

Emotion

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How Might Interpersonal Emotion Regulation Shape Well-Being? A Naturalistic Investigation of Its Link to Subsequent Affect and Intrinsic Emotion Regulation

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Intrinsic interpersonal emotion regulation (IER; the process of using others' help to regulate one's own emotions) is an important form of emotion regulation (ER) that has implications for everyday well-being. To further clarify how IER shapes well-being, we investigated how intrinsic IER predicts one's subsequent affect and ER efforts among 215 adults, with and without major depressive disorder, a disorder characterized by ER deficits. Via 2 weeks of ecological momentary assessment, participants reported on their recent intrinsic IER experiences, including whether they engaged in intrinsic IER via social sharing and perceived IER outcomes (problem, relationship). They also reported on their current negative affect (NA), positive affect (PA), and ER strategy use, which occurred subsequent to IER exchanges. Data collection took place between 2017 and 2019. We conducted multilevel modeling to examine within-person associations between recent intrinsic IER and subsequent NA, PA, and ER strategy use. Overall, findings suggest that engagement in intrinsic IER is associated with subsequent affect and ER efforts. Intrinsic IER engagement predicted higher NA and lower PA, but feeling better about the problem shared following IER predicted lower NA and higher PA. Intrinsic IER engagement predicted one's subsequent ER strategy use (i.e., use more social sharing and reappraisal; use less suppression). The findings generally did not vary by major depressive disorder status. Our work clarifies how intrinsic IER relates to emotion experience and regulation over time in naturalistic settings.


Keywords: interpersonal emotion regulation, social sharing, momentary affect, depression, ecological momentary assessment

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People engage in emotion regulation (ER) to influence their emotions (i.e., intrinsic ER) in various ways, either by regulating emotions on their own (i.e., intrapersonal ER; Gross, 2015) or by regulating through social interactions (i.e., intrinsic interpersonal ER, hereafter interpersonal emotion regulation [IER] for short; Zaki & Williams, 2013). Growing research suggests that IER is routinely employed in everyday life (Bellingtier et al., 2022; Liu et al., 2021; Tran et al., 2023). People who report seeking IER more frequently and benefiting from IER more tend to report better emotional,

social, and psychological well-being (Williams et al., 2018). IER is also thought to have implications in the etiology of psychopathology, particularly disorders characterized by impairments in emotional functioning, such as major depressive disorder (MDD; Hofmann, 2014; Liu et al., 2024; Marroquín, 2011). As MDD is characterized by emotional disturbances (American Psychiatric Association, 2013; Houben et al., 2015), difficulties regulating emotions (Joormann & Stanton, 2016; Liu & Thompson, 2017), and interpersonal deficits (Hames et al., 2013), IER may have

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differential impacts on well-being among those with versus without MDD. Despite the growing evidence suggesting the implications of IER for well-being and psychopathology, it remains poorly understood *how* IER may be linked to well-being in daily life and whether these processes manifest differently among those with psychopathology such as MDD. To address this gap, we investigated how intrinsic IER initiated via social sharing is associated with one's subsequent (a) affect and (b) ER—two areas in which people with MDD exhibit impairments in functioning—among adults with current and remitted MDD and healthy controls.

IER and Subsequent Momentary Affect

One way IER may impact well-being is through shaping one's momentary affect. Though IER can be initiated by a goal to worsen affect (i.e., contra-hedonic goals; Niven et al., 2009), naturalistic studies found that almost all (over 95%) instances of IER, regardless of whether one utilizes IER to regulate their own or someone else's emotions, involved reported goals of improving (vs. worsening) affect (i.e., prohedonic goals; Tran et al., 2023). Thus, in most cases, engagement in IER has the potential to directly benefit one's well-being by enhancing their affect. However, IER may not always end up improving one's affect, even with a goal of improving affect (e.g., when involving rumination or venting; Marr et al., 2022; Rimé et al., 2020). Thus, instead of IER engagement itself, one's emotional experience after regulating with a partner may depend on their perceived outcomes of the IER experience. In the context of IER initiated via sharing negative emotional experiences, the target may feel better about the original problem shared (i.e., problem outcome) or may experience greater emotional closeness with the regulator (i.e., relationship outcome) following IER (Rimé et al., 2020). In turn, experiencing positive problem and relationship outcomes is likely to enhance the target's emotional well-being.

IER and Subsequent Momentary Affect in MDD

Due to interpersonal impairments in MDD (Kupferberg et al., 2016), how IER is associated with subsequent affect may differ between those with and without the disorder. MDD is associated with elevated social anhedonia, a phenomenon characterized by reduced need for and enjoyment of social interactions (Blanchard et al., 2001; Stuhmann et al., 2013). As such, the emotional benefits of IER may be dampened among those with (vs. without) MDD. Additionally, people with MDD often engage in interpersonal processes such as rumination and venting that result in poorer emotional outcomes (Marr et al., 2022; Rimé et al., 2020; Rose et al., 2007; Starr, 2015), providing another avenue through which IER may benefit those with MDD less than healthy controls. Further, those with MDD may be more prone to engaging in rumination following the IER experience, rehashing what occurred during the IER interaction and fearing burdening the sharing partner (Coyne & Calarco, 1995), which may contribute to worsened affect. However, other evidence suggests that the impact of IER does not vary by depressive symptoms or MDD status (Levy-Gigi & Shamay-Tsoory, 2017; Liu et al., 2024). Similarly, Marroquín (2011) theorized that IER represents an important mechanism through which social support can benefit the well-being of those with MDD. Consistent with this theorizing, in an earlier investigation with the

current sample (Liu et al., 2024), people with current MDD reported greater improvement in problem and relationship outcomes in response to the IER interaction partner showing affection relative to healthy controls. This finding provided initial evidence that IER benefits people with MDD sometimes to a greater extent than it does for those without MDD, highlighting the need to better understand if and how IER is uniquely associated with well-being among people with MDD.

IER and Subsequent Intrinsic ER

Aside from shaping one's emotional experience, IER may impact well-being by influencing whether and how one intrinsically regulates their emotions. Emerging evidence indicates that people often take multiple ER approaches within an emotion episode, a phenomenon known as polyregulation (Ford et al., 2019; Hartmann et al., 2024). In line with this theorizing, following IER, people may continue to use various means to regulate emotion (e.g., one may continue to regulate emotions related to the same emotion episode by trying to accept their emotions after engaging in IER). Additionally, IER may also influence how people subsequently regulate emotions related to different emotional episodes. For instance, one may learn helpful reappraisal skills from an IER partner and subsequently use them when regulating emotion in another emotion episode.

The main avenue through which researchers have investigated associations between IER and intrinsic ER is in parent-child relationships. Parents' reactions to and discussions of children's emotions influence children's intrinsic ER skills and behaviors (e.g., Milojevich et al., 2020; Mirabile et al., 2009; Morelen & Suveg, 2012; for reviews, see Morris et al., 2017; R. A. Thompson, 2014). For example, children tend to show adaptive engagement with their emotions (e.g., positive reframing) following parents' supportive engagement with their emotions (e.g., encouraging sharing, comforting; Morelen & Suveg, 2012). However, parents' unsupportive responses to children's emotions are associated with ER difficulties and psychological (i.e., depression) outcomes (Hale et al., 2023; Schwartz et al., 2018). Lagging behind this child development literature, the adult ER literature has only recently begun to recognize the interrelatedness of IER and intrinsic ER processes (e.g., Horn et al., 2021; Williams et al., 2018). Existing adult evidence has mainly focused on the relative effectiveness of each type (Levy-Gigi & Shamay-Tsoory, 2017; Sahi et al., 2025; Wenzel et al., 2020) and how intrinsic ER may influence one's IER behaviors (Fearey et al., 2021; Horn et al., 2021; Swerdlow & Johnson, 2022). As ER can be a social process, IER has the potential to shape how one regulates their emotions.

