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JSPR

Journal of Social and Personal Relationships
2025, Vol. 42(6) 1315–1338
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DOI: 10.1177/02654075251325434
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# It's a match: Exploring joint emotion regulation profiles among mixed-sex couples

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## Abstract

How do couples differ from other couples in how they regulate their own and their partner's emotions? Although research on emotion regulation is blooming, insights into joint emotion regulation profiles—that is, the overlap between partners' specific strategies to regulate themselves and their partner—remain limited. To address this gap, we identified joint intra- and interpersonal emotion regulation profiles in 120 mixed-sex couples; clustering couples together based on both partners' reported intra- and interpersonal emotion regulation strategies. Additionally, we examined associations between profile-membership and well-being indicators. The identified joint emotion regulation profiles differed in three ways: (1) degree of regulation (e.g., no use of any vs. high use of all strategies), (2) strategies predominantly used; and (3) degree of similarity—or lack thereof—between partners. Together, these findings provide the first insights into the role of joint emotion regulation profiles in the health of couples and their relationships, highlighting the unique roles played by both partners in regulating their own and their partner's emotions. Further research is needed to assess if these results generalize to inclusive samples and daily life.

## Keywords

Emotion Regulation profile, interpersonal emotion regulation, intimate relationships, cluster analysis, individual distress, relational well-being

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## Introduction

When encountering emotion-eliciting situations, people tend to rely on certain emotion regulation strategies (Gross, 2015). For instance, when experiencing negative emotions, Sarah usually talks about her feelings to her partner Dan (using the strategy expressive engagement), while perceiving the situation as a chance to grow closer to him (cognitive reappraisal). Dan typically regulates his negative emotions differently. First, he starts scrolling on his phone (distraction), after which he replays the emotion-eliciting event over and over in his head, wondering why he feels so bad (rumination). However, individuals not only regulate their own emotions, but also use strategies to try to change the emotions of their partner (Niven et al., 2009; Zaki & Williams, 2013). For example, when Sarah perceives Dan's sadness, she usually tries to cheer him up by providing him with another perspective on the situation (cognitive reframing) or encouraging him to talk about his feelings (receptive listening). Dan, in turn, usually shows Sarah appreciation (valuing) and suggests they go for a walk to clear Sarah's head (distraction).

Researchers have primarily focused on identifying the specific strategies individuals typically use to change or control their *own* emotions (i.e., habitual intrapersonal emotion regulation) and, more recently, the emotions of *others* (i.e., extrinsic interpersonal emotion regulation). Evidence suggests that the efficacy of these regulation strategies depends on the context in which they are deployed (Aldao et al., 2010; Gross, 2015). However, the relational context—where emotion regulation most often takes place (Rimé et al., 2020)—remains underexplored. Investigating both partners in a relationship offers a richer view, capturing how the interplay between how *both* partners regulate their own and their partner's emotions might matter for their individual and relational functioning (Walker, Pinkus, Olderbak, & MacCann, 2023). In this study, to better understand emotion regulation in relationships, we will (1) identify couples' joint emotion regulation profiles, clustering couples together based on their joint habitual *intra*personal emotion regulation strategies and their joint *inter*personal emotion regulation profiles, and (2) test whether these profiles are meaningfully related to indicators of individual and relational well-being.

### *Classifying emotion regulation in self and other*

Much of the research on intrapersonal emotion regulation has focused on identifying the emotion regulation strategies people select and implement to change or control their own emotions. Broadly, intrapersonal regulation strategies can be classified based on their level of engagement (Naragon-Gainey et al., 2017; Olderbak et al., 2023). Specifically, strategies either actively engage with one's own emotions or thoughts (*engagement strategies*) or disengage towards other things (*disengagement strategies*). For instance, reframing the situation in a new light (cognitive reappraisal), venting about one's feelings (expressive engagement), and perseverating on an emotional experience and its causes (rumination), are considered engagement-oriented. In contrast, hiding one's facial expression (expressive suppression), and shifting one's attention away from an emotional stimulus (distraction) are disengagement-oriented (Olderbak et al., 2023; Parkinson & Totterdell, 1999). Techniques such as focusing on one's breath to dampen autonomic

arousal (relaxation) have been characterized as both engagement- and disengagement-oriented, as they involve actively regulating emotional experience, while also redirecting focus away from negative aspects of a situation (Olderbak et al., 2023).

Emotion regulation is not limited to managing one's own emotions; it also often involves the emotions of others. Since most emotion regulation efforts occur in social contexts, research has increasingly focused on how individuals try to manage the emotions of others (i.e., the *target*; MacCann et al., 2019; Niven, 2009; Zaki & Williams, 2013). This process, known as extrinsic interpersonal emotion regulation (hereafter referred to as interpersonal emotion regulation), involves deliberate effort to manage another person's emotional state (Tran et al., 2024). Extrinsic interpersonal emotion regulation is typically measured in terms of two broad goals: affect improving and affect worsening. Specifically, individuals can use strategies either to make their partner feel better (affect-improving) or—infrequently—worse (affect-worsening; MacCann et al., 2019; Niven et al., 2012; Nozaki & Mikolajczak, 2020; Tran et al., 2023).

Since individuals often use similar strategies to regulate their own emotions and those of others, extrinsic interpersonal emotion regulation strategies can also be distinguished by their level of engagement (MacCann et al., 2019; Niven et al., 2009). Specifically, regulators can choose strategies that engage actively with the target's emotions or that divert the target's attention away from emotion-eliciting stimuli (MacCann et al., 2019; Niven et al., 2009). Strategies such as cognitive reframing (encouraging the target to change the way they think about their situation), receptive listening (listening to the target express their emotions), and valuing (giving the target attention to make them feel valued) are considered high-engagement strategies (MacCann et al., 2019). In contrast, humor (telling the target a joke) and distraction (distracting the target from their emotions) are considered moderate-engagement strategies.

