# Emotion

## Knowing Me, Knowing You: Are People Good at Regulating Their Emotions Good at Regulating Another's Emotions?

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# Are People Good at Regulating Their Emotions Good at Regulating Another's Emotions?

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Sometimes we regulate our emotions, and other times we need to regulate the emotions of others. In this investigation, we tested whether the ability to regulate one's own emotions and the ability to regulate other's emotions are related. We assessed regulators' self-oriented emotion regulation ability by measuring their own emotional experiences in a self-oriented emotion regulation task. We assessed regulators' other-oriented emotion regulation ability by measuring the emotional experiences of their targets in an other-oriented emotion regulation task. We found that self-oriented and other-oriented emotion regulation abilities were not significantly related. However, people were better able to regulate targets who were better at regulating themselves. People who frequently used self-oriented emotion regulation strategies (e.g., distraction) had greater self-oriented, but not other-oriented, emotion regulation ability. People with greater self-oriented emotion regulation ability made themselves feel less unpleasant emotions upon regulating their emotions. People with greater other-oriented emotion regulation ability made both the target of regulation and themselves feel less unpleasant emotions upon regulating the target's emotions. The target and regulator also felt closer to one another when the regulator had greater other-oriented emotion regulation ability. These findings suggest that the ability to regulate the emotions of others might be linked to desirable personal and social outcomes, even in interactions among strangers.

*Keywords:* emotion regulation, interpersonal emotion regulation, relationships, individual differences

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To optimize psychological and social well-being, people need to be able to regulate emotions (Nyklíček, 2011). The ability to regulate one's own emotions (i.e., self-oriented emotion regulation) is beneficial for one's own psychological health and life satisfaction (Schutte et al., 2009). Given that emotions often occur in social contexts, the ability to regulate another person's emotions (i.e., other-oriented emotion regulation) is also likely to be beneficial (Reeck et al., 2016). Most research on emotion regulation to date focused on either self-oriented emotion regulation or other-oriented emotion regulation, leaving the potential intersection between the two largely unexplored (for a similar argument, see Zaki, 2020). In this investigation, therefore, we assessed the potential association between the abilities to perform self-oriented and other-oriented emotion regulation. We also assessed some individual differences that might be associated with these emotion regulation abilities. Finally, we tested the potential immediate correlates of self-oriented and other-oriented emotion regulation abilities.

Self-oriented emotion regulation, which has also been referred to as intrinsic (Gross & Thompson, 2007), intrapersonal (Zaki & Williams, 2013), or personal (Reeck et al., 2016) emotion regulation, involves deliberate attempts to influence one's own emotions. For instance, a person may try to decrease their anxiety when they are about to give a public presentation, by taking deep breaths. The ability to perform self-oriented emotion regulation has been linked to personal psychological health. For instance, greater ability in cognitive forms of self-oriented emotion regulation (e.g., cognitive reappraisal) has been linked to less depressive symptoms (Troy et al., 2010).

Other-oriented emotion regulation, which has also been referred to as extrinsic (Gross & Thompson, 2007), interpersonal (Zaki & Williams, 2013), or social (Reeck et al., 2016) emotion regulation, involves deliberate attempts to influence the emotions of another. For instance, a person may try to decrease their friend's anxiety when their friend is preparing to give a public presentation, by strengthening their friend's confidence. The ability to perform other-oriented emotion

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regulation has also been linked to increased pleasant emotions for the regulator (e.g., Niven, Holman, & Totterdell, 2012) and the target of regulation (e.g., Rusu et al., 2019), and to both the regulator and the target feeling closer socially (e.g., Gottman et al., 1998), upon regulation.

The available research on self-oriented and other-oriented emotion regulation to date has primarily focused on either one or the other. Because of this, several key questions received limited attention to date. First, is the ability to perform self-oriented emotion regulation and the ability to perform other-oriented emotion regulation distinct or overlapping? Second, what are the unique or common skills associated with the ability to perform self-oriented or other-oriented emotion regulation? Third, what are the potential correlates of self-oriented and other-oriented emotion regulation abilities for the regulator, the target, and their relationship? The current investigation begins to address these questions.

## The Association Between Self-Oriented and Other-Oriented Emotion Regulation Abilities

### Potential Similarities

Both self-oriented and other-oriented emotion regulation are processes in which people are motivated to change a current emotion into a desired emotion (Tamir, 2021). Hence, the two types of emotion regulation abilities may be similarly informed by certain overlapping traits, knowledge, and skills. With respect to personality traits, for instance, some evidence suggests that higher neuroticism, which is characterized by more intense unpleasant emotional experiences, may be linked to lower abilities in both self-oriented (Yoon et al., 2013) and other-oriented (Brock et al., 2022) emotion regulation. With respect to knowledge and skills, better self-control should be linked to better self-oriented (e.g., Cohen et al., 2015; Paschke et al., 2016) and other-oriented (Martínez-Íñigo et al., 2007) emotion regulation abilities. Similarly, knowledge and understanding of emotions, as reflected in greater emotional intelligence, should be linked to better self-oriented and other-oriented emotion regulation abilities (Grewal et al., 2006; Troth et al., 2018).

Another potential similarity concerns the ways in which emotion regulation is implemented. Self-oriented and other-oriented emotion regulation likely require the ability to implement emotion regulation strategies. The process model of emotion regulation (Gross, 1998) distinguishes between several categories of strategies that can be used in self-oriented emotion regulation. For instance, people could decrease their emotional intensity using distraction, which involves diverting attention away from the emotion-eliciting stimulus. Being skilled at using self-oriented emotion regulation strategies may be linked to better other-oriented emotion regulation ability, to the extent that similar strategies can be used in both forms of regulation (e.g., Christensen & Haynos, 2020; Shu et al., 2021). For instance, a person who is able to distract themselves from an unpleasant stimulus may be able to distract others as well.

Self-oriented and other-oriented emotion regulation might also be linked because they are both associated with a third variable (e.g., Rohrer, 2018). For instance, people who are better at self-oriented emotion regulation often have bigger and better social networks, with more friends and close relationships (Lopes et al., 2005; Walden et al., 1999). These social networks might provide people with more opportunities to practice other-oriented emotion regulation and cultivate skills (e.g., perspective-taking) that are needed to perform it.

Taken together, self-oriented and other-oriented emotion regulation abilities may be informed by common dispositions and skills, share similar underlying processes, or be linked to the same third variable. These would lead the two abilities to be positively associated.

