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What we believe about supporting others in distress: Implications for providing social regulatory support and subsequent well-being

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Abstract.

When someone shares their troubles with us, how do we decide how to respond? While decades of research has characterized how people talk about emotional events, less is known about how people choose to respond to others' distress. To address this issue, we bridged research from affective science and social psychology to develop the Regulator Beliefs about Social Regulation (RBSR) scale, which measures an individual's beliefs about the kinds of support distressed others might want and how they tend to act as social regulators of them. Three studies examined the nature of these beliefs and their impact on social interactions in close relationships. Study 1 used factor analyses to select 12 items for the RBSR scale that captured four theoretically meaningful and distinct beliefs. Study 2A showed that individuals with high RBSR scores are generally more emotionally expressive, better self-regulators, less lonely and experience more positive and less negative emotions. Studies 2B and Study 3A demonstrated that a regulator's beliefs vary across situations and are sensitive to the intensity of a distressed target's negative emotions. Study 3B found that, in real world interactions, the different kinds of beliefs assessed by the RBSR scale predicted target emotions, feelings of closeness and perceptions of their partner's real-world regulatory behaviors. Taken together, this work is significant in at least two ways: Theoretically, it describes how beliefs about social regulation contribute to well-being. Methodologically, it offers a validated tool for assessing these beliefs across multiple kinds of social, affective, organizational and clinical contexts.

Keywords: emotion regulation, social support, relationships, daily diary, scale development

From managing the daily ups and downs of work to navigating the complexities of our social relationships, life presents us with numerous emotional challenges. Whether we effectively manage these emotions – or are overwhelmed by them – can determine whether we maintain mental and physical well-being or are at risk for any of a number of mood and substance use disorders for which emotion dysregulation is a central feature (Marroquin et al., 2017; Gross & Jazaieri, 2014). A key tool for effective emotion management is the capacity to adaptively regulate emotional responses. To date, the lion's share of research on emotion regulation has focused on the use of self-regulation strategies to manage our own emotions (e.g. Gross, 2014). Amid growing recognition of the importance of social connections to well-being (e.g. Holt-Lunstad et al., 2010; Taylor, 2011), attention has increasingly turned to understanding how social interactions provide an important context for providing regulatory support to, and receiving regulatory support from, other people – a subfield known as social emotion regulation (SER) (Coan et al., 2006; Reeck et al., 2016; Shu et al., 2021; Sahi et al., 2021, 2023; He et al., 2025) or interpersonal emotion regulation (Dixon-Gordon et al., 2015; Hofmann et al., 2016; Niven, 2017; Tran et al., 2023; Petrova & Gross, 2023). In this paper we use the term social emotion regulation because the present work was influenced by - and combines elements of - prior approaches to studying social support and emotion regulation (Bolger & Amarel, 2007; Taylor, 2011; Reeck, Ames & Ochsner, 2016).

Social emotion regulation is a complex phenomenon with multiple variables at play. In a SER interaction, there are at least two individuals in two types of roles – targets who receive regulatory support and regulators that provide this support Reeck et al., 2016; Coan et al., 2006; (Digiovanni, He & Ochsner., under review). Such SER interactions can range from ordinary

conversations (e.g. water-cooler talk at a workplace) to explicit emotional disclosures (e.g. listening to a partner share about stressors on their mind). To date, SER research has focused primarily on the strategies that social regulators choose to use in the lab and everyday life (e.g. Shu et al., 2021; Swerdlow & Johnson, 2022; Liu et al., 2021; MacCann et al., 2025; Tran et al., 2024) and what the emotional consequences are for the distressed target (Pauw et al., 2018; Sahi et al., 2023; Shu et al., 2021). Some studies have also asked what motivates targets to seek regulatory support through emotional expression (e.g. Williams et al., 2018).

As exciting as these studies have been, relatively little work has assessed factors that influence a regulator's assessment of whether or not they should engage in social regulation in the first place. The lack of research on this topic is particularly salient, given that research on the self-regulation of emotion has increasingly recognized the importance of such assessments when individuals are deciding whether and how to manage their own emotions (Sheppes et al., 2014; Doré et al., 2016; Matthews et al., 2021).

That said, extant work in affective science and social psychology suggests three possibilities. First, emerging findings suggest that the intensity of an individual's emotional experiences predicts whether and how people choose to regulate those emotions, regardless of whether they are one's own or someone else's (Matthews et al., 2021; Genzer et al., in press). Second, research on person perception (Heider, 1958; Kelley & Michaela, 1980; Trope & Gaunt, 2007; Teufel et al., 2010) and social interaction (Fiske, 1992; Kenny et al., 2006; Finkel et al., 2017) suggests that the judgments we make about what people are like, in general vs. in the moment, play an important role in predicting their behavior and deciding how we should behave towards

them. Such inferences should be especially important in SER interactions, where a potential regulator might assess various mental states and traits for a distressed other, including what they might need/want when upset and whether their distress is situational vs. dispositional (Lewin, 1946; Ross & Nisbett, 1991; Mischel & Shoda, 1995). Third, research on empathy and prosocial behavior (Batson et al., 2002; Zaki et al., 2014) suggests that an individual's own beliefs and motivations about helping others could be an important factor in determining whether to offer regulatory support to someone in emotional distress. To our knowledge, however, no work to date has examined the ways in which these factors play a role in SER.

To address these gaps in knowledge, we sought to examine the largely unstudied question of what factors lead someone to engage in providing social regulatory support by closely examining the kinds of beliefs individuals might hold about about SER - from the perspective of acting as a regulator - including how such beliefs might influence what happens in SER interactions and subsequently experienced emotional *and* social outcomes (**Fig. 1**). Toward this end, we first recognized that prior work has shown that developing individual difference measures of emotion-related beliefs has provided useful tools for understanding how these beliefs impact behavior. For example, in self-regulatory contexts, questionnaire measures have been developed to assess an individuals' beliefs about the malleability of emotions (Tamir et al., 2007) and the perceived efficacy of using different strategies for self-regulating emotion (Gross & John, 2003). In social regulatory contexts, measures also have been developed to assess beliefs held by both distressed targets and the regulators who offer them support. On the target side, there are measures for assessing self-reported tendencies to share emotions and seek social regulatory support (Williams et al., 2018), the strategies one uses to do so (Niven et al, 2011) and

retrospective beliefs about the strategies a regulator used to provide that support (Swerdlow & Johnson, 2022). On the regulator side, there are measures to assess beliefs about the strategies used when offering regulatory support (e.g. EROS, Niven et al., 2011; ROES, MacCann et al., 2025). To date, however, there are no measures of the beliefs a regulator might possess - about what distressed targets might need and about whether the regulator themself can meet those needs. Such belief might theoretically be expected to influence whether and how we choose to provide social regulatory support to others.

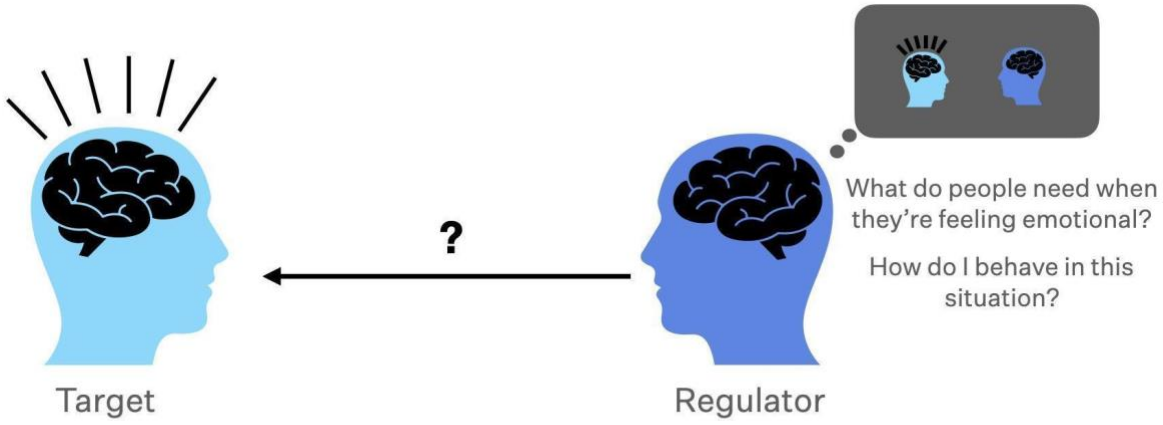


Fig 1. Schematic representation of the phenomenon of interest. We hypothesize that regulator beliefs about what targets need - and their own capacity to provide regulatory support – are key factors influencing whether and how regulators decide to attempt regulating a target's emotions as well as the subsequent social and emotional outcomes experienced by the target.

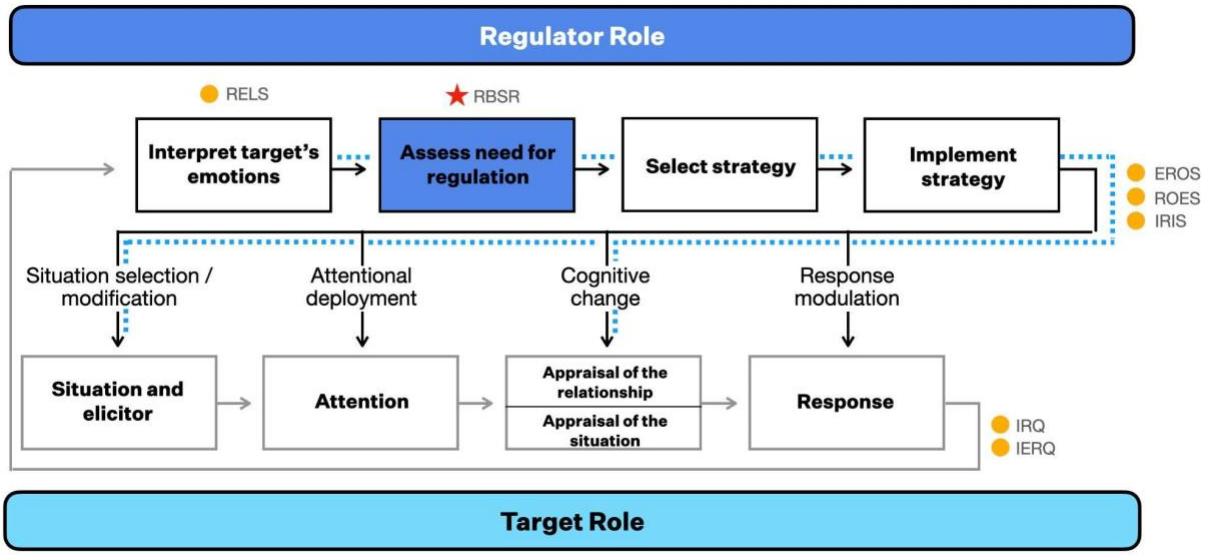
Overview of Studies

We conducted three studies to address the nature of regulator beliefs about social regulation and their impact on both regulators' behavior and the outcomes experienced by targets. The design of these studies was guided by a process model of SER (Reeck et al., 2016). This model distinguishes targets who receive regulatory support from regulators that provide this support, and seeks to describe a sequence of processing stages that may unfold over time for each person during a SER interaction. Regulatory interactions begin when targets encounter and appraise situations in ways that evoke emotional responses. These emotions may be intentionally and explicitly disclosed to, or simply noticed by, regulators. The focus in this paper is on the processes engaged by regulators in response to targets' negative emotions. As shown in **Figure 2**, regulators may interpret the target's emotions, evaluate whether or not social regulatory support should be offered, and if it is deemed appropriate to do so, a regulatory strategy can be selected and implemented. Importantly, this strategy may have two kinds of impact: It can change the way targets engage, appraise, attend to and/or behaviorally respond to the initial emotion-eliciting stimulus *and/or* it can influence the way a target appraises and feels about their relationship with the regulator. In this way, acts of social regulation can have both emotional (e.g. a target feels less sad) and social outcomes (e.g. the target and regulator feel closer to one another) (Rauers & Riedinger, 2023; Niven & Lopéz-Pérez, 2025; Digiovanni & Ochsner, 2024; Arican-Dinc & Gable, 2025).

As shown in **Figure 1**, the present paper seeks to unpack factors that influence a regulator's assessment of whether regulatory support should be offered – which includes both beliefs about

distressed potential targets and about themselves as potential regulatory responders to this distress – and in turn, how these beliefs influence subsequent choices about what strategies to implement with varying kinds of emotional and social impact. Towards this end, in Study 1 we developed a theoretical model of four kinds of beliefs that could inform a regulator's decision about whether and how to engage in providing social regulatory support. For this study, we generated items to assess each belief and used exploratory factor analyses to select the best items to comprise the Regulator Beliefs about Social Regulation (RBSR) scale. In Study 2A, we assessed patterns of association between a regulator's beliefs and measures of relevant socio-emotional behaviors and outcomes by testing the RBSR scale's convergent and discriminant validity with adjacent, theoretically meaningful constructs such as the self-regulation of emotion, social support, empathy and loneliness. In Study 2B, we examined variability of regulator beliefs while simultaneously testing the RBSR scale's test-retest reliability. In Study 3A, we further examined whether regulator beliefs are sensitive to the dynamic, day-to-day variability of real-world social regulatory interactions, in particular the intensity of target's negative emotions. In Study 3B, using the same data as Study 3A, we asked how variability in regulator beliefs about social regulation, as measured by the RBSR scale, predicted real-world social regulatory interactions and outcomes for romantic couples.

As a group, these studies sought to develop and validate a new scale for assessing a regulator's beliefs about social regulation, and in so doing, tested novel hypotheses about the nature of these beliefs and their influence on social regulatory interactions and socioemotional outcomes.



196

197 **Fig 2**. A process model of social emotion regulation (SER), highlighting aspects of SER
198 interactions accessed by prior individual difference measures (**yellow** dots) vs. the newly
199 developed RBSR (**red** star). The **blue** box and dotted line denotes phenomena of interest in this
200 paper. **NOTE:** as diagrammed, the EROS, ROES and IRIS are scales assessing the *types* of
201 strategies regulators implement (Niven et al., 2011; MacCann et al., 2025; Swerdlow & Johnson,
202 2022). The IRQ and IERQ assess targets' motivation of seeking out social regulatory support for
203 typical and clinical populations respectively (Williams et al., 2018; Hofmann et al., 2016). The
204 RELS assesses how regulators label targets' emotions (Liu et al., in 2025). See text for details.

205

206 **Transparency and Openness**

207 For all studies, we report how we determined our sample size, all data exclusions, all
208 manipulations, and all measures in the study. All sample sizes were determined in advance. Data
209 were analyzed with R (version 4.3.3, 2024-02-29) via RStudio version (2023.12.1; RStudio
210 Team, 2020), primarily using the packages tidyverse (Wickham et al., 2019) and brms (Bürkner,

2018). Our studies were not preregistered. All data and analysis scripts are publicly available at https://osf.io/d3fhq.

Ethics Approval

All reported studies received ethical approval from the institutional review board at Columbia University (AAAU0758).

Study 1: What Kinds of Beliefs About Social Emotion Regulation Matter? Theoretical Framework and Exploratory Factor Analysis

Theory-driven Item Development

In Study 1, we started examining SER interactions from the point of view of someone in the regulator role by asking what kinds of beliefs could importantly shape their choices about whether and how to engage in providing social regulatory support. We drew upon research from social psychology and affective science to hypothesize that regulator beliefs about social regulation might vary along two dimensions (**Table 1**).

The first dimension concerns *who* the belief is about: potential targets of regulation or the potential regulatory provider themself. Decades of dyadic research emphasizes that the perception of others' and one's own mental states and dispositions are key factors influencing behavior (e.g. Kenny et al., 2006). As such, regulator beliefs about social regulation should – in

general – encompass beliefs about both individuals in distress who could be targets in need of support, and beliefs about themselves as potential regulators providing that support.

The second dimension concerns *what* the beliefs are about: social connections or emotion change. SER is both a social *and* emotional process (Digiovanni & Ochsner, 2024; Arican-Dinc & Gable, 2025), and as such, regulator beliefs may concern both social goals to foster connection and emotion goals to change a target's emotions (i.e. regulator beliefs about connection vs. emotion change, Digiovanni, He & Ochsner, under review; Baumeister & Leary, 1995; Tamir, 2016).

Together, the crossing of these two dimensions with two levels each yields four theoretically meaningful beliefs that a regulator might have about social regulation. Below, we elaborate on these beliefs and the relevant literatures that guided their formulation.

What is the belief about?	Who is the belief about?	
	Target (Regulator beliefs about targets' needs)	**Regulator** (Regulator beliefs about their capacity to provide regulatory support)
Social Connection	*Lay conception:* When people are upset, do they want to connect with others?	*Lay conception:* When people are upset, do I want to connect with them?

Emotion Change	*Belief subtype:* **Targets' need to connect**	*Belief subtype:* **My tendency to connect**
	Lay conception. When people are upset, do they want someone to help them feel better?	*Lay conception.* When people are upset, am I good at changing how they feel?
	Belief subtype: **Targets need (help) to feel better**	*Belief subtype:* **My perceived efficacy in managing targets' emotions**

Table 1. This table describes two dimensions whose crossing defines four beliefs regulators might have about social regulation: *who* the belief is about (target vs. regulator; horizontal dimension) and *what* the belief is about (social goals to connect vs. emotion goals to modify targets' emotions; vertical dimension). Each cell corresponds to a theoretically meaningful and distinct type of belief. The top portion of each cell provides a description of the belief subtype in lay terms. The bottom portion of each cell provides a label for each of the four belief subtypes assessed by the scale. The final items assessing each subscale can be found in **Table 3**, while the initial list of items can be found in the Supplemental Materials.

Targets' need to connect. This belief concerns a potential regulator's perception that distressed individuals – in general – need to feel seen, heard and understood, and therefore could become targets of social regulatory support. Extensive research suggests that people have a fundamental need to connect, both in general (Baumeister & Leary, 1995; Echterhoff et al., 2009) and specifically when emotionally distressed (e.g. through venting and emotion expression, Rimé, 2007; Duprez et al., 2015). When these needs are met, people tend to report feeling comforted, close to the person providing the regulatory support and more certain about their understanding of the world (Echterhoff et al., 2009; Linehan, 1997; Reis et al., 2004; Sahi et al., 2023). Extant research, however, has not studied regulators' *perceptions* of these prosocial and affiliative needs that targets may possess.

Targets' need to feel better. This belief concerns a potential regulator's perception that individuals in emotional distress would like help from others to change how they feel. As such, this belief reflects an individual - in the regulator role - believing that someone in emotional distress generally would prefer - and perhaps even has a goal - to change their emotional state (Mauss & Tamir, 2014; Eldousky & Gross, 2016). Notably, prior research has shown that it is common for distressed individuals to have emotional (aka hedonic) goals (e.g. to feel less negative), although they are not always present (Tamir, 2016). To date, however, little research has assessed the beliefs that potential regulators might have about whether and to what extent targets possess these goals.

Regulator's own tendency to connect. This belief concerns a potential regulator's tendency to be close to vs. distant from individuals who are emotionally distressed. Past research

on prosociality and empathy suggests that the motivation to connect is important in predicting behavior towards individuals experiencing negative emotions (Batson et al., 1981; Deci & Ryan, 2014; Dunkel-Schetter & Skokan, 1990; Zaki, 2014). To date, however, little work has examined such motivations in the context of social emotion regulation, and in particular, whether a potential regulator believes it is better to approach and be close to a distressed social target vs. stay distant and "give them space".

Regulator's own efficacy in managing how targets feel. This concerns a potential regulator's beliefs about their own ability to effectively manage a distressed target's negative emotions. Although no prior work has specifically examined such beliefs, insight into why such beliefs may matter comes from research on self-efficacy dating back to the 1960s, which shows that feeling efficacious predicts academic and professional success (Bandura, 1982). In the study of emotion regulation, perceived regulatory efficacy is an important predictor of positive regulatory outcomes when individuals self-regulate their own emotions and when seeking out others for social regulatory support (Williams et al., 2018). This is likely because perceived efficacy motivates a self-fulfilling cycle of attempting to regulate targets and receiving positive reinforcement when regulation is done effectively (Aknin et al., 2018). As such, perceived social regulatory efficacy can be defined as the knowledge that one has effectively regulated others before and a prediction that one can do so again. This sense of social regulatory efficacy may support a regulator's ability to respond to target emotions in a contextually appropriate manner, whether through the use of validation, listening, social reappraisal or some other regulatory strategy.

The above analysis defined a four quadrant (See **Table 1**) conceptual space for generating candidate items to be used in a questionnaire assessing regulator beliefs about social regulation. Following other SER scales (e.g. Swerdlow & Johnson, 2022; Williams et al., 2018), we generated 10 items for each of the four types of beliefs so that we had a sufficient number of items for factor analyses (DeVillis & Thorpe, 2021). The intent was to generate a wide set of items that could assess each kind of belief and then use exploratory factor analyses to reveal whether our theoretical model was correct, and if so, which items best captured the core conceptual content of each belief. We also included reverse-worded items where appropriate to enhance psychometrics (see Supplemental Materials for full list of items). All items were written in an expressly open-ended and general manner so as to be clear to the layman and allow individuals to interpret the items flexibly with respect to their own situation.

Method

Participants

We recruited a representative sample of 400 participants in the United States on Prolific. The sample consisted of 7.75% Asian, 13.75% Black, 4.50% Mixed, 3.75% Other and 70.25% White (M_{age} = 45.13, SD_{age} = 16.23). This sample size was selected based on prior work that developed related SER scales using similar validation samples (e.g. Williams et al., 2018) and provided high statistical power for exploratory factor analyses (Tabachnick & Fidell, 2013).

