

You Name It: Interpersonal Affect Labeling Diminishes Distress in Romantic Couples

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Although it is increasingly acknowledged that social interactions may provide support at times of adversity, whether or how such interactions can buffer distress remains unclear. The objective of the present study was to examine whether naming the emotions of our partner in aversive situations can effectively reduce distress and whether the regulator's empathy contributes to its effectiveness. We utilized a novel performance-based interpersonal affect labeling (IAL) paradigm. Seventy-four romantic couples were randomly divided into targets and regulators. The targets watched aversive pictures with low and high intensity and rated their level of distress after: (1) simply viewing the picture (control trials) (2) choosing a label that describes their emotional reaction (self-labeling trials), (3) viewing a label chosen for them by the regulator, their partner (IAL trials). It was found that IAL significantly reduced distress compared to self-labeling. Moreover, the effectiveness of IAL increased as a function of the regulator's level of empathy. The results highlight the importance of empathy in social support and suggest that as simple an action as naming our partner's emotions may be effective in reducing their distress. Moreover, it emphasizes the potential contribution of nonprofessional help in emotion regulation.

Keywords: affect labeling; interpersonal emotion regulation; empathy; romantic couples

STUDIES ON EMOTION REGULATION have demonstrated that verbally labeling the emotional content of a stimulus, such as writing a narrative describing our distress (Hayes & Feldman, 2004) or labeling a sad facial expression we see as “sad” (Hariri, Bookheimer, & Mazziotta, 2000; Hariri, Mattay, Tessitore, Fera, & Weinberger, 2003; Lieberman et al., 2007; Lieberman, Hariri, Jarcho, Eisenberger, & Bookheimer, 2005;), is an effective self-regulation strategy that may attenuate negative emotions. Yet, while the effect of labeling our own emotional state has received much research attention in recent years (Constantinou et al., 2015; Creswell, Way, Eisenberger, & Lieberman, 2007; Lieberman, Inagaki, Tabibnia, & Crockett, 2011; Niles, Craske, Lieberman, & Hur, 2015; Torrisi, Lieberman, Bookheimer, & Altshuler, 2013), little is known about its effectiveness in interpersonal situations. The aim of the present study was to test if interpersonal affect labeling (IAL) can reduce distress in aversive situations.

We define IAL as conditions in which one person's feelings (the target) are labeled by another person (the regulator) in order to diminish levels of distress (see Figure 1 for an illustration). Effective IAL may involve two parallel processes: sharing emotions with others and feeling understood by them. Rimé (2009) suggests that individuals desire to share their emotional states with others and that emotional sharing frequently attenuates distress (see also Greenberg & Stone, 1992; Pennebaker, 1997). Importantly, recent studies imply that the act of sharing itself may be rewarding, even when such sharing is associated with minimal or no feedback (Zaki & Williams, 2013). A prominent example is the increased tendency of individuals to share their feelings and experiences in social networks (Settanni & Marengo, 2015).

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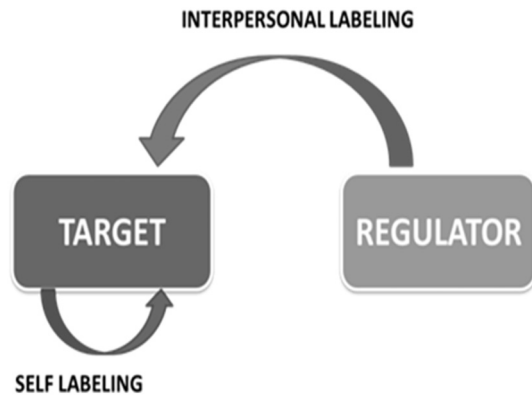


FIGURE 1 An illustration of the IAL model, demonstrating the self and the interpersonal conditions.

Feeling understood by others is also very valuable and found to play a critical role in advancing personal and social well-being (Cahn, 1990; Morelli, Torre, & Eisenberger, 2014; Oishi, Krochik, & Akimoto, 2010; Reis, Collins, & Berscheid, 2000; Reis & Reis & Shaver, 1988; Swann Jr., 1990). People who feel that others understand their feelings report elevated levels of life satisfaction (Lun, Kesebir, & Oishi, 2008; Reis et al., 2000), decreased levels of distress and better ability to cope with pain (Seehausen, Kazzner, Bajbouj, & Prehn, 2012). Notably, in order to establish feelings of understanding, it seems as if the label provided by the regulator should accurately reflect the emotional state of the target. Providing an inaccurate label may signal that the regulator fails to understand the emotional state of the target. Moreover, it may be viewed as emotion invalidation, implying that the target's feelings are incorrect or inappropriate and hence they are dismissed, ignored, and even criticized (Zielinski, 2013; Zielinski & Veilleux, 2018). Therefore, in the current study we will test not only the levels of distress following IAL but also the similarity between the emotional labels provided by the target and those provided by the regulator.

The possible role of sharing and understanding in IAL may suggest that empathy, the ability to share and understand the emotions and intentions of others, is also crucial for this process. Well-accepted theories of empathy divide this ability into two factors: emotional empathy (i.e., feeling the emotions of others) and cognitive empathy (i.e., understanding the thoughts and motivations of others) (Gonzalez-Liencre, Shamay-Tsoory, & Brüne, 2013; Shamay-Tsoory, 2011; Smith, 2006). Emotional empathy is believed to be a more spontaneous, lower-order phenomenon (evo-

lutionarily wise) than cognitive empathy (de Waal & Preston, 2017; Shamay-Tsoory, 2011), while cognitive empathy requires higher-order cognitive abilities, such as theory of mind (de Waal & Preston, 2017; Smith, 2006). While it is widely agreed that both cognitive and emotional empathy contribute to distress regulation, it is not clear how empathy of a regulator (emotional and cognitive) affects a suffering target. It was recently suggested that empathy contributes to regulating one's own emotions as well as others' emotion (Zaki, 2019). Indeed, it was argued that empathy is critical in interpersonal situations and may mediate the effectiveness of social support (Zaki & Williams, 2013). Studies on interpersonal emotion regulation revealed that the empathy level of the regulator predicts not only prosocial motivation (e.g., O'Callaghan et al., 2016), but also the effectiveness of pain reduction during touch (Goldstein, Shamay-Tsoory, Yellinek, & Weissman-Fogel, 2016). In addition, recent reports indicate that the regulator's empathic abilities predict the effectiveness of interpersonal cognitive emotion regulation (Levy-Gigi & Shamay-Tsoory, 2017) as well as pain regulation (Goldstein et al., 2016). Taken together, these findings highlight the crucial role of empathy in interpersonal interactions. Therefore, we predicted that empathy may facilitate IAL.