### Potential Differences

At the same time, self-oriented and other-oriented emotion regulations may be distinct. They may be driven by different goals (e.g., Zaki, 2020), involve different targets (i.e., self vs. other), and require different strategies or skills (Hoffmann et al., 2016). For example, according to John and Gross (2007), people who are more conscientious strive for a balanced emotional life for themselves. Hence, higher conscientiousness might be associated with the ability to perform self-oriented, but not necessarily other-oriented emotion regulation. Furthermore, self-oriented emotion regulation requires one to be aware of her own emotions and is positively associated with self-awareness (Van Beveren et al., 2019). In contrast, other-oriented emotion regulation requires an understanding of how the other person (rather than the self) feels, which is a key component of many crucial interpersonal skills, such as perspective-taking (Levy-Gigi & Shamay-Tsoory, 2017) and emotional empathy (Brown et al., 2021).

In the same vein, to regulate the emotions of others, people should be able to understand and communicate well with others. Therefore, better social skills, as reflected by higher extraversion (Wickett et al., 2023), agreeableness (Jensen-Campbell & Graziano, 2001), or empathy (Hallam et al., 2014), might be associated with the ability to perform other-oriented, but not necessarily self-oriented emotion regulation. Verbal and conversational skills might also be associated with other-oriented emotion regulation ability, as in other-oriented emotion regulation, regulators need to communicate with targets in order to influence their emotions. For example, paraphrasing and verbal expressions of understanding (Seehausen et al., 2012) can improve targets' emotions. While these specific conversational skills may be crucial to other-oriented emotion regulation, they may matter less in self-oriented emotion regulation. It is also possible that different types of strategies are required to regulate one's own emotions and to regulate the emotions of others (Hofmann et al., 2016). For instance, acceptance—an emotion regulation strategy that increases people's openness to unpleasant emotions (Ford et al., 2018)—is an effective strategy in decreasing one's own distress but can be less effective in reducing the distress of others (Jurkiewicz et al., 2023). Moreover, one's ability to implement strategies in self-oriented emotion regulation might differ from their ability to implement the same strategies in the context of other-oriented emotion regulation. For example, it could be that people who are good at distracting themselves from an emotional stimulus may not necessarily be good at distracting others. In such cases, greater knowledge or skills in using self-oriented emotion regulation strategies would be linked to better self-oriented, but not necessarily other-oriented, emotion regulation, and vice versa. Taken together, these findings suggest that self-oriented and other-oriented emotion regulation abilities might be distinct because they involve somewhat different processes and require distinct underlying skills.

### Summary

Given the potential similarities and differences between self-oriented and other-oriented emotion regulation, we hypothesized

that the ability to perform self-oriented emotion regulation and the ability to perform other-oriented emotion regulation would be positively, but not strongly, correlated. Our goal in this investigation was to test whether self-oriented and other-oriented emotion regulation abilities are related, rather than to establish why that might be so. Nonetheless, to begin to explore the potential association between self-oriented and other-oriented emotion regulation abilities (or lack thereof), in an exploratory and preliminary fashion, we assessed various individual differences that might be common or unique to these abilities. We targeted constructs that have been linked to either self-oriented or other-oriented emotion regulation in the literature, focusing on basic personality traits (i.e., the Big Five), self-control skills, emotion-related skills (e.g., emotional intelligence), social skills (e.g., perspective-taking), and typical use of emotion regulation strategies.

## Potential Implications of Self-Oriented and Other-Oriented Emotion Regulation

Self-oriented and other-oriented emotion regulation may carry different implications. We refer to personal implications as those that pertain to an individual (either the regulator or the target), such as changes in emotional experiences. We refer to social implications as those that pertain to the social unit, such as relationship quality or interpersonal closeness. To what extent is the ability to successfully engage in self-oriented or other-oriented emotion regulation linked to decreases in unpleasant emotions or to increased interpersonal closeness?

### Potential Implications of Self-Oriented Emotion Regulation Ability

The ability to successfully engage in self-oriented emotion regulation is defined as the ability to bring about desired changes in one's emotional experiences. Therefore, when people are better at self-oriented emotion regulation they are better able to decrease their own unpleasant emotions, when they want to feel better. Although not directly tested to date, the regulator's self-oriented emotion regulation ability is less likely to decrease unpleasant emotions of a target, as the ability of a person to regulate their own emotions should not necessarily make another person feel less unpleasant emotions, unless such skills are put to use during a joint social interaction that is relevant to both parties (e.g., when a person is angry at their partner, but is able to decrease that anger while interacting with their partner).

Can self-oriented emotion regulation increase interpersonal closeness? Some evidence suggests that self-oriented emotion regulation abilities may be linked to better social functioning. For instance, people who are better able to regulate their emotions experience less conflicts with others (Lopes et al., 2011) and are more satisfied in their close relationships (Bloch et al., 2014; Rusu et al., 2019). These findings suggest that self-oriented emotion regulation ability might have social benefits in existing social relationships. However, there is little research testing whether the ability to engage in self-oriented emotion regulation is linked to desirable social outcomes in social interactions between strangers.

### Potential Implications of Other-Oriented Emotion Regulation Ability

The ability to successfully engage in other-oriented emotion regulation is defined as the ability to bring about desired changes in

emotional experiences of another. Therefore, when people are better at other-oriented emotion regulation they are better able to decrease the unpleasant emotions of another person, when that is the goal. Other-oriented emotion regulation might also influence the regulator's own emotions. For instance, people who were instructed to try to make another hypothetical person feel better subsequently reported feeling better than people who were asked to make another person feel worse (Niven, Holman, & Totterdell, 2012). To our knowledge, whether or not people who are better able to regulate the emotions of another are also likely to feel better themselves when trying to regulate the other's emotions has not yet been directly tested.

Being able to regulate the emotions of another is also likely to influence interpersonal closeness, because helping another person feel better can bring the regulator and the target closer together. For instance, when romantic partners used humor or touch as forms of emotion regulation, this not only improved affect in both partners, but also led to greater intimacy (Debrot et al., 2013; Horn et al., 2019). Additionally, other-oriented emotion regulation of personal events may facilitate closeness between strangers (Jurkiewicz et al., 2023). The desire for closeness can also moderate the efficacy of other-oriented emotion regulation (Flores & Berenbaum, 2012), further attesting to the link between the ability to regulate the emotions of others and interpersonal closeness.

Most studies to date that examined the social implications of self-oriented and other-oriented emotion regulation have targeted existing long-term relationships, such as in parent–child relationships and romantic couples (e.g., Christensen & Haynos, 2020; Debrot et al., 2013; Horn et al., 2019; Morelen et al., 2016), relationships in the workplace, or in group interactions (Niven, Totterdell, et al., 2012). Examining existing social relationships offers important insights into social dynamics that are more common in everyday life. However, targeting such relationships makes it difficult to disentangle the unique effects of self-oriented versus other-oriented emotion regulation abilities from prior and long-term interaction dynamics. In such contexts, implications of each ability may depend on when and how these skills are implemented (e.g., during conflict) and how the regulatory efforts are perceived, rather than having these skills per se. In this investigation, we tested whether the abilities to perform self-oriented or other-oriented emotion regulation per se are independently linked to personal and social outcomes, by examining these abilities and their subsequent outcomes privately and in a single interaction between strangers.

