Article

Feeling Me, Feeling You: The Relation Between Emotion Differentiation and Empathic Accuracy

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Abstract

Does knowing your own emotions relate to knowing those of others? We argue that our ability to experience and label our own emotions in a differentiated and specific manner is related to the ability to accurately perceive the level of emotions in others. In an experience sampling study among romantic couples, we tested the hypothesis that individuals with higher levels of emotion differentiation are characterized by higher levels of empathic accuracy (i.e., judge others' emotions more accurately). In line with expectations, results showed that individuals who differentiate highly between their negative emotions are more able to accurately infer how pleasant their partners are feeling across daily life. This finding establishes a link between perceptions of our own and others' emotions and provides evidence that the skills we use to understand our own emotions are also relevant for understanding how others feel.

Keywords

emotion, emotion knowledge, emotion differentiation, emotional granularity, empathic accuracy, mind reading

Mind reading, the ability to know what's on others' minds, is typically attributed to the likes of magicians or clairvoyants. We know, however, that the ability to infer the thoughts and feelings of other individuals does not require special powers or a crystal ball. In fact, all of us try to read the thoughts and feelings of other individuals on a daily basis, for instance during social interactions, and some are even quite good at it. How we form an impression of what's on others' minds, including their emotional states, has since long interested scientific thinking (e.g, Lombardo & Baron-Cohen, 2011; Morin, 2011; Pronin, 2008; Zaki & Oschner, 2011). However, much remains unknown about why people differ in their accuracy in perceiving the feelings of others. In the present study, we examine the possibility that having more accurate knowledge of others' emotions relates to more precise and specific knowledge of one's own emotional world.

Empathic Accuracy

An individual's ability to accurately judge or "read" the feelings of others is often referred to as empathic accuracy (Ickes, 1993). Empathic accuracy is considered to be the cognitive component of empathy, and it interacts with other components of empathy (such as the ability to feel what others are feeling, the affective component of empathy) to produce an empathic response (e.g., Zaki, Bolger, & Ochsner, 2008). It is operationalized as the congruence between the feelings a target person reports experiencing and the feelings that a perceiver attributes to the target person (Levenson & Ruef, 1992), either in the lab (e.g., Ickes, 1993) or in daily life (Howland & Rafaeli, 2010; Wilhelm & Perrez, 2004). Empathic accuracy consists of different components such as "how far off" the perceiver is from the target's reports (level accuracy) or how much a perceiver's judgments covary with the target's reports over time (pattern accuracy; Howland & Rafaeli, 2010). Previous research has shown that these two components are distinct characteristics of empathic accuracy that are not necessarily related to one another (Howland & Rafaeli, 2010). For instance, some individuals may judge their partner's mood very accurately but may have difficulty tracking their mood over time, while others may be very accurate in perceiving fluctuations in their partner's mood but may have a bias that can cause them to consistently under- or overestimate the level of their partner's mood (resulting in lower level accuracy).

As higher levels of empathic accuracy are in general beneficial, for instance, in the context of close relationships, numerous studies have been conducted to identify factors that determine what makes someone good at it or not (e.g., Ickes & Hodges, 2013). Most of the established factors are contextual

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(e.g., the presence of the partner; Wilhelm et al., 2004), target related (e.g., the emotional expressivity of the target; Zaki, Bolger, & Ochsner, 2009; Zaki et al., 2008), or perceiver related (e.g., the perceiver's age or level of affective empathy; Rauers, Blanke, & Riediger, 2013; Zaki et al., 2008). In terms of the latter, we propose here that the introspective emotional knowledge a person possesses may also provide valuable information and that the ability to accurately perceive others' emotions may therefore also depend on how that person perceives his or her own emotions. Specifically, we want to examine whether individuals who experience and label their emotions in a more nuanced manner, something which has been investigated under the name of emotion differentiation, also have more accurate perceptions of others' emotions as indicated by higher levels of level accuracy.

Emotion Differentiation

Emotion differentiation or emotional granularity refers to the extent to which people distinguish between their emotional states (Barrett, Gross, Christensen, & Benvenuto, 2001). While some individuals have very specific knowledge about their emotions and report their emotions in a highly differentiated manner (e.g., I feel angry but not scared or sad), others tend to experience more abstract or global feelings and consequently report them in a less differentiated way (e.g., ''I feel bad'').