### *A variable-centered approach: Assessing emotion regulation outcomes*

Much of the past research captured how different emotion regulation strategies relate to people's well-being by focusing on one-to-one associations between specific strategies and indicators of *individual* distress, such as depression, anxiety, and stress (e.g., Aldao et al., 2010; Cameron & Overall, 2018; MacCann et al., 2019; Marroquín et al., 2011; Pauw et al., 2023); and *relational* well-being, such as relationship satisfaction, relationship quality, or closeness (e.g., Butler, 2017; Cameron & Overall, 2018; MacCann et al., 2019; Pauw et al., 2023; Walker, Pinkus, Double, et al., 2023, Walker, Pinkus, Olderbak, & MacCann, 2023). While the efficacy of a regulatory strategy depends on several factors such as context (e.g., Aldao & Nolen-Hoeksema, 2012; Aldao & Tull, 2015), research indicates that intra- and interpersonal emotion regulation strategies characterized by high engagement (e.g., intrapersonal expressive engagement) are generally associated with decreased levels of individual distress and increased levels of relational well-being for both the regulator (actor-effect), and their partner (partner-effect; e.g., Aldao et al., 2010; Jurkiewicz et al., 2023; MacCann et al., 2019; Olderbak et al., 2023; Walker, Pinkus, Olderbak, & MacCann, 2023; Webb et al., 2012). Conversely, intra- and interpersonal emotion regulation strategies characterized by low engagement

(e.g., expressive suppression) are generally related to increased levels of individual distress and decreased levels of individual and relational well-being for both partners (e.g., Aldao et al., 2010; Cameron & Overall, 2018; Impett et al., 2012, 2014; MacCann et al., 2019; McRae & Gross, 2020; Peters & Jamieson, 2016).

### *A person-centered approach: Assessing personal emotion regulation profiles*

Recently, researchers have adopted a new approach in studying the role of emotion regulation in individuals' well-being. Instead of investigating one-to-one associations between specific strategies and well-being indicators across individuals (a variable-centered approach), they started examining how individuals differ in their combined use of regulation strategies (i.e., profiles or clusters), and how these profiles relate to indicators of well-being (Bonanno & Burton, 2013). This person-centered approach offers a more nuanced understanding, recognizing that people typically use multiple strategies simultaneously to manage emotions (Battaglini et al., 2023; Ford et al., 2019). Rather than being inherently (mal)adaptive, the effectiveness of any single strategy depends on the context and how it interacts with other strategies (Aldao & Nolen-Hoeksema, 2012).

Thus far, the emotion regulation profile literature has focused on *intra*personal emotion regulation strategies (e.g., Chesney et al., 2019; Chesney & Gordon, 2017; De France & Hollenstein, 2017; Dixon-Gordon et al., 2015; Eftekhari et al., 2009; Grommisch et al., 2020; Naragon-Gainey et al., 2017; Guassi Moreira et al., 2024; Van Eck et al., 2017). Across studies, similar emotion regulation profiles emerge, typically with one "adaptive" (e.g., expressive engagement) and one "maladaptive" profile (e.g., rumination), along with more balanced profiles (e.g., average use of most regulation strategies; Chesney & Gordon, 2017, 2019; De France & Hollenstein, 2017; Van Eck et al., 2017). The relationship between these profiles and psychopathology is mixed, with some studies linking adaptive profiles to fewer depression and anxiety symptoms (e.g., Lougheed & Hollenstein, 2012), while others find better mental health in those with average profiles (e.g., Guassi Moreira et al., 2024).

Previous research has primarily focused on clustering individuals based on their intrapersonal strategies, but both intra- and interpersonal emotion regulation strategies are unique predictors of individual distress (Christensen et al., 2020; Horn & Maercker, 2016). Indeed, empirical evidence shows that interpersonal emotion regulation strategies predict distress in terms of psychopathology symptoms above and beyond intrapersonal emotion regulation strategies (Horn & Maercker, 2016). To build on this work, we aim to replicate and extend prior research by clustering individuals based on both their habitual intra- and interpersonal regulation strategies.

### *A dyad-centered approach: Assessing joint emotion regulation profiles*

Although examining how individuals differ in their use of both intra- and interpersonal emotion regulation strategies provides valuable insights, these emotion regulation profiles would rely on the self-reports from only *one* member of the couple. Understanding emotion regulation profiles solely from the perspective of one person neglects how

emotions are co-regulated within that relationship, failing to capture emotion regulation as a shared phenomenon (Dixon-Gordon et al., 2015; Sasaki et al., 2022).

A central premise in relationship science is that partners influence each other in various and profound ways (Reis, 2014; Ruan et al., 2020). As a result, the way emotions are typically regulated by one member of the couple can impact their partner's respective emotion regulation attempts. Returning to our example of Sarah and Dan: when Sarah typically expresses her emotions to Dan (i.e., expressive engagement), Dan might match this approach, becoming more open about his own feelings. Alternatively, Dan might perceive Sarah's expression as leaving no space for his emotions, leading him to habitually hide his feelings (i.e., expressive suppression).

Understanding emotion regulation profiles from a dyadic perspective will offer insights on the association between both partners' emotion regulation efforts and each partner's individual distress and relational well-being. For instance, while most research has indicated that individuals who engage in lower levels of expressive suppression tend to report higher satisfaction in their relationships, recent research suggests this is the case *only* when their partner also exhibits lower levels of expressive suppression (Sasaki et al., 2022). We would thus expect individuals to report better relationship quality when *only they* engage in habitual expressive suppression, compared to individuals whose *partners also* frequently utilize this strategy. Considering how both partners' emotion regulation profiles cluster together provides a more meaningful picture of couples' functioning.

Thus, in the present study, we extend existing research by identifying joint emotion regulation profiles in couples using a dyad-centered clustering approach. Additionally, we explore whether profile-membership is related to each partner's individual distress and relational well-being. We focus on symptoms of depression, anxiety, and stress as indicators of individual distress, and on relationship quality as an indicator of relational well-being, as these outcomes have consistently demonstrated a substantial impact on an individual's overall mental health and quality of life (e.g., Aldao et al., 2010).