In line with the developmental literature (Morris et al., 2017; R. A. Thompson, 2014), IER experiences in adulthood may prompt individuals to engage with or accept their emotions (i.e., using engagement strategies; Brown et al., 2021; Naragon-Gainey et al., 2017), such as savoring (*intrinsic savoring*), socially sharing (*intrinsic social sharing*), accepting one's emotions (*intrinsic acceptance*), or thinking differently about a situation (*intrinsic reappraisal*). Conversely, following IER interactions, individuals may be less likely to avoid emotional engagement (i.e., use disengagement strategies; Brown et al., 2021; Naragon-Gainey et al., 2017), such as suppressing one's emotional expressions (*intrinsic*

suppression) and distracting oneself (*intrinsic distraction*). It is vital to clarify how IER is associated with one's subsequent intrinsic ER behaviors, which could represent another pathway through which IER influences well-being and holds implications for psychopathology characterized by emotion dysregulation.

IER and Subsequent Intrinsic ER in MDD

Although everyone has the potential to benefit from IER, the impact of IER on one's intrinsic ER may be different for people with MDD, who experience emotional disturbances, interpersonal impairment, and cognitive deficits (Hofmann, 2014; Marroquín, 2011). Specifically, people with MDD face difficulties with ER, such that they often use engagement strategies to a lesser extent and use disengagement strategies to a greater extent (Aldao et al., 2010; Joormann & Stanton, 2016; Liu & Thompson, 2017; Rottenberg, 2017; Visted et al., 2018). Additionally, depressive symptomatology is associated with less flexible ER, which consists of deficits in detecting environmental cues to regulate (context sensitivity), a dearth of available ER strategies (repertoire), and diminished capacity to modify behavior based on evaluations of strategy effectiveness (feedback responsiveness; Bonanno & Burton, 2013; Chen et al., 2024). As such, people with MDD may find themselves "stuck" in a pattern of inflexible ER, routinely choosing strategies that make them feel worse and not adjusting their use of intrinsic ER strategies based on their IER experiences. Thus, it may be that IER will impact those with MDD's intrinsic ER less than healthy controls, as those with MDD will continue to choose the strategies they are used to. However, this inflexibility may be attributed to spontaneous strategy choices, as recent research has found that people with MDD choose the same strategies as healthy controls when given prohedonic instructions as opposed to no instructions (Millgram et al., 2023). In turn, engaging in ER with a social partner may expose people with MDD to strategies that are new to, or less used by, them and provide them with "instructions" on how to implement these strategies skillfully (Marroquín, 2011). Thus, there may be a stronger relationship between IER and intrinsic ER for those with MDD compared to healthy controls who need the priming and "instructions" to a lesser extent.

The Present Study

The current research was a secondary analysis of a parent research project on emotional processes in MDD. Taking a naturalistic approach using ecological momentary assessment (EMA), we investigated how intrinsic IER was associated with subsequent affect and intrinsic ER efforts in adults with current MDD, with remitted MDD, and with no history of psychiatric disorders (healthy controls). We included adults with current MDD and those whose MDD was in remission to clarify whether any unique processes in MDD are episode-specific or may reflect vulnerability factors for (or consequences of) MDD. Based on research that people frequently regulate emotion via social sharing (Bellinquier et al., 2022; Williams et al., 2018) and regulate emotions more frequently and effortfully in negative than in positive situations (English et al., 2017), we focused on intrinsic IER initiated via sharing negative emotional experiences.

We had two primary aims. First, we examined associations between the intrinsic IER and subsequent affect (*Aim 1*). For Aim 1,

we first tested whether engaging in intrinsic IER was associated with subsequent negative affect (NA) and positive affect (PA). Next, we tested whether IER outcomes (i.e., problem and relationship outcomes) predicted subsequent affect, hypothesizing that better IER outcomes would be associated with lower NA and higher PA.

Second, we investigated how intrinsic IER was associated with subsequent intrinsic ER efforts (*Aim 2*). As a preliminary analysis of Aim 2, we first examined whether engaging in IER was associated with subsequent engagement in intrinsic ER (i.e., whether or not one chooses to regulate their emotion). We then examined how engaging in IER predicted one's subsequent use of specific intrinsic ER strategies. We examined six intrinsic ER strategies that represent engagement with (intrinsic savoring, social sharing, acceptance, and reappraisal) or disengagement from (intrinsic suppression and distraction) emotions (Brown et al., 2021; Naragon-Gainey et al., 2017). Inclusion of social sharing (an intrinsic IER strategy) and five other intrapersonal ER strategies allows us to examine how intrinsic IER engagement was associated with one's regulation of their own emotions in individual and social contexts. Considering the dearth of literature on the socialization of ER among adults and the large number of associations involved, we did not have a priori hypotheses for Aim 2. Finally, we explored whether Aim 1 and 2 findings varied by MDD status, with no a priori hypotheses, given mixed existing evidence that would suggest competing directions of the moderating effects of MDD on the associations tested in Aims 1 and 2.

Method

Participants

The current sample consisted of 215 adult participants (66.0% women, 34.0% men; $M_{\text{age}} = 44.3$ years, $SD_{\text{age}} = 16.1$ years; 2.8% Asian, 19.5% Black, 7.0% multiracial, 0.5% Native American or Alaskan Native, 69.8% White, 0.5% did not report their racial/ethnic identity). The sample was largely representative of the geographic area in which the study was conducted with regard to its racial/ethnic composition. Participants included adults with current MDD ($n = 48$) or remitted MDD ($n = 80$) and healthy controls ($n = 87$) as assessed by the *Structured Clinical Interview for DSM-5.0* (First et al., 2015). The current MDD group was composed of individuals who were experiencing a current major depressive episode as part of MDD or persistent depressive disorder. Those in the remitted MDD group had experienced at least two major depressive episodes or persistent depressive episodes, with no current depressive episodes. The healthy control group included participants who had no history of depressive or anxiety disorders. Individuals with current comorbid anxiety disorders were eligible for the two MDD groups because MDD has high rates of comorbidity with anxiety disorders (Kessler et al., 2003). Participants were excluded if they did not speak English as a primary language, reported severe difficulty hearing or seeing, did not meet criteria for one of the three groups, or met criteria for bipolar I or II disorder or current or past psychotic symptoms. Table 1 summarizes participant demographic and clinical characteristics by group. Data collection took place between 2017 and 2019, and all study procedures were approved by the Washington University in St. Louis institutional review board.

