

Motivational Intensity in Emotion Regulation

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Abstract

Changing how we feel can be adaptive, but it is also difficult and may require effort. There is research on what people want to achieve in emotion regulation (motivational content), but there is little research on how intensely people pursue what they want to achieve (motivational intensity). We tested the role of motivational intensity in emotion regulation, by assessing (Studies 1–2, $Ns = 160$ and 157) and manipulating (Study 3, $N = 250$) it in daily life. As predicted, when people were more motivated to make themselves feel better, they engaged more intensely in emotion-regulatory behaviors, experienced more desirable emotional experiences, and reported better psychological health. Furthermore, motivating people to make themselves feel better, increased their emotion-regulatory behaviors and led to better psychological health during COVID-19. Motivational intensity, therefore, may be an understudied factor facilitating emotional well-being.

Keywords

emotion regulation, motivation, psychological health, well-being, COVID-19

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Emotion regulation is critical for psychological health (e.g., Gross et al., 2019). Research to date suggests that to regulate emotions successfully, people need to use effective emotion regulation strategies (e.g., cognitive reappraisal; Webb et al., 2012) and to pursue adaptive emotion regulation goals (e.g., increase pleasant emotions; Gross, 2015). Yet, even when people have access to emotion regulation strategies, they do not always implement them (e.g., Suri et al., 2015). Why do people refrain from using emotion regulation strategies, even when they are accessible and even though they are capable of doing so? We propose there is another factor underlying success in emotion regulation—namely, motivational intensity in emotion regulation. In this investigation, we tested whether more intense motivation to pursue prohedonic emotion regulation goals (i.e., decreasing unpleasant emotions or increasing pleasant emotions) is associated with more intense emotion-regulatory behavior, more successful emotion regulation, and with better psychological health in daily life.

The Content and Intensity of Motivation in Emotion Regulation

The motivational literature distinguishes between content and intensity of motivation (Gollwitzer, 1990). Motivational content refers to selecting a goal, such as the goal to stop smoking. In the context of emotion regulation, motivational content refers to selecting a goal, such as the goal to increase

happiness. Motivational content has received some attention in the emotion regulation literature, by focusing on what people want to feel and why (for a review, see Tamir, 2016). Such research suggests, for instance, that sometimes people want to experience emotions to optimize immediate hedonic pleasure, and sometimes people want to experience emotions to optimize other benefits, such as changing behavior or promoting social relations (Tamir, 2016). Motivational content in emotion regulation can differ across people (e.g., Eldesouky & English, 2019) and contexts (e.g., Tamir et al., 2013).

Motivational intensity refers to the intensity with which the goal is pursued (Gollwitzer, 1990). It explains why organisms approach or avoid some outcomes more or less vigorously (Wright, 1996), as well as effort mobilization in goal pursuit (Richter et al., 2016). Motivational intensity can be regarded as the momentary magnitude of motivational arousal (Brehm & Self, 1989). The magnitude of motivational arousal concerns the total amount of effort a person would make to

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satisfy a motive, and the intensity is the magnitude at a point in time (Brehm & Self, 1989). Whereas motivational content received attention in the emotion regulation literature, motivational intensity has been largely overlooked. To try to change something, people must first be sufficiently motivated to change it (e.g., Kruglanski et al., 2014). Since emotion regulation is motivationally driven (Tamir & Millgram, 2017), we propose that the intensity of emotion-regulatory behavior and the likelihood of emotion regulation success may depend on motivational intensity.

In nonemotion domains, greater motivational intensity facilitates more intense goal-directed behavior (Brehm & Self, 1989; Grahek et al., 2023; Inzlicht et al., 2018; Kruglanski et al., 2002) and has been associated with beneficial outcomes in a variety of domains, including the workplace (e.g., Mathieu & Zajac, 1990), educational settings (e.g., Hollenbeck et al., 1989), and consumer contexts (e.g., Zhang & Huang, 2010). Emotion regulation, however, is a unique form of self-regulation (e.g., Tamir, 2021). In non-emotion domains, emotions signal success or failure in self-regulation tasks (Carver & Scheier, 1990) but only in emotion regulation, emotions also serve as the target of regulation. Thus, motivational intensity and effort in emotion regulation may or may not operate in the same way as in other domains (see Tamir, 2021). In fact, some consider effort not beneficial and even detrimental to emotion regulation (e.g., Mauss et al., 2007). For instance, participants who were more motivated to increase happiness more (vs. less) intensely were subsequently less happy following a happiness induction (Mauss et al., 2011). Also, there is evidence that certain emotion regulation strategies that require less conscious effort may be particularly effective (e.g., Moser et al., 2017). These findings demonstrate the importance of understanding the role of motivational intensity in emotion regulation, and of testing whether it can lead to greater success. In light of the available research in other domains of self-regulation, we propose that motivational intensity in emotion regulation is generally associated with more intense emotion-regulatory behavior and greater success in emotion regulation.

First, we hypothesized that when people are more intensely motivated to regulate their emotions, they would be likely to engage in emotion-regulatory behaviors to a greater extent. When people are more motivated to achieve a goal, they invest more resources in behaviors required to pursue it (e.g., Locke & Latham, 2013; Richter et al., 2016). Indeed, people more motivated to decrease their unpleasant emotions implemented emotion regulation strategies more overall (Kaspi et al., 2024). Likewise, we expected greater motivational intensity to be associated with greater overall use of emotion regulation strategies. To test whether motivational intensity in emotion regulation increased the overall use of emotion regulation strategies or the use of specific emotion regulation strategies, we also checked associations between motivational intensity and specific strategies.

As engaging in more emotion regulation can lead to success (Mehta et al., 2020), more intense motivation to regulate emotions should generally be associated with more successful emotion regulation. Therefore, our second hypothesis was that when people are more intensely motivated to regulate their emotions, they are likely to be more successful at emotion regulation. Successful emotion regulation, in turn, can promote psychological health (e.g., Troy & Mauss, 2011). Therefore, our third hypothesis was that when people are more intensely motivated to regulate their emotions, they will report better psychological health.

The Present Investigation

We tested associations between motivational intensity in emotion regulation and emotion-regulatory behaviors, successful emotion regulation, and psychological health in daily life. To establish generalizability, we targeted motivational intensity in general prohedonic emotion regulation (Study 1), motivational intensity in decreasing a specific unpleasant emotion that people often try to decrease in daily life (i.e., irritation; Study 2), and motivational intensity in prohedonic emotion regulation, involving either unpleasant or pleasant emotions (Study 3).

We assessed motivational intensity in emotion regulation in daily life in healthy samples, as people dealt with naturally occurring emotions. Examining emotion regulation in daily life is critical to understanding and helping people cope with real-world emotional challenges (Burr & Samanez-Larkin, 2020). We predicted that the more intensely motivated people are to regulate their emotions, the more intensely they would engage in emotion-regulatory behaviors, and the more successful (Studies 1–3) and psychologically healthy (Studies 2–3) they would be.

Study 1 was an experience-sampling study, targeting fewer items at multiple time points to examine directional associations. Study 2 used daily diaries, with more items but fewer time points, including behavioral data. Participants were offered daily tips on decreasing irritation, which they could access (or not) of their own accord. Study 3 combined experimental and daily diary methods to test the causal effects of motivational intensity in emotion regulation on emotion regulation success and psychological health during COVID-19. Following existing operationalizations (e.g., Gutentag & Tamir, 2022; Klein et al., 2001), to measure motivational intensity in emotion regulation, we focused on self-reported effort in all three studies, but also measured self-reported commitment (Studies 2–3), and self-reported persistence (Study 2) in pursuing an emotion regulation goal.

People who experience more intense target emotions (i.e., have higher trait affect) may be more motivated to regulate these emotions (Millgram et al., 2020). It might also be that people who are better at pursuing goals, in general (i.e., have higher self-control) are also more intensely motivated to pursue emotion regulation goals (Paschke et al., 2016). To test whether our effects are driven by trait affect or self-control,

we assessed and controlled for these variables (trait affect in all studies and self-control in Study 2). We also started to explore the extent to which motivational intensity and motivational content in emotion regulation are distinct (Studies 1–3). Finally, we controlled for demographic variables (age, gender, social status), as they can potentially account for differences in emotion goal pursuit (e.g., Kim et al., 2013).

Analyses Plan

All studies reported in this manuscript received ethics committee approval. We report how we determined our sample sizes, data exclusions (if any), manipulations, and measures. Data in all studies were collected as part of larger research projects, designed to answer multiple research questions. Below, we report on variables relevant to the current research questions. The full list of variables is provided in the Supplemental Materials.

All our analyses were conducted in *R* (v4.0.2). Data and code are available on OSF (https://osf.io/3tqzu/?view_only=d7e5b900779c40448b88ffea5c554f0). We ran multilevel models (measurement occasions nested within participants) using *lme4* (Bates et al., 2015), with *p* values calculated using *lmerTest* (Kuznetsova et al., 2013). We included random intercepts and slopes, except where models would not converge (see Results). Momentary predictors were person-mean centered, so higher scores indicate higher levels of that variable than one's personal average. Person-level predictors were grand-mean centered. Continuous variables were standardized after centering to facilitate convergence.