To investigate the effect of IAL, we designed an interactive performance-based paradigm that enables interpersonal emotion regulation, and tested it in romantic couples (for similar interpersonal design see Levy-Gigi & Shamay-Tsoory, 2017). In this paradigm, couples are randomly divided into targets and regulators (Figure 2). Targets are exposed to aversive pictures from the International Affective Picture Set (IAPS; Lang, Bradley, & Cuthbert, 2008) and are asked either to choose a label describing the emotion they feel while observing the picture (self-affect labeling condition) or to observe the label the regulator chose for them (IAL condition; for similar affect labeling manipulation see Levy-Gigi and Shamay-Tsoory, in press). Level of distress in these conditions is compared to baseline distress, measured when the target neutrally watches the pictures but makes no overt response (control condition). We predicted that affect labeling would reduce baseline distress with an advantage to the interpersonal compared to the self-labeling conditions. Moreover, similarity between the self and interpersonal labels would positively correlate with the effectiveness of the interpersonal condition. Finally, we hypothesized that the regulator's level of empathy would correlate with the efficacy of the IAL.

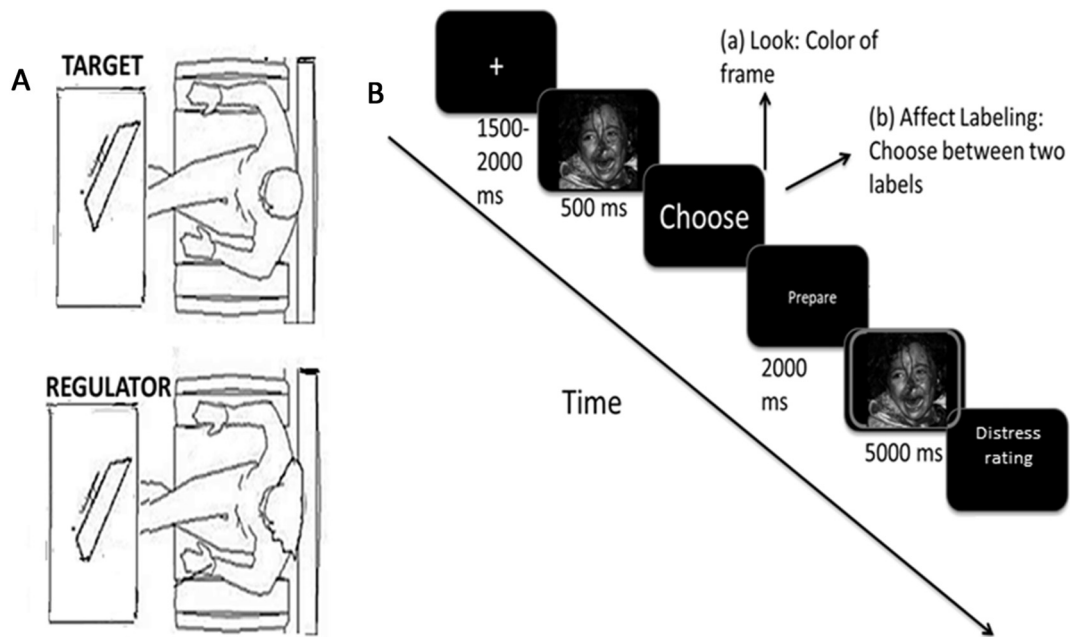


FIGURE 2 An illustration of the emotion regulation task where participants were instructed either: (a) to choose between different frames and simply view a series of distressing pictures or (b) to choose and apply different regulatory strategies (i.e., distraction or reappraisal).

Methods and Materials

PARTICIPANTS

Seventy-seven romantic couples volunteered to participate in the study (see Table 1 for a detailed description of the sample). Sample size was determined based on the average participants number of similar studies in the field (Levy-Gigi & Shamay-Tsoory, 2017), in order to detect a medium size effect (Cohen's $f = .25$) in the study, with a 5% significance level (α) and 80% power level ($1 - \beta$) (Cohen, 1992). Since this is a first step towards understanding the effect of IAL, we applied strict exclusion criteria to minimize possible confounds in the emotion regulation process for all participants, as follows: current or past diagnosis of psychiatric disorders; risk of suicidal/homicidal ideation; any substance dependence or abuse within the past 6 months; a history of concussion or other clinically significant head injury, including loss of consciousness for over 10 minutes; or a history of neurological disorders such as epilepsy, multiple sclerosis, stroke or encephalitis. All of the participants were involved in a heterosexual romantic relationship for at least 1 year (mean years in relationship = 9.36; 47% of the couples were married). Participants completed the Short ENRICH Scale (Fowers & Olson, 1993), a 10-item Likert-type scale assessing the respondent's perceived quality of the romantic relationship. Based on the norms of the questionnaire, a

sufficient satisfaction score was set as > 31 (Fowers & Olson, 1993). All participants in the current sample reported average to high levels of relationship satisfaction and reached a score that was above the cut-off point ($M = 59.12$; $SD = 7.59$; Range 38–70; internal consistency $\alpha = .86$). One couple quit in the middle of the study. Two other couples were excluded due to technical problems. The data from the remaining 74 couples was analyzed. The study was carried out in accordance with the Declaration of Helsinki and was approved by the university ethics board. All participants provided written informed consent prior to the beginning of the experiment.