## The Present Investigation

This investigation sought to address three main questions: First, is the ability to regulate emotions in oneself related to the ability to regulate emotions in others? Second, what unique or common traits and skills are related to these two abilities? Third, what are the personal and social correlates of self-oriented and other-oriented emotion regulation abilities for the regulator, the target, and their relationship? To test these questions, we conducted a preregistered study (https://aspredicted.org/6TB_L5V). We assessed the ability to engage in self-oriented emotion regulation, by having participants complete a task in which they were asked to decrease the intensity of their own emotions in response to unpleasant pictures. We assessed the ability to engage in other-oriented emotion regulation, by pairing participants with a same-sex stranger and then having them complete a task in which they were asked to decrease the stranger's emotional reactions to

unpleasant pictures. To assess potential personal and social correlates of emotion regulation, both members of each pair rated their emotional experiences before and after regulation in each regulation task and rated how close they felt to each other after the social regulation task.

To explore the potential links with self-oriented and other-oriented emotion regulation abilities, after the laboratory session, both members of each pair completed a series of individual difference measures. These included basic personality traits, self-control, emotion-related skills, social skills, and tendencies to use emotion regulation strategies. Given the exploratory nature of this part of the investigation, our goal was not to be comprehensive, but rather to collect preliminary information. We predicted that participants who are better able to regulate their own emotions would also be better at regulating another person's emotions. We explored links between abilities in self-oriented and other-oriented emotion regulation and various individual differences, as well as the potential personal and social correlates of these abilities.

## Method

This study was approved by the ethics committee of the Faculty of Social Sciences at the Hebrew University of Jerusalem.

### Participants

Our final sample included 64 pairs of participants ($N = 128$, 66% female). Ten additional pairs were recruited but excluded from analyses. We excluded six pairs who began the experiment but did not finish it, because one member of the pair chose to stop the experiment due to distress caused by the unpleasant images. Three other pairs completed the experiment, but their data were not stored due to a technical malfunction of the online experimental platform. Lastly, one pair failed to follow the instructions and skipped pictures in the other-oriented task, preventing the synchronization of pictures in the pair. Participants who knew one another were not invited to participate in the study and as such were not counted as exclusions. Participants' $M_{age}$ was 24.35 ($SD = 2.70$). A power analysis conducted in R using the pwr.f2.test() function (Champely et al., 2018) indicated that a minimum sample of 62 pairs is required to detect a moderate effect ($\alpha = .05$, $1 - \beta = .8$, $f^2 = 0.1875$; Selya et al., 2012). We oversampled to account for potential data exclusions. Participants were recruited from the university student population using an experiment registration system. We paired same-sex participants with no prior relationship at the time of the study. In exchange for participation, participants received five course credits or 50 nis.

### Materials

#### Baseline Emotional Experiences

Participants completed the Positive and Negative Affect Schedule (PANAS; Watson et al, 1988) twice, once before the self-oriented emotion regulation task and once before the other-oriented emotion regulation task. Participants rated the degree to which they currently felt 20 pleasant (e.g., excited) and unpleasant (e.g., nervous) emotions ($1 = $ *not at all*, $5 = $ *extremely*). For each PANAS measure, we computed separate composite scores for pleasant ($\alpha_{self-oriented} = .83$, $\alpha_{other-oriented} = .83$) and unpleasant ($\alpha_{self-oriented} = .87$, $\alpha_{other-oriented} = .86$) emotional experiences, respectively.

#### Emotional Pictures

A set of 16 unpleasant pictures was selected from several validated picture sets (i.e., Geneva Affective Picture Database, Dan-Glauser & Scherer, 2011; International Affective Picture System, Lang et al., 2008; and EmoPicS, Wessa et al., 2010). Each of these databases contains images that have been rated on valence by a large and diverse sample. For each image, participants rated how they felt when viewing it. We randomly divided the pictures into two sets of eight, to be used in the self or the other-oriented emotion regulation task. We used average valence ratings in the databases to infer the expected emotional impact of each image. The two sets of pictures that were selected either for the self or the other-oriented emotion regulation tasks were equivalent in their expected emotional impact ($M = 2.49$, $SD = 0.57$; $M = 2.58$, $SD = 1.00$, respectively, where $1 = $ *very negative*, $9 = $ *very positive*), $t(11) = -0.22$, $p = .830$.

#### Emotion Regulation Tasks

**Self-Oriented Emotion Regulation Task.** Participants completed the self-oriented emotion regulation task on their own, in a private soundproof cubicle, on a handheld touchscreen tablet. First, participants viewed a series of eight pictures and rated how each picture made them feel ($0 = $ *not negative at all*, $100 = $ *very negative*). Next, participants saw each picture again, but this time, they were asked to actively decrease their emotional reactions to each picture. To minimize differences between the self-oriented and other-oriented emotion regulation tasks, participants were instructed to describe out loud how they tried to influence their emotions, and their responses were recorded. Participants had 20 s to regulate their reactions to each picture, and then they were asked to rate how the picture made them feel ($0 = $ *not negative at all*, $100 = $ *very negative*). To assess self-oriented emotion regulation ability, we subtracted the regulator's preregulation emotional response to a picture from the regulator's emotional rating of the same picture after regulation, which allowed us to capture change in emotional responses following regulation. We then averaged the change scores in response to all pictures to capture self-oriented emotion regulation ability ($\alpha = .74$). More negative scores reflect a better self-oriented emotion regulation ability, as they reflect less intense unpleasant emotions after regulation.

**Other-Oriented Emotion Regulation Task.** Participants completed the other-oriented emotion regulation task together with a partner, in a larger soundproof cubicle, with each member of the pair working on a separate handheld touchscreen tablet. Before starting the task, we randomly assigned each participant to either the regulator or target roles. In the first stage of the task, each participant in the pair watched a series of eight pictures and independently rated how each picture made them feel ($0 = $ *not negative at all*, $100 = $ *very negative*). Regulators were told that they will watch on their own tablets the pictures that the targets will watch on their tablets and were asked to actively decrease the emotional reactions of the target to each picture. Regulators spoke to the targets and were recorded. The targets were instructed to listen, but not respond verbally to the regulator. Regulators had 20 s to regulate the target's reactions to each picture. After each picture, both members of the pair rated again how the picture made them feel ($0 = $ *not negative at all*, $100 = $ *very negative*). To assess other-oriented emotion regulation ability, we subtracted the target's preregulation emotional response to a picture from the target's emotional rating of the

same picture after regulation, which allowed us to capture the change in emotional responses of the target following regulation. We then averaged the target's change scores in response to all pictures to capture the regulator's other-oriented emotion regulation ability ($\alpha = .90$). More negative scores reflect a better other-oriented emotion regulation ability.