Study 1

In Study 1, in an experience-sampling study, we tested whether motivational intensity in prohedonic emotion regulation predicts overall engagement in emotion-regulatory behaviors (Hypothesis 1) and emotion regulation success (Hypothesis 2) in daily life. Including multiple assessments per day allowed us to test the directionality of our effects. We expected greater motivational intensity to predict more desirable changes in emotional experiences (i.e., increasing pleasant and decreasing unpleasant emotions). We did not expect the reverse directional effects. Indeed, to the extent that greater motivational intensity facilitates successful emotion regulation, we might expect increases in positive (or less negative) emotions to predict lower motivational intensity. We expected results to persist when controlling for motivational content, trait affect, and demographic variables.

Methods

Participants. We tested 160 participants ($M_{age} = 28.62$, $SD_{age} = 9.94$; 79% female). Thirteen additional participants were excluded because they did not engage in prohedonic regulation during the study. Four participants stopped the study

early, and their data were included until their stopping point. Participants were compensated with course credit or up to \$45 AUD (\$34.75 USD) in GiftPay vouchers. A power analysis using G*Power 3.0 (Faul et al., 2007) indicated that a sample of 146 is required to detect a small-medium effect at the between-person level ($r = .23$, Klein et al., 1999; $1-\beta = .80$; $\alpha = .05$). To account for attrition, we increased the sample size by 10%.

We omitted 0.02% of items where participants responded faster than 650 ms (Geeraerts & Kuppens, 2020). Because we were interested only in situations in which people tried to regulate their emotions to feel better, we included only measurements where people tried to regulate their emotions (37.3% of occasions) in a prohedonic direction (95.5% of regulation occasions). This resulted in 2,463 measurement occasions.

Materials

Emotional Experiences. Participants rated their current experience of several emotions, in a randomized order (0 = *not at all*; 100 = *very much*; Kalokerinos et al., 2019), including pleasant emotions (happy, calm, hopeful; $\omega_{between} = .94$, $\omega_{within} = .75$),¹ and unpleasant emotions (anxious, stressed, sad, angry; $\omega_{between} = .93$, $\omega_{within} = .77$).

Motivational Intensity in Emotion Regulation. Participants rated how much effort they exerted to regulate their emotions since the last survey (0 = *no effort at all*; 100 = *a lot of effort*). We only analyzed instances in which participants reported they tried to regulate their emotions in a prohedonic direction.

Emotion-Regulatory Behaviors: Overall Strategy Use and Use of Specific Strategies. Participants indicated which strategies they used to regulate their emotions since the last survey. Strategies include cognitive reappraisal, rumination, distraction, expressive suppression, social sharing, acceptance, other, and none (1 = *strategy used*, 0 = *strategy not used*; See wording of strategies in all studies in the Supplemental Materials). To compute overall strategy use, we summed across them.

Motivational Content. Participants rated (0 = *not at all*; 100 = *very much*) how much they wanted to experience pleasant emotions (i.e., happy, calm, hopeful; $\omega_{between} = .92$, $\omega_{within} = .51$) and unpleasant emotions (anxious, stressed, sad, and angry; $\omega_{between} = .93$, $\omega_{within} = .60$), in a randomized order.

Trait Affect. To assess trait negative affect, participants rated their agreement (1 = *disagree strongly*; 5 = *agree strongly*) with 12 items from the BFI-2 negative emotionality subscale (Soto & John, 2017; $\alpha = .89$). To assess trait pleasant affect, participants rated their agreement with four items from the BFI-2 energy level subscale (Soto & John, 2017; $\alpha = .63$).

Table 1. Descriptive Statistics (Studies 1–3).

| Variable | Study 1 | | | | Study 2 | | | | Study 3 | | | |
|-------------------------------------|---------|------------------|-------------------|-----|---------|------------------|-------------------|-----|---------|------------------|-------------------|-----|
| | MM | Within-person SD | Between-person SD | ICC | M | Within-person SD | Between-person SD | ICC | M | Within-person SD | Between-person SD | ICC |
| Motivational intensity ^a | 48.53 | 18.21 | 18.1 | .46 | 3.95 | 1.02 | 1.35 | .53 | 4.00 | 0.87 | 1.37 | .61 |
| Emotional experiences | | | | | | | | | | | | |
| Unpleasant emotions ^b | 23.73 | 12.46 | 14.26 | .50 | 19.89 | 15.11 | 16.04 | .37 | 2.24 | 0.54 | 0.88 | .57 |
| Pleasant emotions | 58.05 | 13.18 | 18.02 | .61 | - | - | - | - | 4.41 | 0.65 | 1.19 | .67 |
| Emotion-regulatory behaviors | | | | | | | | | | | | |
| Overall strategy use ^c | 1.65 | 0.72 | 0.72 | .44 | 21.59 | 5.02 | 7.21 | .58 | 29.22 | 4.47 | 8.09 | .68 |
| Emotion regulation tips | - | - | - | - | 44.57 | 19.47 | 19.70 | .38 | - | - | - | - |
| Life satisfaction | - | - | - | - | 5.00 | 0.45 | 1.52 | .85 | 4.74 | 0.85 | 1.4 | .59 |
| Psychological well-being | - | - | - | - | 4.06 | 0.38 | 1.33 | .85 | 4.70 | 0.75 | 1.23 | .61 |
| Depressive symptoms | - | - | - | - | - | - | - | - | 2.76 | 0.83 | 1.54 | .62 |
| Loneliness | - | - | - | - | - | - | - | - | 2.83 | 0.76 | 1.68 | .70 |

Notes. ICC = intraclass correlation, which reflects the proportion of variance at the between-person level. ICCs and within-person SDs are only calculated for momentary variables.

^aMotivational intensity scale is measured on a 0–100 scale in Study 1, and 1–7 in Studies 2–3. ^bUnpleasant emotions in Study 2 is the experience of irritation. ^cOverall strategy use in Study 1 was measured by counting the number of strategies used (out of seven strategies), and in Studies 2–3 by summing the overall intensity of using each strategy (six strategies were included in Study 2 and eight strategies in Study 3).

Procedure. Participants installed an experience-sampling app (SEMA3; Koval et al., 2019) and completed the baseline questionnaire, assessing demographics and trait affect. SEMA3 sent eight surveys per day for the next 7 days. Waking hours (10:00–20:00) were divided into eight windows. Participants received prompts at a random time within the first 45 minutes of each window, with at least 30 minutes between prompts and 20 minutes to complete surveys.

Upon being prompted, participants rated their emotional experiences, motivational content, and motivational intensity. Participants also indicated whether (yes/no) they regulated their emotions since the last survey, and if so, whether they increased or maintained pleasant emotions, decreased unpleasant emotions, increased or maintained unpleasant emotions, or decreased pleasant emotions. Then, participants indicated their emotion regulation strategy use.

Results

Descriptive Statistics. Descriptive statistics for this and subsequent studies appear in Table 1, and correlations between key variables appear in the Supplemental Materials.

Emotion-Regulatory Behaviors: Overall Strategy Use and Use of Specific Strategies. We ran a multilevel model to test whether motivational intensity was associated with using emotion regulation strategies, controlling for emotion regulation strategy use on the previous day.² As predicted, at timepoints when people were more intensely motivated to make themselves feel better, they used more emotion regulation strategies overall. When examining the use of specific emotion regulation strategies, we found that more intense prohedonic

motivation in emotion regulation was associated with a greater likelihood of using cognitive reappraisal and acceptance but was unrelated to rumination, distraction, expressive suppression, and social sharing (see Table 2).

Emotion Regulation Success. We ran a multilevel model to test associations between motivational intensity and pleasant emotions, controlling for pleasant emotions at the previous timepoint to model changes in pleasant emotions across time. We ran a second parallel model for unpleasant emotions. We used motivational intensity at the current time point as it was assessed with reference to the period since the last survey, whereas emotional experience was assessed with reference to the current timepoint. As predicted and shown in Figure 1, motivational intensity was associated with greater emotion regulation success, as indicated by increased pleasant emotions (estimate [*SE*] = 0.08 [0.03], 95% confidence interval [CI] [0.03, 0.14], *p* = .004). However, it was not associated with decreased unpleasant emotions (estimate [*SE*] = −0.01 [0.03], 95% CI [−0.06, 0.04], *p* = .648).

To test the alternative possibility that pleasant emotions subsequent increased motivational intensity in emotion regulation, we ran models that tested the reverse direction. Increases in pleasant emotions were associated with *weaker* motivational intensity, estimate [*SE*] = −0.06 [0.03], 95% CI [−0.11, −0.00], *p* = .038. Unpleasant emotions were unrelated to subsequent changes in motivational intensity in emotion regulation (estimate [*SE*] = 0.04 [0.02], 95% CI [−0.01, 0.09], *p* = .101). These findings support our hypothesis that greater motivational intensity in prohedonic emotion regulation prospectively predicts more pleasant emotions, but not the other way around.