MEASURES AND PROCEDURE

The experimenter randomly assigned one partner from each couple as the target and the other as the regulator. These roles remained consistent throughout the experiment. Both participants were present in the room during all testing sessions. The target and the regulator sat next to each other and were asked to avoid any verbal communication or eye contact throughout the experiment (Figure 2). Visual stimuli were presented simultaneously on two computer screens, one for the target and the other for the regulator.

The paradigm began with a short initial training session. Following the training session, participants completed four testing sessions (described below).

Table 1
Demographic Characteristics of Individuals That Participated (as Targets) in the Study (Means and Standard Deviations/Frequency)

	Mean (SD)
Age (years)	32.98 (9.98)
Female/male (Ns)	38/36
Education (years)	15.37 (2.26)
Depression *	6.17 (5.21)
Anxiety **	64.04 (15.84)

* Depression was measured using the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) ($\alpha = .85$). 90.3% of the participants reported minimal depression (0-13 scores), 7.3% reported mild depression (14-19 scores) and 1.4% reported moderate depression (20-28).

** Anxiety was measured using the State-Trait Anxiety Inventory (Spielberger, 1983) ($\alpha = .87$). 93.1% reported minimal-mild symptoms and 6.9% of the participants reported clinically significant symptoms.

The order of the sessions was randomized across participants. In each session the participants viewed 40 pictures from the International Affective Picture System (IAPS; Lang et al., 2008) with high negative intensity as indicated by the IAPS scales of arousal (1-low, 9- high, mean arousal of the presented pictures = 6.5) and valance (1- highly negative and 9-; mean valence of the presented pictures = 1.76). The order of the pictures within each session was randomized. An experimental trial involved (1) viewing a brief (500 ms) preview of each picture; (2) a choice screen. This was made by pressing right (the letter Z) or left (the letter M) on a standard qwerty keyboard; (3) viewing the picture for an extended duration (5000 ms); (4) rating the level of distress (by the targets) on a 9-point Likert scale (with higher numbers indicating greater distress) (Figure 2).

The study conformed to a 2 (protagonist type: self vs. interpersonal) by 2 (regulation strategy: affect labeling vs. control look) design in which protagonist type and regulation strategy were compared in a within-participant manner. This sums up to four experimental sessions: self-affect labeling; self-look; interpersonal affect labeling; interpersonal look (see also Levy-Gigi & Shamay-Tsoory, 2017).

In the self-affect-labeling condition targets chose a label (from two possible emotional labels) that best described their emotional reaction to the picture (e.g., fear vs. disgust), while in the interpersonal-affect-labeling condition regulators chose a label that described their prediction of the target's emotional reaction to the picture. In the self-look condition, targets selected their preferred color for the frame (e.g., green or blue), while in the

interpersonal look condition regulators chose the frame's color for the target. In all experimental conditions, after the decision was made, the selected label/frame was highlighted on the target's computer screen. Preliminary analyses revealed no main effects of the sessions order or of the interaction between sessions order and the other variables (all $F_s < 1$). The average level of distress was calculated for each of the four sessions.

Stimuli preparation: The emotional labels were selected based on a preliminary study in which 10 participants viewed the IAPS pictures and provided two potential labels for each picture (e.g., sadness and fear). The two most frequent labels were selected for each picture (for a detailed description and information on the manipulation check see Levy-Gigi and Shamay-Tsoory, in press).

Assessment of Empathy

In order to assess the regulators' empathic abilities, each regulator completed the Interpersonal Reactivity Index (IRI; Davis, 1980). This is a widely used self-report questionnaire (e.g., DiGirolamo, Simon, Hubley, Kopulsky, & Gutsell, 2020; Schuler et al., 2019; for review and meta-analyses see Bonfils, Lysaker, Minor, & Salyers, 2017; Konrath, O'Brien, & Hsing, 2011; for significant associations between the IRI measure and actual behavior see Israelashvili, Sauter, & Fischer, 2019) that tests empathic abilities using four subscales: Perspective Taking, Fantasy, Empathic Concern, and Personal Distress. The questionnaire includes 28 items ranked on a 1-5 Likert scale. The internal consistency in the current study was $\alpha = .85$.

Data Analysis

We used SPSS version 25 (Chicago, IL) to analyze the results. In order to compare the effectiveness of self vs. interpersonal affect labeling on levels of distress, we conducted a within-subjects repeated-measures ANOVA analysis. To indicate the added value of IAL we calculated a new measure (i.e., IAL added value) by subtracting the level of distress in the IAL trials from levels of distress in the matched self-affect labeling trials (see also Levy-Gigi & Shamay-Tsoory, 2017). This measure represents distress reduction in the interpersonal conditions above and beyond the reduction in self-regulation. Higher values indicate a greater contribution of IAL in reducing distress. We then carried out Pearson correlations between the partner's empathy levels (as measured by the IRI) and value of IAL. Finally, we examined whether the accuracy of the label contributes to the effectiveness of IAL by comparing the labels given by the target in the self-emotion-regulation conditions to those given by the regulator in the interpersonal conditions.