Table 1*Participant Demographic and Clinical Characteristics by MDD Group*

| Variable | Current MDD (<i>n</i> = 48) | Remitted MDD (<i>n</i> = 80) | Healthy control (<i>n</i> = 87) | Difference test |
|--|---------------------------------|----------------------------------|-------------------------------------|-------------------------------|
| Demographics | | | | |
| Gender (% women) | 72.9% | 71.3% | 57.5% | $\chi^2(2) = 4.83, p = .09$ |
| Age (<i>M, SD</i>) | 42.0 (14.2) | 44.3 (16.3) | 45.5 (16.9) | $F(2, 212) = 0.72, p = .49$ |
| Race (%) | | | | $\chi^2(6) = 4.91, p = .56$ |
| African American | 20.8% | 18.8% | 19.5% | |
| Asian | 4.2% | 0% | 4.6% | |
| Caucasian | 70.8% | 72.5% | 66.7% | |
| Other/multiracial | 4.2% | 8.8% | 9.2% | |
| Not reported | 0% | 1.2% | 0% | |
| Education (%) | | | | $\chi^2(6) = 7.96, p = .24$ |
| High school or lower | 12.5% | 8.8% | 9.2% | |
| Some college | 31.2% | 21.2% | 23.0% | |
| Bachelor's degree | 39.6% | 28.8% | 32.2% | |
| Professional degree | 16.7% | 40.0% | 33.3% | |
| Marital status (%) | | | | $\chi^2(6) = 7.87, p = .25$ |
| Never married | 33.3% | 31.6% | 29.1% | |
| Married/cohabiting | 29.2% | 43.0% | 47.7% | |
| Separated/divorced | 31.2% | 24.1% | 22.1% | |
| Widowed | 6.2% | 1.3% | 1.2% | |
| In relationship (%) | 68.9% | 63.6% | 74.1% | $\chi^2(2) = 2.01, p = .37$ |
| Clinical characteristics (<i>M, SD</i>) | | | | |
| Total number of depressive episodes | 11.8 (21.8) _a | 5.14 (14.9) _b | 0 (0) _c | $F(2, 209) = 11.37, p < .001$ |
| Total duration of depressive episodes (months) | 71.9 (82.5) _a | 30.0 (41.9) _b | 0 (0) _c | $F(2, 211) = 11.37, p < .001$ |
| At least one current anxiety disorder (%) | 70.8% _a | 18.8% _b | 0% _c | $\chi^2(2) = 89.4, p < .001$ |
| Current generalized anxiety disorder (%) | 58.3% _a | 10.0% _b | 0% _c | $\chi^2(2) = 79.7, p < .001$ |
| Current social anxiety disorder (%) | 43.8% _a | 13.8% _b | 0% _c | $\chi^2(2) = 46.9, p < .001$ |
| Current panic disorder (%) | 14.6% _a | 0% _b | 0% _b | $\chi^2(2) = 25.2, p < .001$ |
| Current agoraphobia (%) | 10.4% _a | 0% _b | 0% _b | $\chi^2(2) = 17.8, p < .001$ |

Note. Different subscripts within a row indicate significant ($p < .05$) group differences. MDD = major depressive disorder.

Procedure

In a laboratory session, participants provided informed consent and completed self-report measures and modules of the *Structured Clinical Interview for DSM-5.0* including A: Mood Episodes, Cyclothymic Disorder, and Persistent Depressive Disorder, B: Psychotic and Associated Symptoms, and F: Anxiety Disorders (assessing generalized anxiety disorder, social anxiety disorder, panic disorder, and agoraphobia). Diagnostic interviews were conducted by one of the three advanced clinical psychology doctoral students. The senior author, a licensed clinical psychologist, was available for consultation for diagnostic issues. Diagnostic disagreements were discussed at weekly group meetings supervised by the senior author. The first 30 interviews and 18 randomly chosen subsequent interviews were used to calculate interrater reliability for current or past MDD and persistent depressive disorder diagnoses, each of which was perfect ($\kappa = 1.0$).

After the diagnostic interview, eligible participants completed a 30-min semistructured EMA tutorial with an undergraduate research assistant, which includes completing a practice EMA survey to ensure comprehension. Participants chose a 15-hr block during which they would receive surveys during the 2 weeks of EMA. Then, beginning the day after their laboratory session, participants completed five surveys a day on their own iPhone or an iPod Touch 4 (Apple, Seattle, Washington) provided by the research team. Surveys were delivered at semirandom times, which occurred randomly within each of the five 3-hr time windows during their

15-hr survey period (mean time between surveys = 3 hr, 0 min, and 18 s; $SD = 1$ hr, 1 min, 35 s) using the iPhone operating system mobile application Status/Post, designed by Christopher Metts, MD. In total, participants received 70 surveys, and we collected 11,191 surveys. Participants on average completed 74.8% ($SD = 18.3\%$) of the surveys, and compliance rates did not differ between groups (current MDD: $M = 72.8\%$, $SD = 19.0\%$; remitted MDD: $M = 75.7\%$, $SD = 16.9\%$; healthy control: $M = 74.3\%$, $SD = 19.6\%$), $F(2, 212) = 0.30, p = .74$.

EMA Measures

Recent Intrinsic IER Engagement

At each survey, participants reported on their intrinsic IER experience *since the last survey* by answering the question, "Since the last beep, have you shared any negative experiences or feelings with anyone?"¹ At the EMA tutorial, participants were instructed to answer whether they had shared any negative experiences or feelings since the last survey they completed. If there was more than

¹ We describe IER-related EMA measures first in this section because IER ("since the last beep") temporally occurred before current affect and intrinsic IER ("at the time of the beep") for each EMA survey. However, the order in which the questions were presented to participants in each EMA survey was as follows: current affect, current intrinsic IER engagement and strategies, and recent IER engagement, perceived extrinsic IER strategies, and IER outcomes.

one instance of sharing since the previous survey, they should report on the interaction that was the most important to them. Engaging in intrinsic IER was indicated by whether they answered “yes,” in which case participants were then prompted to answer additional questions about their IER experience. Participants were not asked any additional questions about their IER experience if they answered “no.”

Recent IER Outcomes

Participants reported on the outcomes of their recent IER interaction if they reported having engaged in intrinsic IER *since the last survey*. We assessed two IER outcomes: problem and relationship outcomes. To assess the problem outcome, participants answered the question, “How did you feel about your original problem after the interaction?” Participants indicated their answers on a sliding scale from “much worse” to “much better” with “same” at the midpoint. We assessed relationship outcome with the question, “How did your closeness to this person change after the interaction?” Participants responded using a sliding scale from “much less close” to “much closer” with “same” at the midpoint. For each scale, the participant’s response was automatically quantified with scores ranging from -5 (*much worse* or *much less close*) to $+5$ (*much better* or *much closer*), with 0 representing *same*.

Current Affect

Participants also reported on their *current* NA and PA in response to the question “I felt [emotion] at the time of the beep.” Six negative (boredom, sluggishness, sadness, frustration, nervousness, anger) and six positive emotions (happiness, relaxation, contentment, calmness, excitedness, enthusiasm) were randomly presented at each survey. Participants responded using a 5-point Likert scale from 0 (*not at all*) to 4 (*extremely*). For each survey, composite scores for NA and PA were obtained by averaging items for NA and PA, respectively. Internal consistency for NA ($\text{NA}\omega_{\text{within}} = .63$, $\text{NA}\omega_{\text{between}} = .89$) and PA ($\text{PA}\omega_{\text{within}} = .82$, $\text{PA}\omega_{\text{between}} = .92$) ranged from acceptable to excellent.