## Method

### *Participants*

The data were collected in Ghent, Belgium, as part of a larger study on emotional processes in intimate relationships conducted in 2022. To be eligible, partners had to be (1) at least 20 years old, and (2) involved in a relationship of at least 6 months. Using social media, we recruited 120 mixed-sex and 14 same-sex couples. For this specific study, we focused on mixed-sex couples only due to the challenges arising from differentiation between partners among same-sex couples in cluster analysis, leaving a final sample of 120 couples. Of these couples, 120 participants self-identified as cisgender men, and 120 participants self-identified as cisgender women. On average, participants were 27.44 years old *(SD* = 9.19, range = 20 – 71) and had been in a relationship for 5.32 years (*SD* = 7.10 years, range = 6 months–36 years). Sixteen couples were married

and 31 were cohabiting, while 73 were living separately. Further details regarding sample characteristics can be found in Table 1.

Because data were drawn from a larger study, sample size was not chosen to optimize power for the current research question. While there are no firmly established ways of computing a priori statistical power for cluster analysis, simulation studies indicate that researchers should aim for sample sizes of 20 per expected subgroup (Dalmaijer et al., 2022). Considering prior research has identified between three and eight clusters in emotion regulation profiles (e.g., Chesney & Gordon, 2017; 2019; Van Eck et al., 2017), including 120 couples in the cluster analysis is adequate.

## Procedure

The larger study was approved by the ethical committee of the Faculty of Psychology and Educational Sciences of Ghent University, Belgium. The broader study consisted of online baseline and follow-up questionnaires, and a dyadic interaction session. For this study, we used only the data from the baseline questionnaires. After providing informed consent, partners independently completed the baseline questionnaires at home. Couples received 30 euros for their participation in the entire study.

**Table 1.** Sample demographic characteristics table.

| Variable | *N* (%) |
|---|---|
| Student | 119 (49%) |
| Nationality | |
| Belgian | 236 (98%) |
| Canadian | 1 (0.5%) |
| Dutch | 1 (0.5%) |
| German | 1 (0.5%) |
| Spanish | 1 (0.5%) |
| Migration background | 15 (6%) |
| Shared household income | |
| €0 – 1999 | 74 (31%) |
| €2000 – 3999 | 75 (32%) |
| €4000 and more | 91 (37%) |
| Highest education | |
| Less than high school | 1 (0.5%) |
| High school diploma | 76 (32%) |
| Bachelor's degree | 86 (36%) |
| Master's degree | 73 (30.5%) |
| Doctorate degree | 4 (1%) |
| Previous history of mental illness | 80 (33%) |

*Note.* $N$ = 240 individuals (120 couples).

## Measures

Table 2 shows descriptive statistics for key variables, including reliability coefficients.

Intrapersonal emotion regulation strategies were assessed with the 12-item version of the Regulation of Emotion Systems Survey (RESS-EMA; Medland et al., 2020), which is grounded in the Process Model of Emotion Regulation (Gross, 1998). Participants rated the extent to which they generally used emotion regulation strategies to regulate their negative emotions on a scale from 0 (*never*) to 100 (*always*). The RESS-EMA consists of six subscales with two items each: relaxation (e.g., "I take deep breaths"), expressive engagement (e.g., "I show my feelings"), rumination (e.g., "I continually think about what is bothering me"), cognitive reappraisal (e.g., "I think of other ways to interpret the situation"), distraction (e.g., "I engage in activities to distract myself"), and expressive suppression (e.g., "I make an effort to hide my feelings"). Subscale scores were computed by taking the mean scores for all items from the specific subscale.

Interpersonal emotion regulation strategies were assessed with the 10-item version of the Regulation of Self and Others Scale (ROES; MacCann et al., 2019), which is based in multiple theoretical frameworks (Gross, 1998; Niven et al., 2009). Participants rated the extent to which they generally used interpersonal emotion regulation strategies to make their partner feel better on a 6-point scale (1, *not at all*; 6, *very much*). The ROES consists of five subscales with two items each: receptive listening (e.g., "I let my partner talk to me about their troubles"), cognitive reframing (e.g., "I help my partner see the situation in a different way"), valuing (e.g., "I make them feel special or cared about"), humor (e.g., "I make my

**Table 2.** Descriptive statistics for key variables.

| Variable | $\alpha$[a] | *M* | *SD* | Score range[b] |
|---|---|---|---|---|
| Intrapersonal emotion regulation | | | | |
| Relaxation | .65 | 48.09 | 25.38 | 0–100 |
| Expressive engagement | .80 | 55.07 | 24.19 | 0–100 |
| Rumination | .67 | 72.17 | 19.89 | 10–100 |
| Cognitive reappraisal | .89 | 56.32 | 26.31 | 0–100 |
| Distraction | .95 | 56.92 | 24.71 | 0–100 |
| Expressive suppression | .83 | 45.28 | 25.63 | 0–100 |
| Interpersonal emotion regulation | | | | |
| Receptive listening | .74 | 5.63 | 0.47 | 3.5–6 |
| Cognitive reframing | .72 | 4.96 | 0.80 | 2.5–6 |
| Valuing | .76 | 5.45 | 0.70 | 2.5–6 |
| Humor | .92 | 4.81 | 1.13 | 1–6 |
| Distraction | .91 | 4.56 | 1.12 | 1–6 |
| Individual distress | .75 | 22.81 | 17.26 | 0–84 |
| Relational well-being | .91 | 6.12 | 0.56 | 3.4–7 |

[a]The Spearman-Brown reliability coefficient was calculated for the intra- and interpersonal emotion regulation subscales, given the low number of items (two items) per subscale.
[b]The Score Range depicts the minimum and maximum scores of the scale in the sample.

partner laugh"), and distraction (e.g., "I help my partner to think about something else"). Subscale scores were computed by averaging the two items for each subscale.