Procedure

Upon consenting to the study on Prolific, participants were directed to a Qualtrics survey consisting of 40 statements created during the item generation phase. Participants were instructed to answer these questions in general with respect to the people in their lives. For each item, participants responded on a scale from 1 (*Strong disagree)* to 7 (*Strongly agree*).

Factor Analysis Plan

We examined the data for multivariate assumptions (normality, linearity, homogeneity and homoscedasticity) and its suitability for exploratory factor analysis with the Barlett's test of correlation adequacy and the Kaiser-Meyer-Olkin test for sampling adequacy (Preacher & MacCallum, 2003).

Next, we conducted Exploratory Factor Analyses using maximum likelihood. Given that we expected different aspects of providing social regulation to systematically covary (e.g., people who tend to be there for others may feel more effective at regulating others), we selected an oblique factor rotation (oblimin) that allows factors to be correlated with one another. We decided the number of factors to extract using Horn's (1965) parallel analysis (PA). Parallel analysis methods draw upon bootstrap approaches (Preacher & Hayes, 2004) to generate permuted data sets of comparable parameters and extract simulated eigenvalues (Hayton et al., 2004). We sampled 1,000 iterations to generate distributions of simulated eigenvalues. Simulated medians can then be calculated as an objective standard for retention, thereby providing a clear quantitative estimate of each factor's respective contribution (Ruscio & Roche, 2012).

We further assessed the best number of factors by benchmarking with Revelle and Rocklin's (1979) very simple structure (VSS) criterion, Velicer's (1976) minimum average partial (MAP) criterion, and Ruscio and Roche's (2012) comparison data (CD) technique. Convergence among these multiple indices has been shown to yield more accurate factorization (Ruscio & Roche, 2012). Items that demonstrated low primary factor loading (.40) or high factor cross-loading (.30) were eliminated from the item set until a conceptually interpretable simple structure was achieved (Osborne, 2008). By trimming items with relatively lower item-factor loading, we enhanced construct validity by increasing the overall cohesiveness of items within each subscale, ultimately selecting three items per subscale to enhance the scale's overall ease of use. We additionally calculated reliability estimates and interfactor correlations for each of the final subscales.

To evaluate absolute model fit, we used the standardized root-mean-square residual (SRMR) and root mean square error of approximation (RMSEA) indices (Steiger & Lind, 1980). For both indices, smaller values reflect better fit, and values below .08 signal acceptable model fit (Browne & Cudeck, 1992). These metrics are superior to chi-squared likelihood ratio statistics, which compare actual models to perfect model fit (MacCallum, 1990) and reject suitable models for even slight deviations in large sample sizes (Hakstian et al., 1982; Humphreys & Montanelli Jr., 1975). However, we further report the Tucker-Lewis Index (TLI), as recommended by Hu and Bentler (1999), which instead compares actual and null model chi-squared values (Tucker & Lewis, 1973). Higher TLI values indicate greater relative fit, with values .90 indicating good model fit (Byrne, 1994). All analyses were performed in R version 4.2.2.

Results

Multivariate Assumption Checks

All multivariate assumptions of normality, linearity, homogeneity of variance and homoscedasticity were met. Bartlett's test indicated correlation adequacy, $X^2(780) = 8068.517$, $p < .001$ and the Kaiser-Meyer-Olkin test indicated excellent sampling adequacy, $MSA = 0.93$.

Factor Analyses

An initial exploratory factor analysis of all 40 items demonstrated a 4 factor solution that explained 46% of the variance (**Table 2**). We removed 4 items that failed to load adequately onto a primary factor or showed excessive factor cross-loading. Then, we tested 3 models: (a) a one factor solution with all 36 items; (b) a 4-factor solution with the top 4 item loadings; (c) a 4-factor solution with the top 3 item loadings.

Ultimately, parallel analysis, Kaiser criterion, VSS, MAP, and CD all converged on a four-factor, 12-item solution, which demonstrated excellent fit across all indices (RMSR = .02, RMSEA = .04, 90% CI [.01, .06]; Tucker–Lewis Index = .98, CFI = .98) and structure (M item complexity = 1.0; Hofmann, 1977) (**Table 2**). These four factors fit our a priori model that described regulator beliefs about (a) *targets' need to connect; (b) targets' need to feel better; (c) the regulator's own tendency to connect with targets and (d) their own perceived social*

regulatory efficacy. Together, these factors explained 57% of the variance. Final item loadings for each factor are displayed in **Table 3**. These factors demonstrated low to moderate interfactor correlations (.06 –.55; **Table 4**) and high reliability (.74–.86; **Table 5**).

Model	RMSR	RMSEA	RMSEA CI	TLI
Sample 1				
Model 1: All items (40)	0.04	0.05	[0.04, 0.05]	0.90
Model 2: One factor (36)	0.04	0.05	[0.04, 0.05]	0.90
Model 3: Top 4 items (16)	0.02	0.03	[0.01, 0.04]	0.98
Model 4: Final scale (12)	0.02	0.04	[0.01, 0.06]	0.98
Sample 2				
Model 5: Final scale replication (12)	0.06	0.06	[0.05, 0.07]	0.95

Table 2. Model fit indices for factor analyses of Regulator Beliefs about Social Regulation Scale (RBSR). Sample 1 refers to participants from Study 1 ($N = 400$) while sample 2 refers to participants from Study 2 ($N = 800$). RMSR = Root Mean Square Residuals; RMSEA = Root Mean Square Error of Approximation; RMSEA CI = 90% confidence intervals of Root Mean Square Error of Approximation; TLI = Tucker Lewis Index.

Item	Regulator beliefs about …			
	Targets' need to connect	Targets' need to feel better	Their own tendency to connect	Their social regulatory efficacy
When people are upset, they want to feel heard	0.849	-0.078	0.039	-0.007
People want to feel understood when they are down	0.658	0.077	-0.063	0.055
When others are troubled, they just want to talk with someone about it	0.585	0.155	0.017	-0.048
When people are upset, they want someone to suggest how to handle the problem	-0.019	0.879	0.017	-0.042
When others are feeling down, they want ideas about how to resolve their situation	0.004	0.837	0.026	-0.016
People want advice on how to deal with the situation when they are in distress	0.037	0.737	-0.055	0.113
When someone is upset, I prefer to leave them alone	0.036	0.036	0.79	0.055
When someone is upset, I try to avoid them	0.04	-0.026	0.697	0.133

I give people space when they are having a bad day	-0.064	-0.014	0.656	-0.17
I know I can be there for others when they need it	0.005	0.044	0.064	0.792
I've helped friends get through tough times	0.009	-0.028	0.035	0.727
I know I can be a good listener	0.008	-0.006	-0.047	0.726

410

411 **Table 3.** Item loadings from Exploratory Factor Analyses of the final 12 items in the RBSR

412 Scale (N = 400).

413

	Regulator beliefs about …			
	Targets' need to connect	Targets' need to feel better	Their own tendency to connect	Their social regulatory efficacy
Sample 1 (*N* = 400)				
Regulator's beliefs about …				
Target's need to connect	1.00	0.26	0.49	0.55
Target's need to feel better	-	1.00	0.06	0.25
Their own tendency to connect	-	-	1.00	0.29
Their self-perceived social regulatory efficacy	-	-	-	1.00
Sample 2 (*N* = 800)				

Regulator's beliefs about …				
Target's need to connect	1.00	0.26	0.17	0.45
Target's need to feel better	-	1.00	0.06	0.19
Regulator's own tendency to connect	-	-	1.00	0.40
Regulator's self-perceived social regulatory efficacy	-	-	-	1.00

414

415 **Table 4.** Estimated inter-factor Correlations for Regulator Beliefs about Social Regulation

416 (RBSR) subscales.

417

	Regulator beliefs about …			
	Targets' need to connect	Targets' need to feel better	Their own tendency to connect	Their social regulatory efficacy
Sample 1				
Final scale (12)	.74 [.70, .78]	.86 [.84, .88]	.75 [.71, .79]	.80 [.77, .84]
Sample 2				
Final scale (12)	.72 [.68, .75]	.89 [.87, .90]	.77 [.74, .80]	.78 [.75, .81]

418

419 **Table 5.** Internal reliability for Regulator Beliefs about Social Regulation scale (RBSR). *Note.*

420 Values in square brackets indicate 95% confidence interval.

Study 1 Discussion

The overall goal of this paper is to understand how - from the perspective of a social regulator - one's beliefs about key aspects of social regulatory interactions influence decisions to offer regulatory support to distressed targets - as well as any subsequent social and emotional outcomes. Study 1 took a first step towards accomplishing this overarching goal. The primary aim of Study 1 was to develop a conceptual model of, and a questionnaire method for, assessing different types of beliefs a regulator might possess that might guide their behaviors toward distressed targets. Towards this end, we generated items for each of four hypothesized types of belief and used exploratory factor analyses to select the best items for each one.

The results provided initial evidence that we can validly measure regulator beliefs about social regulation in terms of four distinct subtypes of belief: beliefs about (a) targets' need to connect; (b) targets' need to feel better; and the regulator's (c) own tendency to connect with targets and (d) feel efficacious in offering social regulatory support. Out of our initial list of 40 items, exploratory factor analysis revealed that a 12-item, 4 factor solution had the best model fit, reliability and practical usability. The upshot was a set of items spanning four factors that are conceptually distinct from each other and have high within-factor reliability.

These data support our theoretical framework that regulator beliefs about social regulation can vary along two dimensions: *who* the belief is about (i.e. target vs. regulator) and *what* the belief is about (i.e. social goals to connect vs. emotion goals to modify targets' emotion experience).

Put another way, together, these two dimensions can describe a regulator's beliefs about targets' needs and their capacity to meet those needs. As such, this framework seeks to integrate an appreciation of social goals and processes from relationship science as well as emotion goals and processes from affective science (Reeck et al., 2016; Arican-Dinc & Gable, 2025).

That said, upon reviewing the content of the final set of items, two observations are worthy of note. First, for beliefs about the tendency of a regulator to connect with targets, the highest loading items were all reverse-worded, possibly suggesting that distancing from targets in distress is a more uniform construct than connecting with a distressed target. For the purpose of the present research, we assume that distancing and connecting are two anchors of a continuous scale rather than being two qualitatively different phenomena (paralleling measurement issues in emotion research; e.g. Kron et al., 2013). Future research could examine whether this assumption is true. Second, the items for assessing beliefs about targets' need to feel better reflect the explicit use of social regulation strategies such as situation modification, social reappraisal and visible support (Bolger & Amarel, 2007; MacCann et al., 2025; Swerdlow & Johnson, 2022). This could be an artifact of the initial pool of items which indexed specific regulation strategies consistent with problem-focused coping (Lazarus & Folkman, 1964). Future research can test alternative item phrasings to explore regulator perceptions of target hedonic goals, such as a motivation-focused, strategy-agnostic approach (e.g. 'When people are upset, I think they want to feel better')(Brandão et al., 2023).

While this study suggests we can meaningfully parse specific kinds of regulator beliefs about social regulation, two limitations to our approach are salient. First, although the beliefs we

assessed were about both targets and regulators, they are only considered from a regulator's point of view. A dyadic - and more broadly socially interactive - approach can and should extend beyond this conceptualization to include targets' point of view as well (Kenny et al., 2006). For example, future research could assess these beliefs from a target's point of view, for example assessing a target's beliefs about their own social and emotion goals as well as their beliefs about what potential regulators might tend to do in response. Such beliefs could be assessed in conjunction with the regulator-focused beliefs assessed here. Second, like most research on social/interpersonal emotion regulation, our approach tacitly assumes that target and regulator roles are fixed; that is, the regulator helps the target and the target is helped by the regulator, but a reversal of these roles along with attendant changes in goals for each person are not considered. While a strict separation of target and regulator roles may be experimentally useful, it is likely that these roles swap and blur for many relationships where social emotion regulation happens in everyday life (Digiovanni, He & Ochsner, under review). For example, regulators also have their own emotional needs (Baumeister & Leary, 1995) that may be interdependent with those of the target (Van Lange & Balliet, 2015), and it may be fruitful to examine the extent to which both targets *and* regulators want to feel understood in the same interaction. As described below, some of these issues will be addressed in the next sets of studies.

Study 2A: Examining Patterns of Social-Emotional Behavior and Well-Being Associated with Regulator Beliefs about Social Regulation: RBSR Scale's Convergent and Discriminant Validity

In Study 1, we developed a theoretical model of regulator beliefs about social regulation and a scale to assess them. We found preliminary evidence for four qualitatively different beliefs an

individual can have when interacting with someone else in distress. In Study 2A, our primary aim was to more thoroughly examine the nature of this scale, and the novel constructs it assesses, by testing its relationship with measures assessing adjacent constructs related to emotion regulation and social interaction. Relating regulator beliefs to other theoretically meaningful variables is also psychometrically useful: placing a construct in a "nomological net" is common practice in scale development to ascertain the convergent and discriminant validity of the measure (Cronbach & Meehl, 1955). A secondary aim of this study was to replicate the factor structure of the RBSR scale. To address these aims, we considered three ways in which the beliefs identified in Study 1 might – or might not – be expected to theoretically relate to other measures of social, affective and person-level variables.

First, we considered potentially convergent relationships with constructs relevant to prosociality, social support and emotion regulation. All four of the belief subtypes assessed by the RBSR scale concern the way in which an individual thinks about the emotional and social needs of others and their own tendencies to provide support for those needs. As such, all of these beliefs would theoretically be expected to relate to measures of the tendencies to be prosocial and other-oriented. For example, decades of research have examined other-oriented, "giving" processes such as prosociality, empathy (Batson, 1981; Zaki, 2014) and the provision of social support (Bolger & Amarel, 2007; Reis & Gable, 2015; Gable et al., 2012). If the regulator beliefs identified in Study 1 are consequential for how we respond to others in distress, then scores on each RBSR subscale should, in general, correlate positively with measures of prosociality, empathy and the provision of social support.

The beliefs assessed by the RBSR might also be expected to have their origins in prior experiences where one learns that expressing their socioemotional needs is met with appropriate regulatory support from close others. Relevant here is lifespan development research suggesting that receiving and giving emotion-regulatory support are intimately interconnected. For example, multiple developmental studies show that individuals who had high-quality relationships with close others in childhood (e.g. with a caregiver) and adolescence (e.g. with close friends), where they received effective social regulatory support, predicts the provision of effective emotion-regulatory support to romantic partners later in life (e.g. Costello et al., 2024; Stern et al., 2024; Lin et al., 2024). Similar patterns have been found in longitudinal studies of peer support among college students (e.g. Stanoi et al., 2024) and of long-term, committed married couples (Gleason et al., 2003). We therefore expected higher scores on each RBSR subscale to correlate with higher scores on measures of the tendency to share emotions with others, and to seek and benefit from social support (e.g. the Interpersonal Regulation Questionnaire).

Second, we considered more specific patterns of association between the beliefs assessed by the RBSR scale and related constructs that may provide support for both its convergent and discriminant validity. As described in Study 1 (see **Table 1**), regulator beliefs are thought to vary along two dimensions: as a function of *who* (i.e. self as regulator vs. others as a target) and *what* they are about (i.e. connection vs. emotion change). Multiple literatures provide clues as to what kinds of socioemotional variables may relate to each of these dimensions of belief.

Let's first consider the difference between regulator beliefs about targets and themselves as regulators. A rich social psychological literature suggests that people have insight into their own

behavior (Dunning et al., 2012; Zell & Krizan, 2014) even if they are sometimes biased (Pronin et al., 2002), and that knowing what others want/need does not necessarily mean we are motivated to and/or capable of acting on this knowledge (Zaki, 2014). As such, what regulators believe about their capacity to provide support should be a stronger predictor of their own behavior than should their beliefs about targets. For example, a typical individual's tendency to provide social support, be empathetic and less lonely should be more strongly correlated with beliefs about themselves than with beliefs about target needs. Furthermore, affective science research shows that individuals socially regulate others' emotions in ways that are similar to how we self-regulate our own emotions (Yaari et al., 2025; Matthews et al., 2021). This suggests that independent of our own regulatory tendencies, we may form beliefs about whether and how targets need support based on our own experiences as a target – i.e. as a function of whether, in the past, we have received regulatory support from others for our own distress. If this is the case, then beliefs about targets' needs should be more strongly correlated with a regulator's tendency to seek and benefit from social regulatory support rather than their beliefs about themselves as a regulator.

Let's now consider the second belief dimension assessed by the RBSR, asking how beliefs about connection vs. emotion change might be expected to show different patterns of association with relevant constructs. On one hand, a potential regulator's beliefs about connection should be related to general tendencies to feel connected to others. For example, we would expect that people who believe that distressed targets want to enhance connection – and that the regulator themself can be there to provide it – are more likely to be satisfied and fulfilled by their social connections (Crocker & Canevello, 2008) – and therefore aren't lonely (Hawkley & Cacioppo,

2010). If this is true, we should also expect individuals who believe that connection is important to endorse stronger goals for closeness and provide more emotional support. On the other hand, a potential regulator's beliefs about emotion change should be related to their general tendencies to experience emotional well-being and to engage in supportive behaviors that reflect care for the emotional well-being of others. For example, we would expect that people who believe that distressed targets want to feel better – and that the regulator themselves can help make that happen – would be individuals who have learned the value of emotional well-being (Tamir et al., 2007), as reflected in their reports of more positive and less negative emotions in their own life, a greater tendency to self-regulate and a greater tendency to provide instrumental support to others.

Intriguingly, there also are reasons to believe that a typical individual's goals for closeness with potential targets might differentiate a regulator's beliefs about connection and emotion change. For instance, to the extent that emotions reflect epistemic truths about the nature of the world, as posited by shared reality theory (Echterhoff et al., 2009; Rossignac-Milon et al., 2021), then beliefs about connection might relate to an individual's tendency to empathize with and try to understand the emotions of distressed targets without the regulator believing they should have an explicit goal to change how the target feels (Zhao et al., 2025). In addition, prior research has shown that changing emotions, in general, is facilitated by distance from the stimulus eliciting the emotion (be it psychological and/or physical; Trope & Liberman, 2010; Powers & Labar, 2019), and that the experience of negative emotion can disrupt planning and goal-directed behavior (Arnsten, 2015; Raio et al., 2013). As such, it is possible that regulators who believe that they should help distressed targets change their emotions might also believe that they need to be distant from those targets in order to do so. Such distance might lessen their own

empathic/vicarious experience of the target's emotional pain, thereby facilitating their ability to calmly and cooly select and implement social regulatory strategies.

Finally, to assess the discriminant validity of the RBSR scale, we expected that RBSR scores should not be strongly correlated with at least three kinds of measures for which there are no strong theoretical grounds to expect them to be related to a regulator's beliefs about social regulation, *per se*. First, we expected RBSR scores to be unrelated to one's subjective social status, given that providing emotion regulatory support to others is found across the socioeconomic ladder (Shakespeare-Finch & Obst, 2011). Second, providing emotional support to others is often motivated by prosocial goals, beyond making favorable social impressions (Batson et al., 1991), suggesting that RBSR scores should not be related to measures of the tendency to engage in socially desirable behaviors (speaking politely; dressing in an appropriate manner). Third, we also expected that RBSR scores should not relate to measures of non-social personality traits (e.g. openness to experience, conscientiousness and neuroticism), given there is no clear theoretical reason to expect such traits are related to a person's beliefs about providing social regulatory support or what distressed targets might want from their social regulatory attempts.

To test these possibilities, in a new group of participants we administered the RBSR scale and a battery of individual difference questionnaires capturing the constructs of *a-priori* interest described above. One set of these *a-priori* measures were chosen to test the RBSR scale's convergent validity with measures of emotion experience, expression, regulation, loneliness, social support, prosociality, empathy and tendency to seek emotion regulatory support. A second

set of *a-priori* measures tested the RBSR scale's discriminant validity with measures of perceived social status, social desirability and non-social personality traits. Taken together, these assessments allowed us to comprehensively examine the RBSR scale's convergent and discriminant relationships with a broad array of measures. To our knowledge, other scales that have been designed to assess aspects of social emotion regulation have not sampled as full a range of allied constructs, with most focusing only on constructs related to emotion regulation (e.g. Gross & John, 2003; MacCann et al., 2025).

Method

Participants

800 participants were recruited from Prolific that comprised a representative sample of the U.S. population (M_{age} = 45.39 years old, SD_{age} = 16.25 years; 49% Male; 5.89% Asian; 12.6% Black; 2% Mixed; 1.63% Other; 77.82% White).

Procedure

We included 26 questionnaires that were organized into two sets. The first set included 11 measures of *a-priori* interest because of their relevance for assessing the RBSR scale's convergent and discriminant validity. The second set included 15 additional exploratory measures intended to account for variation in factors for which we had no *a-priori* hypotheses,

but were still potentially meaningful to the study of SER. Participants also completed the 12-item RBSR scale.

To reduce participant burden, each participant only completed one out of four sets of questionnaires we created. Each set of questionnaires consisted of a total of four to eight measures including a balanced proportion of *a-priori* measures and exploratory measures. Because measures with more items took longer to complete than others (on average), the exact number of measures included in each set varied so that the total time taken to complete any given set was held constant across all sets (approximately 25 minutes)(see Supplemental Materials for full list). We report results for the questionnaires relevant to our *a-priori* analyses below and for the exploratory measures in the Supplemental Materials.