Current Intrinsic ER Engagement and Strategies

Intrinsic ER engagement was assessed in each EMA survey via two questions asking participants whether and how they were trying to influence their NA (or PA): “At the time of the beep, how were you trying to influence your NEGATIVE (POSITIVE) emotions?” For each question, participants could choose one from the following: “increase them”; “decrease them”; “maintain them”; and “I was not trying to influence them.” Participants were considered to be engaging in intrinsic ER of NA (or PA) if they indicated they were increasing, decreasing, or maintaining NA (or PA). They were considered to be engaging in intrinsic ER (of any emotion) if they were engaging in intrinsic ER of NA or PA, in which case they would then report their use of intrinsic ER strategies.

To assess use of intrinsic ER strategies, participants responded to six items asking about how they influenced their emotions “at the time of the beep.” Using a 5-point Likert scale (0 = *not at all*, 4 = *extremely*), participants indicated the extent to which they used the following six strategies: “I shared feelings with others” (intrinsic social sharing); “I accepted the situation” (intrinsic acceptance);

“I savored the moment” (intrinsic savoring); “I thought about the situation differently” (intrinsic reappraisal); “I kept emotions to myself” (intrinsic expressive suppression); and “I distracted myself” (intrinsic distraction). These items were selected based on prior work assessing everyday ER strategy use using EMA (e.g., Brans et al., 2013; Heij & Cheavens, 2014), one of which assesses use of an intrinsic IER strategy (i.e., intrinsic social sharing), and the other five assess use of intrapersonal ER strategies.

Analytic Plan

We conducted multilevel linear (for continuous outcomes) or logistic (for binary outcomes) modeling, with surveys (Level 1) nested with participants (Level 2), using R statistical software (R Core Team, 2021). All of our analyses used residualized change models, where we examined how a predictor at $t - 1$ predicts an outcome at t , while controlling for the outcome at $t - 1$. The use of residualized change models allows us to clarify the temporal relationship between IER at one timepoint and intrinsic ER at the next timepoint. For *Aim 1*, to test the link between intrinsic IER engagement and subsequent affect, we entered intrinsic IER engagement (uncentered) and NA (or PA) intensity at the previous survey (within day) as Level 1 predictors and person mean of intrinsic IER engagement (percent of the time the person engaged in intrinsic IER engagement out of all surveys they completed) as a Level 2 predictor to predict Level 1 current NA (or PA) intensity (see Model 1a). Of note, for analyses that involve intrinsic IER engagement, we included person means of intrinsic IER engagement because we did not center the intrinsic IER engagement variable, and including person means at Level 2 would allow us to obtain Level 1 effect of this variable with its Level 2 effect partialled out (Enders & Tofghi, 2007).

Model 1a:

Level 1 Model:

$$\text{NA (PA) intensity}_{(t)ij} = \beta_{0j} + \beta_{1j} \text{NA (PA) intensity}_{(t-1)} + \beta_{2j} \text{intrinsic IER engagement}(t) + r_{ij}$$

Level 2 Model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} \text{intrinsic IER engagement mean} + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

Of interest to our research question is β_{2j} , which indicates the difference in residualized change in momentary NA when a person engaged in intrinsic IER compared to when they did not engage in intrinsic IER since the last survey.

To examine the associations between IER outcomes and subsequent affect, we simultaneously entered problem outcome and relationship outcome (both person-mean-centered) and NA (or PA) intensity at the previous survey (within day) at Level 1 to predict current NA (or PA); see Model 1b).

Model 1b:

Level 1 Model:

$$\text{NA (PA) intensity}_{(t)ij} = \beta_{0j} + \beta_{1j} \text{NA (PA) intensity}_{(t-1)} + \beta_{2j} \text{problem outcome}_{(t)} + \beta_{3j} \text{relationship outcome}_{(t)} + r_{ij}$$

Level 2 Model:

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

Of interest here are β_{2j} and β_{3j} , which indicate the degree to which the problem and relationship outcomes, respectively, of the recent IER interaction were associated with residualized change in NA (or PA) since the past survey.

For *Aim 2*, because people can only engage in ER strategies if they have a goal to regulate emotion, we first conducted preliminary analysis to examine whether engagement in intrinsic IER predicted subsequent intrinsic ER by using Level 1 intrinsic IER engagement (uncentered) and Level 2 person means of IER engagement to predict Level 1 intrinsic ER engagement. For *Aim 2* main analyses, to examine the link between intrinsic IER engagement and subsequent intrinsic ER strategies, we used Level 1 intrinsic IER engagement (uncentered) and Level 2 person means of intrinsic IER engagement to predict Level 1 use of each intrinsic ER strategy (see Model 2). Similar to *Aim 1*, all *Aim 2* analyses also controlled for the respective outcome variable assessed at the prior survey (within day) as a predictor.

Model 2:

Level 1 Model:

$$\text{Intrinsic ER strategy}_{(t)ij} = \beta_{0j} + \beta_{1j} \text{intrinsic ER strategy}_{(t-1)} + \beta_{2j} \text{intrinsic IER engagement}_{(t)} + r_{ij}$$

Level 2 Model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} \text{intrinsic IER engagement mean} + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

Of interest to *Aim 2* was β_{2j} for each strategy, which represents the difference in residualized change in use of that strategy when a person engaged in intrinsic IER compared to when they did not engage in intrinsic IER since the last survey.

Finally, we examined whether findings for *Aims 1* and *2* vary by MDD status. We did so by adding dummy-coded Level 2 group variables and cross-level interactions between Level 2 group variables and all Level 1 predictors to each model. For models that include intrinsic IER engagement as a predictor, we also included interactions between group variables and person means of intrinsic IER engagement at Level 2 for similar reasons as stated above—to partial out the effect of Level 2 interactions from the cross-level interactions between group variables and intrinsic IER engagement (Enders & Tofighi, 2007).

Given the large number of analyses and the presence of exploratory analyses, we applied the Benjamini–Hochberg adjustments (Benjamini & Hochberg, 1995) to the p values of the effects of interest. Adjusted p values are reported in the Results section. Detailed procedures of how we applied the Benjamini–Hochberg adjustments as well as adjusted p values are included in Section 1 of the Supplemental Materials.

Transparency and Openness

The current research was a secondary analysis and was not preregistered. There was no a priori power analysis conducted for the research questions examined in the present study. For the present study, multilevel linear or logistic regressions were conducted for our analyses. Based on previous simulation studies, for multilevel linear regression models, a Level 2 sample size of at least 100 produces unbiased regression coefficients and variance components, even with an L1 sample size as low as five (Maas & Hox, 2005). For multilevel logistic regression models, a minimum sample size of 50 at both levels is recommended for producing valid estimates (Moineddin et al., 2007). Our Level 2 sample size is 215, which far exceeded recommended Level 2 sample sizes for multilevel linear and logistic regressions. Our Level 1 sample size depended on participants' compliance rate, as well as on participants' survey responses, as the display of some EMA questions was contingent on their response to earlier questions. Based on evaluating our data, our empirical Level 1 sample size ranged from 5.6 to 34 for our multilevel linear regression analyses and was 34 for our logistic regression analyses. Data missingness of each key study variable is reported in Table 2. To provide readers with a plausible range of population effect sizes, we provide 95% confidence intervals of all effect sizes of interest as based on existing recommendations (Hoenig & Heisey, 2001; Levine & Ensom, 2001; O'Keefe, 2007). Data and analysis code can be found at <https://osf.io/3kxrb/>. Data exclusion is described under the "Participants" subsection.