### Perceived Closeness

We used Aron et al.'s (1992) measure of interpersonal closeness. The scale contains nine pictures of two circles, each picture shows the two circles closer to intertwining. The pictures indicate the level of closeness one person feels toward another. The first picture (Labeled 1) reflects feeling the least close to the other and the ninth picture (Labeled 9) indicates feeling the highest level of closeness. Participants were instructed to use the scale to indicate how close they felt to the person they interacted with during the other-oriented emotion regulation task.

### Individual Differences

**Personality Traits.** We measured the Big Five personality traits with the short form of the Big Five (Soto & John, 2017). Participants rated their agreement ($1 = strongly\ disagree$, $5 = strongly\ agree$) with three statements per subscale (e.g., "*I am someone who is compassionate, has a soft heart*"). The subscales included are neuroticism ($\alpha = .73$), conscientiousness ($\alpha = .46$), extraversion ($\alpha = .63$), agreeableness ($\alpha = .46$) and openness to experience ($\alpha = .55$).

**Self-Control.** We used the Brief Self-Control Test (Tangney et al., 2004). Participants rated the extent to which 13 statements are true (e.g., "*I am good at overcoming temptation*," $1 = not\ at\ all$, $7 = very\ much$; $\alpha = .69$).

**Emotion-Related Skills.** First, we measured emotional intelligence using the Trait Emotional Intelligence Questionnaire (Petrides, 2009). Participants rated their agreement ($1 = completely\ disagree$, $7 = strongly\ agree$) with 30 items (e.g., "Expressing my emotions with words is not a problem for me," $\alpha = .90$). Second, we used the short form of the Trait Meta Mood Scale (Petrides, 2009). The scale includes 30 items ($1 = strongly\ disagree$, $5 = strongly\ agree$) that assess attention to emotion (e.g., "I often think about my feelings," $\alpha = .85$), emotional clarity (e.g., "I almost always know exactly how I am feeling," $\alpha = .81$), and mood repair (e.g., "I try to think good thoughts no matter how badly I feel," $\alpha = .82$). Third, we assessed emotional resilience skills based on the Behavioral Social and Emotional Skills Inventory (Soto et al., 2021). Participants rated their agreement ($1 = strongly\ disagree$, $5 = strongly\ agree$) with 36 items that assess impulse regulation (e.g., "I avoid temptation," $\alpha = .88$), stress regulation (e.g., "I relax when I'm feeling tense," $\alpha = .86$), anger management (e.g., "I control my temper," $\alpha = .92$), capacity for optimism (e.g., "I keep a positive attitude," $\alpha = .91$), confidence (e.g., "I have confidence in myself," $\alpha = .94$), and adaptability (e.g., "I adapt to change," $\alpha = .89$). We also measured beliefs about the malleability of emotions (Tamir et al., 2007), where participants rated their agreement (e.g., "Anyone can learn to control their emotions," $1 = strongly\ disagree$, $5 = strongly\ agree$) with four items ($\alpha = .72$).

**Social Skills.** We assessed social engagement and cooperation skills using the Behavioral Social and Emotional Skills Inventory (Soto et al., 2021). To assess social engagement skills, participants rated how good they are ($1 = not\ good\ at\ all$, $5 = very\ good$) at 18 items, assessing conversational (e.g., "Starting a conversation," $\alpha = .95$), expressive (e.g., "Explaining what's on my mind," $\alpha = .93$), and persuasive (e.g., "Changing people's minds," $\alpha = .87$) skills. To assess cooperation skills, participants rated how good they are at 12 items, assessing perspective taking (e.g., "Sensing other people's needs," $\alpha = .86$) and capacity for social warmth (e.g., "Making people smile," $\alpha = .90$).

**Emotion Regulation Strategies.** We assessed the frequency of using seven different emotion regulation strategies to regulate one's emotions, using the emotion regulation strategy scale (Tamir et al., 2023). Participants rated how often ($1 = did\ not\ use\ the\ strategy\ at\ all$, $5 = used\ the\ strategy\ very\ frequently$) they engaged in various emotion-regulatory behaviors when they are trying to decrease unpleasant emotions, with four items per strategy, including situation selection (e.g., "I did something to change the situation I was in," $\alpha = .67$), distraction (e.g., "I tried to think of something else," $\alpha = .82$), reappraisal (e.g., "I tried to thing of the situation in a different way in order to change my emotions," $\alpha = .84$), acceptance (e.g., "I told myself it was OK to feel as I felt," $\alpha = .84$), expressive suppression (e.g., "I made sure not to express my emotions," $\alpha = .91$), rumination (e.g., "I repeated my thoughts again and again in my head," $\alpha = .87$), and social support seeking (e.g., "I used others for comfort," $\alpha = .90$). We also included a scale assessing strategies used when seeking emotional support from others (Hofmann et al., 2016), where participants rated the self-relevance ($1 = not\ true\ for\ me\ at\ all$, $5 = extremely\ true\ for\ me$) of 20 items, which capture how people use others to regulate their own emotions. The scale assessed four strategies, including using others to enhance personal pleasant affect (e.g., "When I feel sad, I seek out others for consolation," $\alpha = .86$), soothing (e.g., "I look to others for comfort when I feel upset," $\alpha = .91$), social modeling (e.g., "It makes me feel better to learn how others dealt with their emotions," $\alpha = .85$), and perspective taking (e.g., "When I am annoyed, others can soothe me by telling me not to worry," $\alpha = .75$).

### Procedure

Two same-sex participants were invited to the lab at the same time. Upon their arrival, participants indicated whether they knew each other. Only participants who did not know each other were invited to complete the study. Participants were told they would complete two tasks, one alone and another one together. The order of the tasks was counterbalanced across participants. Before each emotion regulation task, participants first rated their baseline emotional experiences. Participants completed the self-oriented emotion regulation task in a private cubicle. Before starting the other-oriented emotion regulation task, to make the social interaction less awkward, paired participants were left alone for three minutes to get to know each other a bit. They were instructed to choose one conversation topic from a list (course work, favorite food, favorite movies or series, desired travel destination) and chat about it briefly. Following this interaction, the experimenter randomly assigned participants to the role of regulator or target and emphasized that participants should adhere to the timer appearing in each task and should not show their screen to the other participant. After completing the other-oriented emotion regulation task, participants rated their closeness to their partner in the task. After participants completed both tasks in the lab, they received a link to an online survey including individual

difference measures. They were instructed to complete the survey within the next 48 hr.[1]

Data, analysis code, and study materials are available on Open Science Framework in the following link: https://osf.io/qaw4n/?view_only=9c24899f87fb4b23894ab72ed485d4c5.