Individual distress was assessed with the short version of the Depression, Anxiety, Stress Scale, consisting of 21 items (DASS-21; Lovibond & Lovibond, 1995). Participants rated to what extent they experienced symptoms of depression, anxiety, and stress over the past week on a 4-point scale (0, *did not apply to me at all*, 3, *applied to me very much or most of the time*). The DASS-21 consists of three subscales with seven items each: depression (e.g., "I couldn't seem to experience any positive feeling at all"), anxiety (e.g., "I felt scared without any good reason"), and stress (e.g., "I found myself getting agitated"). A total individual distress-score was obtained by summing the scores for all items included in a specific subscale and multiplying these sums by two. Figure S1 and Table S1 in Supplemental Materials show the distribution of individual distress.

Relational well-being was assessed with the Perceived Relationship Quality Component Inventory, consisting of 18 items (PRQC; Fletcher et al., 2000). Participants rated their current partner and their relationship on six relationship domains: satisfaction, commitment, intimacy, trust, passion, and love. Each domain was represented by three items, which were answered on a 7-point scale (1, *not at all applicable*; 7, *very applicable*). A global perceived relationship quality score was obtained by averaging all items.

## Data analysis

We used an exploratory clustering approach to empirically identify joint emotion regulation profiles, or clusters (Everitt et al., 2001). We ran two *K*-means cluster analyses: one on a set of 12 variables encompassing the six intrapersonal emotion regulation strategies from both partners, and one on a set of 10 variables encompassing the five interpersonal emotion regulation strategies from both partners within each couple. In other words, each data point in the cluster analysis represented the mean score of each individual on a specific subscale measuring a particular emotion regulation strategy. We analyzed intra- and interpersonal emotion regulation strategies separately because analyzing them together did not reveal robust findings and separate analyses allow more detailed insight in how each set of strategies contributes to individual distress and relational well-being (for details, see Supplemental Materials).

We used Milligan's conceptual framework for a stepwise implementation of both cluster analyses (Steinley & Brusco, 2011). First, we standardized emotion regulation subscales scores to give each variable equal weight in the analysis. Second, the Mac Queens *K*–means cluster algorithm was implemented in MATLAB to identify *K*–clusters with the largest possible between–cluster differences and the smallest possible within–cluster differences (Everitt et al., 2001). This means that couples within the same cluster exhibited greater similarity to one another in the use of specific intra- or interpersonal regulation strategies than couples in different clusters. As the numbers of clusters (i.e., the value of *K*) are unknown beforehand, we conducted the *K*-means cluster analysis several times for one to eight clusters, with 1000 random starting points for each number of clusters (as recommended by Steinley, 2003). To determine the most appropriate number of clusters or profiles, we applied the CHull procedure (Ceulemans & Kiers, 2006;

Wilderjans, Ceulemans, & Meers, 2013; see Figure S2 and S3 in Supplemental Materials). Finally, we visually inspected and interpreted the patterns emerging within the cluster solutions. To enhance the reliability of our analysis, we replicated the analyses 1000 times by sampling with replacement from the original sample and investigating whether the cluster interpretation remained the same (bootstrap re-sampling; see Figure S4 and S5 in Supplemental Materials; Hofmans et al., 2015).

To test if participants' individual distress and relational well-being differed across the joint *intra*personal and *inter*personal emotion regulation profiles, we conducted four multilevel models. We used multilevel models to account for dependencies that could arise due to the dyadic nature of the data (Kenny et al., 2006). Profile membership was treated as a categorical predictor, and participants' individual and relational well-being as continuous outcomes. Additionally, we tested whether the relationship between profile membership and the outcomes differed for men and women. Post-hoc comparisons of the estimated marginals means were conducted if the model revealed significant effects to clarify which profiles differed from one another in terms of well-being outcomes. Finally, to explore the combined effect of the intrapersonal and interpersonal emotion regulation profiles on partners' individual distress and relational well-being, we included both variables as predictors in the same multilevel models.

## Results

### *Identifying the number of profiles*

Based on the *K*-means cluster analyses and the bootstrap analyses, we identified three joint intrapersonal emotion regulation profiles, and four joint interpersonal emotion regulation profiles (see section 5 in the Supplemental Materials for further details on the selection procedure). The results of the joint intra- and interpersonal emotion regulation profiles are displayed in Figures 1 and 2 respectively (and in Figure S6 and S7 in Supplemental Materials). Specifically, these figures display the average *z*-scores for each regulation strategy separated by cluster membership, for men and women separately. Positive scores indicate that partners within a cluster report higher usage of regulation strategies compared to other clusters (in terms of the standardized mean of the sample), while negative scores indicate lower usage (specific scores are in Supplemental Materials Table S2 and S3).

### *Examining patterns of emotion regulation strategy use among profiles*

The clusters were labeled and interpreted according to their deviations from the sample mean of each intra- or interpersonal emotion regulation strategy. Following De France & Hollenstein, 2017, deviations within 0.25 standard deviations (SD) above the sample mean were labeled as 'average,' between 0.25 and 0.50 SD as 'above average', between 0.50 and 0.75 SD as 'high', and deviations greater than 0.75 SD as 'very high'. The same classification applies for deviations below the sample mean. An overview of the characteristics of the different joint intra- and interpersonal emotion regulation profiles are displayed in Tables 3 and 4 respectively.