Results

Descriptive Analyses

Across the full sample, participants reported engaging in IER since the last survey in 14.9% ($SD = 12.1\%$, range = 0%–56.0%) of the surveys completed (i.e., roughly eight IER episodes per participant), with almost all participants ($n = 198$; 92.1%) engaging in IER at least once. Among all reported IER instances, most (61.7%) resulted in the participant feeling better about the problem (26.5% feeling the same and 11.9% feeling worse about the problem). About half of the IER instances (49.0%) resulted in the participant feeling closer to the sharing partner (42.7% feeling the same and 8.3% feeling less close to the sharing partner). Participants reported engaging in intrinsic IER in 31.1% ($SD = 25.3\%$, range = 0%–100%) of the surveys completed (i.e., roughly 16 ER episodes per participant), with nearly all participants ($n = 211$; 98.1%) engaging in intrinsic IER at least once. For convenience, descriptive data on key study variables (IER, momentary affect, and intrinsic IER) for the full sample and by MDD group are presented in Table 2. Please note that these data were reported previously in Liu et al. (2023), Liu et al. (2024), or R. J. Thompson et al. (2021). Regarding overall group differences in these constructs, the remitted MDD group was more likely to engage in IER than controls, $b = 0.40$, $SE = 0.16$, $p = .01$, with the current MDD group falling nonsignificantly in between, $ps > .15$. The current MDD group ($M = 0.73$, $SD = 0.41$) had higher NA than the remitted MDD group ($M = 0.44$, $SD = 0.29$), $b = 0.29$, $SE = 0.06$, $p < .001$, and healthy controls ($M = 0.34$, $SD = 0.35$), $b = 0.40$, $SE = 0.06$, $p < .001$. The remitted MDD group also had higher NA than healthy controls, $b = 0.11$, $SE = 0.05$, $p = .04$. The current MDD group ($M = 1.16$, $SD = 0.62$) reported significantly lower PA than the remitted MDD group ($M = 1.60$, $SD = 0.56$), $b = -0.44$,

Table 2
Descriptive Data of Key Study Variable for the Full Sample and by MDD Group

| Variable | Number of surveys with nonmissing data per participant | Full sample (<i>N</i> = 215) | Current MDD (<i>n</i> = 48) | Remitted MDD (<i>n</i> = 80) | Healthy control (<i>n</i> = 87) |
|----------------------------------|--|-------------------------------|------------------------------|-------------------------------|----------------------------------|
| Intrinsic IER | | | | | |
| Intrinsic IER engagement | 52.0 (13.0) | 14.9% (12.1%) | 15.3% (12.0%) | 17.0% (12.7%) | 12.7% (11.4%) |
| Problem outcome | 7.61 (6.21) | 1.44 (1.33) | 1.31 (1.61) | 1.61 (1.22) | 1.34 (1.23) |
| Relationship outcome | 7.60 (6.19) | 1.13 (1.27) | 1.42 (1.35) | 1.16 (1.32) | 0.91 (1.14) |
| Momentary affect | | | | | |
| Negative affect | 52.1 (12.9) | 0.47 (0.37) | 0.73 (0.41) | 0.44 (0.29) | 0.34 (0.35) |
| Positive affect | 52.1 (12.9) | 1.51 (0.62) | 1.16 (0.62) | 1.60 (0.56) | 1.61 (0.60) |
| Intrinsic ER | | | | | |
| Intrinsic ER engagement | 52.0 (12.9) | 31.1% (25.3%) | 40.4% (27.3%) | 27.0% (21.0%) | 29.7% (26.7%) |
| Intrinsic social sharing | 15.9 (13.6) | 0.76 (0.66) | 0.77 (0.63) | 0.83 (0.69) | 0.68 (0.66) |
| Intrinsic acceptance | 15.9 (13.6) | 2.12 (0.79) | 2.03 (0.80) | 2.22 (0.78) | 2.09 (0.79) |
| Intrinsic savoring | 15.9 (13.6) | 1.08 (0.81) | 1.03 (0.70) | 1.09 (0.74) | 1.10 (0.92) |
| Intrinsic reappraisal | 15.9 (13.6) | 1.14 (0.69) | 1.13 (0.62) | 1.15 (0.57) | 1.13 (0.82) |
| Intrinsic expressive suppression | 15.9 (13.6) | 2.03 (0.87) | 2.17 (0.89) | 2.06 (0.87) | 1.93 (0.85) |
| Intrinsic distraction | 15.9 (13.6) | 1.10 (0.71) | 1.34 (0.60) | 1.12 (0.64) | 0.95 (0.79) |

Note. Included are means (standard deviations) of aggregated person means (continuous variables) and percentages (binary variables). MDD = major depressive disorder; IER = interpersonal emotion regulation; ER = emotion regulation.

$SE = 0.11, p < .001$, and healthy controls ($M = 1.61, SD = 0.60$), $b = -0.46, SE = 0.11, p < .001$, who did not differ from each other, $b = 0.02, SE = 0.09, p = .85$. The current MDD group ($M = .40, SD = 0.27$) regulated emotion more frequently than those with remitted MDD ($M = .27, SD = 0.21$), $b = 0.72, SE = 0.28, p = .01$, and healthy controls ($M = .30, SD = 0.27$), $b = 0.68, SE = 0.28, p = .01$. As reported in Liu et al. (2023), groups significantly differed in one of the six intrinsic ER strategies assessed. Specifically, the current MDD group ($M = 1.34, SD = 0.60$) showed significantly more overall use of distraction than healthy controls ($M = 0.95, SD = 0.79$), $b = 0.40, SE = 0.13, p = .002$, with the remitted MDD group ($M = 1.12, SD = 0.64$) falling nonsignificantly in between, $ps > .15$.

Primary Analyses

Aim 1: Associations Between IER and Subsequent Affect

We first examined the associations between recent intrinsic IER engagement and subsequent affect (Table 3). Engaging in intrinsic IER was significantly associated with experiencing higher subsequent NA ($b = 0.22, SE = 0.02, p < .001$; pseudo $R^2 = .029$, 95% CI [.022, .038]) and lower subsequent PA ($b = -0.17, SE = 0.03, p < .001$; pseudo $R^2 = .007$, 95% CI [.003, .011]), controlling for NA or PA at the prior survey. Groups did not moderate the association between recent intrinsic IER engagement and current NA or PA (Table 3).

We then examined how IER outcomes were associated with subsequent affect (Table 4). As expected, better problem outcome following IER was significantly associated with lower subsequent NA ($b = -0.08, SE = 0.02, p < .001$; pseudo $R^2 = .033$, 95% CI [.015, .058]) and higher subsequent PA ($b = 0.10, SE = 0.02, p < .001$; pseudo $R^2 = .035$, 95% CI [.016, .059]), controlling for relationship outcome and NA or PA at the prior survey. When accounting for problem outcome, relationship outcome was not associated with subsequent NA ($b = 0.01, SE = 0.02, p = .70$; pseudo $R^2 = .000$, 95% CI [.000, .006]) or subsequent PA ($b = 0.02, SE = 0.02, p = .53$; pseudo $R^2 = .001$, 95% CI [.000, .007]). None of the associations between IER outcomes and subsequent affect varied by group (Table 4).