Emotion differentiation seems to be an important hallmark of individual well-being. For instance, being able to differentiate well between (especially negative) emotions is related to higher self-esteem, lower levels of neuroticism, and less depressive feelings (Erbas, Ceulemans, Pe, Koval, & Kuppens, 2014). Emotion differentiation furthermore seems to be lower in individuals with clinical disorders associated with affective problems, such as major depressive disorder (Demiralp et al., 2012), borderline personality disorder (Suvak et al., 2011), social anxiety disorder (Kashdan & Farmer, 2014), and autism spectrum disorder (Erbas, Ceulemans, Boonen, Noens, & Kuppens, 2013). A high level of emotion differentiation implies that a person's introspective emotional knowledge is very differentiated and specific and is therefore thought to be beneficial for psychological well-being. Because, the more specific insight an individual has into his or her feelings, the better she or he can use them as a source of information (Barrett et al., 2001). A high differentiator has for instance more specific knowledge about the causes of emotional experiences (Erbas, Ceulemans, Koval, & Kuppens, 2015), or about the behaviors required to reduce or enhance the experience, and can therefore more adaptively respond to events and cope with the resulting emotions (Barrett et al., 2001).

Here we argue that individuals who are high in emotion differentiation may also be able to apply their enhanced emotional knowledge to the feeling states of other individuals, enabling them to make more accurate inferences about others' emotions. A good differentiator may have better insight into the causes of other people's emotions, their ensuing experiences, and the behaviors that come with them and may therefore be better in recognizing that person's emotional state. Alternatively, a bad differentiator who in the first place has difficulties differentiating between one's own emotional states can be expected to also have difficulty accurately reading the emotional minds of others. As such, we expect individuals with high levels of emotion differentiation to be better at recognizing their partners' emotions (i.e., to have higher level accuracy).

Although there are also other components to empathy, such as perspective taking, emotional contagion, or mimicry (Decety & Jackson, 2004) which all may benefit from high emotion knowledge, here the focus is specifically on empathic accuracy because we think that emotion differentiation will especially be important for the accurate *recognition* of others' emotions. Despite the fact that there is no direct research addressing our hypothesis, it is in line with a growing body of findings from social neuroscience research, showing that overlapping brain processes are involved in the perception of the self and others (Gallese, Keysers, & Rizzolatti, 2004; Rizzolatti & Craighero, 2004). To the extent that people simulate the mental processes behind other's actions and feelings (Pronin, 2008), the insight one has in one's own emotional world should determine how good our understanding of others' emotions is.

Current Study

The current study empirically tests the hypothesis that knowledge of one's own emotional world as expressed in someone's level of emotion differentiation is related to higher levels of empathic accuracy. Although most previous studies on empathic accuracy have been conducted in lab settings, in the current study, we aimed to assess empathic accuracy in people's daily lives which increases the ecological validity of the study and allows to examine the *tendency* toward accuracy or inaccuracy in daily life (Howland & Rafaeli, 2010). To this end, we conducted an experience sampling study (Csikszentmihalyi & Larsen, 1987) among romantic couples, in which participants reported their own emotional states as well as their judgments of the feeling state of their partner during their daily lives. These data were used to derive performance-based measures of emotion differentiation (i.e., the intraclass correlation (ICC) between reported emotions across time) and empathic accuracy.

We hypothesized that individuals who have a higher level of emotion differentiation are more accurate when making inferences about their partners' feelings, in the sense that they will be less ''far off'' from their partners' own reports. In other words, we expect a relation between emotion differentiation and the correspondence between a partner's reported emotion and the perceiver's judgment of the partner's emotion, the so-called ''level accuracy'' (Howland & Rafaeli, 2010). In addition to level accuracy, we explored whether high differentiators also tend to be more sensitive to changes or fluctuations in their partners' emotions. (i.e., whether there is a high correspondence between a partner's reported emotion and the perceiver's judgment of the partner's emotions across time, the so-called pattern accuracy).