Table 2. Associations Between Motivational Intensity in Emotion Regulation and the Use of Specific Emotion Regulation Strategies.

| Predictors | Study 1 | | | Study 2 | | | Study 3 | | | |
|---|---|--|-------------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|---|---|---|--------------------------------------|
| | Intercept | Motivational intensity | Strategy lag | Intercept | Motivational intensity | Strategy lag | Strategy endorsement at baseline | Intercept | Motivational intensity condition | Strategy lag |
| Overall emotion regulation strategy use | Estimate (SE) 95% CI p | -0.12 (0.06) -0.24 to -0.01 .033 | 0.12 (0.03) 0.07 - 0.17 <.001 | 0.09 (0.02) 0.05 - 0.14 <.001 | 0.01 (0.06) -0.11 - 0.13 .847 | 0.37 (0.03) 0.31 - 0.42 <.001 | -0.06 (0.02) -0.10 to -0.03 .001 | 0.30 (0.06) 0.18 - 0.42 <.001 | -0.36 (0.10) -0.56 to -0.16 <.001 | 0.52 (0.12) 0.27 - 0.77 <.001 |
| Cognitive reappraisal | Estimate (SE) 95% CI p | 0.33 (0.05) 0.25 - 0.45 <.001 | 1.22 (0.08) 1.07 - 1.40 .003 | 1.21 (0.09) 1.05 - 1.40 .009 | -0.00 (0.06) -0.11 - 0.11 .981 | 0.38 (0.03) 0.32 - 0.44 <.001 | -0.09 (0.02) -0.13 to -0.05 <.001 | 0.28 (0.06) 0.17 - 0.39 <.001 | -0.33 (0.09) -0.51 to -0.14 .001 | 0.49 (0.11) 0.26 - 0.71 <.001 |
| Rumination | Estimate (SE) 95% CI p | 0.05 (0.01) 0.03 - 0.07 <.001 | 0.94 (0.16) 0.67 - 1.32 .717 | 1.23 (0.08) 1.08 - 1.39 .001 | -0.01 (0.05) -0.10 - 0.09 .916 | 0.01 (0.04) -0.06 - 0.09 .716 | -0.13 (0.03) -0.19 to -0.07 <.001 | 0.31 (0.05) 0.21 - 0.40 <.001 | -0.02 (0.09) -0.19 - 0.15 .804 | -0.03 (0.11) -0.23 - 0.18 .815 |
| Distraction | Estimate ^a (SE) 95% CI p | 0.65 (0.10) 0.48 - 0.88 .006 | 0.99 (0.08) 0.85 - 1.16 .917 | 1.29 (0.11) 1.09 - 1.52 .003 | -0.00 (0.06) -0.12 - 0.11 .957 | 0.36 (0.03) 0.29 - 0.42 <.001 | -0.11 (0.02) -0.15 to -0.06 <.001 | 0.05 (0.06) -0.06 - 0.17 .335 | -0.28 (0.09) -0.46 to -0.10 .003 | 0.34 (0.11) 0.11 - 0.56 .003 |
| Expressive suppression | Estimate (SE) 95% CI p | 0.07 (0.01) 0.05 - 0.11 <.001 | 0.89 (0.14) 0.65 - 1.22 .469 | 0.99 (0.20) 0.66 - 1.48 .960 | -0.01 (0.06) -0.12 - 0.11 .919 | 0.32 (0.03) 0.27 - 0.37 <.001 | -0.07 (0.03) -0.12 to -0.02 .007 | 0.12 (0.06) 0.01 - 0.23 .040 | -0.19 (0.09) -0.37 to -0.01 .043 | 0.27 (0.11) 0.05 - 0.49 .015 |
| Social sharing | Estimate (SE) 95% CI p | 0.07 (0.01) 0.05 - 0.10 <.001 | 1.26 (0.18) 0.96 - 1.67 .098 | 1.14 (0.17) 0.84 - 1.53 .405 | 0.07 (0.01) 0.05 - 0.10 <.001 | 1.14 (0.17) 0.84 - 1.53 .405 | 0.19 (0.06) 0.08 - 0.30 .001 | -0.09 (0.02) -0.13 to -0.05 <.001 | -0.43 (0.10) -0.62 to -0.24 <.001 | 0.61 (0.12) 0.37 - 0.84 <.001 |
| Acceptance | Estimate (SE) 95% CI p | 0.34 (0.06) 0.24 - 0.46 <.001 | 1.22 (0.09) 1.06 - 1.40 .006 | 1.14 (0.09) 0.97 - 1.34 .102 | 0.05 (0.06) -0.06 - 0.17 .354 | 0.20 (0.03) 0.14 - 0.27 <.001 | -0.08 (0.02) -0.13 to -0.04 <.001 | 0.39 (0.06) 0.28 - 0.51 <.001 | -0.43 (0.10) -0.62 to -0.24 <.001 | 0.61 (0.12) 0.37 - 0.84 <.001 |
| Situation modification | Estimate (SE) 95% CI p | 0.34 (0.06) 0.24 - 0.46 <.001 | 1.22 (0.09) 1.06 - 1.40 .006 | 1.14 (0.09) 0.97 - 1.34 .102 | 0.05 (0.06) -0.06 - 0.17 .354 | 0.20 (0.03) 0.14 - 0.27 <.001 | -0.08 (0.02) -0.13 to -0.04 <.001 | 0.39 (0.06) 0.28 - 0.51 <.001 | -0.43 (0.10) -0.62 to -0.24 <.001 | 0.61 (0.12) 0.37 - 0.84 <.001 |
| Influencing the body | Estimate (SE) 95% CI p | 0.34 (0.06) 0.24 - 0.46 <.001 | 1.22 (0.09) 1.06 - 1.40 .006 | 1.14 (0.09) 0.97 - 1.34 .102 | 0.05 (0.06) -0.06 - 0.17 .354 | 0.20 (0.03) 0.14 - 0.27 <.001 | -0.08 (0.02) -0.13 to -0.04 <.001 | 0.39 (0.06) 0.28 - 0.51 <.001 | -0.43 (0.10) -0.62 to -0.24 <.001 | 0.61 (0.12) 0.37 - 0.84 <.001 |
| Situation selection | Estimate (SE) 95% CI p | 0.34 (0.06) 0.24 - 0.46 <.001 | 1.22 (0.09) 1.06 - 1.40 .006 | 1.14 (0.09) 0.97 - 1.34 .102 | 0.05 (0.06) -0.06 - 0.17 .354 | 0.20 (0.03) 0.14 - 0.27 <.001 | -0.08 (0.02) -0.13 to -0.04 <.001 | 0.39 (0.06) 0.28 - 0.51 <.001 | -0.43 (0.10) -0.62 to -0.24 <.001 | 0.61 (0.12) 0.37 - 0.84 <.001 |
| Seeking social support | Estimate (SE) 95% CI p | 0.34 (0.06) 0.24 - 0.46 <.001 | 1.22 (0.09) 1.06 - 1.40 .006 | 1.14 (0.09) 0.97 - 1.34 .102 | 0.05 (0.06) -0.06 - 0.17 .354 | 0.20 (0.03) 0.14 - 0.27 <.001 | -0.08 (0.02) -0.13 to -0.04 <.001 | 0.39 (0.06) 0.28 - 0.51 <.001 | -0.43 (0.10) -0.62 to -0.24 <.001 | 0.61 (0.12) 0.37 - 0.84 <.001 |
| Expressing pleasant emotions | Estimate (SE) 95% CI p | 0.34 (0.06) 0.24 - 0.46 <.001 | 1.22 (0.09) 1.06 - 1.40 .006 | 1.14 (0.09) 0.97 - 1.34 .102 | 0.05 (0.06) -0.06 - 0.17 .354 | 0.20 (0.03) 0.14 - 0.27 <.001 | -0.08 (0.02) -0.13 to -0.04 <.001 | 0.39 (0.06) 0.28 - 0.51 <.001 | -0.43 (0.10) -0.62 to -0.24 <.001 | 0.61 (0.12) 0.37 - 0.84 <.001 |

Note. Significant associations with motivational intensity are bolded.

^a In Study 1 its odds ratio and not estimate.