Aim 2: Associations Between IER and Subsequent Intrinsic ER

Preliminary analyses suggested that engaging in intrinsic IER was significantly associated with a subsequent higher likelihood of engaging in intrinsic ER ($b = 1.02, SE = 0.10, p < .001$; pseudo $R^2 = .015$, 95% CI [.010, .022]), controlling for intrinsic IER engagement at the prior survey. We then examined how intrinsic IER engagement was associated with the degree to which one used each intrinsic ER strategy when subsequently regulating emotion, controlling for the extent to which one used the intrinsic strategy at the previous survey. Intrinsic IER engagement was significantly associated with subsequently using more social sharing ($b = 1.12, SE = 0.11, p < .001$; pseudo $R^2 = .157$, 95% CI [.122, .195]), more reappraisal ($b = 0.27, SE = 0.09, p = .009$; pseudo $R^2 = .011$, 95% CI [.002, .026]), and less suppression ($b = -0.76, SE = 0.12, p < .001$; pseudo $R^2 = .055$, 95% CI [.032, .082]) when regulating emotion. However, intrinsic IER engagement did not predict how much one

Table 3*Associations Between IER Engagement and Subsequent NA and PA Across All Participants and by MDD Group*

| Predictor | Outcome: Momentary NA | | | | Outcome: Momentary PA | | | |
|--|-----------------------|-----------|----------|--|-----------------------|-----------|----------|--|
| | <i>b</i> | <i>SE</i> | <i>p</i> | Pseudo <i>R</i> ² [95% CIs] | <i>b</i> | <i>SE</i> | <i>p</i> | Pseudo <i>R</i> ² [95% CIs] |
| Panel A: Across all participants | | | | | | | | |
| Intercept | 0.31 | 0.04 | <.001 | | 1.51 | 0.07 | <.001 | |
| Lagged affect | 0.17 | 0.02 | <.001 | .048 [.039, .058] | 0.25 | 0.02 | <.001 | .060 [.050, .071] |
| IER engagement (Y/N) | 0.22 | 0.02 | <.001 | .029 [.021, .037] | −0.17 | 0.03 | <.001 | .007 [.003, .011] |
| IER engagement-mean | 0.77 | 0.20 | <.001 | .042 [.034, .052] | 0.35 | 0.34 | .48 | .002 [.000, .004] |
| Panel B: By group (reference group = healthy control) | | | | | | | | |
| Intercept | 0.19 | 0.05 | <.001 | | 1.51 | 0.10 | <.001 | |
| Lagged affect | 0.15 | 0.03 | <.001 | .006 [.003, .010] | 0.25 | 0.03 | <.001 | .022 [.016, .030] |
| IER engagement (Y/N) | 0.16 | 0.04 | <.001 | .006 [.003, .011] | −0.21 | 0.05 | <.001 | .004 [.002, .008] |
| IER engagement-mean | 0.89 | 0.31 | .005 | .019 [.013, .026] | 1.06 | 0.55 | .06 | .010 [.006, .015] |
| Current MDD (vs. healthy control) | 0.38 | 0.09 | <.001 | .044 [.035, .053] | −0.24 | 0.17 | .17 | .007 [.003, .011] |
| Remitted MDD (vs. healthy control) | 0.11 | 0.08 | .16 | .006 [.003, .010] | 0.13 | 0.15 | .39 | .003 [.001, .006] |
| Current MDD (vs. remitted MDD) | 0.26 | 0.10 | .007 | .020 [.014, .027] | −0.36 | 0.18 | .04 | .014 [.009, .020] |
| Lagged Affect × Current MDD (vs. Healthy Control) | 0.05 | 0.05 | .27 | .000 [.000, .002] | 0.02 | 0.04 | .59 | .000 [.000, .001] |
| Lagged Affect × Remitted MDD (vs. Healthy Control) | 0.02 | 0.04 | .65 | .000 [.000, .001] | −0.01 | 0.04 | .80 | .000 [.000, .001] |
| Lagged Affect × Current MDD (vs. Remitted MDD) | 0.03 | 0.04 | .46 | .000 [.000, .001] | 0.03 | 0.04 | .45 | .000 [.000, .001] |
| IER Engagement × Current MDD (vs. Healthy Control) | 0.13 | 0.06 | .24 | .001 [.000, .004] | 0.04 | 0.09 | .68 | .000 [.000, .001] |
| IER Engagement × Remitted MDD (vs. Healthy Control) | 0.06 | 0.05 | .45 | .000 [.000, .002] | 0.09 | 0.07 | .45 | .000 [.000, .002] |
| IER Engagement × Current MDD (vs. Remitted MDD) | 0.07 | 0.06 | .45 | .001 [.000, .002] | −0.05 | 0.09 | .67 | .000 [.000, .001] |
| IER Engagement-Mean × Current MDD (vs. Healthy Control) | −0.18 | 0.50 | .72 | .000 [.000, .002] | −1.46 | 0.89 | .10 | .006 [.003, .011] |
| IER Engagement-Mean × Remitted MDD (vs. Healthy Control) | −0.32 | 0.42 | .45 | .001 [.000, .004] | −1.14 | 0.75 | .13 | .006 [.003, .011] |
| IER Engagement-Mean × Current MDD (vs. Remitted MDD) | 0.14 | 0.48 | .77 | .000 [.000, .001] | −0.32 | 0.86 | .71 | .000 [.000, .002] |

Note. *p* values of our primary effects of interest were adjusted using the Benjamini–Hochberg procedures. All coefficients in Panel B were estimated with the healthy control group as a reference group, except for those indicated with square brackets (i.e., “[]”), which were estimated in separate models with the remitted MDD group as the reference group to contrast the two MDD groups. Lagged affect refers to NA and PA measured at the prior survey for models predicting NA and PA, respectively. CIs = confidence intervals; IER = interpersonal emotion regulation; mean = person mean levels of IER engagement (i.e., proportion of the time a participant reported seeking IER out of all the times they responded to the IER engagement question); MDD = major depressive disorder; NA = negative affect; PA = positive affect; *SE* = standard error; Y/N = yes or no (reference = no).

used savoring ($b = -0.15$, $SE = 0.10$, $p = .16$; pseudo $R^2 = .003$, 95% CI [.000, .012]), acceptance ($b = -0.14$, $SE = 0.08$, $p = .14$; pseudo $R^2 = .003$, 95% CI [.000, .012]), and distraction ($b = -0.00$, $SE = 0.08$, $p = .96$; pseudo $R^2 = .000$, 95% CI [.000, .004]) in subsequent intrinsic ER episodes. None of the associations between intrinsic IER engagement and subsequent use of intrinsic ER strategies varied by groups, $ps > .05$. Aim 2 results are summarized in Supplemental Table S2.