Convergent Validity: Assessing correlations of the RBSR with measures of Emotion Experience, Expression, Regulation and Social Interaction

Modified Inclusion of Other in Self Scale. This 2-item scale was modified from the original Inclusion of Other in Self Scale (Aron et al., 1992). The scale presents a set of images consisting of two circles that overlap to varying degrees. One item assessed beliefs from the regulator perspective, asking participants to indicate which set of circles best described how close they want to be to another person who is emotionally distressed. The second item asked participants to indicate which set of circles best described how close they think other people want to be to another person when they are upset. The specific wording of these items was as follows: 'Please choose the picture below that best describes what you want when others are

upset' and 'Please choose the picture below that best describes what you think others want when they are upset' (1 = Not at all close; 7 = Extremely close).

Emotion Experience. Participants completed the 10-item Positive (α = .93; e.g. 'enthusiastic') and Negative Affect (α = .91; e.g. 'nervous') subscales of the Positive and Negative Affect Schedule (PANAS) (Watson et al., 1988) with reference to the past week (1 = Not at all; 5 = Extremely).

Emotion Expressivity. Participants completed the 16-item Berkeley Expressivity Questionnaire (BEQ; α = .90; e.g. 'What I'm feeling is written all over my face'). All items were rated on a 7 point Likert scale (1 = Strongly disagree; 7 = Strong agree) (Gross & John, 1997).

Emotion Regulation. Participants completed the 6-item Cognitive Reappraisal subscale (ERQ-CR; α = .72; e.g. 'I control my emotions by changing the way I think about the situation I'm in') and the 4-item Suppression subscale of the Emotion Regulation Questionnaire (ERQ-S; α = .72; e.g. 'I keep my emotions to myself') on a 7 point Likert scale (1 = Strongly disagree; 7 = Strongly agree) (Gross & John, 2003).

Providing Social Support. Participants completed the 5-item Giving Emotional Support (α = .92; e.g. 'I am there to listen to other's problems') and 5-item Giving Instrumental Support (α = .86; e.g. 'I help others when they are too busy to get everything done') subscales of the 2-way Social Support Scale (SSS) using a 5 point slider scale (1 = Not at all; 5 = Always) (Shakespeare-Finch & Obst, 2011).

Social Emotion Regulation – Tendency to seek and Perceived Efficacy. Participants completed the 16-item Interpersonal Regulation Questionnaire (IRQ; α = .94; e.g. 'When something bad happens, my first impulse is to seek out the company of others') using a 7 point Likert scale (1 = Strongly disagree; 7 = Strongly agree) (Williams et al., 2018).

Prosociality. Participants completed the Adult Prosociality Scale (APS, α = .92; e.g. 'I share the things that I have with my friends') (Caprara et al., 2005) and the Altruism Scale (α = .90; e.g. 'I have given directions to a stranger') (Philippe Rushton et al., 1981) using a 5 point Likert scale (1 = Never true; 5 = Always true).

Empathy. Participants completed the 7-item Empathic Concern (α = .85; e.g.' I often have tender, concerned feelings for people less fortunate than me'), 7-item Perspective Taking (α = .78; e.g. 'I try to look at everybody's side of a disagreement before I make a decision') and 7-item Personal Distress (α = .84; e.g. 'I sometimes feel helpless when I am in the middle of a very emotional situation') subscales of the Interpersonal Reactivity Index (IRI). Every item was answered on a 5 point Likert scale (1 = Does not describe me well; 5 = Describes very well) (Davis, 1980).

Discriminant Validity: Correlations with measures of Perceived Social Standing, Social Desirability and Non-social Personality Traits

Perceived Social Standing. Participants completed the 1-item Perceived Socioeconomic Status Scale (perceived SES) on a scale of 1 (lowest status) to 10 (highest status) (Adler et al., 2000).

Social Desirability. Participants completed the 10-item Social Desirability Scale (SDS, α = .71; e.g. 'At times I have really insisted on getting my own way.') on a binary scale (1 = True; 0 = False) (Reynolds, 1982).

Non-social Personality Traits. Participants completed the 9-item Conscientiousness (α = .88), 10-item Openness (α = .85) and 8-item Neuroticism (α = .87) subscales of the Big Five Inventory (BFI) (John & Srivastava, 1999) using a 5-point Likert scale (1 = Disagree Strongly; 5 = Agree Strongly)

Analysis Plan

To test confirmatory and discriminant relationships between regulator beliefs about social regulation and the measures listed above, we correlated scores for each of the four RBSR belief subscales with scores for each *a-priori* measure. We report correlations and associated *p* values between each belief factor and *a-priori* measure in **Table 6**.

Results

Replicated Factor Structure of RBSR Scale

Using Confirmatory Factor Analyses, we replicated the four factor structure identified in Study 1 that cumulatively explained 60% of the total variance. Fit statistics indicated that this model provided an excellent fit for the data, CFI = .96, RMSEA = .06, 90% CI = [.05, .07]. Moreover, this model surpasses a four factor model with uncorrelated factors, CFI = .90, RMSEA = .09, 90% CI = [.09, .10]. Similar to Study 1, the four factors possessed good reliability (αs = .72 –.89; Tables 5) and weak to moderate inter-factor correlations (*r*s = .04 - .40, Table 6). A graph of the item loadings and factor inter-correlations can be found in the Supplemental Materials.

Convergent validity: Each RBSR subscale positively correlated with measures of prosociality, empathy, providing social support as well as seeking and benefitting from receiving social support

Consistent with our hypotheses, we found that the four kinds of regulator beliefs each positively predicted scores on measures of prosociality and empathy. In addition, each kind of belief also predicted how much individuals reported – on average – providing social support to others as well as how much they sought out social support from others. In other words, individuals who tended to believe that people in distress want support (i.e. to connect and feel better) and reported being capable of managing that distress (i.e. tending to be close to distressed others, and feeling able to manage their emotions) were also more likely to report being prosocial, empathetic, provide social support to others and seek out social support for themselves (**Fig 3,** Panel I; **Table 6)**.

Convergent and discriminant validity: Different dimensions of the RBSR scale predicted different patterns of social vs. emotional outcomes, as well as different kinds of target vs. regulator behaviors

The RBSR scale aims to distinguish beliefs along two dimensions: what the beliefs are about (i.e. connection vs. emotion change) and who they are about (i.e. targets' needs vs. their own capacity to help as a regulator). We found that beliefs about connection vs. emotion change predicted different patterns of social vs. emotional outcomes, while regulator beliefs about targets vs. their capacity as a social regulator predicted reports of their own behavioral tendencies in the target vs. the regulator role (**Fig 3**, Panel I and II).

Let's first consider differences between beliefs about connection vs. emotion change (**Fig 3.**, Panel II:A). As expected, beliefs about connection (i.e. believing targets need to connect and that one is motivated to connect with targets) were more strongly correlated with having goals for closeness, providing emotional support and being less lonely. In contrast, beliefs about emotion change (e.g. believing more strongly that targets want help to feel better and that one can manage targets' emotions) was associated with providing more instrumental support to others, greater tendency to self-regulate and experiencing more habitual positive emotions and less negative emotions, in general.

Let's now turn our attention to regulator beliefs about targets vs. their own capacity as a social regulator. Consistent with our hypotheses, a potential regulator's beliefs about targets were correlated with measures of how they tend to behave as a target of support, relative to their

beliefs about themselves as regulators (**Fig 3,** Panel II:B). Conversely, beliefs about oneself as a regulator were more strongly correlated with measures of one's own behaviors and outcomes in a regulatory role, such as measures of loneliness, empathy, prosociality, emotional well-being and tendency to self-regulate (**Fig 3,** Panel II:B).

Discriminant validity: All RBSR subscales were weakly correlated with non-social personality traits, social desirability and perceived social status

Finally, as was expected, regulator beliefs about social regulation were not related to perceived social status or social desirability, and they weakly track openness to experience, conscientiousness and neuroticism (**Fig 3**, Panel II:C).

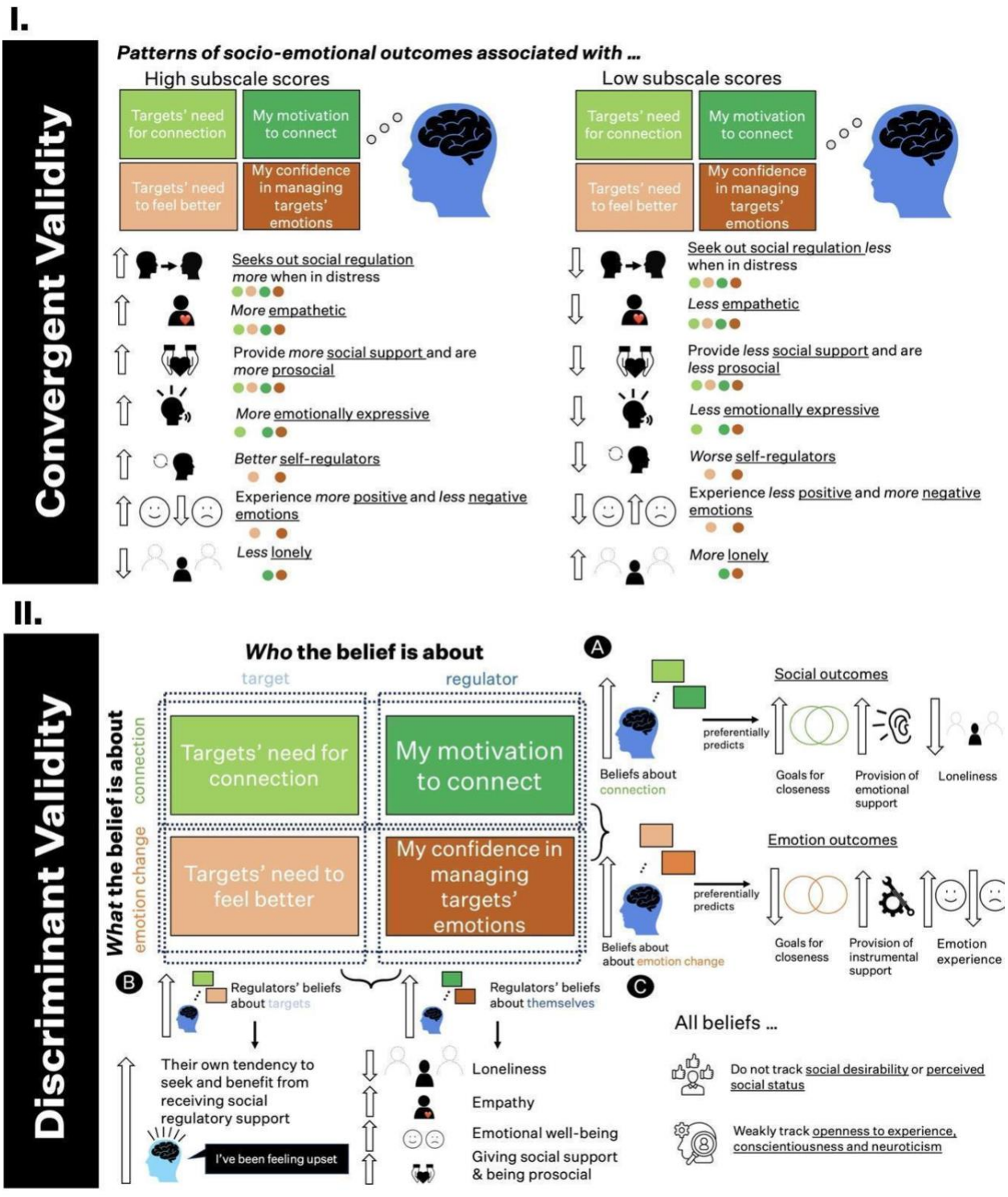


Fig 3. Depicts the psychological profile of regulators depending on their general beliefs about social regulation. Panel I describes patterns of socio-emotional behavior correlated with regulator beliefs about social regulation, thereby establishing the RBSR scale's convergent validity with

related constructs. The text highlights constructs that correlated positively with regulator beliefs about social regulation (e.g. seeks out social regulatory support, more emotionally expressive). The color dots below each construct indicate which specific belief(s) is/are driving relationships with measures of interest. Panel II establishes the RBSR scale's discriminant validity in two ways: how regulator beliefs about social regulation tracked different outcomes depending on what (A) and who (B) the beliefs are about; (C) constructs that weakly or did not correlate with RBSR scores.

	Regulator beliefs about …			
Measure	Targets' need to connect	Targets' need to feel better	Their own tendency to connect	Their own perceived social regulatory efficacy
Perception of Desire for Relational Closeness				
mIOS-self	0.3***	0.19**	-0.17*	0.15*
mIOS-other	0.13	0.18*	-0.48***	0.26***
Emotion Experience				
PANAS-P	0.06	0.3***	-0.04	0.26***
PANAS-N	0	-0.08	-0.03	-0.14*
Loneliness	-0.08	0	-0.28***	-0.31***
Emotion Expressivity				
BEQ	0.23**	-0.01	-0.32***	0.37***

Self Emotion Regulation				
ERQ-CR	0.08	0.15*	-0.06	0.22*
ERQ-S	-0.19**	-0.04	0.46***	-0.42***
Providing Social Support				
SSS-GES	0.16*	0.13	-0.42***	0.73***
SSS-GIS	0.1	0.17*	-0.22**	0.52***
Seeking out Social Regulatory Support				
IRQ	0.43***	0.33***	-0.29***	0.36***
Prosociality				
APS	0.13	0.32***	-0.22**	0.53***
AAS	0.05	0.01	-0.35***	0.35***
Empathy				
IRI-EC	0.18*	0.19**	0.23***	0.43***
IRI-PD	-0.01	0.08	-0.18*	-0.29***
IRI-PT	-0.02	0.15*	0.26***	0.37***
Non-social personality traits				
BFI-O	0.11	0.08	-0.21*	0.29***
BFI-N	-0.03	-0.08	-0.02	-0.31***
BFI-C	0.21**	0.05	0.03	0.37***
Perceived Social Standing				

SES Ladder	-0.04	-0.01	-0.07	0.12
Social Desirability	0.13	0.11	0.16*	-0.02

Table 6. Convergent and Discriminant Validity for the Regulator Beliefs about Social Regulation Scale (RBSR) with adjacent constructs such as prosociality, empathy, social support and emotion regulation. * denotes $p < .05$; ** denotes $p < .01$; *** denotes $p < .001$.

Discussion

In Study 2A, we sought to determine what patterns of socio-emotional behaviors and outcomes are related to a regulator's beliefs about social emotion regulation by testing the convergent and discriminant validity of the RBSR scale. Overall, we found evidence that individuals with higher RBSR scores across all 4 subscales tended to be more empathetic, more prosocial, to give more to others (i.e. provide social support and engage in prosocial acts) and to seek out regulatory support when they are in distress.

Key findings were also observed for the two dimensions distinguished by the scale – who vs. what the beliefs were about. For the 'who' dimension, regulator beliefs about targets were better predictors of how they themselves would behave in a target role while beliefs about their social regulatory capacity were better predictors of their own socio-emotional well-being and how often they provided support to others. For the 'what' dimension, beliefs about connection were stronger predictors of social outcomes (e.g. loneliness) while beliefs about emotion change were stronger predictors of emotional outcomes (e.g. emotion experience). These differential relationships provide further support that each kind of belief is theoretically distinct from each

812 other. Finally, RBSR scores were only weakly correlated with measures of perceived social
813 status, social desirability and non-social personality traits, suggesting that the RBSR assesses a
814 distinct construct with a unique explanatory and predictive profile.
815
816 **Implications for understanding the nature of regulator beliefs about social regulation**
817
818 Our results provide further evidence that regulator beliefs about social regulation, as measured
819 by the RBSR scale, can be decomposed into four distinct subtypes of belief. These subtypes can
820 be organized by what they are about (i.e. connection vs. emotion change) or who they are about
821 (i.e. regulator beliefs about targets' needs and their own capacity to meet targets' needs), with
822 each belief subtype demonstrating meaningful and predicted patterns of relationship with allied
823 psychological and behavioral constructs. These results also provide preliminary evidence for our
824 core argument that regulator beliefs about social regulation play a role in determining whether
825 and how individuals provide emotion regulatory support to others, which may have
826 consequences for both targets and the regulators themselves (see Study 3).
827
828 **Implications for the study of social emotion regulation**
829
830 Our results also help validate a theoretical model of beliefs, and a tool – the RBSR scale – for
831 measuring them – that can be used to ask new questions about social emotion regulation. For
832 example, the RBSR scale could be used to profile the social regulatory beliefs of specific
833 individuals or groups (e.g. using latent profile analysis). Such a profile might be used to predict
834 how individuals may interact with each other (e.g. in romantic relationships, friendships or at the

835 workplace), thereby offering a window into probable blind spots and strengths individuals
836 possess so that individuals can strengthen relationships, improve well-being and maximize
837 performance. In addition, having established the nature and distinctiveness of the four kinds of
838 beliefs assessed by the RBSR scale, we might also ask how one comes to have a particular
839 pattern of social regulatory beliefs. For instance, longitudinal studies could ask whether we
840 acquire some of these beliefs by acting as a regulator, by being a target, or both? We could also
841 ask under what circumstances do the beliefs assessed by the scale, such as the tendency to
842 connect with targets, reap emotional benefits for the regulator? Such analysis can inform current
843 debates in the prosociality literature – on the boundary conditions of the "helper's high" (Hui et
844 al., 2020) – and in the close relationships literature – e.g. when we sacrifice emotional benefits to
845 feel close to our partner (Rusbult & Van Lange, 2008). Although our cross-sectional design does
846 not permit us to tease these intriguing possibilities apart, our results set the stage for future
847 research that could answer these questions.
848
849 **Implications for the use of Regulator Beliefs about Social Regulation (RBSR) scale**
850
851 Our results provide evidence for the convergent and discriminant validity of the RBSR scale.
852 Given that the RBSR - as a single measure - predicted potentially beneficial patterns of
853 emotional experience, regulation, social support and prosociality, researchers might consider
854 using the RBSR scale as a "one-stop" measure to capture constructs related to social emotion
855 regulation in lieu of deploying a battery of other questionnaires. Here, it should be noted that
856 most other questionnaires assessing aspects of SER tend to sample constructs from affective
857 science rather than from allied work on relationship science (e.g. on social support and close

858 relationships). By contrast, design of the RBSR was informed by both literatures (Arican-Dinc
859 & Gable; Finkel et al., 2017; Reeck et al., 2016). In other words, we tested a wider range of
860 relationships with a diverse array of constructs beyond only affective science or relationship
861 science.
862
863 **Study 2B: Variability of Beliefs about Social Regulation: Test-retest Reliability of the**
864 **RBSR Scale**
865
866 In Study 2A, we described how four types of regulator beliefs about social regulation were
867 associated with patterns of socio-emotional behavior and well-being. In Study 2B, we used the
868 same sample to examine another key aspect of regulator beliefs – their stability vs. variability
869 across time. Testing the stability of RBSR scores provides information about the scale's test-
870 retest reliability and suitability as a measure of stable individual differences. As such, assessing
871 variance in RBSR scores over time can inform questions about whether some or all of the beliefs
872 assessed by the RBSR can be characterized as stable person-level variables (or trait-like
873 tendencies) vs. variables whose expression depends on the situation (i.e. a person-by-situation
874 variable).
875
876 One can frame two competing hypotheses about the temporal variability vs. stability of regulator
877 beliefs about social regulation. One is that these beliefs are – in general – stable over time.
878 According to theories of schemas (Bartlett & Kintsch, 1995; Piaget & Cook, 1952; Tulving,
879 1972), beliefs reflect knowledge gleaned from learned statistical regularities that have been
880 generalized across multiple instances. Once formed, schemas are thought to enable efficient

processing of incoming information, often biasing information processing to be schema-consistent, which makes any kind of schematic knowledge resistant to change (Piaget, 1962). On this view, regulator beliefs about social regulation could reflect stable general tendencies, learned over time, that cross-cut situations, serving to facilitate inferences about one's own and a targets' mental states during social regulatory interactions including guiding retrieval of potentially appropriate support responses to targets' distress given the current situation.

Alternatively, it is possible that regulator beliefs will demonstrate significant variability over time. Support for this possibility comes from measurement theories of personality suggesting that different situations may foreground - or afford the expression of - different aspects of generalized knowledge. For example, research on implicit attitudes suggests that recent experiences can influence the accessibility of racial attitudes for a given person (Payne et al., 2017; Payne & Hannay, 2021) such that one can express different attitudes about the same social target depending on the context in which they are perceived. Decades of research on attribution highlight another potential reason regulator beliefs may vary - moods can impact judgements of various kinds. For example, experiencing higher stress can increase the tendency to make negative attributions about others' behavior (Clore & Huntsinger, 2007; Goldring & Bolger, 2022) and increase one's tendency to withdraw from social interactions (daSilva et al., 2021). Taken together, these literatures suggest that a regulator's beliefs about social regulation could vary significantly across time depending on the quality of recent social interactions and one's internal state.

That said, although it is possible that each of the four different types of belief sampled by the RBSR scale may demonstrate different patterns of stability across time as a function of what and who the beliefs are about, we did not have any *a-priori* hypotheses about the direction of such potential effects.

As a test of these possibilities, we administered the RBSR scale twice, three months apart, to the same participants. We chose the duration of three months for two reasons: it is considered a long enough duration to be immune to local effects of any one context (Polit, 2014) and it is commonly used as a duration for test-retest reliability in questionnaires of social emotion regulation (e.g. Williams et al., 2018).