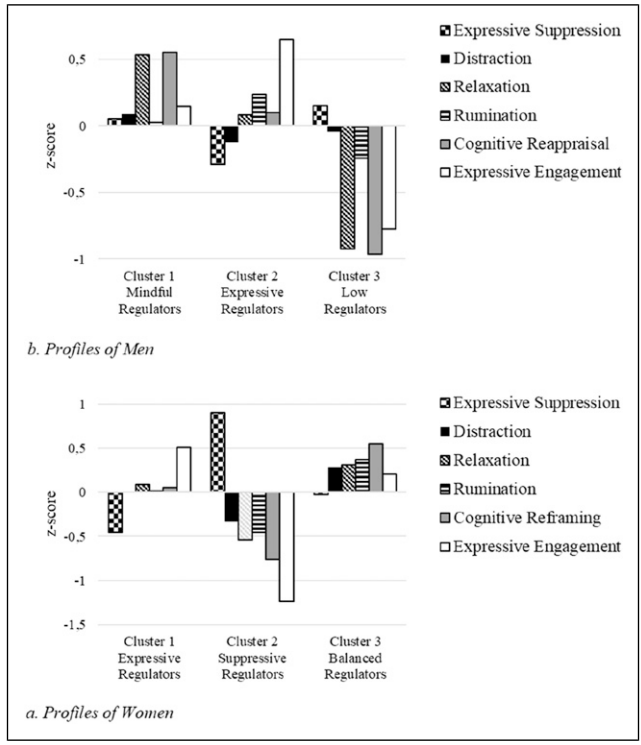


**Figure 1.** Intrapersonal Emotion Regulation Profiles of Women and Men. Note. Scores of each strategy are represented as standard deviations from the overall sample mean.

*The joint* intrapersonal *emotion regulation profiles.* Across the three intrapersonal emotion regulation profiles, both partners showed a different preference in their most frequent self-reported use of intrapersonal emotion regulation strategies, leading to different labels for women and men.

(1) Within the first profile ($n$ = 56 couples or 47% of the sample), both partners reported an average use of most strategies, but differed in their preferred regulation strategy. We labeled women in this profile as *Expressive Regulators* as they reported high use of the engagement strategy expressive engagement and below-average use of the disengagement strategy expressive suppression compared to women in other profiles. Men in this profile were labelled as *Mindful Regulators* as they reported high use of cognitive reappraisal and relaxation, and average levels of the remaining variables compared to men within other profiles.
(2) Within the second profile ($n$ = 29 couples or 24% of the sample), women reported high levels of the disengagement strategy expressive suppression, very low levels of expressive engagement, and low to below-average levels on the remaining variables compared to women within other profiles. Because they predominantly

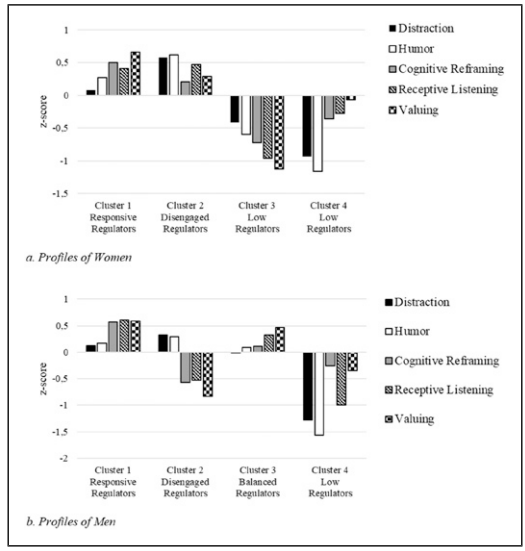


**Figure 2.** Interpersonal Emotion Regulation Profiles of Women and Men. *Note.* Scores of each strategy are represented as standard deviations from the overall sample mean.

relied on expressive suppression while not using many other strategies to regulate their emotions, we labelled women in this profile as *Suppressive Regulators.* In contrast, men in this profile were labelled as *Expressive Regulators* as they reported high use of the engagement strategy expressive engagement, below-average use of expressive suppression, and scored average on the remaining variables compared to men within other profiles.

(3) Within the third profile ($n$ = 35 couples or 29% of the sample), women played a more active role in regulating their own emotions – reporting an above-average to average usage of both engagement and disengagement strategies compared to women within other profiles. Given their wide range of reported strategies, we labeled women in this profile as *Balanced Regulators.* In contrast, men in this profile were labelled *Low Regulators* as they reported very low usage of expressive engagement, cognitive reappraisal, and relaxation compared to men from the other clusters, and average on the remaining variables. As such, men within this profile did not report regulating their own emotions much, engaging only in attempts to inhibit their ongoing emotional expression.

*The joint* interpersonal *emotion regulation profiles.* Except for the third cluster, partners within clusters showed a similar preference in their self-reported use of interpersonal emotion regulation strategies, leading to one couple label.

(1) Within the first profile ($n$ = 38 couples or 31.5% of the sample), we labeled both partners as *Responsive Regulators* as they reported similar, high use of engagement

**Table 3.** Overview of the joint intrapersonal emotion regulation profiles.

| | Women | | Men | | Degree of similarity between partners |
|---|---|---|---|---|---|
| | Strategies predominantly used | Degree of regulation | Strategies predominantly used | Degree of regulation | |
| Profile 1 | **Expressive regulators** | | **Mindful regulators** | | |
| | Above-average reliance on expressive engagement | Average use of most other strategies, except for expressive suppression (below-average) | Above-average reliance on cognitive reappraisal and relaxation | Average use of most other strategies | Low level of similarity |
| Profile 2 | **Suppressive regulators** | | **Expressive regulators** | | |
| | Above-average reliance on expressive suppression | Low use of most other strategies | Above-average reliance on expressive engagement | Average use of most other strategies, except for expressive suppression (below-average) | Low level of similarity |
| Profile 3 | **Balanced regulators** | | **Low regulators** | | |
| | Wide range of strategies being used | Above-average use of most strategies | Average reliance on expressive suppression and distraction | Low use of most other strategies | Low level of similarity |

strategies (i.e., valuing, cognitive reframing, receptive listening), and an average usage of the remaining variables compared to partners within other profiles.

(2) Within the second profile ($n$ = 38 couples or 31.5% of the sample), we labeled both partners as *Disengaged Regulators,* as they reported a similar preference for the disengagement strategies humor and distraction, with women reporting high levels and men above-average levels of these strategies compared to partners within other profiles. The profile of women was more balanced than men, as women also moderately reported using the remaining strategies.