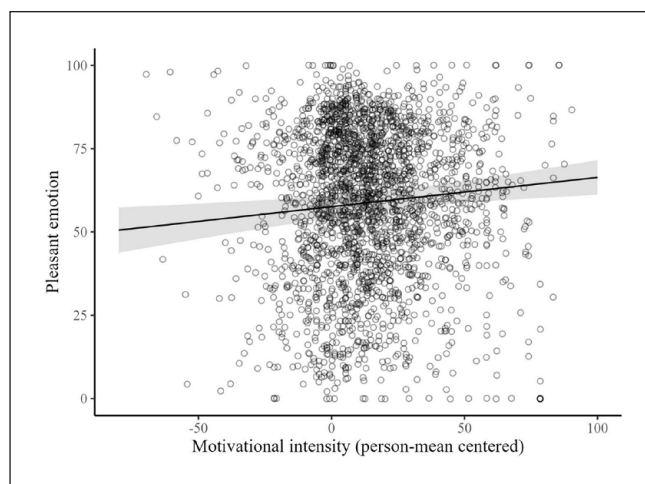


Figure 1. The Association Between Motivational Intensity in Emotion Regulation and Pleasant Emotions (Study 1).

Note. To aid in interpretability, we plot the unstandardized effects. Shading represents the 95% confidence interval, and the scatterplot represents the momentary observations.

Intensity Versus Content of Motivation in Emotion Regulation. We tested associations between motivational content at the previous time-point (because the item was referring to the present moment) and motivational intensity at the current time-point (item referring to the period since the last assessment). Motivational intensity in emotion regulation was not significantly associated with motivational content ($p = .473$). We also tested the association between motivational content and motivational intensity at the current time-point. The two were again not significantly associated ($p = .141$). This indicates that what people want to feel was distinct from how intensely motivated they were to regulate their emotions.

Controls. All of the results reported above did not change when controlling for daily motivational content, trait affect, and demographic variables (i.e., age, gender, social status; see Supplemental Materials).³ There was one exception. Specifically, when including control variables, more intense motivation in prohedonic emotion regulation was associated with a greater likelihood of using social sharing.⁴

Discussion

Consistent with Hypothesis 1, greater motivational intensity in prohedonic emotion regulation predicted more intense emotion-regulatory behavior overall (i.e., using more emotion regulation strategies). Greater motivational intensity was associated with using strategies that are more likely to decrease unpleasant emotions or increase pleasant emotions (i.e., cognitive reappraisal, acceptance), but not strategies that often fail to show such associations (e.g., rumination, expressive suppression). This could mean that motivational intensity leads people to select specific strategies (e.g.,

cognitive reappraisal), or that it increases the likelihood of implementing strategies that can help them achieve their goals. We continued to test these possibilities in Studies 2–3.

Consistent with Hypothesis 2, greater motivational intensity in prohedonic emotion regulation predicted more successful emotion regulation, as expressed by increases in pleasant emotions. In contrast, greater increases in pleasant emotions predicted less-motivational intensity in emotion regulation. These findings are consistent with our direction hypothesis that motivational intensity facilitates emotion regulation success, which should then decrease motivational intensity. These findings are also consistent with the coasting hypothesis, according to which pleasant emotions signal self-regulation success and hence decrease motivational intensity (Carver & Scheier, 1990, 1998; Thürmer et al., 2020).

Contrary to our predictions, greater increases in motivational intensity in prohedonic emotion regulation did not predict decreases in unpleasant emotions, nor did greater increases in unpleasant emotions predict changes in motivational intensity in emotion regulation. This might be because our measure of motivational intensity in prohedonic emotion regulation combined both pleasant and unpleasant emotions, or because levels of overall unpleasant emotions were relatively low in the sample. We tried to address these possibilities in the next studies.

We also obtained some support for the distinction between motivational intensity and motivational content in prohedonic emotion regulation. What people wanted to feel was distinct from how intensely motivated they were to achieve it. Furthermore, motivational content in emotion regulation did not account for our findings, nor did trait affect and demographic variables.

Study 2

Study 2 extended Study 1 in several respects. First, Study 2 was based on a daily diary protocol, allowing us to include a multi-item measure of motivational intensity that taps effort, commitment, and persistence (see Gutentag & Tamir, 2022). Second, in Study 1, we targeted a general prohedonic goal in daily life and found that motivational intensity was associated with changes in pleasant, but not unpleasant emotions. In Study 2, to test the specificity of our effects, we targeted motivational intensity in regulating a specific unpleasant emotion—namely, decreasing irritation. We targeted irritation because a pilot study ($N = 176$) indicated that participants are generally motivated to decrease irritation in daily life ($M = 3.85$, $SD = 1.94$; on a 7-point scale, 1 = *not at all*, 7 = *very much*).

Third, we used two measures of regulatory behavior to strengthen our construct validity. In Study 1, we counted the overall number of emotion regulation strategies used. Using more strategies indicates more intense emotion-regulatory behaviors, although people may also use many strategies but

to a small extent. Therefore, in Studies 2–3, we measured the intensity with which each strategy was implemented, and summed across strategies to capture the overall intensity of strategy use. Second, in Study 2, we also used a behavioral measure to assess emotion-regulatory behavior. Participants were offered daily tips on how to decrease irritation, which they could choose whether to access or not.

We expected more intense motivation in emotion regulation to predict greater overall use of emotion regulation strategies and a greater likelihood of accessing daily tips on effective regulation (Hypothesis 1). We further expected more intense motivation to predict greater success in decreasing irritation (Hypothesis 2). Finally, in Study 2, we also tested whether more intense motivation predicts better psychological health (Hypothesis 3). We expected results to persist when controlling for motivational content, trait affect, self-control, and demographics.

Methods

Participants. We recruited 157 participants through Prolific ($M_{\text{age}} = 36.15$, $SD_{\text{age}} = 11.75$; 74.5% female). Nine additional participants were excluded, because they completed 50% or less of assessments. Participants received up to \$9.57 USD for participation. Sample size was determined as in Study 1.

Materials

Irritation Experience. Participants rated how much they felt various emotions (0 = *not at all*; 100 = *very much*), including *irritated* and *annoyed* ($\omega_{\text{between}} = .99$, $\omega_{\text{within}} = .84$).

Motivational Intensity in Emotion Regulation. Participants rated agreement (1 = *strongly disagree*; 7 = *strongly agree*) with items regarding daily effort (“I exerted effort to decrease my irritation today”), commitment (“I was strongly committed to trying to feel less irritated today”), and persistence (“I persisted in trying to decrease my irritation today”) in decreasing irritation ($\omega_{\text{between}} = .97$, $\omega_{\text{within}} = .83$).

Emotion-Regulatory Behaviors

Overall Strategy Use and Use of Specific Strategies. At baseline, participants indicated their use of strategies to decrease irritation (1 = *I do not do this at all*; 7 = *I do this very much*; Kalokerinos et al., 2019). Strategies included cognitive reappraisal, rumination, distraction, expressive suppression (as in Study 1), situation modification, and influencing the body. In the daily assessments, participants rated the same items, referring to that day. To estimate the total extent to which people used emotion regulation strategies, we summed across the different strategies (see Kaspi et al., 2024).

Tip Reading. Each day, we tracked whether participants accessed the daily tip online (0 = no; 1 = yes).

Psychological Health. Participants rated their life satisfaction and psychological well-being. To assess *life satisfaction*, participants completed the Satisfaction with Life scale (Diener et al., 1985) at baseline (1 = *strongly disagree*; 7 = *strongly agree*; $\alpha = .93$). In the daily assessments, participants rated agreement with the item: “I am satisfied with my life” (1 = *strongly disagree*; 7 = *strongly agree*). To assess *psychological well-being*, participants completed the Ryff (1989) scale of Psychological Well-being at baseline (1 = *strongly disagree*; 6 = *strongly agree*; $\alpha = .84$). In the daily assessments, participants rated agreement with the item: “Some people wander aimlessly through life, but I am not one of them” (1 = *strongly disagree*; 6 = *strongly agree*).

Motivational Content. At baseline, participants rated (1 = *not at all*; 7 = *very much*) how desirable it is for them to decrease their level of irritation and to what extent they want to decrease their level of irritation ($\alpha = .72$).

Trait Affect. Participants indicated (0 = *not at all*; 100 = *very much*) how irritated and annoyed they felt, in general ($\alpha = .94$).

Self-Control. Participants completed the Self-control scale (Tangney et al., 2004), rating how much each of 13 items (e.g., “I am good at resisting temptation”) characterize them (1 = *not at all*; 5 = *very much*; $\alpha = .86$).

Procedure. The study included a baseline assessment, seven daily diaries, and a summary assessment. At baseline, participants rated their trait irritation, emotion regulation strategy use in the past week, self-control, life satisfaction, psychological well-being, motivational content, and demographics. Over 7 days at noon, participants could choose whether or not to access a daily tip on how to decrease irritation. Participants were e-mailed the daily survey at 19:00 and could complete it by noon the following day. In the daily assessments, participants rated their emotional experiences, motivational intensity to decrease irritation, use of strategies to regulate irritation, and daily life satisfaction and psychological well-being.

Results

Emotion-Regulatory Behaviors

Overall Strategy Use and Use of Specific Strategies. We ran a multilevel model, controlling for emotion regulation strategy use at baseline, and emotion regulation strategy use on the previous day.⁵ As predicted, when people were more intensely motivated to decrease irritation, they used emotion regulation strategies more. When examining specific strategies, more intense motivation was associated with all strategies, except rumination (Table 2).