## Results

### The Association Between Self-Oriented and Other-Oriented Emotion Regulation Abilities

We computed self-oriented emotion regulation ability scores for both regulators and targets, as both regulated their own emotions in the self-oriented emotion regulation task. Overall, participants were able to successfully decrease their unpleasant emotions, as reflected by a negative average score ($M = -16.85$), although there was also substantial variation in self-oriented emotion regulation ability ($SD = 11.22$, Min. $= -48.5$, Max. $= 13.88$). Participants assigned to the regulator role did not differ in their self-oriented emotion regulation ability from those assigned to the target role, $M = -16.96$, $SD = 10.8$; $t(125.3) = 0.06$, $p = .955$, 95% confidence interval (CI) $[-3.83, 4.06]$, suggesting that the random assignment to regulator and target roles was successful.

We computed other-oriented emotion regulation ability scores only for participants assigned the role of regulator in the other-oriented emotion regulation task. Overall, regulators were able to successfully decrease the unpleasant emotions of their targets, as reflected by a negative average score ($M = -14.64$).[2] However, there was also substantial variation in other-oriented emotion regulation ability ($SD = 13.31$, Min. $= -49.75$, Max. $= 36.50$).

Following our preregistration, to test whether people who were better at regulating their own emotions were also better at regulating another person's emotions, we computed the zero-order correlation between the two ability scores. Contrary to our preregistered hypothesis, the correlation between self-oriented and other-oriented emotion regulation abilities was very small and not statistically significant, $r = .07$, $p = .564$, 95% CI $[-0.18, 0.31]$. These results did not change when controlling for participants' gender, task order, target's self-oriented emotion regulation, or other potential confounds (e.g., their baseline emotions prior to the other-oriented emotion regulation task; see Table S1 in the online supplemental materials for these results).

To quantify the evidence for this null effect, we assessed the Bayes factor (BF) for the correlation coefficient. Since we hypothesized a positive correlation, we selected a one-sided default BF test, with a positive Beta prior width of 1 (i.e., flat between 0 and 1) using JASP (JASP Team, 2023). This test compared the predictive adequacy of the null hypothesis H0 (i.e., no correlation) with an alternative hypothesis H1 (i.e., a positive correlation; see Wagenmakers et al., 2016). Results yielded a $BF_{01}$ greater than 3 and a $BF_{10}$ smaller than 1/3 ($BF_{01} = 3.809$ and $BF_{10} = 0.263$). This result points to moderate evidence in favor of the null hypothesis against the alternative hypothesis (for more details on the interpretations of BF, see Wetzels & Wagenmakers, 2012).

A person's ability to regulate another may be associated with the regulator's self-regulation skills as well as with the target's self-regulation skills. Therefore, we next tested whether the regulator's other-oriented emotion regulation ability was linked to the target's self-oriented emotion regulation ability. As predicted in our preregistration, we found a significant and moderately strong correlation ($r = .44$, $p < .001$, 95% CI $[0.22, 0.62]$) indicating that a regulator is more likely to successfully regulate the emotions of a target, who is better at regulating themselves. This association persisted when controlling for gender and task order.

### Emotion Regulation Abilities and Individual Differences[3]

Table 1 presents zero-order correlations between self-oriented emotion regulation ability, other-oriented emotion regulation ability, and the individual differences measured. With respect to personality traits, none of the associations were statistically significant. We did not find significant associations between either self-oriented or other-oriented emotion regulation abilities and self-control, trait meta mood skills, emotional resilience skills, or beliefs about the malleability of emotions. Emotion skills and self-oriented emotion regulation abilities were largely unrelated to social skills, although better conversational skills tended to be linked to better other-oriented emotion regulation abilities ($r = -.25$, $p = .060$, 95% CI $[-0.49, 0.01]$) but not self-oriented emotion regulation ability ($r = .01$, $p = .996$, 95% CI $[-0.26, 0.27]$). These findings suggest that some social skills may be relevant to other-oriented, but not self-oriented, emotion regulation.

With respect to emotion regulation strategies, better self-oriented emotion regulation ability was associated with the tendencies to use more situation selection, distraction, acceptance, and expressive suppression. These tendencies were not significantly related to other-oriented emotion regulation ability, and in fact, such associations tended to be in the opposite direction. For instance, people who used more distraction to regulate their emotions were better at self-oriented emotion regulation ($r = -.29$, $p = .032$, 95% CI $[-0.52, -0.03]$), but tended to be worse at other-oriented emotion regulation ($r = .26$, $p = .058$, 95% CI $[-0.01, 0.49]$), and the difference between these two associations was significant ($z = -3.32$, $p < .001$). Similarly, people who used more situation selection and suppression tended to be better at self-oriented emotion regulation ($zs < -2.1$, $ps < .030$), but not at regulating others. People better at regulating their emotions were also better at recruiting others to regulate their own emotions (e.g., use others more to enhance their pleasant emotions, use others to soothe them, and try to model the behavior of others to feel better; $rs < -.27$, $ps < .040$). Again, these skills were unrelated to other-oriented emotion regulation abilities. In fact, social modeling was linked to better self-oriented emotion regulation ability ($r = -.31$, $p = .021$, 95% CI $[-0.53, -0.05]$), but tended to be linked to worse other-oriented emotion regulation ability ($r = -.26$, $p = .053$, 95% CI $[-0.00, -0.49]$), and this difference was significant ($z = -3.50$, $p < .001$).

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[1] For exploratory purposes, after each regulation task, participants rated the extent to which they implemented various emotion regulation strategies. This data has not yet been analyzed.

[2] In order to further validate the regulation process, after the other-oriented emotion regulation task, we asked targets: "To what extent did your task partner manage to decrease your negative emotions?" ($1 = not\ at\ all$, $5 = very\ much$). We found that responses to this question were positively linked with greater other-oriented emotion regulation ability ($r = -.52$, $p < .001$). This means that the more the target's negative emotions decreased during the other-oriented emotion regulation task, the more they attributed such changes to the regulator.

[3] Nine participants did not complete the final individual difference portion of the study, and so these analyses are based on 55 pairs of participants.