Method

Participants

Of the 800 participants for study 2A, 596 completed the follow-up RBSR questionnaire at Time 2, 3 months later. Compared to the initial Time 1 sample, the Time 2 subsample demonstrated similar demographics with respect to age (M_{age} = 49.94 years old, SD_{age} = 15.65 years), sex (48.32% Male) and ethnicity (5.56% Asian; 10.61% Black; 1.35% Mixed; 79.63% White). Following prior research (Guadagnoli & Velicer, 1988; Tabachnick & Fidell, 2013; Williams et al., 2018), a sample size of 300 to 400 participants is adequately powered to detect small-to-medium effects in multiple regression analyses with two to eight regressors.

Measures

Participants completed the same 12-item RBSR questionnaire that assessed 4 regulator beliefs about (a) targets' need for connection; (b) targets' need to feel better; (c) their tendency to connect with targets and (d) their own social regulatory efficacy.

Analytic Plan

To examine test-retest reliability, we calculated the intraclass coefficient for participant scores on the RBSR scale from the two different time points. Intraclass coefficients are the gold standard for assessing test-retest reliability as it can not only reveal relative relationships but also absolute agreement (i.e. scores are the same on each questionnaire). We used a two-way mixed effects model with a single measurement of each RBSR subscale. Following Koo and Li (2016), values less than 0.5, between 0.5 and 0.75, between 0.75 and 0.9, and greater than 0.90 are indicative of poor, moderate, good, and excellent reliability, respectively.

Results

Each of the four types of regulator beliefs had varying degrees of test-retest reliability over a 3-month period (**Table 7**). First, beliefs about targets' need for connection demonstrated poor test-retest reliability (ICC = .45). Second, both regulator beliefs about targets' need to feel better and their own tendency to connect with targets demonstrated moderate test-retest reliability (ICC = .61). Finally, regulator beliefs about their own social regulatory efficacy had good test-retest reliability (ICC = .73).

Regulator beliefs about	Test-retest reliability (ICC)
Targets' need to connect	.48 [.41, .54]

Targets' need to feel better	.61 [.57, .66]
Their own tendency to connect with targets	.61 [.56, .66]
Their self-perceived social regulatory efficacy	.73 [.69, .77]

Table 7. Test-retest reliability of the RBSR Scale (3 Month Follow-up; $N = 596$). We calculated test-retest reliability using a two-way mixed effects model with a single measurement of each RBSR subscale (Shrout & Fleiss, 1970; Koo and Li, 2016).

Discussion

In study 2B, we asked: how stable are regulator beliefs about social regulation over time? We found that the four kinds of beliefs assessed by the RBSR exhibited different degrees of stability. Beliefs about targets' need to connect were very variable over time, and beliefs about targets' need to feel better and the regulator's own tendency to connect with targets were somewhat variable, suggesting that these beliefs may be more state than trait-like. Only a regulator's beliefs about their own social regulatory efficacy had sufficient psychometric test-retest reliability to be considered a trait-like, person-level variable.

What might explain these results? Let's first examine the low-moderate test-retest reliability scores of the three regulator beliefs about others' needs (to connect and feel better) as well as their motivation to be close to targets. These results mean that across the two time points, RBSR scores for these three types of beliefs varied either in level of endorsement, pattern of endorsement across items and/or variance in endorsement of items. Such variability cannot be explained by the lack of internal validity, which was established in Study 1 (see **Table 2-4**), or

967 random error, which has been factored into the intraclass correlation coefficient calculation.
968 Given that a duration of three months likely removes local effects attributable to any one specific
969 context (Koo & Li, 2016), these results are consistent with the interpretation that much of what a
970 regulator believes about social regulation reflects construals situated within one's current social
971 situation(s) and/or influenced by one's current moods or levels of stress. For example,
972 situational variability could influence RBSR subscale scores if, at the first measurement
973 timepoint, an individual filled out the RBSR scale after patiently listening to their best friend rant
974 about an absent girlfriend, whereas at the second measurement timepoint they might have
975 completed the RBSR scale right after talking business with their aloof manager at work. In like
976 fashion, if a given individual is feeling low stress at time 1 but very stressed at time 2, then their
977 reported beliefs about connecting with someone else's distress may wax and wane over time.
978 These simple examples highlight that what we believe others might want may be heavily
979 dependent on recent conversation partners, the topics of conversations and one's internal states.
980 As noted above, variability in beliefs and attitudes over time is not uncommon – research on
981 implicit racial attitudes, for example, has demonstrated that measurements of racism are highly
982 variable when assessed at the individual level (Payne et al., 2017), presumably because of
983 significant day-to-day variability in any given person's experiences that might promote positive
984 or negative racial attitudes. Taken together, the present results are consistent with the idea that
985 what is most mentally accessible can influence how we perceive others' needs and our capacity
986 to provide regulatory support (Higgins, 2012; Bargh et al., 1986).
987
988 That said, it is notable that a regulator's belief about their confidence in managing others'
989 distress was shown to be stable over time, which begs the question as to whether there is

something different about this type of belief. This result can be interpreted in at least two ways. First, it is consistent with the idea that these beliefs derive from stable schematic knowledge about oneself. On this view, confidence about how well one can regulate someone else's emotions at may be particularly stable because it is akin to a general sense of self-efficacy, which reflects positive and stable beliefs about the self-derived from repeated successes at attaining goals (Bandura, 1962; Robins & Beer, 2001). Such beliefs may also tend to be sticky and stable because people are motivated to see themselves in a good light (Baumeister, 2010; Sanitioso & Wlodarski, 2004; Elder et al., 2022). Second, it is also possible we obtained these results because the items on this subscale – relative to the three other RBSR subscales – may rely on memory retrieval of specific confirmatory instances and general semantic knowledge about oneself. For example, items like, "I've helped friends get through tough times" may encourage people to selectively retrieve specific instances of having helped someone, or "I *know* I can be a good listener" encourage people to rely on distilled semantic knowledge about oneself, and memories of such instances are stable over time (Speer & Delgado, 2020; Piaget, 1962). To test this possibility, future research could measure individuals' perceived efficacy at regulating others' emotions in different situations.

Taken together, these results may make sense if social emotion regulation often happens in the context of specific emotional events that happen, in turn, within the context of specific close relationships (Chughtai, Gendron & Clark, submitted). If this is the case, then it would be adaptive for a regulator's beliefs to be attuned to the characteristics of specific targets, the regulator's relationship to them, and the target's specific emotional experiences – all of which

could lead the regulator's beliefs about social regulation to vary across time as a function of these variables. We tested this possibility in Study 3.

Study 3A: Are Regulator Beliefs about Social Regulation Sensitive to Situational Variability in Daily Life?

Study 2B found that regulator beliefs significantly varied across a 3-month period, raising the possibility that they are situationally sensitive. In Study 3A, we had two aims. First, we sought to quantify the extent to which these beliefs vary across time, in daily life. Second, we tested whether such variability is sensitive to a theoretically important feature of social regulatory situations – namely, the intensity of targets' negative emotional distress. To address these aims we used a daily diary design to assess a social regulator's beliefs within the contexts of a specific close relationship and specific daily emotional events.

Here we should note that when designing this study, we reasoned that two different approaches could be taken to addressing the potential situational variance in regulator beliefs. We could focus on specific types of everyday situations (e.g. work vs. home, social vs. non-social, etc.) or we could focus on what we see – from an emotion regulation perspective – as the *key* aspect of them – namely, the emotions targets experience within a given situation. The focus on emotions rather than other kinds of situational factors also was motivated by appraisal theories of emotion positing that even in the same ostensively objective situational context, individuals may experience different emotions because of the way they subjectively evaluate – or appraise – the meaning of it to them. Given that an overarching premise of this paper is that a social regulator's beliefs should be consequential for whether and how they respond to a target's emotional distress, for this first attempt at unpacking situational variance in regulator beliefs, we thought it

reasonable to focus on variance in target emotions. With all of these considerations in mind, we considered how regulator beliefs about targets' needs and their own capacity to help may vary as a function of targets' negative affect.

First, we predicted that a regulator's beliefs about targets' needs are sensitive to – and therefore may vary as a function of – the intensity of negative emotions targets are experiencing. Theoretically, negative affect intensity signals the need for engagement of coping resources to facilitate a return to emotional equilibrium (Folkman et al., 1986), and multiple empirical studies demonstrate that the greater the intensity of negative affect one experiences, the more likely one is to try to use a self-regulation strategy (Sheppes et al., 2011) or to receive regulatory support from others (Haque et al., 2025) in order to change those emotions. When targets experience more intense negative emotional experiences, they may be more likely to express their emotions verbally and non-verbally (Bachorowski & Owren, 1995; Gross & John, 1997), which may signal to potential regulators a need for support. As a consequence, in order to appropriately calibrate their assessment of whether support should be provided, regulators may update their moment-to-moment beliefs about target needs based on their perception of the nature and intensity of target emotions (Zaki et al., 2008; Shu et al, 2021). This may be particularly true for close relationships, where communal norms of care are prevalent (Clark & Finkel, 2005; Clark & Mills, 1993) and individuals in the regulator role may be motivated to provide emotion regulatory support when it is most needed. If, however, regulator beliefs are not sensitive to situational changes in target emotion, then we would not expect a regulator's beliefs about target needs to correlate with a target's reports of how intense their negative emotions are.

Second, we predicted that regulator beliefs about their own social regulatory tendencies will vary as a function of the intensity of targets' negative affect. Here we drew on stress and coping theories positing that – in negative emotional contexts – we make an assessment of whether we have the resources to effectively cope. Whether we believe we have the resources/ability to effectively cope determines whether the current situation is seen as a "challenge" we can meet or a "threat" that can overwhelm (Blascovich & Mendes, 2001). Putting a social spin on this theory, and following evidence that individuals are motivated to genuinely care in a close relationship (Finkel et al., 2017; Mills & Clark, 2013), we reasoned that there are two ways that target emotions could relate to regulator beliefs about how they can and should respond. One possibility is that when targets feel worse, regulators will see these strong negative emotions as a challenge they can meet and as a consequence will report being motivated to be close to the target and will be more confident in their ability to regulate their distressed partner. A second possibility is that regulators may not feel capable of regulating their partner's strong negative emotions, and will report lesser motivation to be close and to offer support. Such a pattern of results would be consistent with the personal distress argument from the empathy literature: regulators could feel overwhelmed with their own negative reactions to others being extremely upset, and choose to physically and psychologically distance themselves from targets (Batson, 1981; Williams & Bargh, 2008). That said, a third possibility is that regulator beliefs about their own regulatory tendencies will be unrelated to the intensity of targets' negative affect. Such a result would be consistent with theories from the self-perception and memory schema literatures, where beliefs about oneself may be quite stable given that they are generalized over past interactions and individuals are motivated to see themselves in a positive light (e.g. Taylor & Brown, 1988; Robins & Beer, 2001).

Furthermore, we expected that regulator beliefs about targets' needs will be more sensitive to how bad targets feel than are regulator beliefs about their own capacity to help. As posited in Study 1, the function of beliefs about whether targets need support is to be grounded – as much as possible – in the reality of targets' emotional experience (Gregory et al., 2020), whereas the nature of beliefs about one's own capacity to help reflects self-views – which generally tend to be more stable across contexts. If this is true, then beliefs about targets' needs should be anchored to targets' negative emotional experience more strongly than are a regulator's beliefs about their own capacity to help, even if both of these kinds of beliefs are sensitive to targets' negative affect overall.

With these considerations in mind, we sought to test two specific hypotheses in this study. First, regulator beliefs should systematically vary with targets' negative affect: when targets report feeling more negative, regulators will believe more strongly that targets need regulatory support and that they are capable of providing regulatory support to them. Second, what a regulator believes about targets' needs should be more sensitive to targets' negative affect than are the regulator's beliefs about their own capacity to provide regulatory support. We tested these ideas about how regulator beliefs vary in the context of one of the most ubiquitous and consequential real world contexts where SER takes place (Liu et al., 2021) – romantic relationships. Such relationships are important because they involve a high degree of self-disclosure (Reis et al., 1998) and the emotions we experience in them matter because they directly influence our long-term well-being (Sbarra & Coan, 2018; Clark & Grote, 2003; Finkel et al., 2017). As such, we used daily diaries to assess patterns of emotions and regulatory beliefs and behaviors in romantic

relationships. In numerous prior studies, daily diaries have proven effective for tracking patterns of emotions and support behaviors across time and in naturalistic contexts (Bolger & Laurenceau, 2013).

Method

Participants

We recruited a total of 122 adult romantic couples from the U.S. The sample consisted of variable ages (M_{age} = 33.14 years, SD_{age}= 11.25 years), relationship lengths (M = 8.18 years, SD = 8.79 years) and sexuality (79% Man-Woman, 3% Man-Man, 5% Woman-Woman and 13% Other).

Procedure

Recruitment. Between January 2023 and May 2023, we recruited romantic couples in the U.S. through social media sites (e.g. Reddit and Facebook), community flyering and Prolific. There were three criteria to participate in the study: must be (a) 21 years old and above; (b) fluent in English and (c) have been together with their partner for at least 6 months. These criteria are consistent with research on adult romantic relationships (McGorray et al., 2023).

Prescreening. Interested participants filled out a 3 minute prescreening. This survey asked participants about their English proficiency, relationship duration and availability for a 10-

minute study briefing over Zoom. The prescreening also anonymously tracked participants' geolocation so that the study team could ascertain that they resided in the U.S..

Baseline survey. Participants that met the eligibility criteria from the prescreener were invited to participate in a 20-minute baseline survey. This survey assessed participants' general tendency to self-regulate, seek out social regulatory support and their relationship quality with their romantic partner.

Study briefing. Research assistants from the study team conducted a 10-minute study briefing over Zoom. This briefing served two purposes. First, it allowed participants to understand how to operate and onboard onto LifeData, the mobile application that hosted the daily diary surveys. Second, the research team could ensure that participants understood how to report their own and their partners' emotional experiences, as well as what they could and could not discuss. Participants were explicitly instructed not to discuss their responses to any parts of the survey other than which events they planned to report. Participants that failed to understand the study instructions were disqualified from the study.

Daily diaries. Participants began a 21-day daily diary protocol the day after completing the study briefing. Participants received a 10-minute survey at 8pm each night and had until 3am of the next morning to complete it. Participants were not allowed to retrospectively answer previous nights' surveys. Prior research has demonstrated that 21 days is a sufficient time window to capture meaningful variance in emotions and social support behaviors (Zee et al., 2021; Goldring et al., 2022)

There were two parts to each daily diary (**Fig. 4**): one part asked participants when they played a 'target' role (i.e. expressed a negative emotional experience to their partner) while the other part asked participants when they played a 'regulator' role (i.e. heard their partner express a negative emotional experience to them). Prior to completing each night's survey, each participant identified a negative emotional experience they expressed to their partner and a negative emotional experience they had heard their partner express to them, if any. Both partners agreed on the negative emotional experience they had heard from their partner (i.e. the negative emotional experience partner A reported expressing to partner B is the negative emotional experience partner B reported hearing from partner A). This alignment in event reports was critical in order to obtain dyadic perspectives on the same event in our analyses. Participants were only restricted to report negative emotional experiences that had happened to them individually (e.g. work stress). To keep the data as interpretable as possible, we did not allow participants to report shared emotional stressors, which may be qualitatively different from individual stressors (Almeida et al., 2005).

If a participant did not express a negative emotional experience to their partner on a particular day, they were directed to a survey on how they self-regulated their emotions. This survey is not of key interest to us; it was designed as a counterbalanced survey requiring equivalent effort to discourage avoidance of the main survey.

All study protocols were approved by Columbia University's Institutional Review Board. Participants were compensated a maximum of $30 per person upon full completion of the

baseline survey and at least 18 out of 21 daily diaries. Participants were compensated via Amazon gift cards.

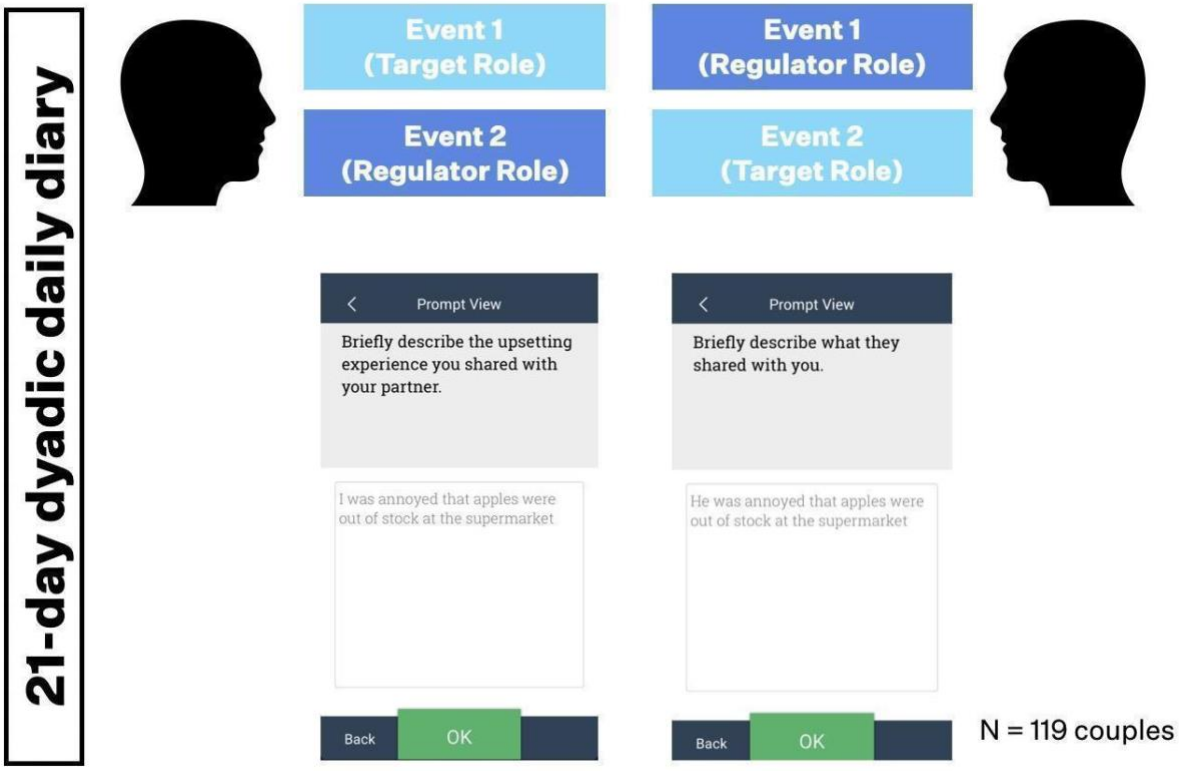


Fig 4. Schematic of dyadic daily diary design for Study 3A and Study 3B. Each night, participants were prompted to (a) report an upsetting experience they had shared with their partner (if any) (i.e. target role) and (b) report an upsetting experience their partner had shared with them (if any) (i.e. regulator role). Participants were instructed to report their perspective on the same events, thereby providing dyadic accounts of specific interactions (inter-rater agreement assessed by three research assistants, ICC = .99). Study 3A's analyses included measures of target reports of the intensity of their negative emotional experience and regulator reports of their beliefs about their partner's needs for support and their own capacity to regulate their partner.

Study 3B's analyses included the same measures of regulator beliefs, target perceptions of how their partner responded (i.e. SER strategies) as well as how close and bad they felt after interacting with their partner.

Measures

Emotion-eliciting situation. Participants addressed this question in both a target and regulator role. In the target role, participants indicated if they had expressed anything upsetting to their partner (1=Yes; 0=No) and briefly described the emotional experience they had shared with their partner. In the regulator role, participants indicated if their partner had expressed anything upsetting to them (1=Yes; 0=No) and briefly described the emotional experience they heard from their partner. Analyses were only conducted on the responses that matched within a couple on any given day.

Regulator beliefs about social regulation. Participants reported on their beliefs about their partner's needs as well as their capacity to help their partner in a regulator role. To reduce participant burden, we shortened the 12-item RBSR scale to assess momentary beliefs by picking the highest loading and face-valid item(s) of each kind of belief.

Beliefs about the target's need to connect. Participants rated the item 'I thought that they wanted to feel heard' on a scale of 1 (Strongly disagree) to 7 (Strongly agree).

Beliefs about the target's need to feel better. Participants rated the item 'I thought that they wanted advice on how to deal with the situation' on a scale of 1 (Strongly disagree) to 7 (Strongly agree).

Beliefs about the regulator's own tendency to connect with targets. Participants rated 3 items (i.e. 'I tried to avoid them'; 'I preferred to leave my partner alone'; 'I gave my partner space') on a scale of 1 (Strongly disagree) to 7 (Strongly agree). Given initial concerns about the items used to assess the construct validity of this belief, we included all items so that we may intentionally assess its reliability of change over time.

Beliefs about the regulator's own social regulatory efficacy. Participants rated the item 'I felt like I could be there for them' on a scale of 1 (Strongly disagree) to 7 (Strongly agree).

Targets' Negative Affect. In the target role, participants reported their negative affect by rating the item 'How upsetting was this experience?' from a scale of 1 (Not at all upsetting) to 5 (Extremely upsetting).

Analytic Strategy

We removed 4 participants whose partner did not successfully onboard onto the daily diary study. Our final sample consisted of 119 couples. All measures were re-scaled for easy interpretation (Bolger & Laurenceau, 2013). Regulator-reported beliefs rescaled between 0 to 1 and target' negative affect was rescaled between 0 to 10. All predictor variables (i.e. targets' negative affect) were also person-centered. Variation in regulator beliefs was operationalized as the within-person, within-belief standard deviation across the 21 days for ratings made when participants were responding in the regulator role. To test whether regulator beliefs were sensitive to the intensity of target's reported negative affect, we computed four mixed-effects

models with random slopes and intercepts. Targets' momentary negative affect intensity was the predictor variable and each regulator belief was the dependent variable.