Tip Reading. We ran a logistic multilevel model to test whether motivational intensity predicted tip access (0 = *not*

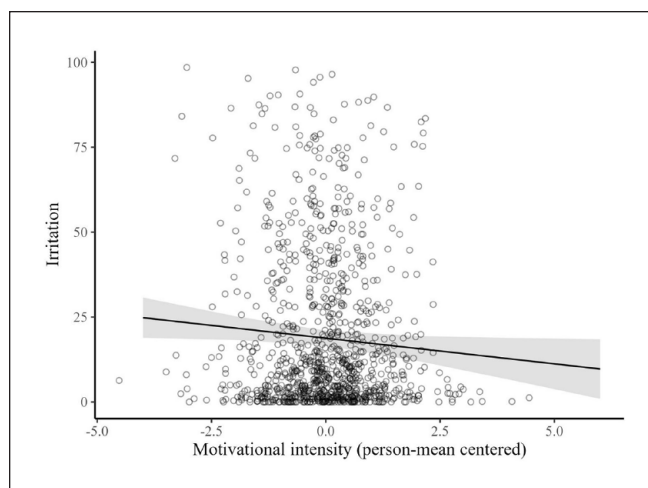


Figure 2. The Association Between Motivational Intensity to Decrease Irritation and Experienced Irritation (Study 2).

Note. To aid in interpretability, we plot the unstandardized effects. Shading represents the 95% confidence interval, and the scatterplot represents the momentary observations.

accessed; 1 = accessed), controlling for tip access on the previous day.⁶ As predicted, the more motivated people were to decrease irritation, the more likely they were to access tips on how to decrease irritation (odds ratio[SE] = 1.25 [0.11], 95% CI [1.04, 1.49], $p = .016$).

Emotion Regulation Success. We ran a multilevel model, with motivational intensity predicting experience of irritation, controlling for irritation on the previous day and at baseline. As predicted and shown in Figure 2, motivational intensity was associated with greater success in emotion regulation, indicated by decreased irritation (estimate [SE] = -0.07 [0.03], 95% CI [-0.14 , -0.01], $p = .034$).

Psychological Health. We ran two multilevel models, testing associations between motivational intensity and life satisfaction or psychological well-being, controlling for the outcome on the previous day and at baseline.⁷ As predicted, the more motivated people were to decrease irritation, the more satisfied they were with their lives (estimate [SE] = 0.06 [0.02], 95% CI [0.03, 0.10], $p < .001$). Motivational intensity was not associated with psychological well-being ($p = .212$).

Controls. All of the results reported above persisted when controlling for baseline motivational content, trait affect, self-control, and demographic variables (i.e., age, gender, social status; see Supplemental Materials).^{8,9}

Discussion

Consistent with Hypothesis 1, more intense motivation to decrease irritation in daily life was associated with increased

engagement in emotion-regulatory behaviors. This was indicated by using emotion regulation strategies more and being more likely to access tips on decreasing irritation. More intense motivation was associated with using all strategies more, except for rumination. This might be because rumination is expected to increase emotional intensity, rather than decrease it (Millgram et al., 2019). Overall, these findings support our hypothesis that motivational intensity to decrease irritation increases the likelihood of engaging in goal-conducive behaviors.

Consistent with Hypothesis 2, greater motivational intensity in decreasing irritation was associated with more successful emotion regulation, as indicated by lower levels of irritation in daily life. Finally, consistent with Hypothesis 3, greater motivational intensity was associated with greater life satisfaction. Contrary to our prediction, motivational intensity was not associated with psychological well-being. This might be because motivational intensity may be associated with psychological outcomes that are emotional in nature. Whereas life satisfaction is associated with hedonic experiences (Diener et al., 1985), psychological well-being is associated with more eudaimonic experiences (Ryff, 1989).

Study 3

Whereas Studies 1–2 were correlational, Study 3 combined experimental and daily diary methods. This offered us the benefits of experimental design, while allowing us to study motivational intensity as it occurs outside the lab. In Study 3, we focused on motivational intensity in decreasing unpleasant emotions and increasing pleasant emotions. We tested whether we could facilitate emotion regulation success during COVID-19 by increasing motivational intensity. Participants in the experimental conditions were encouraged to try to either persist in decreasing their unpleasant emotions (experimental condition 1) or persist in increasing their pleasant emotions (experimental condition 2) during the following week. Participants in the active control condition were told that we were testing a new app. Participants in all conditions received reminders of the goal allocated to them three times a day.

Because our manipulation referred explicitly to persistence, to minimize experimental demand, we omitted the self-reported persistence item from our motivational intensity measure used in Study 2, and included only items for effort and commitment. In addition, we assessed motivational intensity in decreasing unpleasant emotions and in increasing pleasant emotions, separately.

We expected participants in the two experimental conditions (vs. active control condition) to engage in more intense emotion-regulatory behaviors (Hypothesis 1), be more successful at regulating emotions (Hypothesis 2), and have better psychological health (Hypothesis 3) in their daily lives. In

addition to satisfaction with life and psychological well-being assessed in Study 2, we also included indices of depressive symptoms and loneliness, which were generally more intense during COVID-19 (Bartoszek et al., 2020). We expected results to persist when controlling for motivational content, trait affect, demographics, and COVID-19 impact.

Methods

Participants. We recruited 250 participants through Prolific ($M_{\text{age}} = 32.21$, $SD_{\text{age}} = 11.13$; 50% female). Participants received up to £5.16 (\$10.65) for participation. A power analysis using G*Power 3.0 (Faul et al., 2007) indicated that a sample of 246 was required to detect a small-medium effect size ($f = .20$) in a one-way analysis of variance (ANOVA; $1-\beta = .80$, $\alpha = .05$).

Materials

Emotional Experiences. In the daily assessments, participants indicated how they felt (1 = not at all; 7 = very much), with reference to their experiences that day by rating sets of three unpleasant (e.g., sad, downhearted, unhappy; $\omega_{\text{between}} = .94$, $\omega_{\text{within}} = .82$) and three pleasant (e.g., joyful, glad, happy; $\omega_{\text{between}} = .97$, $\omega_{\text{within}} = .86$) emotion terms from the Modified Differential Emotion Scale (mDES; Fredrickson et al., 2003).

Motivational Intensity in Emotion Regulation. At baseline, participants rated (1 = not at all; 7 = very much) how committed they were, and how much effort they invested, to decrease unpleasant emotions or to increase pleasant emotions during the past week. Because our manipulation referred explicitly to persistence, we omitted the persistence item from our measure, to decrease experimental demand. We averaged across items for decreasing unpleasant ($\alpha = .84$) and increasing pleasant ($\alpha = .90$) emotions. In the daily assessments, participants rated how committed they were to changing their emotions and how much effort they invested in doing so that day ($\omega_{\text{between}} = .98$, $\omega_{\text{within}} = .82$).

Emotion-Regulatory Behaviors: Overall Strategy Use and Use of Specific Strategies. Participants rated how much (1 = I did not do this at all; 7 = I did this very much) they used emotion regulation strategies to regulate their emotions that day. Strategies included cognitive reappraisal, rumination, distraction, expressive suppression (as in Studies 1–2), influencing the body (as in Study 2), situation selection, seeking social support, and expressing pleasant emotions. Overall emotion regulation strategy use was computed as in Study 2. **Psychological Health.** Participants rated their life satisfaction and psychological well-being, loneliness, and depressive symptoms. To assess *life satisfaction*, participants completed the Satisfaction with Life scale at baseline (Diener et al., 1985; $\alpha = .90$). In the daily assessments, participants rated their agreement (1 = strongly disagree; 7 = strongly agree) with the item: “Today, I was satisfied with

my life.” To assess *psychological well-being*, participants completed the Psychological Well-being scale at baseline (Ryff, 1989; $\alpha = .85$). In the daily assessments, participants rated their agreement (1 = strongly disagree; 7 = strongly agree) with three items: “Today, I had a sense of direction and purpose in life,” “Today, I felt I was in charge of the situation in which I live,” and “Today I felt disappointed about my achievements (reverse-coded)” ($\omega_{\text{between}} = .68$, $\omega_{\text{within}} = .91$). To assess *loneliness*, participants rated their agreement (0 = completely disagree; 8 = completely agree) with eight items of the short-revised University of California Los Angeles (UCLA) Loneliness Scale (e.g., “I lack companionship”) at baseline (Russell et al., 1980; $\alpha = .86$). In the daily assessments, participants rated their agreement (1 = strongly disagree; 7 = strongly agree) with the item: “Today, I felt lonely.” To assess *depressive symptoms*, participants rated the frequency (1 = rarely or none of the time; 4 = most or all of the time) of 10 symptoms in the short Center for Epidemiologic Studies Depression scale (CES-D; e.g., “I felt depressed”) at baseline, referring to the past week (Radloff, 1977; $\alpha = .90$). In the daily assessments, participants rated their agreement (1 = strongly disagree; 7 = strongly agree) with the item: “Today, I felt depressed.”