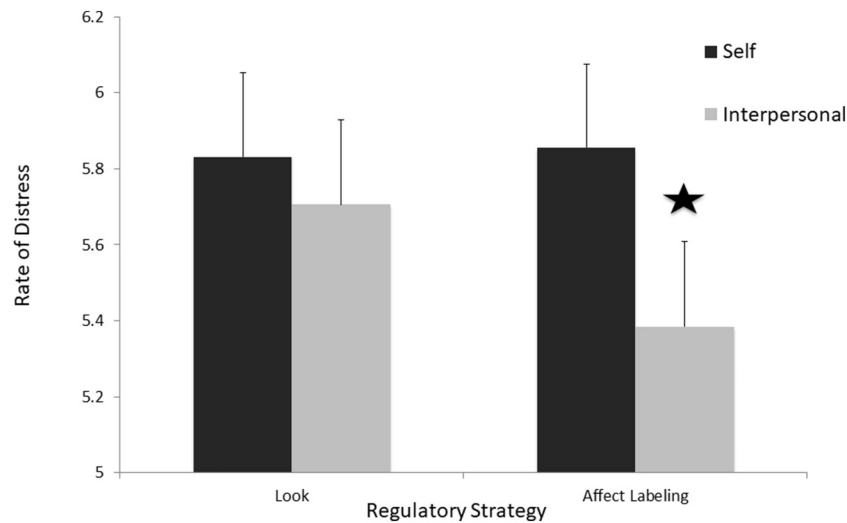


FIGURE 3 Levels of distress as a function of regulatory strategy (labeling vs. look) and registration type (self vs. interpersonal).

Results

THE EFFECTIVENESS OF AFFECT LABELING

To test the effectiveness of self vs. interpersonal affect labeling on levels of distress, we conducted a within-subjects repeated-measures ANOVA analysis: regulatory strategy (affect labeling vs. look) \times protagonist type (self vs. interpersonal). The results revealed a significant interaction between regulatory strategy and protagonist type, $F(1, 73) = 7.35, p = .008, \eta^2_p = .10$. Follow-up paired-samples t -test analyses revealed that in the look condition there were no significant differences between the self and the interpersonal conditions, $t(73) = 1.27, p > .05$, while in the affect labeling condition interpersonal regulation significantly reduced the level of distress compared to the self-regulation conditions, $t(73) = 3.75, p = .0001$ (Figure 3).

In addition, we found that a significant main effect emerged for protagonist type, $F(1, 73) = 10.18, p = .002, \eta^2_p = .12$, indicating that interpersonal conditions resulted in lower levels of distress compared to self-regulation conditions. Yet no significant main effect emerged for regulatory strategy, $F(1, 73) = 1.81, p > .05$, indicating that contrary to previous studies, affect labeling does not have an overall effect on reducing levels of distress.

THE CONTRIBUTION OF REGULATOR EMPATHY TO IAL

In order to estimate the relationship between the different types of empathy and IAL, we conducted Pearson correlation between the added value of IAL and the four empathy sub-scales: perspective taking, fantasy, empathic concern, and personal distress.

The results revealed a significant positive correlation between the added value of IAL and measures of partner's perspective taking ($r = .30, p = .01$) and empathic concern ($r = .25, p = .04$). The correlations between the added value of IAL and levels of fantasy and personal distress did not reach significance. Finally, number of years in the relationship and satisfaction from the relationship did not correlate with either levels of partners' empathy nor the added value of IAL (all $ps > .05$).

THE SIMILARITY BETWEEN SELF AND INTERPERSONAL LABELING

To examine whether the accuracy of the label contributes to the effectiveness of IAL, we compared the labels given by the target in the self-emotion-regulation trials to those given by the regulator in the interpersonal trials. The results revealed a low average of agreement ($M = 50\%, SD = 8.75\%$). Moreover, opposed to our prediction, no correlation emerged between consistency level and effectiveness of interpersonal affect labeling ($r = .15, p > .05$). The results indicate that while IAL has significant added value, this value is independent of the similarity between self and interpersonal labels.

Discussion

The aim of the present study was to test whether IAL is effective in reducing distress. The main results revealed that for aversive events, labeling of negative emotions by a romantic partner significantly diminishes the level of distress relative to self-affect labeling. The results are in line with developmental and psychotherapy studies which show that reflecting the emotions of others by means of verbal labeling can decrease aversive

feelings and promote well-being (Hemenover, 2003; Pennebaker & Chung, 2011). A possible explanation for these findings may be found in the basic need of individuals to feel understood. Thus, when a partner labels the target's emotion, the target may feel that his/her emotions were effectively communicated and recognized.

The added value of IAL positively correlated with the regulator's level of empathy. Specifically, higher empathic concern and perspective taking scores resulted in more effective interpersonal regulation. While the perspective taking scale represents a measure of cognitive empathy, the empathic concern scale taps "other-oriented" feelings of sympathy and concern for unfortunate others, which is considered a more emotional form of empathy (Dziobek, Bahnemann, Preissler, & Heekeren, 2007). These findings support and extend previous studies that demonstrated a central role of empathic abilities in interpersonal situations (Levy-Gigi & Shamay-Tsoory, 2017).

While previous studies have focused mostly on situations that required deliberate effort, the current study highlights the importance of empathy in incidental forms of interpersonal emotion regulation that require only minimal efforts (Goldstein et al., 2016; O'Callaghan et al., 2016; Zaki & Williams, 2013). It may imply that empathic partners are not only better at understanding their partners' feelings and feel compassion towards their emotions, but also can regulate emotions in a more natural and intuitive way. Moreover, in more deliberate forms of interpersonal emotion regulation (Levy-Gigi & Shamay-Tsoory, 2017) only the regulator's cognitive empathy was associated with reduced distress, here, both cognitive and emotional empathy were positively associated with the added value of IAL, suggesting that both the abilities to feel and to understand the emotions of others contribute to IAL. From a clinical point of view, the results assign an important role to the development of the regulator's empathic skills as a key to successful coping with aversive events. Future studies may aim to test not only self-report empathy but also how the target perceives and assesses the empathy of the regulator, and whether a positive perception further facilitates the interpersonal emotion regulation.