Method

Participants

Heterosexual couples were recruited through flyers and advertisements in community and relationship therapy centers. Couples were selected based on age, relationship duration, and cohabitation status so that the final sample would be representative and include sufficient variation in terms of these factors. The sample initially included 100 participants (50 couples). However, one participant was a bivariate outlier with a Mahalanobis distance of 26.42 (which is well above the critical value of 14.22 for a sample that consists of 100 participants and the 2 variables, valence or arousal accuracy and positive or negative emotion differentiation; Barnett & Lewis, 1978), which means that this participant should be considered an extremely influential case. For this reason, we excluded this participant together with his partner from further analyses. The final sample therefore consisted of 98 participants (49 males) with a mean age of 27.52 years ($SD = 10.36$; range = 18–70), of which 96% had Belgian nationality. Participants received a payment of €40 for taking part in the study.

Materials

Emotion differentiation. Similar to previous studies (see, e.g., Demiralp et al., 2012; Erbas et al., 2013, 2014; Kashdan, Ferssizidis, Collins, & Muraven, 2010), each individual's level of emotion differentiation was obtained from data on their emotional responses to the events in their daily lives, using experience sampling methodology. At each signal during the sampling period, participants were asked to indicate how angry, depressed, anxious, sad, relaxed, happy, satisfied, and excited they felt at that moment. Participants rated each of these emotions on a slider scale ranging from 1 (*not at all*) to 100 (*very much*). In line with earlier research, separate positive and negative emotion differentiation indices were computed for each participant by calculating the ICC measuring consistency (Shrout & Fleiss, 1979) between, respectively, the negative emotions and the positive emotions across the different assessed time points (Erbas et al., 2013, 2014). The resulting ICCs were transformed using a Fisher's Z transformation and reverse coded such that higher ICCs reflect higher levels of emotion differentiation.

Empathic accuracy. At each signal, participants also completed two affect grids (Kuppens, Oravecz, & Tuerlinckx, 2010; Russell, Weiss, & Mendelsohn, 1989), one to indicate how they themselves felt at that moment and one to indicate how they thought their partner felt at that moment. It consists of a 9×9 matrix, in which the horizontal axis represents the valence dimension (recoded into −4 [*very unpleasant*] to 4 [*very pleasant*]), and the vertical axis represents the arousal dimension (recoded into 0 [*very passive*] to 8 [very active]). Participants were asked to indicate separately their current feelings and their judgment of their partner's current feelings, which resulted in four ratings for each participant: ratings of own valence and arousal, and those of their partner. In line with previous research (e.g., Gadassi, Mor, & Rafaeli, 2011; Howland & Rafaeli, 2010), we obtained estimates of level accuracy by calculating how well the perceivers' ratings of their partners' affect matched the partners' ratings of their own affect for each assessed time point, in terms of the absolute difference between both valence scores and both arousal scores. The resulting difference scores were reverse coded such that higher values reflect higher levels of empathic accuracy. To explore associations with pattern accuracy, we examined the temporal correspondence between the perceivers' ratings of their partners' affect and the partners' ratings of their own affect across the experience sampling period.

Procedure

In a first session, participants came to the lab, completed a battery of questionnaires (not relevant for the current research question), and provided demographic information such as their age, gender, and relationship duration. Next, they received a Motorola Defy Plus smartphone together with instructions for its use and practiced on how to use the smartphone and how to answer the questions in the presence of an experimenter (including full instructions to respond to the emotion and affect grid items; see Russell et al., 1989). For the next 7 days, participants carried the smartphone during their daily activities and responded to the questions when signaled. The smartphones were programmed to signal 10 times a day according to a stratified random-interval scheme, with each day being divided into 10 equal intervals (between 10 a.m. and 10 p.m.), in which a signal was programmed randomly. At each signal, the smartphone prompted participants to rate their responses to a number of questions (in randomized order). The smartphones were synchronized to signal simultaneously within couples. The order of the questions was randomized for each participant in an effort to prevent participants within couples from cooperating in answering the questions. After a week, participants returned to the lab where they were debriefed and paid. With an average response rate of 92.03% ($SD = 7.15$) to the programmed signals, compliance was high.

Results

Table 1 reports the descriptive statistics for the emotion differentiation and level empathic accuracy indices. The average levels of both positive and negative emotion differentiation were in line with previously found results (e.g., Erbas et al., 2014; Kashdan et al., 2010), and participants differentiated significantly higher between negative emotions than between positive emotions, $t(97) = -5.71$, $p < .001$. With regard to the valence and arousal measure, the average levels of valence and arousal accuracy indicate that participants' ratings of their partners' valence and arousal scores were not perfectly accurate, that there is sufficient variability among participants in their accuracy, and that the partner's level of arousal was more difficult to infer than his or her valence level, as evidenced by

Table 1. Means, Standard Deviations, and Correlations Between the Emotion Differentiation and Empathic Accuracy Indices.