(3) Within the third profile ($n$ = 31 couples or 26% of the sample), partners showed a different pattern in their self-reported use of interpersonal emotion regulation strategies, with men ("*Balanced Regulators*") reporting a much wider range of strategies than women, who did not report regulating their partner's emotions much ("*Low Regulators*"). Specifically, men reported an above-average to average usage of all strategies compared to men within other clusters. In contrast, women reported very low use of the engagement strategies (i.e., receptive

**Table 4.** Overview of the joint interpersonal emotion regulation profiles.

| | Women | | Men | | Degree of similarity between partners |
|---|---|---|---|---|---|
| | Strategies predominantly used | Degree of regulation | Strategies predominantly used | Degree of regulation | |
| Profile 1 | **Responsive regulators** | | **Responsive regulators** | | |
| | Wide range of strategies being used | Above-average use of engagement strategies | Wide range of strategies being used | Above-average use of engagement strategies | High level of similarity |
| Profile 2 | **Disengaged regulators** | | **Disengaged regulators** | | |
| | Above-average, reliance on humor and distraction | Average use of engagement strategies | Above-average reliance on humor and distraction | Below-average use of engagement strategies | Moderate level of similarity |
| Profile 3 | **Low regulators** | | **Balanced regulators** | | |
| | No reliance on any specific strategy | Below-average use of most strategies | (Above-) average use of engagement strategies | Average use of the other disengagement strategies | Low level of similarity |
| Profile 4 | **Low regulators** | | **Low regulators** | | |
| | No reliance on any specific strategy | Average use of engagement strategies, very low use of disengaged strategies | No reliance on any specific strategy | Below-average to low use of engagement strategies, very low use of disengaged strategies | High level of similarity |

listening, cognitive reframing, and valuing) compared to women within other profiles, and below-average on the remaining variables.

(4) Within the fourth profile ($n = 13$ couples or 11% of the sample), both partners did not report using interpersonal strategies much, with below-average use of most strategies compared to partners within other profiles. We therefore labeled both partners as *Low Regulators*.

*Alignment of couples across intra- and interpersonal profiles.* Table 5 presents the distribution of couples across the identified profiles. While intra- and interpersonal emotion regulation profiles were significantly related ($\chi^2$ (6) = 45.92, $p < .001$), there was no complete overlap, but some combinations occurred more than others. Specifically, there was alignment between the first intrapersonal profile (*Expressive-Mindful Regulators*) and the first interpersonal profile (*Responsive Regulators*), as well as between the third intrapersonal profile (*Balanced-Low Regulators*) and the second interpersonal profile (*Disengaged Regulators*).

### *Examining the relationship between profile membership and individual distress and relational well-being*

The means and standard deviations of the outcomes for the different profiles (Table S4 and S5), all the results of the multilevel analyses (Table S6), and the post-hoc comparisons of the estimated marginal means (Table S7) are displayed in Supplemental Materials. *p*-values were adjusted using the Tukey method to control for multiple comparisons.

*Individual distress.* With regards to participants' individual distress, multilevel analyses revealed no significant differences across the *intra*personal emotion regulation profiles ($p = .22$), and no significant interaction-effect between profile membership and gender ($p = .86$). However, with regards to the *inter*personal emotion regulation profiles, there were significant differences in individual distress across the four profiles ($F$ (3, 116) = 3.24, $p < .05$), and no interaction-effect between profile membership and gender ($p = .59$). This indicates that the relationship between profile membership and individual distress was similar for women and men. Specifically, post-hoc comparisons revealed that women and men labelled as *Low Regulators* (Profile 4) reported the highest individual distress, and women and men labelled as *Responsive Regulators* (Profile 1) the lowest individual distress, significantly differing from one another (*Estimate* = −11.73, *SE* = 4.03, $p < .05$), but not from those within the other profiles.

Similar results emerged when both intra- and interpersonal emotion regulation profiles were entered as predictors in the same multilevel model. While intrapersonal profiles were not related to individual distress ($p = .371$), interpersonal profiles were ($F$ (3, 114) = 2.84, $p = .041$; see Table S8 in Supplemental Materials). This suggests that interpersonal emotion regulation plays a more important role in individual distress than does intrapersonal regulation.

*Relational well-being.* For the *intra*personal emotion regulation profiles, the models revealed significant differences in relational well-being across the three profiles ($F$ (2, 117) = 4.60, $p < .05$), with no interaction-effect between profile membership and gender ($p = .29$). This indicates that the relationship between profile membership and relational well-being was similar for women and men. Specifically, post-hoc comparisons revealed that women and men labelled as *Expressive Regulators-Mindful Regulators* (Profile 1) reported the highest relational well-being, significantly differing from *Balanced*

**Table 5.** Contingency table of intrapersonal and interpersonal emotion regulation clusters.

| Interpersonal profiles → / Intrapersonal profiles ↓ | Profile 1 | Profile 2 | Profile 3 | Profile 4 | Total number of couples |
|---|---|---|---|---|---|
| Profile 1 | 26 | 8 | 15 | 7 | 56 |
| Profile 2 | 5 | 10 | 10 | 4 | 29 |
| Profile 3 | 7 | 20 | 6 | 2 | 35 |
| Total number of couples | 38 | 38 | 31 | 13 | 120 |

*Regulators-Low Regulators* (Profile 3; *Estimate* = 0.30, *SE* = 0.11, $p < .05$), but not with those in the other profiles (Profile 2).