**Table 1**

*Correlations Between Individual Differences and Self-Oriented and Other-Oriented Emotion Regulation Abilities*

| Big Five | Self-oriented emotion regulation ability | | | Other-oriented emotion regulation ability | | | Comparisons of correlations | |
|---|---|---|---|---|---|---|---|---|
| | *r* | *p* | 95% CI | *r* | *p* | 95% CI | Pearson and Filon's *z* (1898) | Zou's CI (2007) |
| Neuroticism | −.09 | .509 | [−0.35, 0.18] | −.18 | .199 | [−0.42, 0.09] | z = .48, p = .635 | [−0.27, 0.43] |
| Conscientiousness | −.01 | .950 | [−0.27, 0.26] | .24 | .076 | [−0.03, 0.48] | z = −1.42, p = .156 | [−0.59, 0.11] |
| Extraversion | .09 | .528 | [−0.18, 0.34] | −.24 | .076 | [−0.48, 0.03] | z = 1.88, p = .060 | [−0.03, 0.66] |
| Agreeableness | −.18 | .190 | [−0.42, 0.09] | −.02 | .910 | [−0.28, 0.25] | z = −.92, p = .359 | [−0.51, 0.20] |
| Openness to experience | .10 | .454 | [−0.17, 0.36] | −.02 | .901 | [−0.28, 0.25] | z = .67, p = .506 | [−0.24, 0.47] |
| **Self-control** | .04 | .753 | [−0.22, 0.31] | .18 | .178 | [−0.08, 0.43] | z = −.79, p = .430 | [−0.49, 0.22] |
| **Emotion intelligence** | .12 | .383 | [−0.15, 0.37] | .01 | .957 | [−0.26, 0.27] | z = .62, p = .533 | [−0.25, 0.46] |
| Trait Meta Mood Scale | | | | | | | | |
|   Attention to emotion | −.14 | .294 | [−0.39, 0.13] | .15 | .273 | [−0.12, 0.40] | z = −1.67, p = .095 | [−0.63, 0.07] |
|   Emotional clarity | .13 | .341 | [−0.14, 0.38] | .00 | .988 | [−0.27, 0.26] | z = .74, p = .460 | [−0.23, 0.48] |
|   Mood repair | −.06 | .649 | [−0.32, 0.21] | −.05 | .691 | [−0.32, 0.21] | z = −.04, p = .966 | [−0.36, 0.35] |
| Emotional resilience skills | | | | | | | | |
|   Impulse regulation | −.07 | .609 | [−0.33, 0.20] | .21 | .126 | [−0.06, 0.45] | z = −1.58, p = .113 | [−0.61, 0.08] |
|   Stress regulation | .11 | .409 | [−0.16, 0.37] | .02 | .905 | [−0.25, 0.28] | z = .54, p = .591 | [−0.26, 0.45] |
|   Anger management | −.10 | .469 | [−0.36, 0.17] | −.14 | .318 | [−0.39, 0.13] | z = .21, p = .835 | [−0.32, 0.39] |
|   Optimism | −.09 | .533 | [−0.34, 0.18] | −.16 | .249 | [−0.41, 0.11] | z = .40, p = .687 | [−0.28, 0.42] |
|   Confidence | .02 | .904 | [−0.25, 0.28] | .16 | .233 | [−0.11, 0.41] | z = −.82, p = .413 | [−0.49, 0.21] |
|   Adaptability | −.12 | .381 | [−0.37, 0.15] | −.11 | .425 | [−0.36, 0.16] | z = −.06, p = .953 | [−0.36, 0.34] |
| **Beliefs about malleability of emotion** | −.17 | −.223 | [−0.41, 0.10] | −.01 | .964 | [−0.27, 0.26] | z = −.90, p = .369 | [−0.51, 0.20] |
| Social engagement skills | | | | | | | | |
|   Conversational | .01 | .966 | [−0.26, 0.27] | −.25 | .060 | [−0.49, 0.01] | z = 1.48, p = .138 | [−0.10, 0.60] |
|   Expressive | −.10 | .459 | [−0.36, 0.17] | −.12 | .364 | [−0.38, 0.15] | z = .13, p = .890 | [−0.33, 0.38] |
|   Persuasive | .20 | .145 | [−0.07, 0.44] | −.10 | .452 | [−0.36, 0.17] | z = 1.72, p = .085 | [−0.06, 0.64] |
| Social cooperation skills | | | | | | | | |
|   Perspective taking | −.23 | .091 | [−0.47, 0.04] | −.01 | .916 | [−0.28, 0.25] | z = −1.22, p = .223 | [−0.56, 0.14] |
|   Social warmth | −.22 | .113 | [−0.46, 0.05] | −.13 | .330 | [−0.39, 0.14] | z = −.46, p = .642 | [−0.43, 0.27] |
| Emotion regulation strategies (self-oriented) | | | | | | | | |
|   Situation selection | **−.29** | **.034** | **[−0.51, −0.02]** | .13 | .352 | [−0.14, 0.38] | **z = −2.42, p = .016** | **[−0.73, −0.06]** |
|   Distraction | **−.29** | **.032** | **[−0.52, −0.03]** | .26 | .058 | [−0.01, 0.49] | **z = −3.32, p < .001** | **[−0.85, −0.20]** |
|   Cognitive reappraisal | −.13 | .334 | [−0.38, 0.14] | .19 | .161 | [−0.08, 0.44] | z = −1.85, p = .064 | [−0.66, 0.04] |
|   Acceptance | **−.30** | **.026** | **[−0.53, −0.04]** | .01 | .933 | [−0.20, 0.33] | z = −1.79, p = .073 | [−0.64, 0.04] |
|   Suppression | **−.30** | **.024** | **[−0.42, 0.10]** | .07 | .592 | [−0.17, 0.36] | **z = −2.20, p = .028** | **[−0.70, −0.02]** |
|   Rumination | −.17 | .208 | [−0.42, 0.10] | .10 | .450 | [−0.25, 0.28] | z = −1.56, p = .118 | [−0.61, 0.09] |
|   Social support seeking | −.17 | .206 | [−0.51, −0.02] | .02 | .880 | [−0.14, 0.38] | z = −1.09, p = .277 | [−0.54, 0.17] |
| Emotion regulation strategies (using others to regulate self) | | | | | | | | |
|   Enhancing pleasant affect | **−.32** | **.016** | **[−0.54, −0.06]** | −.19 | .175 | [−0.43, 0.08] | z = −.80, p = .426 | [−0.47, 0.21] |
|   Soothing | **−.28** | **.037** | **[−0.51, −0.02]** | .01 | .950 | [−0.26, 0.27] | z = −1.67, p = .096 | [−0.62, 0.07] |
|   Social modeling | **−.31** | **.021** | **[−0.53, −0.05]** | **.26** | **.054** | **[−0.00, 0.49]** | **z = −3.50, p < .001** | **[−0.87, −0.22]** |
|   Perspective taking | −.07 | .609 | [−0.33, 0.20] | .14 | .318 | [−0.13, 0.39] | z = −1.16, p = .246 | [−0.55, 0.15] |

*Note.* n = 55. We compared the magnitude of correlations by using the cocor() package in R (Diedenhofen & Musch, 2015). Results returned a list of tests that have been developed to compare the strength of linear relationships between two variables. We reported results from two commonly used tests here: Pearson and Filon's *z* (1898) and Zou's (2007) CI. Significant correlations or comparison tests are displayed in bold text. CI = confidence interval.