Measure	*M* (*SD*)	1	2	3
Negative emotion differentiation	.63 (.26)			
Positive emotion differentiation	.79 (.13)	.18		
Valence accuracy	−1.70 (.33)	.30**	−.01	
Arousal accuracy	−1.89 (.49)	.07	.03	.23*

Note. Means and standard deviations of the emotion differentiation indices are based on the raw ICCs, whereas the correlational analyses are based on the Fisher's Z-transformed, reverse-coded ICCs to directly reflect emotion differentiation. The empathic accuracy indices are the reverse-coded absolute differences. ICCs = intraclass correlations.
*$p < .05$. **$p < .01$.

significantly higher levels of valence than arousal accuracy, $t(97) = 3.68$, $p < .001$. Finally, we assessed whether there were differences between males and females in the mean levels of differentiation and accuracy, but this was not the case (all p values of independent t tests were larger than .10).

We first examined the relations between participants' valence- and arousal-level accuracy and their level of positive and negative emotion differentiation by means of simple correlational analyses. To this end, we averaged the valence and arousal accuracy scores across time points per participant, resulting in two empathic accuracy indices per participant, one for valence and one for arousal. Table 1 reports the Pearson's correlations between the emotion differentiation indices and the accuracy indices. The results show a significant positive relationship between negative emotion differentiation and accuracy of valence ratings, indicating that a higher level of differentiation between negative emotions was related to a higher accuracy of the ratings of the partner's valence. The associations were nonsignificant for both positive emotion differentiation and arousal accuracy.

Next, to investigate these relationships further, we conducted multilevel analyses using HLM 7. In these analyses, partners were treated as nested within couples, and couples were the unit of analysis.[1] To account for the statistical dyadic interdependencies between the partners of each romantic couple (which in our study were distinguishable dyads because all couples existed of one male and one female partner; Bolger & Laurenceau, 2013), parallel models were ran simultaneously for females and males, which resulted in separate parameter estimates for females and males (Bolger & Laurenceau, 2013; HLM code retrieved from http://www.intensivelongitudinal.com/).

We first conducted two separate analyses in which we predicted participants' level accuracy regarding their partner's valence with positive and negative emotion differentiation (grand-mean centered) and then repeated both analyses to predict participants' arousal accuracy scores. For instance, we modeled valence accuracy using a multilevel model in which the Level 1 random intercept was predicted at Level 2 by gender, which was represented by two separate dummy variables for male and female, and the interaction between the gender dummies and emotion differentiation, omitting a general intercept (see Table 2, Model 1a for negative differentiation and Model 1b for positive differentiation):

Level 1 (time points):

$$\text{Valence accuracy}_{\text{time } t,\ \text{couple } c,\ \text{partner } p} = \pi_{0cp} + e_{tcp}.$$

Level 2 (couples):

$$\pi_{0cp} = \beta_{01}(\text{male}_{cp}) + \beta_{01}(\text{female}_{cp}) + \beta_{02}(\text{male} \times \text{NegDif}_{cp}) + \beta_{03}(\text{female} \times \text{NegDif}_{cp}) + r_{0cp}.$$

Table 2 reports the results of these multilevel analyses. Model 1a examines the role of negative emotion differentiation on level accuracy, with analyses conducted separately for valence accuracy and for arousal accuracy.[2] Results show that, even after accounting for the dyadic interdependencies, both females' and males' negative emotion differentiation significantly predicted their level of accuracy in ratings of their partner's valence scores such that high levels of negative emotion differentiation were related to higher valence accuracy. Again, arousal accuracy was not predicted by negative emotion differentiation. Model 1b shows that positive emotion differentiation did not predict valence nor arousal accuracy.[3,4]

Finally, we explored whether emotion differentiation was also related to pattern accuracy. To this end, we conducted multilevel analyses in which the partner's own ratings were predicted by the participant's ratings of the partner across the repeated assessments. For instance, we modeled valence accuracy by using a multilevel model in which we predicted the partner's valence score by the participant's rating of the partner's valence at Level 1, which was, similar to our previous model, predicted by emotion differentiation at Level 2. By doing so, we again omitted a general intercept and instead modeled males and females simultaneously by including two separate dummy variables for male and female as well as the interaction between the gender dummies and emotion differentiation at Level 2:

