/02699931.2019.1611544

Zyphur, M. J., & Oswald, F. L. (2015). Bayesian estimation and inference: A user's guide. *Journal of Management*, *41*(2), 390–420. https://doi.org/10.1177/0149206313501200

Received June 17, 2021
Revision received January 20, 2022
Accepted January 22, 2022 ■

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.