We used Bayesian estimation because it enabled us to make direct probability statements about hypothesized effects in our models (Van De Schoot et al., 2017). In contrast, frequentist probability statements are about how unusual the observed data are compared to other possible datasets that could have been observed, while remaining silent about the parameters themselves. Bayesian estimation instead allows us to think probabilistically, which aligns with rising concerns about binary significance testing because it encourages us to think distributionally rather than in binary terms (Wagenmakers, 2007; Dienes, 2011). This is made possible because Bayesian posteriors is a distribution with a measure of central tendency (e.g. mean, median, mode) and a spread. We choose the value of 90% probability that the mean is above (or below) zero to make statements about differences in a binary sense. We chose this value because it is the point at which a visible amount of the distribution can be seen in graphic representations of the posterior distributions and has been used in repeated measurement studies (e.g. Goldring et al., 2022; Digiovanni et al., 2024).

Results

Descriptive statistics

Out of 21 daily diaries, participants completed an average of 16.85 entries and a median number of 19 entries (83.7% of maximum participation rate). An average of 13 days were instances of social emotion regulation (i.e. participants expressed a negative emotional experience to their

partner). In addition, our three-item composite measure of regulator tendency to connect with targets had excellent reliability of change (R_c = .99).

We found that each regulator belief varied for each individual on a daily basis within a specific close relationship ($SD_{\text{R's beliefs about targets' need to connect}}$ = 0.16; $SD_{\text{R's beliefs about targets' need to feel better}}$ = 0.24; $SD_{\text{R's beliefs about their tendency to connect}}$ = 0.15; $SD_{\text{R's beliefs about their social regulatory efficacy}}$ = 0.19). There was heterogeneity in the between-person variability of these beliefs, with some individuals' beliefs varied only occasionally (**Fig 5,** top panel) while some individuals' beliefs varied a lot (**Fig 5**, bottom panel).

Critically, we found that the variability of regulator beliefs was predicted by the intensity of targets' negative affect: When targets reported feeling more negative, regulators believed more that their partner needed regulatory support and that they were capable of providing regulatory support to their partners (**Fig 6**). This effect was strongest for beliefs about targets' needs ($b_{\text{Targets' need to connect}}$ = 0.01 [0.01, 0.02]; $b_{\text{Targets' need to feel better}}$ = 0.02 [0.01, 0.02]), and to a lesser extent for regulator beliefs about their capacity to provide regulatory support ($b_{\text{R's tendency to connect}}$ = 0.0025 [-0.00008, 0.00519]; $b_{\text{R's social regulatory efficacy}}$ = 0.00384 [-0.00028, 0.00795]).

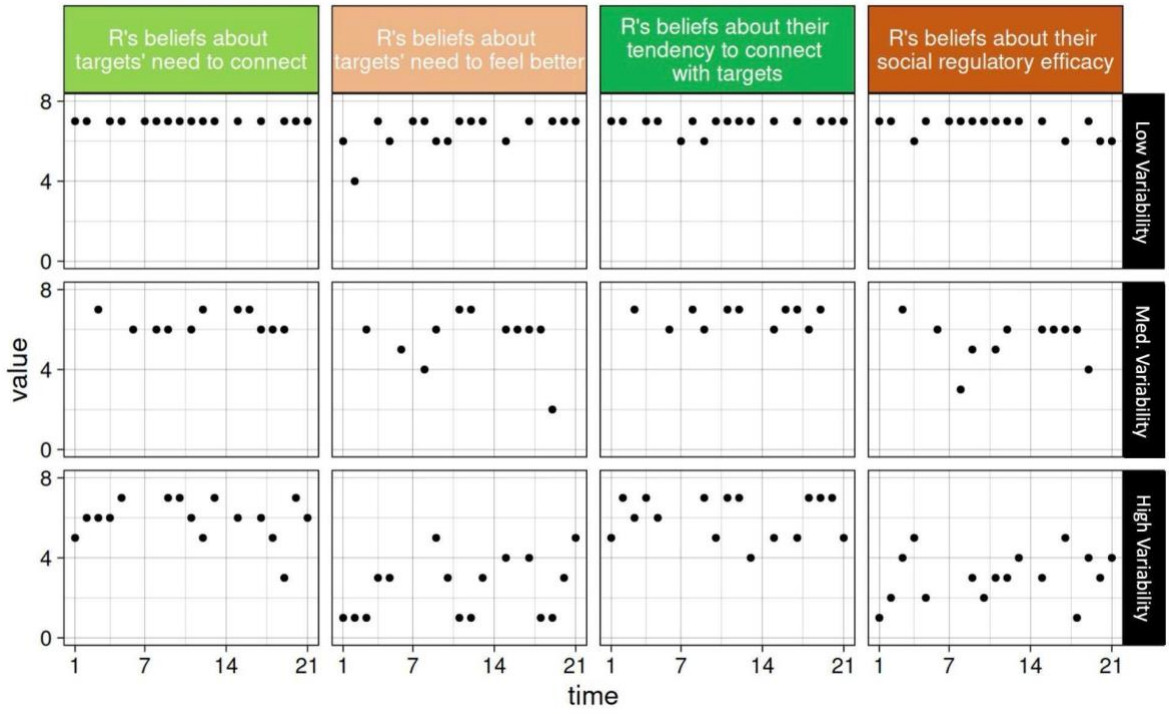
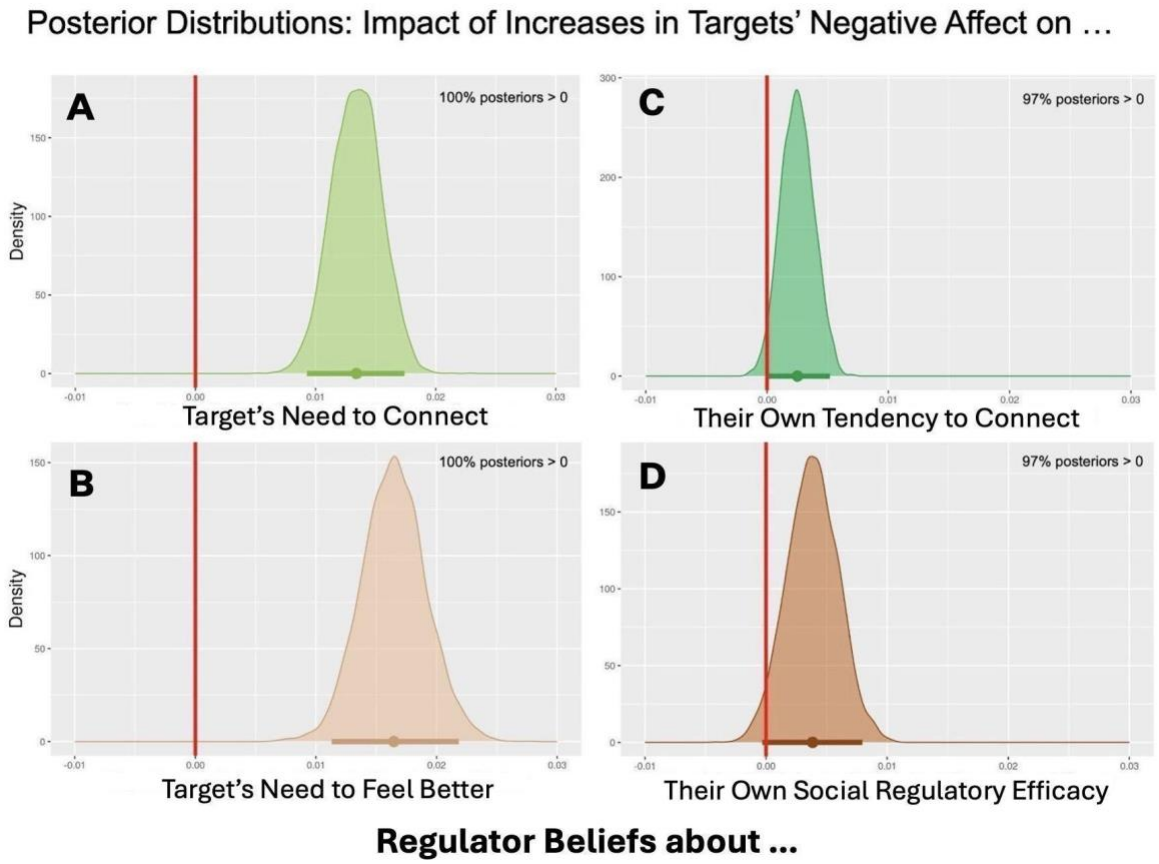


Fig 5. This figure illustrates people's daily reports of their beliefs about social regulation when in the regulator role for their partner. Each row represents a specific kind of regulator with generally low, medium and high variability of beliefs. Each column corresponds to one kind of belief. R = regulator.



1280

1281 **Fig 6**. This plot represents the estimated effect of a unit increase in targets' negative affect on
1282 what regulators believed their partners needed and whether they were capable of providing
1283 support to their partners. For each plot, the dot on the x axis refers to the fixed effect and the
1284 bolded line refers to the 95% credibility interval of the fixed effect. Each distribution represents a
1285 Bayesian multilevel model's estimate of the population posterior distribution of effects for a unit
1286 increase in targets' negative affect on the strength of each kind of regulator belief. The further
1287 the distribution is from 0 (red line), the more confident we can be in the effect. The largest
1288 increases were observed for regulator's beliefs about whether targets needed support (Panels A
1289 and B, on left). Smaller but significant increases also were seen in regulator's beliefs that they
1290 were capable of providing support to targets (Panels C and D, on right).

1291

Discussion

Study 3A was motivated by the observation in Study 2B that regulator beliefs about social regulation may vary across time in a specific close relationship and sought to test the hypothesis that these beliefs may vary in part because they are sensitive to the time-varying intensity of negative emotions experienced by targets. There were three key takeaways from this study. First, as in Study 2B, we saw that regulator beliefs about social regulation did, indeed, vary over time. Second, such variability was systematic, showing theoretically predicted and meaningful sensitivity to time-varying fluctuations in target's reported emotional distress. This result is consistent with, and extends to a social context, prior work showing that the strength of negative emotions motivates regulatory attempts, in general (Matthews et al., 2021; Sheppes et al., 2014). Third, as target emotional distress waxed and waned over time, regulator beliefs that targets needed support waxed and waned accordingly. Notably, regulator beliefs about their own capacity to help were less sensitive to target distress, such that when targets reported feeling more negative, regulators reported feeling more capable of providing regulatory support, but this effect size was much smaller relative to changes seen for beliefs about targets' needs.

Taken together, these results show that regulators flexibly translate their perception of targets' emotional states into beliefs about targets' needs for regulatory support and, and to a lesser extent, also adjust assessments of their capacity to meet targets' needs (Fiske & Taylor, 2020; Frith & Frith, 2012). As such, these results support the view that what regulators believe about social regulatory interactions are in some ways variable and are in some ways stable. On one hand, beliefs about what targets need varied significantly, as shown by their strong correlation

with the intensity of target negative emotions. This evidence supports the hypothesis that the function of regulator beliefs about target needs is to detect the need to provide regulatory support and motivate individuals to rise up to the "challenge" of caring for a close other. On the other hand, their beliefs about their own capacity to help meet these needs were not as closely tied to target emotions, suggesting they may also reflect a more stable sense of regulatory efficacy generalized across social interactions (Bandura, 1982). This result is noteworthy given that the items themselves were framed in a context-specific manner, suggesting that beliefs about one's own capacity to provide support is relatively more stable.

Study 3B: How do Regulator Beliefs about Social Regulation Relate to Real-World Outcomes? Predictive Validity of the RBSR Scale in Daily Life

In Study 3A, we found that regulator beliefs about social regulation were sensitive to context, particularly the intensity of targets' negative emotions. In Study 3B, we asked whether and how such variability related to how regulators actually behaved towards targets, and subsequently, how targets felt - both emotionally and relationally. By doing so, we aimed to test the predictive validity of the RBSR scale in real-world close relationships.

How might a regulator's beliefs relate to how they respond to specific moments when targets are in distress and the outcomes targets subsequently experience? To formulate potential answers to this question, we drew upon multiple literatures, ranging from affective science, to close relationships, empathy/prosociality, attachment theory and the study of mere presence.

Across affective science and close relationships research, there are chiefly two kinds of strategies social regulators can use. The first are strategies that seek to enhance connection between the regulator and target. Such strategies include validation (Sahi et al., 2023), encouragement of social sharing (Swerdlow & Johnson, 2022; MacCann et al., 2025) and emotional support (Burleson, 2003; Brown et al., 2003). The second kind are strategies that seek to change targets' emotions by altering their exposure to, or modifying their appraisals of, emotion-eliciting stimuli or events. Such strategies include situation modification (Reeck et al., 2016; Swerdlow & Johnson, 2022), instrumental support (Brown et al., 2003) and social reappraisals (Sahi et al., 2021; Swerdlow & Johnson, 2022; Niven et al., 2011), all of which either directly or indirectly have the effect of changing targets emotions.

Both emotional and social outcomes have also been studied in the SER literature, but rarely have they been studied together. For example, SER research rooted in the affective science literature has focused on how bad targets feel after interacting with the regulator (e.g. Liu et al., 2021; Tran et al., 2024), while SER research rooted in the close relationships literature tends to measure social outcomes such as how close targets feel to the regulator (e.g. Digiovanni et al., 2021; Raiders & Riedinger, 2023). Few studies have jointly examined both outcomes in one study and modelled the interdependence between them (c.f. Digiovanni et al., 2021). Such an analysis would be theoretically meaningful as feeling better can co-occur with feeling closer by fulfilling human's expectations of social proximity (e.g. Beckes and Coan, 2011). Or, emotional and social outcomes may be independent, such as when supportive conversations about chronic emotional stressors may increase feelings of closeness, but may not necessarily decrease negative affect about the situation itself (O'Brien & DeLongis, 1997).

This set-up allows us to consider how regulator beliefs influence the selection and implementation of SER strategies as well as targets' social and emotional outcomes. We sought to test three broad hypotheses.

First, in line with the process model of social emotion regulation, we predicted that when regulators believe that targets want regulatory support and also feel more capable of providing that support to targets, regulators will use more strategies that enhance connection and change targets' emotional appraisals. Subsequently, targets will report feeling better and closer to the regulator. We tested this hypothesis by estimating to what extent regulators' use of strategies mediated the relationship between regulator beliefs and target outcomes.

Second, in line with our theoretical model of different kinds of regulator beliefs, we expected that there would be specific relationships between regulator beliefs and the use of particular strategies, with *what* and *who* the beliefs are about influencing which strategies regulators select. First, let us consider *what* the beliefs are about (e.g. connection vs. emotion change). If regulator beliefs about connection are about facilitating closeness, then we would expect that when regulators have stronger beliefs about connection (i.e. believe that targets want connection and feel more motivated to connect with targets), then regulators will be more likely to use strategies that enhance connection, but not necessarily use strategies that seek to change targets' emotions. Such a hypothesis is supported by shared reality theory – if emotions are epistemic truths (Tamir, 2016; Echterhoff et al., 2009), changing a target's exposure to and/or appraisals of the situation could disrupt connection. Consequently, we should expect targets to feel both better and closer

to the regulator in general, in line with other empirical findings on the average emotional and social benefits of empathic sharing (Rimé et al., 2020). On the other hand, if the function of regulator beliefs about emotion change is to motivate sensitive responding, then we would expect when regulators have stronger beliefs about emotion change (i.e. believe that targets want help changing their emotions and regulators feel confident in doing so), then regulators will be more likely to use strategies that enhance connection and seek to change targets' emotions. This should subsequently lead to targets feeling better and closer to the target as well, in line with evidence that attempts to change targets' appraisal of a situation can lead to relational and emotional benefits when done sensitively (i.e. perceived responsiveness literature; Maisel & Gable, 2009; Jurkiewicz et al, 2023)

Now, let's consider *who* the beliefs are about (e.g. beliefs about targets' needs vs. regulators' capacity to provide support). In line with the prosociality and empathy literatures (Batson et al., 1991; Meyer & Mulherin, 1980), we expect that both attributions about targets' mental states and a regulators' own capacity to help are important predictors of what kinds of strategies regulators select. If regulator beliefs about targets' needs reflect their in-the-moment attributions about what targets want (to connect and to change how they feel), then these beliefs should predict their use of strategies that both enhance connection and seek to change target emotions. Similarly, if what regulators believe about their own capacity to help reflects their motivation to be close to the target and their confidence in managing the target's distress, then these beliefs should predict their use of strategies that enhance connection and change target emotions.

Finally, we also hypothesized that regulator beliefs will have a direct effect on target outcomes independent of the explicit strategies used. Such theorizing is supported by empirical research on the "mere presence" effect: when people feel negative, being in the presence of others comforts them (Coan, 2006; Bratec et al., 2020; Mobbs et al., 2022). Putting a social spin on this theory, it is possible that knowing that others are there for you can improve how one feels – a "mere knowing" effect (Gordon & Diamond, 2023). Furthermore, attachment theory would suggest that activating mental representations of one's partner – simply by being in their presence without any use of explicit strategies – is enough to buffer negative affect (Eisenberger et al., 2011; Selcuk et al., 2012; Zayas et al., 2025). If this logic is correct, then targets may report feeling better and closer to the regulator – independent of any strategy use – simply because regulators believe that targets want regulatory support and feel capable of providing support. Consequently, simply knowing that the regulator cares can have emotion-regulatory effects.

To test these hypotheses, we used the same data from study 3A. We tested our hypotheses with a Bayesian multilevel mediation model that enabled us to quantify the sequential process for each couple in our dataset.

Method

Participants

The study sample for Study 3B is identical to Study 3A.

Procedure

The study procedure for Study 3B is identical to Study 3A.

Measures

We detailed key measures from the daily diary below. They are organized by stages of the process model of SER (**Fig. 2**).

Emotion-eliciting situation. Participants answered this question in both the target and the regulator role. In the target role, participants indicated if they had expressed anything upsetting to their partner (1=Yes; 0=No) and briefly described the emotional experience they had shared with their partner. In the regulator role, participants indicated if their partner had expressed anything upsetting to them (1=Yes; 0=No) and briefly described the emotional experience they had heard from their partner. Analyses were only conducted on the responses that matched within a couple on any given day (inter-rater agreement between 3 research assistants = 99%).

Regulator beliefs about social regulation. Participants reported their beliefs about their partner's needs as well as their capacity to regulate their partner. To reduce participant burden, we shortened the 12-item RBSR scale to assess momentary beliefs by picking the highest loading and face-valid item(s) of each kind of belief.

Beliefs about the target's need to connect. Participants rated the item 'I thought that they wanted to feel heard' on a scale of 1 (Strongly disagree) to 7 (Strongly agree).

Beliefs about the target's need to feel better. Participants rated the item 'I thought that they wanted advice on how to deal with the situation' on a scale of 1 (Strongly disagree) to 7 (Strongly agree).

Beliefs about their tendency to connect with target. Participants rated 3 items (i.e. 'I tried to avoid them'; 'I preferred to leave my partner alone'; 'I gave my partner space') on a scale of 1 (Strongly disagree) to 7 (Strongly agree). Given initial concerns that these items seemed to be indexing different meanings, we included all items so that we can assess its reliability of change over time.

Beliefs about their social regulatory efficacy. Participants rated the item 'I felt like I could be there for them' on a scale of 1 (Strongly disagree) to 7 (Strongly agree).

SER strategies. Both partners reported on the use of SER strategies for the same interaction (i.e. target-perceived and regulator-perceived). We adapted the Interpersonal Regulation Interaction Scale (IRIS; Swerdlow & Johnson, 2022) to measure these perceptions. For modelling purposes, we chose to use target-perceived SER strategies for two reasons. First, target perceptions are more consequential than regulator perceptions for their outcomes (Gordon & Diamond, 2023). Second, target reports of SER strategies are often lower in endorsement than regulator reports (Maisel & Gable, 2009), and thus target reports can serve as a stronger test of our hypotheses. In our sample, target and regulator reports of SER strategies are moderately to strongly correlated (R = .42 - .53), and we were able to replicate our results with regulator reports (see OSF).

SER strategies that enhanced connection. We assessed two SER strategies that aim to change target appraisal of their relationship with the regulator: (a) encouragement of disclosure (i.e. 'My partner encouraged me to share my feelings with them') and (b) hostility (i.e. 'My partner ignored or invalidated my feelings'). This item was reverse-scored. Participants rated these items on a scale of 1 (Didn't do this at all) to 5 (Did a lot of this).

SER strategies that changed targets' emotional appraisals. We assessed two SER strategies that aim to change target appraisals of the situation: (a) situation modification (i.e. 'My partner helped me solve the problem') and (b) social reappraisal (i.e. 'My partner helped me see the situation in a new light'). Participants rated these items on a scale of 1 (Didn't do this at all) to 5 (Did a lot of this).

Target outcomes.

Negative affect. Participants rated their negative affect with the item 'Compared to when you were sharing your experience, how NEGATIVE did you feel after your partner's response?' on a scale of 1 (Much more negative) to 7 (Much less negative).