Motivational Content. At baseline, participants indicated how often (1 = never; 4 = most of the time) they wanted to experience various emotions in the past week, including pleasant emotions (i.e., contentment, affection, excitement, curiosity, interest, relief, passion, calmness, trust, empathy, pride, relaxation, compassion, enthusiasm, love; $\alpha = .93$), and unpleasant emotions (i.e., fear, anxiety, hostility, hatred, contempt, anger, sadness, nervousness, despair, depression, stress; $\alpha = .94$).

Trait Affect. At baseline, participants indicated how they felt (1 = not at all; 7 = very much) in the past week, by rating the same sets of three unpleasant ($\alpha = .89$) and three pleasant ($\alpha = .92$) emotion terms from the mDES (Fredrickson et al., 2003) used in the daily assessment to assess emotional experiences.

COVID-19 Impact. Participants indicated how much different domains were negatively impacted by COVID-19 (0 = not applicable; 1 = not at all; 7 = very much). Domains included professional achievements, education, income, financial situation, relationship with romantic partner, relationship with children, relationship with parents, relationship with extended family, relationship with friends, relationships with work colleagues, physical health, and psychological well-being ($\alpha = .81$).

Procedure. At baseline, participants rated trait affect, subjective COVID-19 impact, depressive symptoms, life satisfaction and psychological well-being, loneliness, motivational content, and demographics. Participants were randomly assigned to one of the two motivational intensity conditions

or the control condition, and underwent the manipulation. In the experimental conditions, we told participants that they should try to decrease unpleasant (or increase pleasant) emotions in their daily life. They were told that they will receive reminders three times a day to help them persist in decreasing their unpleasant (or increasing their pleasant emotions). In the control condition, we told participants that we were testing a smartphone app for future studies, and therefore, they will receive notifications three times daily (see Supplemental Materials). Over the next 4 days, participants received daily reminders (e.g., “We’d like to remind you that you should try to decrease your negative emotions”; see Supplemental Materials). Participants were sent the daily survey at 19:00, and could complete it by 23:59. In the daily assessments, participants rated their emotional experiences, life satisfaction and psychological well-being, loneliness, depressive symptoms, motivational intensity in emotion regulation, and emotion regulation strategy use.

Results

The two experimental conditions generally did not differ, so we combined the two. We report all direct comparisons between the conditions in Supplemental Materials.

Manipulation Check. We ran a multilevel model, predicting motivational intensity in emotion regulation from condition (experimental conditions vs. control), using control as the reference variable (so positive numbers indicate higher scores in the experimental condition). As expected, motivational intensity in emotion regulation was higher in the experimental conditions, relative to control (estimate $[SE] = 0.51 [0.11]$, 95% CI $[0.29, 0.73]$, $p < .001$).

Emotion-Regulatory Behaviors: Overall Strategy Use and Use of Specific Strategies. To test whether increasing motivational intensity led people to use emotion regulation strategies more, we ran a multilevel model predicting emotion regulation strategy use from condition, controlling for emotion regulation strategy use on the previous day.¹⁰ As predicted, people in the experimental (vs. control) conditions, who were more intensely motivated to regulate their emotions, were likely to use emotion regulation strategies more. With respect to specific strategies, we found that motivational intensity increased the use of all strategies, except for rumination (Table 2).

Emotion Regulation Success. We ran two multilevel models, predicting daily pleasant or unpleasant emotions from conditions, controlling for baseline levels of the outcome. As predicted, people in the experimental conditions, who were more intensely motivated to regulate emotions (vs. not), experienced more pleasant emotions (estimate $[SE] = 0.26 [0.08]$, 95% CI $[0.10, 0.42]$, $p < .001$) and less unpleasant

emotions (estimate $[SE] = -0.21 [0.08]$, 95% CI $[-0.37, -0.04]$, $p = .014$) in daily life.

Psychological Health. We ran four multilevel models, predicting life satisfaction and psychological well-being, depressive symptoms, and loneliness, controlling for baseline levels of the outcome. As predicted, participants more intensely motivated to regulate their emotions (vs. not) experienced greater life satisfaction (estimate $[SE] = 0.24 [0.09]$, 95% CI $[0.06, 0.42]$, $p = .008$), higher psychological well-being (estimate $[SE] = 0.25 [0.09]$, 95% CI $[0.08, 0.41]$, $p = .005$), less loneliness (estimate $[SE] = -0.21 [0.08]$, 95% CI $[-0.38, -0.05]$, $p = .010$), and less depressive symptoms (estimate $[SE] = -0.29 [0.09]$, 95% CI $[-0.46, -0.11]$, $p = .001$).

Controls. All of the results reported above persisted when controlling for baseline motivational content, trait affect, demographics (i.e., age, gender, social status), and COVID-19 impact (see Supplemental Materials) (See Note 10).

Discussion

By motivating people to invest in decreasing unpleasant emotions or increasing pleasant emotions in daily life, we increased active engagement in emotion-regulatory behaviors (consistent with Hypothesis 1), improved daily emotional experiences (consistent with Hypothesis 2), increased well-being, and decreased loneliness and depressive symptoms (consistent with Hypothesis 3). Replicating the pattern found in Study 2, but providing support for a causal effect, increasing motivation intensity increased all emotion-regulatory behavior, except rumination.

To increase motivational intensity in emotion regulation, we motivated people to persist in pursuing an emotion regulation goal for a week. We believe it is unlikely our effects were driven by experimental demand, given that people reported on personal experiences in real life as they unfolded over time, and given that we assessed both proximal (i.e., effort in emotion regulation) and distal (e.g., loneliness) outcomes, and the latter effects are less likely influenced by demand. Nonetheless, future studies could use manipulations that target motivational intensity more directly, such as offering rewards for goal attainment.

General Discussion

Our studies show that more intense motivation in emotion regulation can promote successful emotion regulation. Hence, to predict success in emotion regulation, it may be important to consider how intensely motivated people are to regulate. Greater motivational intensity in prohedonic emotion regulation predicted (Studies 1–2) and led (Study 3) to more engagement in prohedonic emotion-regulatory behaviors (supporting Hypothesis 1), greater prohedonic emotion

regulation success (supporting Hypothesis 2), and better psychological outcomes (supporting Hypothesis 3). Emotion-regulatory behaviors were assessed by having people report on their emotion regulation strategy use (Studies 1–3), and with a behavioral index (Study 2). These patterns were replicated using experience-sampling (Study 1), daily diary (Studies 2–3), and experimental (Study 3) designs. These effects could not be attributed to trait affect, self-control, demographics, and COVID-19 impact. We also found initial support for the distinction between motivational content and intensity in emotion regulation.

Theoretical and Applied Implications

This investigation is among the first to identify motivational intensity in emotion regulation as a critical factor in successful emotion regulation. Given the importance of successful emotion regulation for psychological health (e.g., Gross et al., 2019), it is crucial to understand the factors that propel people to act in ways that can change how they feel. Here, we provide evidence for motivational intensity in emotion regulation as such a factor. Furthermore, we show that by increasing motivational intensity in emotion regulation, it might be possible to propel people to engage in emotion-regulatory behaviors more intensely, increasing the likelihood of success and facilitating well-being.

People who were more motivated to regulate emotions engaged in more intense regulatory behavior, as reflected in more intense emotion-regulatory behaviors, across emotion regulation strategies. It appears that motivational intensity propels people to engage in any strategy that is likely to help them achieve their goal (e.g., cognitive reappraisal, but not rumination). When testing specific strategies in Studies 2 and 3, motivational intensity was related to the use of all emotion regulation strategies, except for rumination. In Study 1, motivational intensity was related to using more cognitive reappraisal and acceptance. Given that rumination is expected to increase emotional intensity (Millgram et al., 2019), it is not surprising that more intense motivation to decrease emotional intensity was unrelated to using rumination in all three studies. The differences among studies, especially between Study 1 and Studies 2–3, may be driven by differences in temporal sensitivity (hours in Study 1 and days in Studies 2 and 3), measurement of strategy use (binary in Study 1, continuous in Studies 2–3), and/or affect specificity (pleasant vs. unpleasant affect in Study 1, irritation in Study 2, pleasant or unpleasant emotions in Study 3).

Successful emotion regulation is important for well-being (Gross et al., 2019), but often hard to achieve. This investigation demonstrates that how intensely motivated people are to regulate emotions can determine the intensity of their emotion-regulatory behaviors, how successful they are in regulating their emotions, and their psychological health. This has direct implications for interventions designed to promote

successful emotion regulation and well-being. Such interventions should potentially target motivational intensity. At least sometimes and for some people, motivating them to regulate their emotions may help them feel better.