Interestingly, opposed to our prediction, the results show no significant similarity between the labels chosen by the targets in the self-regulation condition and the labels chosen by the regulators in the interpersonal condition. Moreover, the level of similarity did not correlate with the effectiveness of the IAL in reducing distress. One possible explanation for these results is that the regulator's chosen label is more accurate. Considering that the

regulator is not directly involved with the aversive situation, it is more likely that he/she is capable of providing an accurate label for the target, as opposed to self-labeling in which the target's direct emotional involvement may impair the ability to select an appropriate label. Indeed, it has been repeatedly suggested that an outside perspective is important for emotion regulation (e.g., Levy-Gigi & Shamay-Tsoory, 2017; see Bishop et al., 2004, for review) and may diminish the levels of ambiguity and refine one's appraisals of that emotion (Frattaroli, 2005; Kircanski, Lieberman, & Craske, 2012; Lieberman et al., 2011; Pennebaker & Chung, 2011). A possible support for this claim can be found in the neural mechanism underlying affect labeling. Specifically, in conditions of affect labeling there is an increased ventrolateral prefrontal cortex activity and decreased amygdala activity (Hariri et al., 2003; Lieberman et al., 2005, 2007; Ochsner, Bunge, Gross, & Gabrieli, 2002). This mechanism suggests that language-related prefrontal activity inhibits emotion-related amygdala activity. When people regulate their own emotions the operation of this mechanism might be challenging since it requires the recruitment of the prefrontal cortex. In conditions of IAL it is possible that the regulator's label facilitates amygdala inhibition, which provides an outside perspective of the emotional situation and improves the clarity of the target's emotional state.

Alternatively, the lack of similarity between the target's and regulator's labels and the null correlation between levels of similarity and perceived distress may suggest that sharing the negative experience itself is beneficial (Rimé, 2007, 2009; Tamir & Mitchell, 2012; Zech & Rimé, 2005). These results are also in line with other studies, which show that people feel satisfied after sharing emotions on social media regardless of the usefulness of the feedback (Bazarova, Choi, Schwanda Sosik, Cosley, & Whitlock, 2015) and that a partner who provides a challenging feedback is more helpful in reducing distress compared to a partner who provides a validating feedback (Lepore, Fernandez-Berrocal, Ragan, & Ramos, 2004). Moreover, it is important to note that most of the studies which show associations between emotion invalidation and negative affect tested clinical populations including individuals with borderline personality (Benitez, Southward, Altenburger, Howard, & Cheavens, 2019), chronic pain (Linton, Boersma, Vangronsveld, & Fruzzetti, 2012) and eating disorders (Haslam, Arcelus, Farrow, & Meyer, 2012). Moreover, in most cases these associations were tested in clinical settings that focus on therapist-client relationships

(e.g., Edmond & Keefe, 2015; Hayes & Smith, 2005; Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006). The current study, on the other hand, focused on romantic partners with satisfactory relationship, a factor that significantly contributes to overall better emotion regulation (Marroquín & Nolen-Hoeksema, 2015). It is possible that in these situations, even when the label is not accurate (e.g., we feel sad and our partner thinks we feel angry), we will not experience emotion invalidation. Rather, since the act of labeling was done by our partner, it would be valuable for us and reduce distress independent of its specific content. These results may suggest an advantage of nonprofessional in-home interpersonal emotion regulation. However, future studies may aim to further study the associations between sharing and understanding in conditions of IAL—specifically, testing various relationships and settings while assessing the moderating role of different clinical symptoms.

Finally, it is possible that in line with the load sharing approach, IAL may result in distribution of the burden associated with the negative pictures and hence regulate the emotions and reduce distress (Beckes & Coan, 2011). In this case, the label's accuracy does not contribute to the effectiveness of IAL. One interesting finding is that labeling the aversive affect was found to be beneficial above and beyond the mere presence of the partner. The results add to the inconsistency in the field. While Master et al. (2009) showed that even a picture of a partner may reduce distress, Hedden et al. (2017) showed that the participation of cancer patients' partners in an education session did not affect the patients' pre-or post-session distress or the success of the session in alleviating distress. Similarly, handholding with a partner was found to reduce the level of pain (Goldstein et al., 2016; Loughheed, Koval, & Hollenstein, 2016) and minimize distress (Coan, Schaefer, & Davidson, 2006) under threatening conditions, while the mere presence of the partner did not yield a similar effect. Taken together, these findings suggest that while in mild conditions the mere presence of the partner may be beneficial, in highly aversive situations such as experiencing physical pain or observing highly aversive pictures, mere presence is not enough and only adopting a strategy such as touch or IAL reduces distress. Nevertheless, it is important to note that in the current study the regulator was present in the room under all experimental conditions. Future studies may aim to add conditions in which the target views aversive picture with low and high intensity alone or in the presence of the partner and compare the level of distress across

conditions to reach more conclusive results regarding the effect of mere presence (Master et al., 2009).

Surprisingly, the level of distress did not differ between self-emotion regulation and baseline-control conditions. While these results do not contradict the conclusion regarding the effectiveness of IAL, they do raise the need to further clarify the effectiveness of self-affect labeling. The findings contradict those of previous studies that showed a significant reduction of distress after self-affect labeling (Constantinou et al., 2015; Creswell et al., 2007; Lieberman et al., 2011; Niles et al., 2015; Torrisi et al., 2013). One possible explanation for this inconsistency may relate to the fact that in the current study baseline distress was measured in a safe environment, while classic affect labeling studies tend to use more stimulating and threatening conditions, including confrontation with spiders and public speaking. Moreover, in our study the regulator was present in the room while in previous studies the participant had to confront the emotional situation alone. Finally, classical studies may have more ecological validity since the participants had to actually face the object of fear and not only watch pictures describing it. Taken together, these conditions may have reduced the levels of baseline distress and decreased the differences between control and self-labeling conditions. However, the fact that despite this we found a significant effect to IAL only strengthens our conclusions regarding its beneficial influence.