For the *inter*personal emotion regulation profiles, the models revealed significant differences in relational well-being across the four profiles ($F$ (3, 116) = 4.56, $p < .01$), with a significant interaction-effect between profile membership and gender ($F$ (3, 116) = 5.88, $p < .001$). The relationship between profile membership and relational well-being thus differed for women and men. For women, post-hoc comparisons revealed that *Responsive Regulators* (with *Responsive Regulator* partners; Profile (1) reported the highest relational well-being. Conversely, *Low Regulators* (with *Balanced Regulator* partners; Profile (3) reported the lowest relational well-being, significantly lower than women labelled as *Responsive Regulators* (Profile 1; *Estimate* = 0.49, *SE* = 0.13, $p < .01$) and *Disengaged Regulators* (with *Disengaged Regulator* partners; Profile 2; *Estimate* = 0.34, *SE* = 0.13, $p < .05$). For men, post-hoc comparisons revealed that *Responsive Regulators* (with *Responsive Regulator* partners; Profile (1) reported the highest, and *Disengaged Regulators* (with *Disengaged Regulator* partners; Profile (2) the lowest relational well-being, significantly differing from one another (*Estimate* = 0.42, *SE* = 0.12, $p < .01$), but not from men within other profiles. The differences with other profiles were not significant.

Similarly, intra- and interpersonal profiles were entered as predictors in the same multilevel model. Both profile memberships were significantly associated with relational well-being ($F$ (2, 114) = 4.60, $p = .034$; $F$ (3, 116) = 4.56, $p = .012$), highlighting the unique contributions of each profile.

## Discussion

In this study, we extended existing research by empirically identifying joint intra- and interpersonal emotion regulation profiles in mixed-gender couples. We clustered couples together based on six habitual intrapersonal and five interpersonal emotion regulation strategies. Additionally, we examined the association between these profiles and individual distress and relational well-being. This study revealed two novel insights: (1) couples can be characterized by distinct joint *intra*personal emotion regulation and *inter*personal emotion regulation profiles, which are differently related to individual distress and relational well-being, and (2) partners appear more similar in how they regulate each other's emotions compared to how they each regulate their own emotions.

### *Distinct joint profiles in intrapersonal and interpersonal emotion regulation*

We identified three joint *intra*personal emotion regulation profiles and four *inter*personal emotion regulation profiles, each comprising a substantial number of couples. These profiles were differently related to individuals' levels of distress and perceived relationship quality. The even distribution of couples across profiles, and their differences in well-being, underscores the existence of discernible groups characterized by partners' intra- and interpersonal emotion regulation use. The joint emotion regulation profiles differed in three ways, potentially explaining their links with distress and perceived

relationship quality: (1) regulation degree, (2) the strategies predominantly used; and (3) the degree of similarity between partners.

*Couples differ in degree of regulation.* First, partners differed in the *degree* of regulation they reported in general: being relatively low, average, or high in many strategies. These varying degrees of regulation were observable among both the intra- and interpersonal emotion regulation profiles. The emergence of 'high', 'low', and/or 'average' regulation profiles is consistent with previous research identifying individuals' intrapersonal emotion regulation profiles (e.g., Chesney et al., 2019; De France & Hollenstein, 2017; Guassi Moreira et al., 2024). This study demonstrates that such profile distinctions also extend to interpersonal emotion regulation.

Moreover, this study demonstrates that the degree of regulation as reported by both partners is associated with participants' levels of distress. Specifically, profiles in which both partners did not report regulating each other's emotions much (i.e., *Low Regulators* in the fourth interpersonal profile) demonstrated the highest individual distress compared to couples reporting higher use of all interpersonal emotion regulation strategies (i.e., *Responsive Regulators* in the first interpersonal profile). In other words, individuals tend to experience lower individual distress when both they and their partner report frequently engaging in a diverse variety of strategies to regulate each other's emotions. This finding extends recent findings showing lower negative affect among multi-strategy users (Battaglini et al., 2023) by highlighting the importance of *both partners* having a broad repertoire of interpersonal emotion regulation strategies.

*Couples differ in strategy choice.* Second, the emotion regulation profiles of women and men within each joint intra- and interpersonal profile differed in terms of the strategies predominantly used: a propensity for engagement-oriented strategies, disengagement-oriented strategies, or a combination of both. Although prior research suggests that women tend to rely more on engagement-oriented strategies and men on disengagement strategies (Bailly et al., 2022), or that women use more emotion regulation overall (Nolen-Hoeksema, 2012), cluster analyses reveal a more nuanced pattern. Both men and women displayed emotion regulation profiles characterized by high engagement strategies, high disengagement strategies, along with more balanced profiles (e.g., average or low use of most strategies), suggesting their regulation tendencies may be more similar than previously thought.

Moreover, the extent to which couples use (dis)engagement strategies to regulate themselves appears to be related to how they regulate each other. Specifically, couples who frequently use engagement (or disengagement)-oriented strategies to regulate their own emotions, are more likely to also frequently use strategies high in engagement (or disengagement) to regulate each other's emotions. In other words, these findings suggest there might be a pattern in how couples' intrapersonal emotion regulation profile corresponds with their interpersonal emotion regulation profile. However, as shown in Table 5, this is not a strict one-to-one match.

When examining the profiles and their associations with individuals' relational well-being, the strategies reported by both partners appeared to play a critical role. Specifically,

profiles in which both partners reported high intra- and interpersonal engagement-oriented strategies had the highest levels of relationship quality. This finding is consistent with previous research showing that increased relational well-being is typically associated with engagement-oriented strategies (McCann et al., 2019; Walker, Pinkus, Olderbak, & MacCann, 2023). Indeed, partners who regulate emotions with a high degree of engagement are perceived as caring and responsive (Niven et al., 2012). Since most people desire this kind of care and responsiveness in close relationships (Clark & Mills, 2012), such behaviors tend to be associated with positive evaluations of the relationship.

However, our findings suggest that the relationship between engagement-oriented strategies and individuals' relational well-being also depends on the extent to which their partner engaged in these strategies. Specifically, profiles in which one partner frequently employs engagement-oriented intrapersonal strategies, while their partner does not, are linked with the lowest levels of relational well-being (*Balanced-Low Regulators* in the third intrapersonal profile). In other words, frequently using engagement-oriented strategies enhances one's relational well-being *only* when the partner actively engages in them as well.