## Emotion Regulation Abilities, Emotional Experiences, and Interpersonal Closeness

### Correlates of Self-Oriented Emotion Regulation Ability

People who were better at self-oriented emotion regulation were better able to change their own emotions in the desired direction. We also tested whether people better at regulating their emotions felt better when trying to regulate the emotions of another. To test this, we correlated the regulator's self-oriented emotion regulation ability with the difference between their emotional reactions before and after the other-oriented emotion regulation task ($\alpha = .82$). This association was positive and significant ($r = .39$, $p = .001$, 95% CI [0.16, 0.58]), indicating that regulators who were better able to regulate their own emotions felt better when regulating the emotions of another.

To test whether people who were better at regulating their own emotions became closer to the target following regulation, we correlated self-oriented emotion regulation ability with the regulator's perceived closeness to the target ($r = -.17$, $p = .186$, 95% CI [−0.40, 0.08]), and the target's perceived closeness to the regulator ($r = -.06$, $p = .665$, 95% CI [−0.30, 0.19]), following the other-oriented regulation task.[4] Both associations were not significant, and their direction was negative. Hence, we were unable to find evidence that people better at regulating their own emotions felt closer to a stranger after an interaction in the lab.

### Correlates of Other-Oriented Emotion Regulation Ability

People who were better able to regulate another's emotions made the target feel less intense unpleasant emotions. To test whether people who were better able to regulate another's emotions felt better themselves, we computed the change in the regulator's mean emotional reactions before and after regulation in the other-oriented emotion regulation task and correlated it with the regulator's other-oriented emotion regulation ability score (i.e., the change in the *target's* emotional reactions during the other-oriented emotion regulation task). We found a significant positive correlation ($r = .29$, $p = .019$, 95% CI [0.05, 0.50]), indicating that the better regulators made targets feel, the better they themselves felt during the social interaction. The association remained significant when controlling for regulators' self-oriented emotion regulation ability ($B = 0.35$, $SE = 0.15$, $p = .023$, 95% CI [0.05, 0.65]), or target's self-oriented emotion regulation ability ($B = 0.41$, $SE = 0.185$, $p = .026$, 95% CI [0.05, 0.78]).

To test whether the ability to regulate another's emotions was associated with the extent to which the regulator and the target bonded socially, we correlated other-oriented emotion regulation ability with the regulator's perceived closeness to the target following the other-oriented regulation task. We found that the more the regulator was able to make the target experience less intense unpleasant emotions during their interaction, the closer the regulator felt to the target ($r = -.48$, $p < .001$, 95% CI [−0.65, −0.26]). Next, we correlated other-oriented emotion regulation ability with the target's perceived closeness to the regulator following the other-oriented regulation task. We found that the more the regulator was able to make the target experience less intense unpleasant emotions during their interaction, the closer the target felt to the regulator ($r = -.27$, $p = .032$, 95% [−0.49, −0.02]). As both associations were positive and significant, these findings suggest that the more one

person is able to decrease the unpleasant emotions of another, the closer they feel to each other.[5]

## Discussion

People try to influence their own emotions, but they also often try to influence the emotions of others. Whereas researchers have examined self-oriented and other-oriented emotion regulation in isolation, our investigation directly tested the association between the two. By having the same participants complete self-oriented and other-oriented emotion regulation tasks, we used measures that independently captured respective emotion regulation abilities and estimated the association between them, their associations with individual differences, and their associations with emotional experiences and interpersonal closeness following regulation. Below, we summarize our key findings and their potential contributions.

## The Association Between Self-Oriented and Other-Oriented Emotion Regulation Abilities

We did not find a significant association between individuals' ability to regulate their own emotions (i.e., self-oriented emotion regulation ability) and their ability to regulate another person's emotions (i.e., other-oriented emotion regulation ability). Instead, our data provide moderate evidence for the null hypothesis (i.e., no relation). Although our design does not allow us to conclude why the two abilities were unrelated, we offer several possible explanations. First, it is possible that basic regulatory or emotional skills, such as self-control or emotional intelligence, are only weakly related to self-oriented and other-oriented emotion regulation abilities, so the skills these abilities share are relatively limited. Indeed, we did not find significant associations between such skills and self-oriented or other-oriented emotion regulation abilities. Consistent with these ideas, some of the associations that have been reported in the literature between self-control or emotional intelligence and self-oriented or other-oriented emotion regulation have been relatively weak (e.g., Friesen et al., 2017). However, some research found stronger associations between these skills and self-oriented and other-oriented emotion regulation (Mikolajczak et al., 2009; Nozaki, 2015).

A second possible explanation is that each type of ability is linked more strongly to unique underlying skills. For instance, people who used certain emotion regulation strategies more frequently to influence their emotions were better at regulating their emotions in the self-oriented emotion regulation task, but not in the other-oriented emotion regulation task. For example, people who used situation selection and expressive suppression more often had better self-oriented emotion regulation ability, but not other-oriented emotion regulation ability. Moreover, people who reported using distraction more often to regulate their emotions were better at the self-oriented emotion regulation task, but worse at the other-oriented emotion regulation task. This could indicate that the same skill may render a person better at regulating themselves, but worse at regulating others.

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[4] One couple did not complete the closeness measure, therefore, analyses with perceived closeness were based on 63 pairs.

[5] These associations also held after controlling for potential confounds, such as the targets or the regulators' baseline emotions prior to the other-oriented emotion regulation task (see Tables S2 and S3 in the online supplemental materials).

For instance, people who use distraction more have distracted themselves from the emotional pictures during the other-oriented emotion regulation task, which may have made them feel better, but less effective in regulating the target's emotions. Such findings could explain why being better at regulating one's own emotions does not necessarily mean that one is better at regulating the emotions of others. In fact, in some contexts, these abilities might be conflicted.

Another explanation for the lack of association between self-oriented and other-oriented emotion regulation concerns the specific context of the interaction in which the regulation took place in our investigation. We assessed other-oriented emotion regulation among strangers in a single interaction, where emotional stimuli were not personally relevant. In this context, people did not have the opportunity to learn about each other, and did not necessarily need to regulate their own emotions to be able to regulate the other. By showing that self-oriented and other-oriented emotion regulation abilities can be unrelated, our investigation highlights the importance of identifying the contextual factors that might moderate the link (or lack thereof) between the two abilities.