The current study has several limitations. First, we did not assess the effectiveness of IAL as a function of target-regulator label similarity. Future studies may aim to compare the effectiveness of matched and unmatched trials to shed further light on this relationship. In addition, it might be helpful to add a comprehensive assessment of the target's feeling during and following IAL, in order to ensure he/she felt as being understood and to rule out possibilities of emotion devaluation (Zielinski & Veilleux, 2018). Second, while we used a performance-based paradigm that imitates real life and reduces biases, future studies may aim to add physiological and neuroimaging assessments to support the data and shed further light on the neural mechanisms of IAL.

In summary, the results of the present study show that merely naming the emotions of our partners in aversive situations significantly reduces distress. The results add to the growing body of literature on interpersonal emotion regulation, showing that significant others can play an important role in this process. Note, however, that while partner empathy contributed to this process, levels of similarity between self and interpersonal labeling

did not have a consistent effect. Hence, looking through a mirror, regardless of whether it provides a more or less precise reflection of one's feelings, is the most important act.

Conflict of Interest Statement

The authors declare that there are no conflicts of interest.

References

- Bazarova, N. N., Choi, Y. H., Schwanda Sosik, V., Cosley, D., & Whitlock, J. (2015). Social sharing of emotions on Facebook: Channel differences, satisfaction, and replies. *Proceedings of the 18th ACM conference on computer supported cooperative work & social computing* (pp. 154–164).
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corp.
- Beckes, L., & Coan, J. (2011). Social baseline theory: The role of social proximity in emotion and economy of action. *Social and Personality Compass*, 5, 976–988. <https://doi.org/10.1111/j.1751-9004.2011.00400.x>
- Benitez, C., Southward, M. W., Altenburger, E. M., Howard, K. P., & Cheavens, J. S. (2019). The within-person effects of validation and invalidation on in-session changes in affect. *Personality Disorders: Theory, Research, and Treatment*, 10(5), 406–415. <https://doi.org/10.1037/per0000331>
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., ... Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11, 230–241. <https://doi.org/10.1093/clipsy.bph077>
- Bonfils, K. A., Lysaker, P. H., Minor, K. S., & Salyers, M. P. (2017). Empathy in schizophrenia: A meta-analysis of the Interpersonal Reactivity Index. *Psychiatry Research*, 249, 293–303. <https://doi.org/10.1016/j.psychres.2016.12.033>
- Cahn, J. E. (1990). The generation of affect in synthesized speech. *Journal of the American Voice I/O Society*, 8(1), 1–19.
- Coan, J. A., Schaefer, H. S., & Davidson, R. J. (2006). Lending a hand: Social regulation of the neural response to threat. *Psychological Science*, 17, 1032–1039. <https://doi.org/10.1111/j.1467-9280.2006.01832.x>
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155–159.
- Constantinou, E., Bogaerts, K., Van Qudenhove, L., Tack, J., Van Diest, L., & Van den Bergh, O. (2015). Healing Words: Using affect to reduce the effects of unpleasant cues on symptom reporting to IBS patients. *International Journal of Behavioral Medicine*, 22, 512–520. <https://doi.org/10.1007/s12529-014-9449-8>
- Creswell, J. D., Way, B. M., Eisenberger, N., & Lieberman, M. D. (2007). Neural correlates of dispositional mindfulness during affect labeling. *Psychosomatic Medicine*, 69, 560–565. <https://doi.org/10.1097/PSY.0b013e3180f6171f>
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, 10, 85–103.
- de Waal, F. B., & Preston, S. D. (2017). Mammalian empathy: behavioural manifestations and neural basis. *Nature Reviews Neuroscience*, 18(8), 498–509. <https://doi.org/10.1038/nrn.2017.72>
- DiGirolamo, M. A., Simon, J. C., Hubble, K. M., Kopulsky, A., & Gutsell, J. N. (2020). Clarifying the relationship between trait empathy and action-based resonance indexed by EEG mu-rhythm suppression. *Neuropsychologia*, 133, 107172. <https://doi.org/10.1016/j.neuropsychologia.2019.107172>
- Epub ahead of print
- Dziobek, I., Bahnemann, M., Preissler, S., & Heekeren, H. R. (2007). Decision making in social contexts. *Advisory Board Meeting*
- Edmond, S. N., & Keefe, F. J. (2015). Validating pain communication: Current state of the science. *Pain*, 156, 215–219. <https://doi.org/10.1097/01.j.pain.0000460301.18207.c2>
- Fowers, B. G., & Olson, D. H. (1993). ENRICH material satisfaction scale: A brief research and clinical tool. *Journal of Family Psychology*, 7, 176–185. <https://doi.org/10.1037/0893-3200.7.2.176>
- Frattaroli, J. (2005). Experimental disclosure and its moderators: A meta-analysis. *Psychological Bulletin*, 132, 823–865. <https://doi.org/10.1037/0033-2909.132.6.823>
- Goldstein, P., Shamay-Tsoory, S. G., Yellinek, S., & Weissman-Fogel, I. (2016). Empathy predicts an experimental pain reduction during touch. *Journal of Pain*, 17, 1049–1057. <https://doi.org/10.1016/j.jpain.2016.06.007>
- Gonzalez-Liencre, C., Shamay-Tsoory, S. G., & Brüne, M. (2013). Towards a neuroscience of empathy: Ontogeny, phylogeny, brain mechanisms, context and psychopathology. *Neuroscience & Biobehavioral Reviews*, 37(8), 1537–1548. <https://doi.org/10.1016/j.neubiorev.2013.05.001>
- Greenberg, M. A., & Stone, A. A. (1992). Emotional disclosure about traumas and its relation to health: Effects of previous disclosure and trauma severity. *Journal of Personality and Social Psychology*, 63, 75–84. <https://doi.org/10.1037/0022-3514.63.1.75>
- Hariri, A. R., Bookheimer, S. Y., & Mazziotta, J. C. (2000). Modulating emotional responses: Effects of a neocortical network on the limbic system. *Neuroreport*, 11(1), 43–48.
- Hariri, A. R., Mattay, V. S., Tessitore, A., Fera, F., & Weinberger, D. R. (2003). Neocortical modulation of the amygdala response to fearful stimuli. *Biological Psychiatry*, 53, 494–501. [https://doi.org/10.1016/S0006-3223\(02\)01786-9](https://doi.org/10.1016/S0006-3223(02)01786-9)
- Haslam, M., Arcelus, J., Farrow, C., & Meyer, C. (2012). Attitudes towards emotional expression mediate the relationship between childhood invalidation and adult eating concern. *European Eating Disorders Review*, 20, 510–514. <https://doi.org/10.1002/erv.2198>
- Hayes, A. M., & Feldman, G. (2004). Clarifying the construct of Mindfulness in the context of emotion regulation and the process of change in therapy. *Clinical Psychology: Science and Practice*, 11(3), 255–262. <https://doi.org/10.1093/clipsy.bph080>
- Hayes, S. C., & Smith, S. (2005). *Get out of your mind and into your life: The new acceptance and commitment therapy*. New Harbinger Publications.
- Hedden, L., Wassersug, R., Mahovich, S., Pollock, P., Sundar, M., Bell, R. H., ... Higano, C. S. (2017). Evaluating an educational intervention to alleviate distress amongst men with newly diagnosed prostate cancer and their partners. *BJU International*, 120, 21–29. <https://doi.org/10.1111/bju.13885>
- Hemenover, S. H. (2003). The good, the bad, and the healthy: Impacts of emotional disclosure of trauma on resilient self-concept and psychological distress. *Personality and Social Psychology Bulletin*, 29(10), 1236–1244. <https://doi.org/10.1177/0146167203255228>
- Israelashvili, J., Sauter, D., & Fischer, A. (2019). How well can we assess our ability to understand others' feelings? Beliefs about taking others' perspectives and actual understanding of others' emotions. *Frontiers in Psychology*, 10, 2475. <https://doi.org/10.3389/fpsyg.2019.02475>
- Kircanski, K., Lieberman, M. D., & Craske, M. G. (2012). Feelings into words. *Psychological Science*, 23(10), 1086–1091. <https://doi.org/10.1177/0956797612443830>