*Couples differ in degree of partner similarity.* Finally, the profiles differed in terms of *similarity* in strategy usage of both partners. Moreover, the degree of similarity—or lack thereof—between partners appears as a key factor in explaining individuals' relational well-being. For instance, the joint intra- and interpersonal emotion regulation profiles associated with higher relational well-being consisted of couples reporting a more *similar* emotion regulatory profile (e.g., *Responsive Regulators* in the first interpersonal profile). Indeed, individuals who share similarities would be more inclined to validate each other's self-image and worldviews, thereby enriching their mutual understanding and intimacy, resulting in more harmonious and less conflictual interactions (e.g., Barelds & Barelds-Dijkstra, 2007; Velotti et al., 2016). However, the beneficial effect of similarity depended on the type of strategy used, with couples sharing similar levels of engagement-oriented strategies reporting higher relationship quality compared to those sharing similar levels of disengagement-strategies.

In contrast, the joint intra- and interpersonal emotion regulation profiles with greater *dissimilarities* in partners' emotion regulation style were associated with lower relational well-being (e.g., *Balanced-Low Regulators* in the third intrapersonal profile). These were profiles where one partner played a more active role in regulating their own and the other's emotions compared to their partner. The partner who reported lower relational well-being depended on who was regulating more and who was regulating less. Specifically, our results suggest that individuals who play a *less* active role in regulating their partner's emotions display lower levels of relational well-being. According to the interdependence theory (Finkel & Simpson, 2015), individuals' (emotional) commitment to their relationship is influenced by how satisfied they currently are with that relationship. Thus, it is possible that experiencing low relational well-being may lead individuals to disengage from behaviors that promote emotional intimacy, such as engaging in attempts to make their partner feel better. This disengagement, in turn, can further diminish relationship

satisfaction, creating a cyclical pattern of decreasing emotional involvement and relational well-being.

### *Couples' alignment in interpersonal emotion regulation*

The profiles showed more similarities between partners for joint *inter*personal emotion regulation profiles than joint *intra*personal profiles. In other words, partners appear more similar in how they report regulating each other's emotions compared to how they report regulating their own emotions. The finding that there is low similarity in couples' habitual *intra*personal emotion regulation aligns with previous research (Eldesouky & English, 2018; Velotti et al., 2016).

The joint *inter*personal emotion regulation profiles were characterized by higher levels of similarity between both partners, which may suggest an assortative process in partner selection, where individuals tend to seek partners with comparable characteristics (Gonzaga et al., 2010). Alternatively, partners might converge in their interpersonal emotion regulation behaviors through mutual influences over time. As most interpersonal emotion regulation attempts are external and observable (see Niven et al., 2009)—such as offering a new perspective—it is possible that partners observe, learn from, and align to each other's regulation attempts when their relationship develops. For instance, if Sarah frequently engages in attempts to distract Dan from his negative feelings, Dan may eventually adopt this approach to regulate Sarah as well. This might occur less for intrapersonal emotion regulation strategies, which have greater potential to go unnoticed.

### *Limitations and future research*

Being the first of its kind, this study is not without limitations. First, given this study was cross-sectional, lower involvement in engagement strategies and profile dissimilarity could be manifestations of distress, rather than its cause. Longitudinal research would help gain insight into the directionality of these associations, as well the developmental trajectories of emotion regulation profiles (e.g., do partners' profiles become more similar over time?).

Furthermore, this study relied on global self-reports, meaning different clusters represent couples who differ in reports of typical emotion regulation strategies. Future research could use more naturalistic interactive settings, ideally across various emotional situations. Additionally, we confined ourselves to intrapersonal regulation of negative emotions and interpersonal affect-improving strategies due to their high prevalence (Kalokerinos et al., 2017; Tran et al., 2023). However, individuals can also engage in strategies to regulate their own positive emotions and to make others feel worse (Niven et al., 2009; Tamir, 2016; Tran et al., 2023), which is another valuable future avenue. However, such research would need to consider that having more variables in cluster analyses might complicate replicability.

Finally, further research is needed to assess if these results generalize to more inclusive samples. We included only different-sex couples, but emotion regulation processes may play out differently for same-sex couples, who tend to experience unique stressors

stemming from their sexual minority status (Hatzenbuehler, 2009). Moreover, exploring how cultural norms shape joint regulation profiles could provide valuable insights (Schouten et al., 2020). For instance, in cultures that value social interconnectedness, profiles characterized by disengagement strategies might be more positively associated with relationship quality compared to cultures characterized by individualistic values.

## *Conclusion*

This study was the first to identify couples' joint intra- and interpersonal emotion regulation profiles. Cluster analysis revealed three joint intrapersonal and four joint interpersonal emotion regulation profiles. Profile membership had distinct associations with participants' individual and relational functioning. These findings highlight the unique roles played by both partners in regulating their own and their partner's emotions, underlining the additional value of looking at both partners' emotion regulation profiles.

## Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by Ghent University's Special Research Fund (BOF) awarded to Pauline Verhelst grant number: [BOF21/DOC/225] and Lesley Verhofstadt grant number: [BOF20/IBF/129]. Laura Sels is funded by an FWO senior postdoctoral fellow mandate grant number: [12ZN523N], and Eva Ceulemans is funded from the Research Council of KU Leuven grant number: [iBOF/21/090].

## Ethical statement

### *Ethical approval*

The study was approved by the ethical committee of the Faculty of Psychology and Educational Sciences of Ghent University, Belgium.

## Open research statement

As part of IARR's encouragement of open research practices, the author(s) have provided the following information: This research was pre-registered. The aspects of the research that were pre-registered were the hypotheses and data-analyses. The registration is available at the Open Science Framework (https://osf.io/5p8ue). The data used in the research are available. The data and code to replicate the multilevel model analyses can be obtained at: https://osf.io/m6tc3/. The code to perform the cluster analysis is available upon request (by emailing pauline.verhelst@ugent.be). The materials used in the research are available. The materials can be obtained at https://osf.io/m6tc3/.

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## Supplemental Material

Supplemental material for this article is available online.

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