Closeness with the regulator. Participants rated their closeness with the regulator after disclosing their negative emotions to the regulator and experiencing their partners' response (if any). Specifically, they rated their agreement with the item 'Compared to when you were sharing your experience, how CLOSE did you feel after your partner's response?' on a scale of 1 (Much less close) to 7 (Much more close).

Sample Size Consideration

Past research has suggested that 2000 observations grants 80% power to detect small to medium effect sizes in longitudinal studies (Bolger & Laurenceau, 2013). To this end, we aimed for 120 subjects with 21 time points (i.e. 2520 observations) to allow estimation of between and within-person effects. We recruited 122 couples in total.

Data Preprocessing

We removed 4 couples where at least one individual within the couple did not successfully onboard onto the daily diary study. Our final sample consisted of 119 couples.

In line with our theoretical framework, we created composite measures for different subtypes of regulator beliefs and different kinds of SER strategies. The four kinds of regulator beliefs were operationalized as follows:

Beliefs about connection = sum of regulator beliefs about target needs for connection and regulator tendency to connect;

Beliefs about emotion change = sum of regulator beliefs about target needs for emotion change and regulator beliefs about their confidence in managing targets' emotions;

Beliefs about target needs = sum of regulator beliefs about target needs for connection and target needs for emotion change;

Beliefs about their capacity to regulate targets = sum of regulator beliefs about their tendency to connect with target and their social regulatory efficacy.

The two kinds of SER strategies were operationalized as follows:

SER strategies that enhanced connection = sum of item assessing regulator encouragement of disclosure and reverse-scored item assessing regulator hostility;

SER strategies that changed targets' emotional appraisals = sum of items assessing regulator use of situation modification and social reappraisal.

All measures were re-scaled for easy interpretation and comparison (Bolger & Laurenceau, 2013). Regulator-reported beliefs were rescaled between 0 to 1, target-perceived SER strategies were rescaled between 0 to 10 and target-reported outcomes were rescaled between 0 to 10. All variables were person-centered.

Analytic Approach

To address how different regulator beliefs about social regulation influence their use of SER strategies and subsequent target outcomes, we ran two Bayesian multivariate multilevel mediation models (where X variables predict Y variables via M variables; Bolger & Laurenceau, 2013). In the first model, we tested the effect of what the beliefs are about (i.e. X variables: beliefs about connection vs. emotion change) while the second model tested the effect of who the beliefs are about (i.e. X variables: beliefs about target needs vs. regulator capacity). Both models included two mediators (i.e. M variables: SER strategies that enhanced connection and changed targets' emotional appraisals) and two outcome variables (i.e. Y variables: target reductions in negative affect and feelings of closeness with the regulator). Both models controlled for gender and time, which are known to be potential confounding variables in intensive longitudinal and in social emotion regulation (Sahi et al., 2025). Analyses were conducted in the "brms" package in

R with 40,000 iterations. All our predictors had a potential scale reduction factor of 1, indicating successful convergence. All results are within-person centered.

Results

General relationships: Strategy use mediated the effects of regulator beliefs on target outcomes

In general, when regulators believed more that targets wanted regulatory support – and that they themselves were capable of providing that support – regulators tended to use strategies that enhanced connection and changed targets' emotional appraisals (**Fig. 7**, *a* paths). In turn, using such strategies led to targets feeling better and closer to the regulator (**Fig. 7**, *b* paths). Targets who felt better also felt closer to the regulator (**Fig. 7**, correlation of *b* paths). Consistent with the process model of social emotion regulation, regulators' use of strategies that enhanced connection and changed targets' emotional appraisals mediated the relationship between regulator beliefs and target outcomes (**Table 8**, mediated effects). The independent effect of each belief on the use of SER strategies and target outcomes can be found in the Supplemental Materials.

Specific relationships: Different kinds of regulator beliefs predicted use of different strategies

Our results also support our theoretical model distinguishing different kinds of beliefs. Let's first consider how beliefs about connection vs. emotion change influenced the selection and implementation of specific strategies (**Fig 7A**). When regulators believed more that targets wanted connection and also felt motivated to connect with targets, they used more strategies that enhanced connection (b_{a1} = 1.61 [0.89, 2.32], 99.9% of posterior distribution > 0), but not strategies that sought the change target emotions (b_{a2} = 0.05 [-0.81, 0.90], 54.8% of posterior distribution > 0). However, when regulators believed more that targets wanted help changing how they felt and felt confident managing targets' emotions, they used more strategies that enhanced connection (b_{a3} = 0.98 [0.55, 1.42], 100% of posterior distribution > 0) and also strategies that changed target emotions (b_{a4} = 3.04 [2.45, 3.63], 100% of posterior distribution > 0). In our sample, 89% of people used both strategies that sought to enhance connection with their partner and to change their emotions. These results are consistent with the view that the function of beliefs about connection is to foster understanding and closeness, while the function of beliefs about emotion change is to motivate sensitive attempts to change target emotions.

Let's now consider how beliefs about targets' needs vs. regulators' own capacity to provide regulatory support influenced the selection and implementation of specific strategies (**Fig 7B**). When regulators believed more that targets wanted to connect and wanted help to change how they felt, regulators used more strategies that enhanced connection (b_{a1} = 0.66 [0.17, 1.14], 99.6% of posterior distribution > 0) and that changed target emotions (b_{a2} = 2.56 [1.88, 3.25], 100% of posterior distribution > 0). Similarly, when regulators believed more that they wanted to connect with targets and felt confident managing their emotions, they also used more strategies that enhanced connection (b_{a3} = 1.93 [1.29, 2.56], 100% of posterior distribution > 0) and

changed target emotions (b_{a4} = 1.14 [0.37, 1.92], 99.8% of posterior distribution > 0). These effects existed independent of each other, meaning that both regulator beliefs about targets and themselves motivated regulators to select and implement such SER strategies.

"Merely knowing" that someone cares: Some regulator beliefs directly predicted targets feeling better and feeling closer to the regulator, irrespective of the strategies used

To understand the ways in which social emotion regulation may happen indirectly, through "merely knowing" that a relationship partner cares about target needs, we examined the direct effects of regulator beliefs on target outcomes independent of regulators' use of specific strategies. When regulators had stronger beliefs about connection (i.e. believed more that targets wanted to connect and personally also wanted to connect with them), targets felt better (**Fig. 7A**, $b_{c'4}$ = 1.06 [0.21, 1.91]) and closer (**Fig. 7A,** $b_{c'2}$ = 0.68 [0.00, 1.37]) to the regulator even after accounting for the specific strategies used. Similarly, when regulators believed more that they were capable of providing regulatory support, targets also reported feeling better (**Fig. 7B,** $b_{c'1}$ = 1.05 [0.44, 1.67]) and closer (**Fig. 7B,** $b_{c'4}$ = -0.27 [-0.88, 0.32]) to the regulator, over and above effects attributable to the specific strategies used.

Notably, these direct effects were not found for regulator beliefs about targets' needs and beliefs about emotion change, whose effects on target outcomes were fully explained by the use of explicit strategies (**Fig. 7A,** $b_{c'1}$ and $b_{c'3}$; **Fig. 7B**, $b_{c'2}$ and $b_{c'3}$) . These results are consistent with attachment theory and the "mere knowing" effect.

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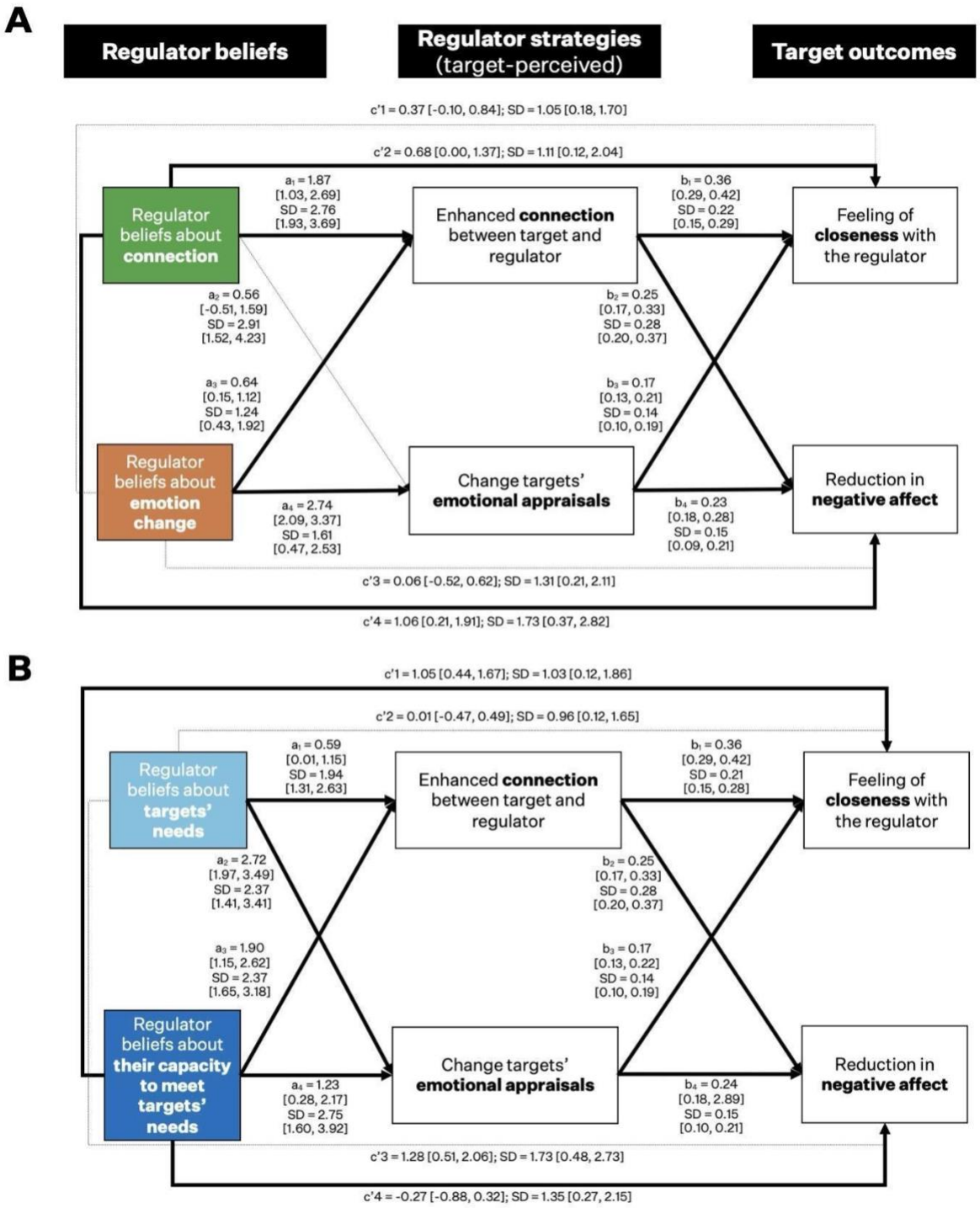

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Figure 7. Multivariate multilevel mediation model estimates of the process by which regulator beliefs influence their use of SER strategies and subsequently impact targets' social and emotional outcomes. **Panel A** describes the effect of regulator beliefs about connection vs. emotion change. **Panel B** describes the effect of regulator beliefs in terms of who they are about (target vs. regulator). All estimates are person-centered. Bolded lines indicate significant paths.

Regulator beliefs (*X*)		**Target Outcomes (*Y*)**	**Strategies that Targets Perceived Regulators to Have Used (*M*)**	**Mediated Effect (*ME)***
What the beliefs are about	Connection	Targets' feeling of **closeness**	Enhanced connection	0.60 [0.33, 0.89]
			Changed targets' emotional appraisals	0.009 [-0.14, 0.15]
		Targets' reduction in **negative affect**	Enhanced connection	0.47 [0.25, 0.73]
			Changed targets' emotional appraisals	0.010 [-0.16, 0.18]
	Emotion change	Targets' feeling of **closeness**	Enhanced connection	0.37 [0.20, 0.55]
			Changed targets' emotional appraisals	0.51 [0.37, 0.67]
		Targets' reduction in **negative affect**	Enhanced connection	0.29 [0.15, 0.45]
			Changed targets' emotional appraisals	0.61 [0.43, 0.80]
	Targets' needs	Targets' feeling of **closeness**	Enhanced connection	0.25 [0.06, 0.44]
			Changed targets' emotional appraisals	0.45 [0.31, 0.61]

Who the beliefs are about		Targets' reduction in **negative affect**	Enhanced connection	0.19 [0.05, 0.36]
			Changed targets' emotional appraisals	0.52 [0.35, 0.72]
	Their capacity to provide regulatory support	Targets' feeling of **closeness**	Enhanced connection	0.72 [0.47, 1.00]
			Changed targets' emotional appraisals	0.20 [0.06, 0.35]
		Targets' reduction in **negative affect**	Enhanced connection	0.57 [0.36, 0.82]
			Changed targets' emotional appraisals	0.23 [0.07, 0.41]

Table 8. Mediated Effects of Regulator Beliefs on Target-Perceived SER Strategies and Subsequent Target Outcomes. Numbers in square brackets refer to 95% credibility intervals. See Figure 7 for a visual depiction of these results. X = predictor variable; M = mediator; Y = outcome variable.

Discussion

In Study 3B, we aimed to test the real-world consequences of regulator beliefs about social regulation on the kinds of strategies they used to help targets and subsequently how targets felt. To address this question, we tracked romantic couples' daily experiences of seeking and providing emotion regulatory support over 21 days. Using Bayesian multivariate multilevel mediation, we found evidence that when individuals (in the regulator role) believed their partner wanted support and felt capable of providing support for their partner, their partner felt better and closer to them. This effect was strongly mediated by regulators using strategies that enhanced connection with the target (i.e. encouragement of social sharing), as well as strategies that

changed targets' emotional appraisals either directly (i.e. through social reappraisal) or indirectly (through situation modification). Different kinds of beliefs predicted differential use of strategies, which is consistent with our theoretical model of the function of different kinds of beliefs. Finally, we also found evidence in support of theories of suggesting that social emotion regulation need not always take place through the explicit use of strategies (c.f. Coan et al., 2006): some regulator beliefs (i.e. about connection and their capacity to provide support) directly predicted targets feeling better and closer to the regulator, even after controlling for the use of explicit social emotion regulation strategies.

Implications for our understanding of regulator beliefs about social regulation

Elucidating the unique effects of each kind of regulator belief on the use of SER strategies and target outcomes illuminates the nature of these beliefs. Here, we focus our discussion on regulator beliefs about connection vs. emotion change. When regulators reported stronger beliefs about connection, they used strategies that enhanced connection with the target but not strategies that sought to change target emotions. This supports the view that beliefs about connection facilitate behaviors that help regulators understand targets' mental states (e.g. encouraging disclosure, physical presence, shared attention). These behaviors can augment targets' sense that there is someone to "share the load with" (Beckes & Coan, 2011; Saxbe et al., 2020). Importantly, stronger beliefs about connection did not predict use of SER strategies that sought to change target emotions. This is in line with findings from the shared reality literature (Echterhoff et al., 2009): attempting to change how targets feel in a given situation may disrupt connection, given that emotions may ground one's sense of the shared meaning of a situation (Tamir, 2016).

On the other hand, when regulators reported stronger beliefs about emotion change, they used more strategies that enhanced connection *and* changed targets' emotional appraisals. There are at least two ways to explain this finding. First, regulators may know that to effectively change how targets feel, one must first affirm their connection with the target, acknowledging the target's emotional experience before the target is receptive to strategies that explicitly seek to change how they feel (i.e. active validation, (Linehan, 1997; Rimé, 2007a). Second, when regulators use strategies that change how a target appraises and feels about the situation, targets may attribute the source of feeling better to the regulator, which makes targets feel closer to the regulator. Future research could test these competing explanations.

Implications for understanding the social regulation of emotion

Our results provide evidence for a process-oriented approach to studying the social regulation of emotion (Reeck et al., 2016). We showed that regulator beliefs about social regulation are an important factor in how regulators evaluate whether and how to regulate targets' emotional experiences, which subsequently influences how regulators' respond to targets and consequently how bad and close targets feel to regulators. Given that intensive longitudinal data allows estimation of person-specific effects with respect to their own baseline, our study partially provides casual mechanistic evidence of the consequential role of regulator beliefs about social regulation (Laureanceau & Bolger, 2013).

Implications for methodological approaches to studying the social regulation of emotion

Beyond informing our understanding of regulator beliefs, these data also provide evidence for the predictive validity of the RBSR scale in daily life. While there is a growing collection of questionnaires to assess different aspects of social emotion regulation (e.g. Hofmann et al., 2016; MacCann et al., 2025; Niven et al., 2011), few measures have been validated with existing close relationships and for real-world situations where someone else is disclosing negative emotions.

Furthermore, study 3B demonstrates the utility of building multivariate multilevel models to understand SER. By modelling multiple kinds of beliefs, SER strategies and target outcomes in the same statistical model, we were able to estimate the interdependence of social and emotional outcomes and how regulator beliefs potentiate multiple SER strategies for each individual in our sample. These incidental findings are generative for future research and we encourage researchers to adopt an idiographic approach that quantifies the relationship between variables and the heterogeneity in effects.

Limitations

There are three key limitations to this study. First, our categorization of SER strategies into kinds that enhanced connection vs. kinds that sought to change target emotions might obscure the nature of SER strategies. Although such distinctions are supported by prior literature (Swerdlow & Johnson, 2022; Rime, 2009), each strategy could changes some aspects of connection and some aspects of emotional appraisals. For example, knowing that one is sharing a negative experience with others and/or that someone is there to listen may help a target appraise the emotional situation as less threatening (Coan et al., 2006; Mobbs et al., 2022). Furthermore,

direct assessments of their appraisals (e.g. 'I feel that I have resources to cope now') can complement and validate current conceptualizations of SER strategies.

Second, in order to obtain dyadic reports on the same emotional event, our design required partners to indicate to their partner what events they are going to report before filling out the survey. This is the case for all dyadic daily diary studies that manually seek two people's perspectives on the same event. This act might be an intervention in itself, whereby anticipation of their partner's responses to their nomination of an emotional event may influence what events they chose to report in the survey. We took great lengths to minimize such effects, including instructing participants during the onboarding process to decide for themselves which emotional event they would like to report (instead of collaboratively deciding which events to report). Still, future research can test similar questions using different study designs (such as synchronized surveys whereby participants' report of their emotional experience is automatically sent to their partner, thereby removing the need to discuss).

Finally, when examining the main effects of beliefs about connection or emotion, our analyses aggregated over two constituent beliefs (e.g. regulator beliefs about connection consists of a sum of regulator beliefs about targets' need to connect and regulator beliefs about their tendency to connect with targets). Although theoretically meaningful and consistent with additional analyses where the effect of each belief is independently taken into account (Supplemental Materials), a mathematical sum across beliefs can obscure variance associated with each belief individually. Moreover, an individual who strongly agrees that targets want to connect (rating of 7) but strongly disagrees that they want to connect with targets (e.g. rating of 1) would have the same

composite score as an individual who moderately agrees that targets want to connect and that they tend to connect with targets (score of 4 on each belief; score of 8 in total). While these cases are rare (see Table 4), this limitation is still noteworthy given that individuals are the unit of measure we ultimately seek to make predictions about (Bolger et al., 2019). These two individuals might have qualitatively different beliefs, but our composite measure would treat them similarly. Future research could determine better ways to preserve meaningful variance within a theoretically-informed type of belief even while summing across different beliefs.

General Discussion

Across 3 studies, we probed the nature of regulator beliefs about social regulation and simultaneously developed a measurement tool – the Regulator Beliefs about Social Regulation (RBSR) scale. We found evidence for four theoretically distinct regulator beliefs that vary by *what* they are about (beliefs about connection vs. emotion change) and *who* they are about (beliefs about target vs. regulator). These beliefs were meaningfully related to a regulator's psychological profile, including their tendencies towards prosociality, empathy, social support behavior, emotion regulation and well-being. Moreover, in the context of consequential real-world romantic relationships, regulator beliefs were sensitive to variation in how much negative emotion their partner was feeling. Regulator beliefs also predicted the strategies they used to regulate their partner's negative emotions and their partner's momentary feelings of negative affect and closeness in daily life. Finally, we also found that regulatory beliefs had both stable and variable components depending on how they were assessed. Together, these studies validated the RBSR scale's construct validity, test-retest reliability and predictive validity.

Implications for the study of regulator beliefs about social regulation

Studying regulator beliefs demonstrates that understanding the mental models individuals have about social emotion regulation is consequential for everyday support behavior and well-being. As shown in Fig. 2, most existing measures in the field characterize the kinds of behavior (i.e. emotion regulation strategies) that unfold during SER, rather than the psychological process of deciding when and how to provide regulatory support. Such an approach is useful to consider for future research in this area.

While our approach was largely motivated by a theoretical model of how social emotion regulation happens (Reeck et al, 2016), an open question for future research is whether the same dimensions of belief would emerge from a purely data-driven approach. Such an approach might, for example, start by measuring the spontaneous thoughts individuals have when they notice others in distress and use factor analyses of clustering approaches to reveal underlying belief structures. Such a bottom-up approach could offer converging evidence for our top-down approach, and might even reveal hitherto unacknowledged aspects of SER.

Our approach also emphasized explicitly self-reported beliefs about SER that might influence the use of explicit regulatory strategies and outcomes. This begs another open question – to what extent are a regulator's beliefs about SER not just explicit, but also implicit, and can we capture them using techniques commonly used to assess implicit beliefs and attitudes such as sensitive reaction time measures (Zayas et al., 2022)? Past research has suggested that implicit attitudes

can diverge from explicit self-reports (Payne et al., 2017) and it could be useful to assess potential points of convergence and divergence for implicit and explicit beliefs about SER.