- Konrath, S. H., O'Brien, E. H., & Hsing, C. (2011). Changes in dispositional empathy in American college students over time: A meta-analysis. *Personality and Social Psychology Review, 15*, 180–198. <https://doi.org/10.1177/1088868310377395>
- Lang, P. J., Bradley, M. M., & Cuthbert, B. N. (2008). International affective picture system (IAPS): Affective ratings of pictures and instruction manual. *Technical Report A-8 Gainesville: University of Florida.*
- Lepore, S. J., Fernandez-Berrocal, P., Ragan, J., & Ramos, N. (2004). It's not that bad: Social challenges to emotional disclosure enhance adjustment to stress. *Anxiety, Stress & Coping: An International Journal, 17*(4), 341–361. <https://doi.org/10.1080/10615800412331318625>
- Levy-Gigi, E., & Shamay-Tsoory, S. G. (2017). Help me if you can: Evaluating the effectiveness of interpersonal compared to intrapersonal emotion regulation in reducing distress. *Journal of Behavior Therapy and Experimental Psychiatry, 55*, 33–40. <https://doi.org/10.1016/j.jbtep.2016.11.008>
- Levy-Gigi, E., & Shamay-Tsoory, S. G. (2020). Use with caution: Affect labeling may increase negative feelings in low intensity aversive conditions. *Cognition and Emotion* (in press)
- Lieberman, M. D., Eisenberger, N. I., Crockett, M. J., Tom, S. M., Pfeifer, J. H., & Way, B. M. (2007). Putting feelings into words affect labeling disrupts amygdala activity in response to affective stimuli. *Psychological Science, 18*(5), 421–428. <https://doi.org/10.1111/j.1467-9280.2007.01916.x>
- Lieberman, M. D., Hariri, A. R., Jarcho, J. M., Eisenberger, N. I., & Bookheimer, S. Y. (2005). An fMRI investigation of race-related amygdala activity in African-American and Caucasian-American individuals. *Nature Neuroscience, 8*(6), 720–722. <https://doi.org/10.1038/nn1465>
- Lieberman, M. D., Inagaki, T. K., Tabibnia, G., & Crockett, M. J. (2011). Subjective responses to emotional stimuli during labeling, reappraisal, and distraction. *Emotion, 11*, 468–480. <https://doi.org/10.1037/a0023503>
- Linton, S. J., Boersma, K., Vangronsveld, K., & Fruzzetti, A. (2012). Painfully reassuring? The effects of validation on emotions and adherence in a pain test. *European Journal of Pain, 16*, 592–599. <https://doi.org/10.1016/j.ejpain.2011.07.011>
- Lougheed, J. P., Koval, P., & Hollenstein, T. (2016). Sharing the burden: The interpersonal regulation of emotional arousal in mother-daughter dyads. *Emotion, 16*, 83–93. <https://doi.org/10.1037/emo0000105>
- Lun, J., Kesebir, S., & Oishi, S. (2008). On feeling understood and feeling well: The role of interdependence. *Journal of Research in Personality, 42*(6), 1623–1628.
- Lynch, T. R., Chapman, A. L., Rosenthal, M. Z., Kuo, J. R., & Linehan, M. M. (2006). Mechanisms of change in dialectical behavior therapy: Theoretical and empirical observations. *Journal of Clinical Psychology, 62*, 459–480. <https://doi.org/10.1002/jclp.20243>
- Marroquín, B., & Nolen-Hoeksema, S. (2015). Emotion regulation and depressive symptoms: Close relationships as social context and influence. *Journal of Personality and Social Psychology, 109*(5), 836–855. <https://doi.org/10.1037/pspi0000034>
- Master, S. L., Eisenberger, N. I., Taylor, S. E., Naliboff, B. D., Shirinyan, D., & Lieberman, M. D. (2009). A picture's worth partner photographs reduce experimentally induced pain. *Psychological Science, 20*(11), 1316–1318. <https://doi.org/10.1111/j.1467-9280.2009.02444.x>
- Morelli, S. A., Torre, J. B., & Eisenberger, N. I. (2014). The neural bases of feeling understood and not understood. *Social Cognitive Affective Neuroscience, 9*, 1890–1896. <https://doi.org/10.1093/scan/nst191>
- Niles, A. N., Craske, M. G., Lieberman, M. D., & Hur, C. (2015). Affect labeling enhances exposure effectiveness for public speaking anxiety. *Behaviour Research and Therapy, 68*, 27–36. <https://doi.org/10.1016/j.brat.2015.03.004>
- O'Callaghan, C., Bertoux, M., Irish, M., Shine, J. M., Wong, S., Spiliopoulos, L., Hodges, J. R., & Hornberger, M. (2016). Brain: A. *Journal of Neurology, 139*, 204–216. <https://doi.org/10.1093/brain/awv315>