Discussion

IER represents an important form of ER that is associated with well-being (Williams et al., 2018). To further clarify the links between IER and well-being, we examined how intrinsic IER is associated with one's subsequent affect and intrinsic ER efforts in everyday life. We focused on intrinsic IER initiated via sharing of negative emotional experiences. Our findings provide evidence that intrinsic IER has implications for one's subsequent affect and intrinsic ER efforts, informing how IER might shape well-being in daily life. We also found that these ER processes generally did not vary based on participants' MDD status.

In examining how engagement in intrinsic IER was associated with subsequent affect, we found that people tended to report higher NA and lower PA after having recently engaged in intrinsic IER compared to times when they had not engaged in intrinsic IER. These findings may seem surprising, particularly given that IER is almost always initiated to improve affect in daily life (Tran et al., 2023). These findings are in line with evidence that receiving social support is associated with increased negative mood (Gleason et al., 2008). As theorized by Hofmann et al. (2016), relying on IER may prevent individuals from using adaptive intrinsic ER skills and prompt feelings that one is unable to effectively cope with hardship on their own (i.e., low negative mood regulation expectancy), which in turn increases distress. Alternatively, we may see this link between IER and NA because receiving social support draws attention to one's shortcomings (Zee & Bolger, 2019) or gives rise to feelings of inequity if an individual receives support that they cannot reciprocate (Gleason et al., 2008). Another possible explanation is that engaging in social sharing of negative emotional experiences leads additional negative feelings, like shame, to surface, which is consistent with evidence that rumination and venting may prolong and worsen negative feelings (Bushman, 2002; Nils & Rimé, 2012; Rose, 2021; Swerdlow et al., 2023).

Table 4*Associations Between IER Outcomes and Subsequent NA and PA Across All Participants and by MDD Group*

| Predictor | Outcome: Momentary NA | | | | Outcome: Momentary PA | | | |
|---|-----------------------|-----------|----------|--|-----------------------|-----------|----------|--|
| | <i>b</i> | <i>SE</i> | <i>p</i> | Pseudo <i>R</i> ² [95% CIs] | <i>b</i> | <i>SE</i> | <i>p</i> | Pseudo <i>R</i> ² [95% CIs] |
| Panel A: Across all participants | | | | | | | | |
| Intercept | 0.67 | 0.04 | <.001 | | 1.36 | 0.05 | <.001 | |
| Lagged affect | 0.14 | 0.04 | <.001 | .014 [.003, .032] | 0.23 | 0.04 | <.001 | .045 [.024, .073] |
| Problem outcome | −0.08 | 0.02 | <.001 | .033 [.015, .058] | 0.10 | 0.02 | <.001 | .035 [.016, .059] |
| Relationship outcome | 0.01 | 0.02 | .70 | .000 [.000, .006] | 0.02 | 0.02 | .53 | .001 [.000, .007] |
| Panel B: By group (reference group = healthy control) | | | | | | | | |
| Intercept | 0.50 | 0.06 | <.001 | | 1.44 | 0.07 | <.001 | |
| Lagged affect | 0.10 | 0.08 | .24 | .002 [.000, .010] | 0.13 | 0.07 | .07 | .005 [.000, .017] |
| Problem outcome | −0.04 | 0.03 | .15 | .003 [.000, .014] | 0.09 | 0.03 | <.001 | .011 [.002, .027] |
| Relationship outcome | −0.02 | 0.03 | .56 | .000 [.000, .007] | 0.02 | 0.03 | .42 | .001 [.000, .007] |
| Current MDD (vs. healthy control) | 0.49 | 0.09 | <.001 | .079 [.051, .112] | −0.43 | 0.11 | <.001 | .036 [.017, .061] |
| Remitted MDD (vs. healthy control) | 0.15 | 0.08 | .06 | .013 [.003, .030] | 0.04 | 0.10 | .71 | .000 [.000, .007] |
| Current MDD (vs. remitted MDD) | 0.34 | 0.09 | <.001 | .041 [.021, .068] | −0.46 | 0.11 | <.001 | .043 [.022, .070] |
| Lagged Affect × Current MDD (vs. Healthy Control) | 0.05 | 0.11 | .64 | .000 [.000, .006] | 0.09 | 0.12 | .44 | .001 [.000, .008] |
| Lagged Affect × Remitted MDD (vs. Healthy Control) | 0.07 | 0.10 | .50 | .001 [.000, .007] | 0.03 | 0.09 | .72 | .000 [.000, .006] |
| Lagged Affect × Current MDD (vs. Remitted MDD) | −0.01 | 0.10 | .88 | .000 [.000, .005] | 0.06 | 0.12 | .60 | .000 [.000, .007] |
| Problem Outcome × Current MDD (vs. Healthy Control)] | −0.04 | 0.04 | .75 | .001 [.000, .008] | −0.01 | 0.05 | .95 | .000 [.000, .005] |
| Problem Outcome × Remitted MDD (vs. Healthy Control) | −0.07 | 0.03 | .50 | .006 [.000, .020] | 0.02 | 0.04 | .76 | .000 [.000, .006] |
| Problem Outcome × Current MDD (vs. Remitted MDD) | 0.03 | 0.04 | .75 | .001 [.000, .008] | −0.04 | 0.05 | .56 | .001 [.000, .007] |
| Relationship Outcome × Current MDD (vs. Healthy Control)] | 0.003 | 0.04 | .95 | .000 [.000, .005] | 0.03 | 0.05 | .77 | .000 [.000, .006] |
| Relationship Outcome × Remitted MDD (vs. Healthy Control) | 0.05 | 0.04 | .75 | .002 [.000, .011] | −0.01 | 0.04 | .88 | .000 [.000, .005] |
| Relationship Outcome × Current MDD (vs. Remitted MDD) | −0.05 | 0.04 | .75 | .001 [.000, .009] | 0.07 | 0.06 | .75 | .001 [.000, .010] |

Note. *p* values of our primary effects of interest were adjusted using the Benjamini–Hochberg procedures. All coefficients in Panel B were estimated with the healthy control group as a reference group, except for those indicated with square brackets (i.e., “[]”), which were estimated in separate models with the remitted MDD group as the reference group to contrast the two MDD groups. Lagged affect refers to NA and PA measured at the prior survey for models predicting NA and PA, respectively. CIs = confidence intervals; IER = interpersonal emotion regulation; MDD = major depressive disorder; NA = negative affect; PA = positive affect; SE = standard error.

However, we are cautious of interpreting these findings as intrinsic IER engagement generally leading to worse affect due to the timing of the assessments. It remains possible that people actually feel better after many IER exchanges. In other words, these findings could reflect a pattern where participants experienced a negative event that made them feel worse and engaged in IER, resulting in feeling better but not as good as they had been feeling before the event. More frequent assessments occurring immediately before and after IER would better capture affective changes throughout the course of IER and would address this unknown. In addition, even if participants feel worse after an IER exchange, we do not know whether individuals would have felt comparatively better had they not engaged in IER under the same circumstances (i.e., the counterfactual situation) due to the observational nature of the present study. Experimental studies will help clarify whether, and under what conditions, engaging in IER leads to worsened affect compared to not engaging in IER.