Implications for the study of social emotion regulation

The approach taken in this paper anchored our conceptualization of the core construct of interest – what a regulator believes – in the theories and methods of multiple areas of research, including affective science, close relationships, prosociality, attribution theory and empathy. To test this conceptualization, we obtained evidence from three independent samples that these beliefs matter for everyday social interactions. In this way, we hope to have illustrated the benefits of taking an integrative approach to studying SER that can speak to multiple allied areas of research. Specifically, we can highlight two ways this approach led us to study social emotion regulation that differ from many prior studies.

First, our results suggest it is necessary and fruitful to examine both social *and* emotional goals and outcomes (Digiovanni & Ochsner, 2024). This began with the formulation in Study 1 of a theoretical framework that underscored the importance of measuring both social goals (i.e. beliefs about connection) and emotion goals (i.e. beliefs about emotion change). Both kinds of goals not only differentially predicted regulators' general psychological profile (Study 2), but they also uniquely predicted *how* regulators responded to targets' distress in daily life and subsequently how bad and close to regulators targets felt (Study 3). Our conceptual framework dovetails well with emerging research on motives that drive individuals to influence others' emotions in daily life (Tran et al., 2024).

Second, our results demonstrate the utility of a process-oriented approach to studying the social regulation of emotion (Reeck et al., 2016). To our knowledge, this is the first paper to directly examine the way in which a regulator's beliefs play a key role in determining whether and how to engage in social regulation, demonstrating the relevance of these beliefs for predicting both what regulators do (i.e. what strategy is selected and implemented) and the outcomes targets experience.

One significant limitation of our studies is their focus on a specific type of SER interaction: conversations about individual emotional stressors where there are clearly defined roles – one is either in the role of an emotionally distressed target or in the role of a social regulator of that distress. However, some of the most significant instances of emotional stressors are not experienced individually, but are shared: from the workplace to the family unit, emotional needs are often interdependent where multiple individuals experience emotions together and try to regulate them together (Almeida et al., 2002). In such cases, target and regulator roles are blurred (Digiovanni, He & Ochsner, under review). Future research could adopt a dyadic and group analytic approach where appropriate (Kenny et al., 2006), including the Common Fate Model and Dyadic Score Model, to test the endorsement and consequences of regulator beliefs with shared stressors (Galovan et al., 2017; Iida et al., 2023).

Implications for the study of organizational behavior

From the everyday work stressors to competitive relationships between team mates and boss-employee relationships, opportunities for social regulation abound in the workplace. The RBSR scale – and the approach taken here – could offer tools for understanding when and how social

emotion regulation can be beneficial in the workplace. For example, unpacking the nature of an individual's beliefs about acting as a social regulator could help address questions about when bosses do vs. do not empathize with and validate employee dissatisfaction, how power asymmetries influence manager vs. co-worker beliefs about employee needs for support, or how manager beliefs about their own capacity to support employee well-being influences organizational policy and decision making. Existing measures of social emotion regulation in the workplace have focused on what employees do in a workplace depending on their goals (i.e. make friends in order to rise up the career ladder) (Niven et al., 2017). The RBSR scale can complement such research by understanding *why* individuals choose to help others, and when employee well-being is improved vs. takes a hit.

Implications for the study of clinical populations

Studying a regulator's beliefs about social regulation can inform questions about clinical populations in numerous ways. For example, the RBSR scale could be used to help characterize patterns of disorder relevant beliefs that characterize numerous clinical populations with emotion dysregulation and/or problematic social relationships. Extant research shows that individuals with anxiety, depression and borderline personality disorder often have problems with regulating emotions and with relationships (McEvoy et al., 2013; Hofmann et al., 2016). To date, research has focused on teaching self-regulation strategies for dealing with problematic negative emotions as well as aberrant beliefs about seeking out social interactions (i.e. believing that others will not like them, Vogel & Wei, 2005). However, emerging research suggests that providing social regulatory support – that is, taking the role of a social regulator – might be an effective means to both decrease negative affect and increase feelings of closeness with others (Dóre et al., 2017;

Cohen & Arbel, 2020) for both healthy individuals (e.g. Dore et al, 2017) and for patients. Seen in this light, the RBSR scale might be a useful tool for understanding what beliefs limit an individual with specific disorders from engaging with others in distress, as well as for tracking treatment-related changes in these beliefs.

Conclusion

Whether at work, with a group of friends, a family member or with a romantic partner, in everyday life, people frequently experience negative emotions in social contexts. What determines whether and how people respond to other people's emotional distress by attempting to socially regulate their emotions? This paper presented multiple studies demonstrating that the nature of a regulator's beliefs about social regulation play a key role in determining how they respond to the emotional distress of social targets - and in turn – the emotional and social outcomes subsequently experienced by those targets. This work is both theoretically and methodologically meaningful: Theoretically, it supports a process-oriented approach to studying social emotion regulation that integrates multiple areas of psychological research, including theories of emotion regulation, social support, stress and coping, empathy, prosociality and shared reality. Methodologically, it adopts both a nomothetic and idiographic approach to understanding the nature of regulator beliefs, including assessments of their situational sensitivity, real-world consequences and an individual's typical patterns of socio-emotional behavior. Taken together, this body of work underscores that the mental models we carry of self

and others during emotional interactions impact our close relationships and emotional well-being.

References

Abstracts from the 2025 Annual Meeting of the Society for Affective Science: Emotion Regulation. (2025a). *Affective Science*, *6*(3), 613–617. https://doi.org/10.1007/s42761-025-00333-w

Abstracts from the 2025 Annual Meeting of the Society for Affective Science: Emotion Regulation. (2025b). *Affective Science*, *6*(3), 613–617. https://doi.org/10.1007/s42761-025-00333-w

Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy, White women. *Health Psychology*, *19*(6), 586–592. https://doi.org/10.1037/0278-6133.19.6.586

Aknin, L. B., Van De Vondervoort, J. W., & Hamlin, J. K. (2018). Positive feelings reward and promote prosocial behavior. *Current Opinion in Psychology*, *20*, 55–59. https://doi.org/10.1016/j.copsyc.2017.08.017

Almeida, D. M., Wethington, E., & Kessler, R. C. (2002). The Daily Inventory of Stressful Events: An Interview-Based Approach for Measuring Daily Stressors. *Assessment*, *9*(1), 41–55. https://doi.org/10.1177/1073191102091006

Arican-Dinc, B., & Gable, S. L. (2025). *Dyadic Emotion Regulation*.

Arnsten, A. F. T. (2015). Stress weakens prefrontal networks: Molecular insults to higher cognition. *Nature Neuroscience*, *18*(10), 1376–1385. https://doi.org/10.1038/nn.4087

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of Other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, *63*(4), 596–612. https://doi.org/10.1037/0022-3514.63.4.596

Bachorowski, J.-A., & Owren, M. J. (1995). Vocal Expression of Emotion: Acoustic Properties of Speech Are Associated With Emotional Intensity and Context. *Psychological Science*, *6*(4), 219–224. https://doi.org/10.1111/j.1467-9280.1995.tb00596.x

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*(2), 122–147. https://doi.org/10.1037/0003-066X.37.2.122

Bargh, J. A., Bond, R. N., Lombardi, W. J., & Tota, M. E. (1986). The additive nature of chronic and temporary sources of construct accessibility. *Journal of Personality and Social Psychology*, *50*(5), 869–878. https://doi.org/10.1037/0022-3514.50.5.869

Bartlett, F. C., & Kintsch, W. (1995). *Remembering: A Study in Experimental and Social Psychology* (2nd ed.). Cambridge University Press. https://doi.org/10.1017/CBO9780511759185

Batson, C. D., Ahmad, N., & Lishner, D. A. (2009). Empathy and Altruism. In S. J. Lopez & C. R. Snyder (Eds.), *The Oxford Handbook of Positive Psychology* (pp. 416–426). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195187243.013.0039

Batson, C. D., Duncan, B. D., Ackerman, P., Buckley, T., & Birch, K. (1981). Is empathic emotion a source of altruistic motivation? *Journal of Personality and Social Psychology*, *40*(2), 290–302. https://doi.org/10.1037/0022-3514.40.2.290

Baumeister, R. F. (2010). The self. In *Advanced social psychology: The state of the science* (pp. 139–175).

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529. https://doi.org/10.1037/0033-2909.117.3.497

Beckes, L., & Coan, J. A. (2011). Social Baseline Theory: The Role of Social Proximity in Emotion and Economy of Action. *Social and Personality Psychology Compass*, *5*(12), 976–988. https://doi.org/10.1111/j.1751-9004.2011.00400.x

Blascovich, J., & Mendes, W. B. (2001). Challenge and threat appraisals. In *Feeling and thinking: The role of affect in social contagion* (pp. 59–82).

Bolger, N., & Amarel, D. (2007). Effects of social support visibility on adjustment to stress: Experimental evidence. *Journal of Personality and Social Psychology*, *92*(3), 458–475. https://doi.org/10.1037/0022-3514.92.3.458

Bolger, N., & Laurenceau, J. P. (2013). *Intensive longitudinal methods: An introduction to diary and experience sampling research.* Guilford Press.

Brandão, T., Brites, R., Hipólito, J., & Nunes, O. (2022). The Emotion Regulation Goals Scale: Advancing its psychometric properties using item response theory analysis. *Journal of Clinical Psychology*, *78*(9), 1940–1957. https://doi.org/10.1002/jclp.23343

Brown, S. L., Nesse, R. M., Vinokur, A. D., & Smith, D. M. (2003). Providing Social Support May Be More Beneficial Than Receiving It: Results From a Prospective Study of Mortality. *Psychological Science*, *14*(4), 320–327. https://doi.org/10.1111/1467-9280.14461

Browne, M. W., & Cudeck, R. (1992). Alternative Ways of Assessing Model Fit. *Sociological Methods & Research*, *21*(2), 230–258. https://doi.org/10.1177/0049124192021002005

Byrne, B. M. (1994). Burnout: Testing for the Validity, Replication, and Invariance of Causal Structure Across Elementary, Intermediate, and Secondary Teachers. *American*

Educational Research Journal, *31*(3), 645–673. https://doi.org/10.3102/00028312031003645

Clark, M. S., & Finkel, E. J. (2005). Willingness to express emotion: The impact of relationship type, communal orientation, and their interaction. *Personal Relationships*, *12*(2), 169–180. https://doi.org/10.1111/j.1350-4126.2005.00109.x

Clark, M. S., & Grote, N. K. (2003). Close Relationships. In I. B. Weiner (Ed.), *Handbook of Psychology* (1st ed., pp. 447–461). Wiley. https://doi.org/10.1002/0471264385.wei0518

Clore, G. L., & Huntsinger, J. R. (2007). How emotions inform judgment and regulate thought. *Trends in Cognitive Sciences*, *11*(9), 393–399. https://doi.org/10.1016/j.tics.2007.08.005

Coan, J. A., Schaefer, H. S., & Davidson, R. J. (2006). Lending a Hand: Social Regulation of the Neural Response to Threat. *Psychological Science*, *17*(12), 1032–1039. https://doi.org/10.1111/j.1467-9280.2006.01832.x

Cohen, N., & Arbel, R. (2020). On the benefits and costs of extrinsic emotion regulation to the provider: Toward a neurobehavioral model. *Cortex*, *130*, 1–15. https://doi.org/10.1016/j.cortex.2020.05.011

Costello, M. A., Bailey, N. A., Stern, J. A., & Allen, J. P. (2024). Vulnerable self-disclosure co-develops in adolescent friendships: Developmental foundations of emotional intimacy. *Journal of Social and Personal Relationships*, *41*(9), 2432–2454. https://doi.org/10.1177/02654075241244821

Crocker, J., & Canevello, A. (2008). Creating and undermining social support in communal relationships: The role of compassionate and self-image goals. *Journal of Personality and Social Psychology*, *95*(3), 555–575. https://doi.org/10.1037/0022-3514.95.3.555

daSilva, A. W., Huckins, J. F., Wang, W., Wang, R., Campbell, A. T., & Meyer, M. L. (2021). Daily perceived stress predicts less next day social interaction: Evidence from a naturalistic mobile sensing study. *Emotion*, *21*(8), 1760–1770. https://doi.org/10.1037/emo0000994

Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, *10*, 85.

Deci, E. L., & Ryan, R. M. (2014). Autonomy and Need Satisfaction in Close Relationships: Relationships Motivation Theory. In N. Weinstein (Ed.), *Human Motivation and Interpersonal Relationships* (pp. 53–73). Springer Netherlands. https://doi.org/10.1007/978-94-017-8542-6_3

DeVillis, R. F., & Thorpe, C. T. (2021). *Scale development: Theory and applications* (5th ed.). Sage Publications.

DiGiovanni, A. M., & Ochsner, K. N. (2024). Emphasizing the Social in Social Emotion Regulation: A Call for Integration and Expansion. *Affective Science*, *5*(3), 173–178. https://doi.org/10.1007/s42761-024-00260-2

DiGiovanni, A. M., Peters, B. J., Tudder, A., Gresham, A. M., & Bolger, N. (2024). Physiological synchrony in supportive discussions: An examination of co-rumination, relationship type, and heterogeneity. *Psychophysiology*, *61*(7), e14554. https://doi.org/10.1111/psyp.14554

Dixon-Gordon, K. L., Bernecker, S. L., & Christensen, K. (2015). Recent innovations in the field of interpersonal emotion regulation. *Current Opinion in Psychology*, *3*, 36–42. https://doi.org/10.1016/j.copsyc.2015.02.001

Doré, B. P., Morris, R. R., Burr, D. A., Picard, R. W., & Ochsner, K. N. (2017). Helping Others Regulate Emotion Predicts Increased Regulation of One's Own Emotions and Decreased Symptoms of Depression. *Personality and Social Psychology Bulletin*, *43*(5), 729–739. https://doi.org/10.1177/0146167217695558

Dunkel-Schetter, C., & Skokan, L. A. (1990). Determinants of Social Support Provision in Personal Relationships. *Journal of Social and Personal Relationships*, *7*(4), 437–450. https://doi.org/10.1177/0265407590074002

Dunning, D. (2012). *Self-Insight: Roadblocks and Detours on the Path to Knowing Thyself*. Psychology Press. https://doi.org/10.4324/9780203337998

Duprez, C., Christophe, V., Rimé, B., Congard, A., & Antoine, P. (2015). Motives for the social sharing of an emotional experience. *Journal of Social and Personal Relationships*, *32*(6), 757–787. https://doi.org/10.1177/0265407514548393

Echterhoff, G., Higgins, E. T., & Levine, J. M. (2009). Shared Reality: Experiencing Commonality with others' Inner States about the World. *Perspectives on Psychological Science*, *4*(5), 496–521. https://doi.org/10.1111/j.1745-6924.2009.01161.x

Eisenberger, N. I., Master, S. L., Inagaki, T. K., Taylor, S. E., Shirinyan, D., Lieberman, M. D., & Naliboff, B. D. (2011). Attachment figures activate a safety signal-related neural region and reduce pain experience. *Proceedings of the National Academy of Sciences*, *108*(28), 11721–11726. https://doi.org/10.1073/pnas.1108239108

Elder, J., Davis, T., & Hughes, B. L. (2022). Learning About the Self: Motives for Coherence and Positivity Constrain Learning From Self-Relevant Social Feedback. *Psychological Science*, *33*(4), 629–647. https://doi.org/10.1177/09567976211045934

Eldesouky, L., & Gross, J. J. (2019). Emotion regulation goals: An individual difference perspective. *Social and Personality Psychology Compass*, *13*(9), e12493. https://doi.org/10.1111/spc3.12493

Finkel, E. J., Simpson, J. A., & Eastwick, P. W. (2017). The Psychology of Close Relationships: Fourteen Core Principles. *Annual Review of Psychology*, *68*(1), 383–411. https://doi.org/10.1146/annurev-psych-010416-044038

Fiske, A. P. (1992). The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review*, *99*(4), 689–723. https://doi.org/10.1037/0033-295X.99.4.689

Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, *50*(3), 571–579. https://doi.org/10.1037/0022-3514.50.3.571

Frith, C. D., & Frith, U. (2006). The Neural Basis of Mentalizing. *Neuron*, *50*(4), 531–534. https://doi.org/10.1016/j.neuron.2006.05.001

Gable, S. L., Gosnell, C. L., Maisel, N. C., & Strachman, A. (2012). Safely testing the alarm: Close others' responses to personal positive events. *Journal of Personality and Social Psychology*, 963.

Galovan, A. M., Holmes, E. K., & Proulx, C. M. (2017). Theoretical and methodological issues in relationship research: Considering the common fate model. *Journal of Social and Personal Relationships*, *34*(1), 44–68. https://doi.org/10.1177/0265407515621179

Ghosh, V. E., & Gilboa, A. (2014). What is a memory schema? A historical perspective on current neuroscience literature. *Neuropsychologia*, *53*, 104–114. https://doi.org/10.1016/j.neuropsychologia.2013.11.010

Ginosar Yaari, S., Pauw, L., Milek, A., Greenwald, Y., Katsoty, D., Greenaway, K. H., & Tamir, M. (2025). Do unto others: People use similar strategies to regulate their own emotions and the emotions of others. *Emotion*. https://doi.org/10.1037/emo0001587

Gleason, M. E. J., Iida, M., Bolger, N., & Shrout, P. E. (2003). Daily Supportive Equity in Close Relationships. *Personality and Social Psychology Bulletin*, *29*(8), 1036–1045. https://doi.org/10.1177/0146167203253473

Goldring, M. R., & Bolger, N. (2022). Mood and judgment in a dyadic stress context. *Emotion*, *22*(7), 1401–1416. https://doi.org/10.1037/emo0000938

Goldring, M. R., Pinelli, F., Bolger, N., & Higgins, E. T. (2022). Shared Reality Can Reduce Stressor Reactivity. *Frontiers in Psychology*, *13*, 853750. https://doi.org/10.3389/fpsyg.2022.853750

Gordon, A. M., & Diamond, E. (2023). Feeling understood and appreciated in relationships: Where do these perceptions come from and why do they matter? *Current Opinion in Psychology*, *53*, 101687. https://doi.org/10.1016/j.copsyc.2023.101687

Gregory, A. J. P., Anderson, J. F., & Gable, S. L. (2020). You don't know how it feels: Accuracy in emotion perception predicts responsiveness of support. *Emotion*, *20*(3), 343–352. https://doi.org/10.1037/emo0000608

Gross, J. J. (2014). *Handbook of Emotion Regulation*. Guilford Publications.

Gross, J. J., & Jazaieri, H. (2014). Emotion, Emotion Regulation, and Psychopathology: An Affective Science Perspective. *Clinical Psychological Science*, *2*(4), 387–401. https://doi.org/10.1177/2167702614536164

Gross, J. J., & John, O. P. (1997). Revealing feelings: Facets of emotional expressivity in self-reports, peer ratings, and behavior. *Journal of Personality and Social Psychology*, *72*(2), 435–448. https://doi.org/10.1037/0022-3514.72.2.435

Gross, J. J., & John, O. P. (20030728). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, *85*(2), 348. https://doi.org/10.1037/0022-3514.85.2.348

Hakstian, A. R., Rogers, W. T., & Cattell, R. B. (1982). The Behavior Of Number-Of-Factors Rules With Simulated Data. *Multivariate Behavioral Research*, *17*(2), 193–219. https://doi.org/10.1207/s15327906mbr1702_3

Hawkley, L. C., & Cacioppo, J. T. (2010). Loneliness Matters: A Theoretical and Empirical Review of Consequences and Mechanisms. *Annals of Behavioral Medicine*, *40*(2), 218–227. https://doi.org/10.1007/s12160-010-9210-8

Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor Retention Decisions in Exploratory Factor Analysis: A Tutorial on Parallel Analysis. *Organizational Research Methods*, *7*(2), 191–205. https://doi.org/10.1177/1094428104263675

He, Z., Cohen, N., Shu, J., Bo, K., Wager, T. D., & Ochsner, K. N. (2025). Comparing the neural bases of self- and social-reappraisal. *Cerebral Cortex*, *35*(8), bhaf189. https://doi.org/10.1093/cercor/bhaf189

Heider, F. (1958). *The psychology of interpersonal relations.* John Wiley & Sons Inc. https://doi.org/10.1037/10628-000

Higgins, E. T. (2012). Accessibility Theory. In P. Van Lange, A. Kruglanski, & E. Higgins, *Handbook of Theories of Social Psychology: Volume 1* (pp. 75–96). SAGE Publications Ltd. https://doi.org/10.4135/9781446249215.n5

Hofmann, R. J. (1977). Indices Descriptive of Factor Complexity. *The Journal of General Psychology*, *96*(1), 103–110. https://doi.org/10.1080/00221309.1977.9920803

Hofmann, S. G., Carpenter, J. K., & Curtiss, J. (2016). Interpersonal Emotion Regulation Questionnaire (IERQ): Scale Development and Psychometric Characteristics. *Cognitive Therapy and Research*, *40*(3), 341–356. https://doi.org/10.1007/s10608-016-9756-2

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social Relationships and Mortality Risk: A Meta-analytic Review. *PLoS Medicine*, *7*(7), e1000316. https://doi.org/10.1371/journal.pmed.1000316

Horn, J. L. (1965). A Rationale and Test for the Number of Factors in Factor Analysis. *Psychometrika*, *30*(2), 179–185. https://doi.org/10.1007/BF02289447

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Humphreys, L. G., & Montanelli Jr., R. G. (1975). An Investigation of the Parallel Analysis Criterion for Determining the Number of Common Factors. *Multivariate Behavioral Research*, *10*(2), 193–205. https://doi.org/10.1207/s15327906mbr1002_5

Iida, M., Savord, A., & Ledermann, T. (2023). Dyadic longitudinal models: A critical review. *Personal Relationships*, *30*(2), 356–378. https://doi.org/10.1111/pere.12468

Interpersonal problems across anxiety, depression, and eating disorders: A transdiagnostic examination—McEvoy—2013—British Journal of Clinical Psychology—Wiley Online

Library. (n.d.). Retrieved November 19, 2025, from https://bpspsychub.onlinelibrary.wiley.com/doi/full/10.1111/bjc.12005

Inzlicht, M., & Roberts, B. W. (2024). The fable of state self-control. *Current Opinion in Psychology*, *58*, 101848. https://doi.org/10.1016/j.copsyc.2024.101848

John, O. P., & Srivastava, S. (1999). *The Big Five Trait Taxonomy: History, Measurement, and Theoretical Perspectives*.