Limitations and Future Directions

We assessed emotion regulation as people experienced emotions in response to personally relevant events, and enjoyed the benefits of successful emotion regulation or suffered the repercussions of failure. In doing so, we showed that motivational intensity in emotion regulation matters in ecologically valid settings. Real life, however, can be messy, and so our effect sizes were generally small. Nevertheless, the fact that our effects were consistent across studies, and that our manipulation in Study 3 shifted emotional and psychological experiences even during stressful times, suggest that motivational intensity in emotion regulation plays an important role. Future research could complement our findings by testing our hypotheses in more controlled laboratory studies. Future research could also extend our investigation by testing motivational intensity in emotion regulation involving contra-hedonic emotion regulation goals. Also, future research could use more nuanced manipulations of motivational intensity in emotion regulation, to test its unique effects on psychological health. These and other future studies should be preregistered.

We began to tease apart motivational content and intensity in emotion regulation. However, our measures of motivational intensity and motivational content were not always comparable. In Study 1, we asked about different (albeit overlapping) emotion goals, and in Studies 2 and 3, these constructs were measured at different timepoints. Future research should further test the distinction between motivational content and intensity in emotion regulation.

We expected and found that motivational intensity in emotion regulation promotes success. However, the relationship between motivational intensity in emotion regulation and success may not be linear. There might be cases where motivational intensity is unrelated or even detrimental to emotion regulation success (see Mauss et al., 2007; Tamir, 2021). Although we did not find evidence for nonlinear effects, such effects may exist in more diverse samples. Future research could examine when or for whom motivational intensity in emotion regulation is (or is not) likely to promote success and why.

We examined emotion regulation in a community sample of adults, assessing relatively moderate motivational intensity, as people struggled with daily emotional challenges. Future research should test our predictions in clinical populations or during stressful times (e.g., war time). Future research could also test the implications of motivational intensity in emotion regulation over longer periods. Testing the long-term effects of motivational intensity in emotion

regulation may be important in populations struggling with chronic emotion regulation challenges, such as people suffering from affective disorders (e.g., Liu & Thompson, 2017) or health care professionals (e.g., Nunes et al., 2011).

To the best of our knowledge, this is one of the few investigations that directly assessed and manipulated motivational intensity in emotion regulation and demonstrated its potential beneficial effects. Although our experimental manipulation in Study 3 was proven useful, future research could use other manipulations of motivational intensity in emotion regulation.

Finally, emotion regulation goals operate within a broader goal system (see Tamir & Millgram, 2017), where goals are ordered hierarchically (Carver & Scheier, 2000). An emotion regulation goal (e.g., increase calmness) can serve as means to attain higher-order goals (e.g., feel good), and can be subserved by lower-order goals (e.g., listen to relaxing music). The present investigation examined motivational intensity in pursuing specific hedonic emotion regulation goals, without considering potential competing or complementary goals. However, at any given moment, people pursue many emotion and nonemotion goals (Ford et al., 2019). What determines how intensely motivated people are to an emotion regulation goal when it competes with other goals? What happens when such goals conflict? Understanding motivational intensity in emotion regulation in the context of other goal pursuits is an important challenge for future research.

Conclusion

Identifying factors that shape successful emotion regulation is crucial for psychological health. This investigation suggests that one overlooked factor is how motivated people are to regulate emotions. We demonstrated that motivational intensity in emotion regulation might facilitate emotion-regulatory behaviors, increase emotion regulation success, and promote psychological health. Thus, to optimize emotion regulation, it may be important to motivate people to just do it.

Author Contributions

T.G.—Conceptualization (Lead), Data curation (Equal), Formal analysis (Lead), Investigation (Lead), Methodology (Lead), Writing—original draft (Lead). E.K.K.—Data curation (Equal), Formal analysis (Equal), Funding acquisition (Supporting), Investigation (Supporting), Methodology (Supporting), Writing—original draft (Supporting). Y.M.—Data curation (Supporting), Writing—original draft (Supporting). P.M.G.—Data curation (Supporting), Formal analysis (Supporting), Writing—original draft (Supporting). R.S.—Data curation (Supporting), Writing—original draft (Supporting). M.T.—Conceptualization (Lead), Formal analysis (Supporting), Funding acquisition (Lead), Investigation (Lead), Methodology (Lead), Supervision (Lead), Writing—original draft (Lead).

Declaration of Conflicting Interests

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Ethics Approval

All studies reported in this manuscript received the University of Melbourne Psychology (#2056651; Study 1) and the Hebrew University of Jerusalem (#110119; Study 2–3) ethics committee approvals.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

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Data, Materials and/or Code Availability

All the data and analyses reported in the present manuscript are publicly available via Open Science Framework and can be accessed now at: https://osf.io/3tqzu/?view_only=d7e5b900779c40448b88ffe5c554f0.

Supplemental Material

Supplemental material is available online with this article.

Notes

1. For momentary variables, we report a within-person index of reliability ω_{within} and a between-person index of reliability ω_{between} (Geldhof et al., 2014).
2. To enable convergence, we removed the following random effects: person-mean centered motivational intensity from the cognitive reappraisal and person-mean centered lagged outcome from the acceptance and rumination models.
3. To enable convergence, we removed the following random effects: person-mean centered trait effect from all models, person-mean centered motivational intensity from the cognitive reappraisal, acceptance, and suppression models, and person-mean centered lagged outcome from the rumination model.
4. We also tested for nonlinear effects. These effects were not significant, excluding one exception. A significant quadratic effect emerged for distraction, such that when motivational intensity was extremely high or low, participants used less distraction.
5. To enable convergence, we removed the random effects of person-mean centered lagged outcome from the distraction model.
6. We ran an intercept-only model, as it did not converge with random effects.

7. To enable convergence, we removed the random effect of the person-mean centered lagged outcome from the psychological well-being model.
8. To enable convergence, we removed the following random effects: person-mean centered lagged outcome from the models testing overall strategy use, distraction, and psychological well-being, and ran an intercept-only model when predicting tip reading.
9. We found no evidence for nonlinear effects.
10. To enable convergence, we ran an intercept-only model for overall strategy use, situation selection, distraction, rumination, and expressive suppression.

References

- Bartoszek, A., Walkowiak, D., Bartoszek, A., & Kardas, G. (2020). Mental well-being (depression, loneliness, insomnia, daily life fatigue) during COVID-19 related home-confinement—A study from Poland. *International Journal of Environmental Research and Public Health*, 17(20), 7417. <https://doi.org/10.3390/ijerph17207417>
- Bates, D., Maechler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, 67(1), 1–48. <https://doi.org/10.18637/jss.v067.i01>
- Brehm, J. W., & Self, E. A. (1989). The intensity of motivation. *Annual Review of Psychology*, 40(1), 109–131. <https://doi.org/10.1146/annurev.ps.40.020189.000545>
- Burr, D. A., & Samanez-Larkin, G. R. (2020). Advances in emotion-regulation choice from experience sampling. *Trends in Cognitive Sciences*, 24(5), 344–346. <https://doi.org/10.1016/j.tics.2020.02.008>
- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review*, 97, 19–35. <http://doi.org/10.1037/0033-295X.97.1.19>
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. Cambridge University Press. <http://doi.org/10.1017/CBO9781139174794>
- Carver, C. S., & Scheier, M. F. (2000). On the structure of behavioral self-regulation. In M. Boekaerts, P. B. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 41–84). Academic Press. <https://doi.org/10.1016/B978-012109890-2/50032-9>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49, 71–75. https://doi.org/10.1207/s15327752jpa4901_13
- Eldesouky, L., & English, T. (2019). Regulating for a reason: Emotion regulation goals are linked to spontaneous strategy use. *Journal of Personality*, 87(5), 948–961. <https://doi.org/10.1111/jopy.12447>
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175–191. <https://doi.org/10.3758/BF03193146>
- Ford, B. Q., Gross, J. J., & Gruber, J. (2019). Broadening our field of view: The role of emotion polyregulation. *Emotion Review*, 11(3), 197–208.
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, 84(2), 365–376. <https://doi.org/10.1037/0022-3514.84.2.365>
- Geeraerts, J., & Kuppens, P. (2020). Investigating careless responding detection techniques in experience sampling methods (ESM). Research Group of Quantitative Psychology and Individual Difference (KU Leuven). osf.io/d798j
- 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>
- Gollwitzer, P. M. (1990). Action phases and mind-sets. In E. T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 53–92). Guilford Press.
- Grahek, I., Frömer, R., Prater Fahey, M., & Shenhav, A. (2023). Learning when effort matters: Neural dynamics underlying updating and adaptation to changes in performance efficacy. *Cerebral Cortex*, 33(5), 2395–2411. <https://doi.org/10.1093/cercor/bhac215>
- 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>
- Gutentag, T., & Tamir, M. (2022). Putting effort into emotion regulation: Manipulating desirability and motivational strength. *Affective Science*, 3, 878–893. <https://doi.org/10.1007/s42761-022-00155-0>
- Hollenbeck, J. R., Williams, C. R., & Klein, H. J. (1989). An empirical examination of the antecedents of commitment to difficult goals. *Journal of Applied Psychology*, 74(1), 18–23. <https://doi.org/10.1037/0021-9010.74.1.18>
- Inzlicht, M., Shenhav, A., & Olivola, C. Y. (2018). The effort paradox: Effort is both costly and valued. *Trends in Cognitive Sciences*, 22(4), 337–349. <https://doi.org/10.1016/j.tics.2018.01.007>
- 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>
- Kaspi, L., Hu, D., Vishkin, A., Chentsova-Dutton, Y., Miyamoto, Y., Cieciuch, J., Cohen, A., Uchida, Y., Kim, M., Wang, X., Qiu, J., Riediger, M., Raters, A., Hanoch, Y., & Tamir, M. (2024). Motivated to feel better and doing something about it: Cross-cultural differences in motivated emotion regulation during COVID-19. *Emotion*. Advance online publication. <https://pureportal.coventry.ac.uk/en/publications/motivated-to-feel-better-and-doing-something-about-it-cross-cultu>
- Kim, E., Bhawe, D. P., & Glomb, T. M. (2013). Emotion regulation in workgroups: The roles of demographic diversity and relational work context. *Personnel Psychology*, 66(3), 613–644. <https://doi.org/10.1111/peps.12028>
- Klein, H. J., Wesson, M. J., Hollenbeck, J. R., & Alge, B. J. (1999). Goal commitment and the goal-setting process: Conceptual clarification and empirical synthesis. *Journal of Applied Psychology*, 84(6), 885–896. <https://doi.org/10.1037/0021-9010.84.6.885>