Although our findings suggest that engaging in intrinsic IER on average predicted worse subsequent affect, we found evidence that participants' subsequent affect was associated with how the IER process unfolds. Specifically, changes in feelings about the original problem (our problem outcome measure) that was the focus of the

IER interaction were associated with changes in momentary affect. As hypothesized, when participants reported feeling better about the problem following IER, they tended to subsequently report feeling lower NA and higher PA. In contrast, changes in relational closeness were not associated with subsequent affect when problem outcome and previous affect were taken into account. That one's emotional outcomes operate independently from relational closeness is similar to common experiences following corumination, such that one reports improved relationship quality but worsened affect and emotional well-being (Rose, 2021; Rose et al., 2007). It is possible that the relational benefits of IER, such as relationship building and maintenance (Tran et al., 2024), are more related to domains of well-being other than affect (e.g., perceived social support). In fact, the differential patterns of results for problem and relationship outcomes dovetail with findings on social sharing. In response to social sharing of negative events, responses altering the sharer's cognitions about the problem are associated with greater emotional recovery (i.e., reduced NA associated with the negative events) compared to those facilitating social relationships (Nils & Rimé, 2012).

Besides its implications for subsequent affect, intrinsic IER was also associated with subsequent intrinsic ER efforts, including intrinsic ER engagement and strategy use. People were more likely

to report they were engaging in intrinsic regulation of both NA and PA after having recently engaged in intrinsic IER compared to having not recently engaged in IER. These findings held after accounting for engagement in intrinsic ER at the previous survey, suggesting that the positive association between intrinsic IER engagement and subsequent intrinsic ER engagement was not fully explained by the person's elevated levels of intrinsic ER engagement during the preceding few hours. Perhaps engaging with one's emotions with a partner allows them to practice regulating their emotions with others' help prior to regulating on their own or helps them be more aware of (hence report) their ER processes. It is also likely that, while intrinsic IER engagement may begin the process of regulation, an individual may have a lingering need for regulation following IER.

When examining changes in the extent to which individuals used different intrinsic ER strategies following intrinsic IER, we found that people used intrinsic social sharing and reappraisal to a greater extent and used intrinsic suppression to a lesser extent when they had recently engaged (vs. had not recently engaged) in intrinsic IER. Intrinsic IER engagement did not predict change in the degree to which individuals used intrinsic savoring, acceptance, or distraction. These findings indirectly suggest that intrinsic IER engagement likely has an influence on how one subsequently regulates their own emotions. Research is needed to examine which characteristics of the IER process contribute to changes in one's subsequent ER strategy use. Overall, these findings provide some preliminary evidence that engagement in intrinsic IER may encourage one to use engagement strategies more (e.g., intrinsic social sharing and reappraisal) and disengagement strategies less (e.g., intrinsic suppression). It is worth noting that IER engagement predicted subsequent use of not only intrinsic IER (i.e., social sharing) but also intrapersonal ER (i.e., reappraisal and suppression), highlighting the potential for everyday IER in shaping one's intrinsic ER behaviors in both interpersonal and intrapersonal domains. These findings also extend the existing research on the role of context in ER (Aldao et al., 2015; English et al., 2017) and suggest IER as an important contextual factor that may influence one's intrinsic ER behaviors.

Notably, the findings on how IER processes predict subsequent affect and ER efforts were mostly of small effect sizes. This is unsurprising given that many factors can impact one's momentary affect and ER processes in daily life. The two findings with the largest effect sizes were that IER engagement predicted more use of social sharing (medium effect) and less use of expressive suppression (small-to-medium effect), even when controlling for how much one uses these strategies prior to IER. This highlights that, at least in the context of the current investigation, IER may be most influential for one's choice to socially share or conceal one's emotions at a later timepoint.

Finally, we explored whether the associations of the intrinsic IER process with subsequent affect and intrinsic ER efforts differed by MDD status. Findings did not differ by MDD status, which is somewhat surprising considering the well-documented difficulties in ER and interpersonal functioning in MDD (Houben et al., 2015; Kupferberg et al., 2016; Liu & Thompson, 2017). One possible explanation is that the emotional and interpersonal difficulties in MDD may not be as pervasive as one might expect in the context of IER. In fact, the null findings were consistent with some prior research documenting that depressive psychopathology did not moderate the effectiveness of certain IER strategies in the current

sample (Liu et al., 2024) and other samples (e.g., Levy-Gigi & Shamay-Tsoory, 2017). Together, these findings may suggest that people with MDD likely benefit from IER through similar processes as healthy controls, supporting the theory that IER may represent an important mechanism through which those with MDD benefit from social support (Marroquín, 2011). On the other hand, it is also likely that the scope of constructs assessed in the present study limits our ability to find group differences. For example, we only assessed six intrinsic ER strategies; it is possible that those with MDD are more prone to engage in rumination (not assessed in the present study) following IER than controls. Another explanation for the lack of group differences is that IER processes may vary across people with MDD due to the heterogeneous symptom manifestations of MDD and different comorbid psychological conditions (e.g., social anxiety). For example, some people with MDD may particularly benefit from IER in terms of improving their affect and learning about ER skills, whereas for others, IER may represent a habitual avoidance of effectively coping with feelings on one's own. Such heterogeneity of the function and impact of IER across people may have resulted in an overall lack of group differences on average in the present study. Therefore, it is important for future research to examine when and for whom the affective and interpersonal difficulties in MDD interfere with one's ability to effectively engage in and benefit from IER.

Constraints on Generality

Several limitations are worth noting. First, we examined IER initiated by sharing a negative experience with a partner. Although sharing negative experiences is a common way of engaging in IER (Tran et al., 2023), IER can take other forms, including sharing positive experiences (e.g., capitalization; Gable et al., 2004) and IER that does not involve social sharing (e.g., engaging in distracting activities with friends). As such, our findings may only pertain to IER in the context of sharing negative emotional experiences, and research examining how other forms of IER are linked to various indicators of well-being is needed. Relatedly, by instructing participants to report on the interactions that mattered most to them, we may have unintentionally biased our sampling of IER experiences to instances with specific characteristics (e.g., those participants considered as most successful). It would also be fruitful to examine how extrinsic IER strategies one receives from others predict what strategies they use when subsequently regulating their own and others' emotions. Moreover, although we phrased the EMA items to ensure that IER (i.e., "since the last beep") took place before momentary affect and intrinsic IER (i.e., "at the time of the beep"), the associations of IER constructs with affect and intrinsic ER may be artificially inflated due to being assessed within the same survey. Future EMA research with more frequent assessments may wish to assess distinct constructs in separate surveys. More frequent assessments would also allow researchers to capture additional ER episodes to be better positioned to detect small effect sizes. Last, while this investigation begins to examine associations between IER, affect, and intrinsic ER in daily life, several of our analyses were exploratory in nature, underscoring a need for replication of findings.

Despite these limitations, the current research elucidates how IER may shape one's affect and intrinsic ER efforts in everyday life, which may represent important mechanisms through which

IER benefits well-being. Positive outcomes of IER, particularly one's improved feelings about the situation, rather than the mere engagement in IER, were associated with better emotional outcomes. We also found that intrinsic IER engagement was associated with one's subsequent ER behaviors. Engaging in IER was associated with using engagement strategies to a greater extent and disengagement strategies to a lesser extent during subsequent intrinsic ER episodes. Importantly, regardless of MDD status, people have the potential to benefit from IER in their emotional well-being and intrinsic ER efforts. The current research represents one of the first efforts to elucidate how IER relates to emotional experience and regulation over time in daily life.

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