Jurkiewicz, O., McGarrigle, C. B., & Oveis, C. (2023). How to Improve Others' Emotions: Reappraise and be Responsive. *Affective Science*, *4*(2), 233–247. https://doi.org/10.1007/s42761-023-00183-4

Kelley, H. H., & Michela, J. L. (1980). Attribution Theory and Research. *Annual Review of Psychology*, *31*(1), 457–501. https://doi.org/10.1146/annurev.ps.31.020180.002325

Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. Guilford Press.

Koo, T. K., & Li, M. Y. (2016). A Guideline of Selecting and Reporting Intraclass Correlation Coefficients for Reliability Research. *Journal of Chiropractic Medicine*, *15*(2), 155–163. https://doi.org/10.1016/j.jcm.2016.02.012

Koval, P., Kalokerinos, E., Greenaway, K., Medland, H., Kuppens, P., Nezlek, J. B., Hinton, J., & Gross, J. (2020). *Emotion Regulation in Everyday Life: Mapping Global Self-Reports to Daily Processes*. PsyArXiv. https://doi.org/10.31234/osf.io/cav54

Kron, A., Goldstein, A., Lee, D. H.-J., Gardhouse, K., & Anderson, A. K. (2013). How Are You Feeling? Revisiting the Quantification of Emotional Qualia. *Psychological Science*, *24*(8), 1503–1511. https://doi.org/10.1177/0956797613475456

Kruglanski, A. W. (2018). *The Motivated Mind: The Selected Works of Arie W. Kruglanski* (1st ed.). Routledge. https://doi.org/10.4324/9781315175867

Lewin, K. (1946). Behavior and development as a function of the total situation. In *Manual of child psychology* (pp. 791–844). John Wiley & Sons, Inc. https://doi.org/10.1037/10756-016

Lin, J., Stern, J. A., Allen, J. P., Boker, S. M., & Coan, J. A. (2024). Emotional engagement with close friends in adolescence predicts neural correlates of empathy in adulthood. *Social Neuroscience*, *19*(4), 246–258. https://doi.org/10.1080/17470919.2024.2406863

Linehan, M. M. (1997). Validation and psychotherapy. In A. C. Bohart & L. S. Greenberg (Eds.), *Empathy reconsidered: New directions in psychotherapy.* (pp. 353–392). American Psychological Association. https://doi.org/10.1037/10226-016

Liu, D. Y., Strube, M. J., & Thompson, R. J. (2021). Interpersonal Emotion Regulation: An Experience Sampling Study. *Affective Science*. https://doi.org/10.1007/s42761-021-00044-y

MacCallum, R. C. (1990). The Need for Alternative Measures of Fit in Covariance Structure Modeling. *Multivariate Behavioral Research*, *25*(2), 157–162. https://doi.org/10.1207/s15327906mbr2502_2

MacCann, C., Double, K. S., Olderbak, S., Austin, E. J., Pinkus, R. T., Walker, S. A., Kunst, H., & Niven, K. (2025). What do we do to help others feel better? The eight strategies of the Regulating Others' Emotions Scale (ROES). *Emotion*, *25*(2), 410–429. https://doi.org/10.1037/emo0001459

Maisel, N. C., & Gable, S. L. (2009). The Paradox of Received Social Support: The Importance of Responsiveness. *Psychological Science*, *20*(8), 928–932. https://doi.org/10.1111/j.1467-9280.2009.02388.x

Marroquín, B. (2011). Interpersonal emotion regulation as a mechanism of social support in depression. *Clinical Psychology Review*, *31*(8), 1276–1290. https://doi.org/10.1016/j.cpr.2011.09.005

Matthews, M., Webb, T. L., & Sheppes, G. (2021). Do people choose the same strategies to regulate other people's emotions as they choose to regulate their own? *Emotion*, No Pagination Specified-No Pagination Specified. https://doi.org/10.1037/emo0001008

McGorray, E. L., Emery, L. F., Garr-Schultz, A., & Finkel, E. J. (2023). "Mostly White, heterosexual couples": Examining demographic diversity and reporting practices in relationship science research samples. *Journal of Personality and Social Psychology*, *125*(2), 316–344. https://doi.org/10.1037/pspi0000417

Meyer, J. P., & Mulherin, A. (n.d.). *From Attribution to Helping: An Analysis of the Mediating Effects of Affect and Expectancy*.

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, *102*(2), 246–268. https://doi.org/10.1037/0033-295X.102.2.246

Niven, K. (2017). The four key characteristics of interpersonal emotion regulation. *Current Opinion in Psychology*, *17*, 89–93. https://doi.org/10.1016/j.copsyc.2017.06.015

Niven, K., & López-Pérez, B. (2025). Interpersonal emotion regulation: Reflecting on progress and charting the path forward. *Emotion*, *25*(2), 277–286. https://doi.org/10.1037/emo0001472

Niven, K., Totterdell, P., Stride, C. B., & Holman, D. (2011). Emotion Regulation of Others and Self (EROS): The Development and Validation of a New Individual Difference

Measure. *Current Psychology*, *30*(1), 53–73. https://doi.org/10.1007/s12144-011-9099-9

O'Brien, T. B., & DeLongis, A. (1997). Coping with Chronic Stress. In B. H. Gottlieb (Ed.), *Coping with Chronic Stress* (pp. 161–190). Springer US. https://doi.org/10.1007/978-1-4757-9862-3_6

Osborne, J. (2008). *Best Practices in Quantitative Methods*. SAGE Publications, Inc. https://doi.org/10.4135/9781412995627

Pauw, L. S., Sauter, D. A., Van Kleef, G. A., & Fischer, A. H. (2018). Sense or sensibility? Social sharers' evaluations of socio-affective vs. cognitive support in response to negative emotions. *Cognition and Emotion*, *32*(6), 1247–1264. https://doi.org/10.1080/02699931.2017.1400949

Payne, B. K., & Hannay, J. W. (2021). Implicit bias reflects systemic racism. *Trends in Cognitive Sciences*, *25*(11), 927–936. https://doi.org/10.1016/j.tics.2021.08.001

Payne, B. K., Vuletich, H. A., & Lundberg, K. B. (2017). The Bias of Crowds: How Implicit Bias Bridges Personal and Systemic Prejudice. *Psychological Inquiry*, *28*(4), 233–248. https://doi.org/10.1080/1047840X.2017.1335568

Petrova, K., & Gross, J. J. (2023). The Future of Emotion Regulation Research: Broadening Our Field of View. *Affective Science*, *4*(4), 609–616. https://doi.org/10.1007/s42761-023-00222-0

Philippe Rushton, J., Chrisjohn, R. D., & Cynthia Fekken, G. (1981). The altruistic personality and the self-report altruism scale. *Personality and Individual Differences*, *2*(4), 293–302. https://doi.org/10.1016/0191-8869(81)90084-2

Piaget, J. (1962). The Stages of the Intellectual Development of the Child. *Bulletin of the Menninger Clinic*, *26*(3), 120–128.

PIaget, J., & Cook, M. (1952). *The origins of intelligence in children* (Vol. 8). International universities press.

Polit, D. F. (2014). Getting serious about test–retest reliability: A critique of retest research and some recommendations. *Quality of Life Research*, *23*(6), 1713–1720. https://doi.org/10.1007/s11136-014-0632-9

Powers, J. P., & LaBar, K. S. (2019). Regulating emotion through distancing: A taxonomy, neurocognitive model, and supporting meta-analysis. *Neuroscience & Biobehavioral Reviews*, *96*, 155–173. https://doi.org/10.1016/j.neubiorev.2018.04.023

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, *36*(4), 717–731. https://doi.org/10.3758/BF03206553

Preacher, K. J., & MacCallum, R. C. (2003). Repairing Tom Swift's Electric Factor Analysis Machine. *Understanding Statistics*, *2*(1), 13–43. https://doi.org/10.1207/S15328031US0201_02

Pronin, E., Lin, D. Y., & Ross, L. (2002). The Bias Blind Spot: Perceptions of Bias in Self Versus Others. *Personality and Social Psychology Bulletin*, *28*(3), 369–381. https://doi.org/10.1177/0146167202286008

Raio, C. M., Orederu, T. A., Palazzolo, L., Shurick, A. A., & Phelps, E. A. (2013). Cognitive emotion regulation fails the stress test. *Proceedings of the National Academy of Sciences*, *110*(37), 15139–15144. https://doi.org/10.1073/pnas.1305706110

Rauers, A., & Riediger, M. (2023). Ease of Mind or Ties That Bind? Costs and Benefits of Disclosing Daily Hassles in Partnerships. *Social Psychological and Personality Science*, *14*(5), 551–561. https://doi.org/10.1177/19485506221112252

Reeck, C., Ames, D. R., & Ochsner, K. N. (2016). The Social Regulation of Emotion: An Integrative, Cross-Disciplinary Model. *Trends in Cognitive Sciences*, *20*(1), 47–63. https://doi.org/10.1016/j.tics.2015.09.003

Reis, H. T. (2012). Perceived partner responsiveness as an organizing theme for the study of relationships and well-being. In L. Campbell & T. J. Loving (Eds.), *Interdisciplinary research on close relationships: The case for integration.* (pp. 27–52). American Psychological Association. https://doi.org/10.1037/13486-002

Reis, H. T., & Gable, S. L. (2015). Responsiveness. *Current Opinion in Psychology*, *1*, 67–71. https://doi.org/10.1016/j.copsyc.2015.01.001

Revelle, W., & Rocklin, T. (1979). Very Simple Structure: An Alternative Procedure For Estimating The Optimal Number Of Interpretable Factors. *Multivariate Behavioral Research*, *14*(4), 403–414. https://doi.org/10.1207/s15327906mbr1404_2

Reynolds, W. M. (1982). Development of reliable and valid short forms of the marlowe-crowne social desirability scale. *Journal of Clinical Psychology*, *38*(1), 119–125. https://doi.org/10.1002/1097-4679(198201)38:1%253C119::AID-JCLP2270380118%253E3.0.CO;2-I

Rimé, B. (2007). Interpersonal Emotion Regulation. In *Handbook of emotion regulation* (Vol. 1, pp. 466–485). Guilford Press.

Rimé, B., Bouchat, P., Paquot, L., & Giglio, L. (2020). Intrapersonal, interpersonal, and social outcomes of the social sharing of emotion. *Current Opinion in Psychology*, *31*, 127–134. https://doi.org/10.1016/j.copsyc.2019.08.024

Robins, R. W., & Beer, J. S. (2001). Positive illusions about the self: Short-term benefits and long-term costs. *Journal of Personality and Social Psychology*, *80*(2), 340–352. https://doi.org/10.1037/0022-3514.80.2.340

Ross, L., & Nisbett, R. E. (2011). *The Person and the Situation: Perspectives of Social Psychology*. Pinter & Martin Publishers.

Rossignac-Milon, M., Bolger, N., Zee, K. S., Boothby, E. J., & Higgins, E. T. (2021). Merged minds: Generalized shared reality in dyadic relationships. *Journal of Personality and Social Psychology*, *120*(4), 882–911. https://doi.org/10.1037/pspi0000266

Rusbult, C. E., & Van Lange, P. A. M. (2003). Interdependence, Interaction, and Relationships. *Annual Review of Psychology*, *54*(1), 351–375. https://doi.org/10.1146/annurev.psych.54.101601.145059

Ruscio, J., & Roche, B. (2012). Determining the number of factors to retain in an exploratory factor analysis using comparison data of known factorial structure. *Psychological Assessment*, *24*(2), 282–292. https://doi.org/10.1037/a0025697

Sahi, R. S., Gaines, E. M., Nussbaum, S. G., Lee, D., Lieberman, M. D., Eisenberger, N. I., & Silvers, J. A. (2025). You changed my mind: Immediate and enduring impacts of social emotion regulation. *Emotion*, *25*(2), 330–339. https://doi.org/10.1037/emo0001284

Sahi, R. S., He, Z., Silvers, J. A., & Eisenberger, N. I. (2023). One size does not fit all: Decomposing the implementation and differential benefits of social emotion regulation strategies. *Emotion*, *23*(6), 1522–1535. https://doi.org/10.1037/emo0001194

Sanitioso, R. B., & Wlodarski, R. (2004). In Search of Information That Confirms a Desired Self-Perception: Motivated Processing of Social Feedback and Choice of Social Interactions. *Personality and Social Psychology Bulletin*, *30*(4), 412–422. https://doi.org/10.1177/0146167203261882

Saxbe, D. E., Beckes, L., Stoycos, S. A., & Coan, J. A. (2020). Social Allostasis and Social Allostatic Load: A New Model for Research in Social Dynamics, Stress, and Health. *Perspectives on Psychological Science*, *15*(2), 469–482. https://doi.org/10.1177/1745691619876528

Selcuk, E., Zayas, V., Günaydin, G., Hazan, C., & Kross, E. (2012). Mental representations of attachment figures facilitate recovery following upsetting autobiographical memory recall. *Journal of Personality and Social Psychology*, *103*(2), 362–378. https://doi.org/10.1037/a0028125

Shakespeare-Finch, J., & Obst, P. L. (2011). The Development of the 2-Way Social Support Scale: A Measure of Giving and Receiving Emotional and Instrumental Support. *Journal of Personality Assessment*, *93*(5), 483–490. https://doi.org/10.1080/00223891.2011.594124

Sheppes, G., Scheibe, S., Suri, G., & Gross, J. J. (2011). Emotion-Regulation Choice. *Psychological Science*, *22*(11), 1391–1396. https://doi.org/10.1177/0956797611418350

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

Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, *86*(2), 420–428. https://doi.org/10.1037/0033-2909.86.2.420

Shu, J., Bolger, N., & Ochsner, K. N. (2021). Social emotion regulation strategies are differentially helpful for anxiety and sadness. *Emotion*, *21*(6), 1144–1159. https://doi.org/10.1037/emo0000921

Speer, M. E., & Delgado, M. R. (2020). The social value of positive autobiographical memory retrieval. *Journal of Experimental Psychology: General*, *149*(4), 790–799. https://doi.org/10.1037/xge0000671

Steiger, J. H., & Lind, J. C. (1980). *Statistically based tests for the number of common factors*. Annual Meeting of the Psychometric Society, Iowa City, Iowa.

Stern, J. A., Bailey, N. A., Costello, M. A., Hellwig, A. F., Mitchell, J., & Allen, J. P. (2024). Empathy across three generations: From maternal and peer support in adolescence to adult parenting and child outcomes. *Child Development*, *95*(5), 1628–1640. https://doi.org/10.1111/cdev.14109

Swerdlow, B. A., & Johnson, S. L. (2022). The Interpersonal Regulation Interaction Scale (IRIS): A multistudy investigation of receivers' retrospective evaluations of interpersonal emotion regulation interactions. *Emotion*, *22*(6), 1119–1136. https://doi.org/10.1037/emo0000927

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson.

Tamir, M. (2016). Why Do People Regulate Their Emotions? A Taxonomy of Motives in Emotion Regulation. *Personality and Social Psychology Review*, *20*(3), 199–222. https://doi.org/10.1177/1088868315586325

Tamir, M., John, O. P., Srivastava, S., & Gross, J. J. (2007). Implicit theories of emotion: Affective and social outcomes across a major life transition. *Journal of Personality and Social Psychology*, *92*(4), 731–744. https://doi.org/10.1037/0022-3514.92.4.731

Taylor, S. E. (2012). Social Support: A Review. In H. S. Friedman (Ed.), *The Oxford Handbook of Health Psychology* (1st ed., pp. 190–214). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195342819.013.0009

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, *103*(2), 193–210. https://doi.org/10.1037/0033-2909.103.2.193

Teufel, C., Fletcher, P. C., & Davis, G. (2010). Seeing other minds: Attributed mental states influence perception. *Trends in Cognitive Sciences*, *14*(8), 376–382. https://doi.org/10.1016/j.tics.2010.05.005

Tran, A., Greenaway, K. H., & Kalokerinos, E. K. (n.d.). *Why Do We Engage in Everyday Interpersonal Emotion Regulation?*

Tran, A., Greenaway, K. H., Kostopoulos, J., O'Brien, S. T., & Kalokerinos, E. K. (2023). Mapping Interpersonal Emotion Regulation in Everyday Life. *Affective Science*, *4*(4), 672–683. https://doi.org/10.1007/s42761-023-00223-z

Trope, Y., & Gaunt, R. (2007). Attribution and Person Perception. In M. Hogg & J. Cooper, *The SAGE Handbook of Social Psychology: Concise Student Edition* (pp. 176–194). SAGE Publications Ltd. https://doi.org/10.4135/9781848608221.n8

Trope, Y., & Liberman, N. (2012). Construal Level Theory. In P. Van Lange, A. Kruglanski, & E. Higgins, *Handbook of Theories of Social Psychology: Volume 1* (pp. 118–134). SAGE Publications Ltd. https://doi.org/10.4135/9781446249215.n7

Tucker, L. R., & Lewis, C. (1973). A Reliability Coefficient for Maximum Likelihood Factor Analysis. *Psychometrika*, *38*(1), 1–10. https://doi.org/10.1007/BF02291170

Tulving, E. (1972). Episodic and semantic memory. *Organization of Memory*, *1*.

Van De Schoot, R., Winter, S. D., Ryan, O., Zondervan-Zwijnenburg, M., & Depaoli, S. (2017). A systematic review of Bayesian articles in psychology: The last 25 years. *Psychological Methods*, *22*(2), 217–239. https://doi.org/10.1037/met0000100

Van Lange, P. A. M., & Balliet, D. (2015). Interdependence theory. In M. Mikulincer, P. R. Shaver, J. A. Simpson, & J. F. Dovidio (Eds.), *APA handbook of personality and social psychology, Volume 3: Interpersonal relations.* (pp. 65–92). American Psychological Association. https://doi.org/10.1037/14344-003

Velicer, W. F. (1976). Determining the Number of Components from the Matrix of Partial Correlations. *Psychometrika*, *41*(3), 321–327. https://doi.org/10.1007/BF02293557

Vogel, D. L., & Wei, M. (2005). Adult Attachment and Help-Seeking Intent: The Mediating Roles of Psychological Distress and Perceived Social Support. *Journal of Counseling Psychology*, *52*(3), 347–357. https://doi.org/10.1037/0022-0167.52.3.347

Wagenmakers, E.-J. (2007). A practical solution to the pervasive problems ofp values. *Psychonomic Bulletin & Review*, *14*(5), 779–804. https://doi.org/10.3758/BF03194105

Watson, D., Anna, L., & Tellegen, A. (1988). *Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales*.

Williams, W. C., Morelli, S. A., Ong, D. C., & Zaki, J. (2018). Interpersonal emotion regulation: Implications for affiliation, perceived support, relationships, and well-being. *Journal of Personality and Social Psychology*, *115*(2), 224–254. https://doi.org/10.1037/pspi0000132

Zaki, J. (2014). Empathy: A motivated account. *Psychological Bulletin*, *140*(6), 1608–1647. https://doi.org/10.1037/a0037679

Zaki, J., Bolger, N., & Ochsner, K. (2008). It Takes Two: The Interpersonal Nature of Empathic Accuracy. *Psychological Science*, *19*(4), 399–404. https://doi.org/10.1111/j.1467-9280.2008.02099.x

Zayas, V., Wang, A. M., & McCalla, J. D. (2022). Me as good and me as bad: Priming the self triggers positive and negative implicit evaluations. *Journal of Personality and Social Psychology*, *122*(1), 106–134. https://doi.org/10.1037/pspp0000332

Zayas, V., Urganci, B., & Strycharz, S. (2025). Out of sight but in mind: Experimentally activating partner representations in daily life buffers against common stressors. *Emotion*, *25*(2), 430–442. https://doi.org/10.1037/emo0001419

Zee, K. S., Bolger, N., & Higgins, E. T. (2020). Regulatory effectiveness of social support. *Journal of Personality and Social Psychology*, *119*(6), 1316–1358. https://doi.org/10.1037/pspi0000235

Zell, E., & Krizan, Z. (2014). Do People Have Insight Into Their Abilities? A Metasynthesis. *Perspectives on Psychological Science*, *9*(2), 111–125. https://doi.org/10.1177/1745691613518075

Zhao, Y., Sisson, N. M., Zerwas, F. K., & Ford, B. Q. (2025). The interpersonal risks of valuing happiness: Links to interpersonal emotion regulation and close others' mental health. *Emotion*, *25*(2), 488–506. https://doi.org/10.1037/emo0001443