- Klein, H. J., Wesson, M. J., Hollenbeck, J. R., Wright, P. M., & DeShon, R. P. (2001). The assessment of goal commitment: A measurement model meta-analysis. *Organizational Behavior and Human Decision Processes*, 85(1), 32–55. <https://doi.org/10.1006/obhd.2000.2931>
- Koval, P., Hinton, J., Dozo, N., Gleeson, J., Alvarez, M., Harrison, A., Vu, D., Susanto, R., Jayaputera, G., & Sinnott, R. (2019). *SEMA3: Smartphone ecological momentary assessment, version 3* [Computer software]. <http://www.sema3.com>
- Kruglanski, A. W., Chernikova, M., Rosenzweig, E., & Kopetz, C. (2014). On motivational readiness. *Psychological Review*, 121(3), 367–388. <https://doi.org/10.1037/a0037013>
- Kruglanski, A. W., Shah, J. Y., Fishbach, A., Friedman, R., Chun, W., & Sleeth-Keppler, D. (2002). A theory of goal-systems. In M. P. Zanna (Ed.), *Advances in experimental social psychology*. Academic Press. [https://doi.org/10.1016/S0065-2601\(02\)80008-9](https://doi.org/10.1016/S0065-2601(02)80008-9)
- Kuznetsova, A., Christensen, R. H. B., & Brockhoff, P. B. (2013, July). Different tests on lmer objects (of the lme4 package): Introducing the lmerTest package. In *The R user conference, user!* (Vol. 10, No. 30, p. 66). University of Castilla-La Mancha. <https://doi.org/10.18637/jss.v082.i13>
- Liu, D. Y., & Thompson, R. J. (2017). Selection and implementation of emotion regulation strategies in major depressive disorder: An integrative review. *Clinical Psychology Review*, 57, 183–194. <https://doi.org/10.1016/j.cpr.2017.07.004>
- Locke, E. A., & Latham, G. P. (2013). *New developments in goal setting and task performance*. <https://doi.org/10.4324/9780203082744>
- Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin*, 108(2), 171–194. <https://doi.org/10.1037/0033-2909.108.2.171>
- Mauss, I. B., Bunge, S. A., & Gross, J. J. (2007). Automatic emotion regulation. *Social and Personality Psychology Compass*, 1, 146–167. <https://doi.org/10.1111/j.1751-9004.2007.00005.x>
- Mauss, I. B., Tamir, M., Anderson, C. L., & Savino, N. S. (2011). Can seeking happiness make people unhappy? Paradoxical effects of valuing happiness. *Emotion*, 11(4), 807–815. <https://doi.org/10.1037/a0022010>
- Mehta, A., Formanowicz, M., Uusberg, A., Uusberg, H., Gross, J. J., & Suri, G. (2020). The regulation of recurrent negative emotion in the aftermath of a lost election. *Cognition and Emotion*, 34(4), 848–857. <https://doi.org/10.1080/02699931.2019.1682970>
- Millgram, Y., Huppert, J. D., & Tamir, M. (2020). Emotion goals in psychopathology: A new perspective on dysfunctional emotion regulation. *Current Directions in Psychological Science*, 29(3), 242–247. <https://doi.org/10.1177/0963721420917713>
- Millgram, Y., Sheppes, G., Kalokerinos, E., Kuppens, P., & Tamir, M. (2019). Do the ends dictate the means in emotion regulation? *Journal of Experimental Psychology: General*, 148(1), 80–96. <https://doi.org/10.1037/xge0000477>
- Moser, J. S., Dougherty, A., Mattson, W. I., Katz, B., Moran, T. P., Guevarra, D., & . . . Kross, E. (2017). Third-person self-talk facilitates emotion regulation without engaging cognitive control: Converging evidence from ERP and fMRI. *Scientific Reports*, 7(1), 4519. <https://doi.org/10.1111/aphw.12103>
- Nunes, P., Williams, S., Sa, B., & Stevenson, K. (2011). A study of empathy decline in students from five health disciplines during their first year of training. *International Journal of Medical Education*, 2, 12–17. <https://doi.org/10.5116/ijme.4d47.ddb0>
- Paschke, L. M., Dörfel, D., Steimke, R., Trempler, I., Magrabi, A., Ludwig, V. U., & . . . Walter, H. (2016). Individual differences in self-reported self-control predict successful emotion regulation. *Social Cognitive and Affective Neuroscience*, 11(8), 1193–1204. <https://doi.org/10.1093/scan/nsw036>
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385–401. <https://doi.org/10.1177/014662167700100306>
- Richter, M., Gendolla, G. H. E., & Wright, R. A. (2016). Three decades of research on motivational intensity theory: What we have learned about effort and what we still don't know. In A. J. Elliot (Ed.), *Advances in motivation science* (pp. 149–186). Elsevier Academic Press. <https://doi.org/10.1016/bs.adms.2016.02.001>
- Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology*, 39(3), 472–480. <https://doi.org/10.1037//0022-3514.39.3.472>
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069–1081. <https://doi.org/10.1037/0022-3514.57.6.1069>
- Soto, C. J., & John, O. P. (2017). The next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology*, 113(1), 117–143. <https://doi.org/10.1037/pspp0000096>
- Suri, G., Whittaker, K., & Gross, J. J. (2015). Launching reappraisal: It's less common than you might think. *Emotion*, 15(1), 73–77. <https://doi.org/10.1037/emo0000011>
- Tamir, M. (2016). Why do people regulate their emotions? A taxonomy of motives in emotion regulation. *Personality and Social Psychology Review*, 20, 199–222. <https://doi.org/10.1177/1088868315586325>
- 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., Ford, B. Q., & Gilliam, M. (2013). Evidence for utilitarian motives in emotion regulation. *Cognition & Emotion*, 27(3), 483–491. <https://doi.org/10.1080/02699931.2012.715079>
- Tamir, M., & Millgram, Y. (2017). Motivated emotion regulation: Principles, lessons, and implications of a motivational analysis of emotion regulation. In A. J. Elliot (Ed.), *Advances in motivation science* (pp. 207–247). <https://doi.org/10.1016/bs.adms.2016.12.001>
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72(2), 271–324. <https://doi.org/10.1111/j.0022-3506.2004.00263.x>
- Thürmer, J. L., Scheier, M. F., & Carver, C. S. (2020). On the mechanics of goal striving: Experimental evidence of coasting and shifting. *Motivation Science*, 6(3), 266–274. <https://doi.org/10.1037/mot0000157>

- Troy, A. S., & Mauss, I. B. (2011). Resilience in the face of stress: Emotion regulation as a protective factor. *Resilience and Mental Health: Challenges Across the Lifespan*, 1(2), 30–44. <https://doi.org/10.1017/CBO9780511994791.004>
- Webb, T. L., Miles, E., & Sheeran, P. (2012). Dealing with feelings: A meta-analysis of the effectiveness of strategies derived from the process model of emotion regulation. *Psychological Bulletin*, 138, 775–808. <https://doi.org/10.1037/a0027600>
- Wright, R. A. (1996). Brehm's theory of motivation as a model of effort and cardiovascular response. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 424–453). Guilford.
- Zhang, Y., & Huang, S. C. (2010). How endowed versus earned progress affects consumer goal commitment and motivation. *Journal of Consumer Research*, 37(4), 641–654. <https://doi.org/10.1086/655417>