- Ochsner, K. N., Bunge, S. A., Gross, J. J., & Gabrieli, J. D. (2002). Rethinking feelings: An fMRI study of the cognitive regulation of emotion. *Journal of Cognitive Neuroscience, 14*(8), 1215–1229. <https://doi.org/10.1162/089892902760807212>
- Oishi, S., Krochik, M., & Akimoto, S. (2010). Felt understanding as a bridge between close relationships and subjective well-being: Antecedents and consequences across individuals and cultures. *Social and Personality Psychology Compass, 4*(6), 403–416. <https://doi.org/10.1111/j.1751-9004.2010.00264.x>
- Pennebaker, J. W. (1997). *Opening up: The healing power of expressing emotions*. Guilford Press.
- Pennebaker, J. W., & Chung, C. K. (2011). Expressive writing and its links to mental and physical health. In H. S. Friedman (Ed.), *Oxford handbook of health psychology* (pp. 417–437). Oxford University Press.
- Reis, H. T., Collins, W. A., & Berscheid, E. (2000). The relationship context of human behavior and development. *Psychological Bulletin, 126*(6), 844–872.
- Reis, H. T., & Shaver, P. (1988). Intimacy as interpersonal process. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research and interventions* (pp. 367–389). New York: Wiley.
- Rimé, B. (2007). Interpersonal emotion regulation. *Handbook of Emotion Regulation, 466–485*.
- Rimé, B. (2009). Emotion elicits the social sharing of emotion: Theory and empirical review. *Emotion Review, 1*(1), 60–85. <https://doi.org/10.1177/1754073908097189>
- Schuler, M., Mohnke, S., Amelung, T., Dziobek, I., Lemme, B., Borchardt, V., ... Walter, H. (2019). Empathy in pedophilia and sexual offending against children: A multifaceted approach. *Journal of Abnormal Psychology, 128*, 453–464. <https://doi.org/10.1037/abn0000412>
- Seehausen, M., Kазzer, P., Bajbouj, M., & Prehn, K. (2012). Effects of empathic paraphrasing—extrinsic emotion regulation in social conflict. *Frontiers in Psychology, 3*, 482.
- Settanni, M., & Marengo, D. (2015). Sharing feelings online: studying emotional well-being via automated text analysis of Facebook posts. *Frontiers in Psychology, 23*, 1045. <https://doi.org/10.3389/fpsyg.2015.01045>
- Shamay-Tsoory, S. G. (2011). The neural bases for empathy. *The Neuroscientist, 17*(1), 18–24. <https://doi.org/10.1177/1073858410379268>
- Smith, A. (2006). Cognitive empathy and emotional empathy in human behavior and evolution. *The Psychological Record, 56*(1), 3–21.
- Spielberger, C. D. (1983). *State-Trait Anxiety Inventory for Adults (STAI-AD)* [Database record]. APA PsycTests. <https://doi.org/10.1037/t06496-000>
- Swann Jr., W. B. (1990). To be adored or to be known? The interplay of self-enhancement and self-verification. In E. T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior, Vol. 2*. (pp. 408–448) The Guilford Press.
- Tamir, D. I., & Mitchell, J. P. (2012). Disclosing information about the self is intrinsically rewarding. *Proceedings of the National Academy of Sciences, 109*, 8038–8043.
- Torrisi, S. J., Lieberman, M. D., Bookheimer, S. Y., & Altshuler, L. L. (2013). Advancing understanding of affect labeling with

- dynamic causal modeling. *Neuroimage*, 481–488. <https://doi.org/10.1016/j.neuroimage.2013.06.025>
- Zaki, J. (2019). Integrating Empathy and Interpersonal Emotion Regulation. *Annual Review of Psychology*, 71, 514–540. <https://doi.org/10.1146/annurev-psych-010419-050830>
- Zaki, J., & Williams, W. C. (2013). Interpersonal emotion regulation. *Emotion*, 13(5), 803–810. <https://doi.org/10.1037/a0033839>
- Zech, E., & Rimé, B. (2005). Is talking about an emotional experience helpful? Effects on emotional recovery and perceived benefits. *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice*, 12(4), 270–287.
- Zielinski, M. J. (2013). *Does emotion invalidation cause emotion dysregulation? Evidence from a healthy sample of college students and implications for the development of borderline personality disorder*. Theses and Dissertations. Retrieved from <https://scholarworks.uark.edu/etd/690>
- Zielinski, M. J., & Veilleux, J. C. (2018). The Perceived Invalidation of Emotion Scale (PIES): Development and psychometric properties of a novel measure of current emotion invalidation. *Psychological Assessment*, 30(11), 1454–1467. <https://doi.org/10.1037/pas0000584>

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