## Self-Oriented and Other-Oriented Emotion Regulation Abilities, Emotional Experiences, and Interpersonal Closeness

Our findings demonstrate that self-oriented and other-oriented emotion regulation abilities are differentially linked to interpersonal closeness. People who were better at regulating their own emotions were not likely to feel closer to the stranger whose emotions they tried to regulate, and the stranger did not feel closer to them. Although prior research has linked self-oriented emotion regulation abilities to social benefits (e.g., Bloch et al., 2014; English & John, 2013; Rusu et al., 2019), such research targeted long-term relationships. In contrast, our investigation assessed self-oriented emotion regulation ability and social closeness in a single encounter between strangers. Accordingly, people who are better at regulating their own emotions are not necessarily more likely to become closer to a stranger when they try to influence the stranger's emotions. This finding does not rule out the possibility that self-oriented emotion regulation ability may be linked to greater interpersonal closeness in other types of social interactions, such as long-term close relationships.

In contrast, other-oriented emotion regulation ability was positively linked to interpersonal closeness in a single interaction between strangers. The more successful regulators were in decreasing the unpleasant emotions of the targets, the closer both the regulator and the target felt to one another. This increased sense of closeness was experienced despite the fact that the regulator and the target did not know one another and were in an artificial lab setting. Prior research has shown that in romantic couples, other-oriented emotion regulation can increase intimacy (Horn et al., 2019). We add to this finding, by showing that other-oriented emotion regulation is also associated with increased closeness between strangers.

Our research also found that self-oriented and other-oriented emotion regulation was accompanied by unintended emotional changes. After each other-oriented emotion regulation attempt, the regulator and the target both felt better. This is consistent with previous work showing that actively trying to regulate the emotions of others can subsequently make the regulator experience more pleasant affect (Niven, Holman, & Totterdell, 2012). Additionally, we found that people who were better at regulating themselves were more likely to experience less intense unpleasant emotions, the more successful they were in regulating another person's emotions.

Why did people feel better after helping others feel better? In our experimental paradigm, the regulator and the target were exposed to the same unpleasant stimuli in the other-oriented emotion regulation task. When the regulator engaged in other-oriented emotion regulation, they might have instructed the target to implement an emotion regulation strategy (e.g., "try to think of something else") that they themselves were likely to use. For the regulator, this process would mirror self-oriented emotion regulation, for they might also want to feel less unpleasant themselves after being exposed to the same unpleasant stimuli, irrespective of the target. Indeed, in our data, we found that regulators who were better at self-oriented emotion regulation also felt better themselves after regulating the emotions of another in the other-oriented emotion regulation task, suggesting that people who regulate others might also be regulating themselves, at least when they are both exposed to the same emotional stimuli.

## Limitations and Future Research

The study has several limitations. First, our correlational design does not allow us to draw causal conclusions. We cannot infer what explains the lack of association between emotion regulation abilities, and we cannot conclude that emotion regulation abilities causally lead to certain outcomes (or not). To test the causes and consequences of self-oriented and other-oriented emotion regulation abilities, future research should employ experimental designs. For instance, a future study could test whether improving people's other-oriented emotion regulation ability (vs. not) would increase interpersonal closeness.

Second, we tested our hypotheses in a single interaction between strangers. This decision was intentional, as we wanted to eliminate the potential contributions of long-term social relationships. However, it is possible that in the context of long-term relationships, where both partners know one another well and have a shared history of emotional interactions, self-oriented and other-oriented emotion regulation abilities become positively associated. There is evidence that patterns of other-oriented emotion regulation may differ when involving strangers or close partners (Coan et al., 2006). Therefore, future research should test whether the current findings are moderated by the type, duration, or quality of the social relationship. It is also important for future studies to replicate our findings in naturalistic settings and use dyadic analyses (Stephens et al., 2022).

Third, future research should replicate and test the generalizability of our findings. Our emotion regulation tasks likely differ from the way emotion regulation unfolds in natural settings. Unlike some instances of other-oriented emotion regulation in daily life, in our paradigm, the regulator was exposed to the same stimuli and might have experienced similar emotions as the target. In addition, the participants regulated emotional responses to images, rather than to personally relevant, and potentially more intense, stimuli. Thus, future research could replicate our findings in natural social interactions. Moreover, our design was based on a single interaction between two participants. In the future, it might be useful to assess other-oriented emotion regulation abilities by examining how well a regulator can regulate the emotions of several distinct targets or during repeated interactions. Additionally, during this study, we defined emotion regulation as the ability to decrease unpleasant emotions. In daily life, however, not all emotion regulation is centered around decreasing unpleasant emotions. For example, contra-hedonic

emotion regulation, which includes increasing unpleasant emotions or decreasing pleasant emotions is relatively prevalent among adolescents (Riediger et al., 2014). Future research should test the potential associations between self-oriented and other-oriented emotion regulation abilities in the context of either prohedonic or contra-hedonic emotion regulation. Finally, our ability measures were based on self-reports by the regulator and the targets. Future research could assess emotional changes using additional indices, such as physiological measures.

Fourth, the procedure in this study included two laboratory tasks, a self-oriented and an other-oriented emotion regulation task. In both tasks, participants were asked to implement strategies that would decrease unpleasant emotions. Although the order of the tasks was randomized and we found no evidence for order effects, it is possible that using certain strategies in one task resulted in the use of the same strategies in the other task. Future studies could further separate the self- and other-oriented emotion regulation tasks, to minimize the chances of carry-over effects.

Finally, we determined our sample size to test preregistered hypotheses regarding the potential association between self-oriented and other-oriented emotion regulation. However, we also reported exploratory analyses, examining associations with individual differences. These exploratory analyses need to be interpreted with caution and replicated in future research. Our list of individual differences was not comprehensive, and additional individual differences may be important to study (e.g., differences in hedonic or social motivations). We have also primarily focused on positive traits, and future studies could study how self and other-oriented emotion regulation are related to "dark" personality traits (e.g., borderline personality disorder, psychopathy). Furthermore, there might be better measures to assess targeted constructs (e.g., performance-based measures of self-control and emotional intelligence). Although these exploratory findings should be replicated and cautiously interpreted, we hope they inspire new hypotheses and future research to further test them.

## Conclusions

People who are better able to regulate their own emotions are likely to decrease their own unpleasant emotions. People who are better able to regulate another person's emotions, can make the other person feel less intense unpleasant emotions. In our study, people who were better at decreasing the unpleasant emotions of another also felt less unpleasant emotions themselves and felt closer to the other. Furthermore, when a regulator was better able to decrease the unpleasant emotions of a target, the target felt closer to the regulator. By having people engage in both self-oriented and other-oriented emotion regulation tasks with a same-sex stranger, we were able to provide initial evidence for the independence of self-oriented and other-oriented emotion regulation abilities and describe how they are linked to emotional and social changes.

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