Level 1 (time points):

$$\text{Valence Partner}_{\text{time } t,\ \text{couple } c,\ \text{partner } p} = \pi_{0cp} + \pi_{1cp}(\text{Perceiver's Judgment Valence}_{tcp}) + e_{tcp}.$$

Level 2 (couples):

$$\pi_{0cp} = \beta_{01}(\text{male}_{cp}) + \beta_{01}(\text{female}_{cp}) + \beta_{02}(\text{male} \times \text{NegDif}_{cp}) + \beta_{03}(\text{female} \times \text{NegDif}_{cp}) + r_{0cp}.$$

$$\pi_{1cp} = \beta_{11}(\text{male}_{cp}) + \beta_{11}(\text{female}_{cp}) + \beta_{12}(\text{male} \times \text{NegDif}_{cp}) + \beta_{13}(\text{female} \times \text{NegDif}_{cp}) + r_{1cp}.$$

Results from these analyses showed that, when making inferences about the partner's valence, the interactions between the participant's ratings of the partner and the participant's level of emotion differentiation appeared nonsignificant (all ps $> .10$, with the exception of positive emotion differentiation in males, $B = .21$, standard error [*SE*] $= .07$, $p = .005$). From these findings, we can conclude that emotion differentiation

Table 2. Multilevel Results for Negative (Model 1a) and Positive (Model 1b) Emotion Differentiation Predicting Valence- and Arousal-Level Accuracy for Males and Females.

	Valence Accuracy				Arousal Accuracy			
Model	*B*	*SE*	*p*	95% CI	*B*	*SE*	*p*	95% CI
Model 1a								
Male	1.70	0.04	<.001	[1.62, 1.78]	1.90	0.06	<.001	[1.78, 2.02]
Female	1.69	0.05	<.001	[1.59, 1.79]	1.87	0.07	<.001	[1.73, 2.01]
Male × ICC Negative	0.24	0.10	.014	[0.04, 0.44]	−0.05	0.13	.721	[−0.30, 0.20]
Female × ICC Negative	0.19	0.09	.026	[0.01, 0.37]	0.18	0.16	.251	[−0.13, 0.49]
Model 1b								
Male	1.69	0.04	<.001	[1.61, 1.77]	1.90	0.06	<.001	[1.78, 2.02]
Female	1.70	0.05	<.001	[1.60, 1.80]	1.88	0.07	<.001	[1.74, 2.01]
Male × ICC Possitive	−0.05	0.18	.748	[−0.40, 0.30]	0.20	0.34	.556	[−0.47, 0.87]
Female × ICC Possitive	0.01	0.13	.897	[0.24, 0.26]	−0.04	0.16	.813	[−0.35, 0.27]

Note. The emotion differentiation indices are the Fisher's Z-transformed, reverse-coded, and grand-mean centered ICCs, and the empathic accuracy indices are the reverse-coded absolute differences. CI = confidence interval; ICCs = intraclass correlations.

does not play an essential role in the accuracy regarding changes in the partner's affect.

Discussion

Based on the data from an experience sampling study among romantic couples, we tested the hypothesis that more knowledge of one's own emotional world as expressed by higher levels of emotion differentiation is related to higher levels of empathic accuracy. This prediction was based on the notion that high differentiators have more differentiated and specific introspective emotional knowledge which they can also apply to the feeling states of other individuals, enabling them to make more accurate inferences about others' emotions. We were specifically interested in the relationship between emotion differentiation and level accuracy or how far off someone's inferences were of their partner's mood.

In line with our hypothesis, results from both the simple correlational and the multilevel analyses show that the ability to differentiate between negative emotions was related to individuals' level of valence (but not arousal) level accuracy. The level of positive emotion differentiation appeared to be unrelated to both valence and arousal accuracy. Furthermore, males and females appeared to have largely similar relations between emotion differentiation and level empathic accuracy, although the power of our study may have not been sufficient to detect smaller gender differences. It is recommended to conduct future studies with larger samples which would allow to make all findings more conclusive.

The finding that only negative and not positive emotion differentiation relates to level empathic accuracy is in line with previous studies that have mainly been able to identify correlates of negative and not positive emotion differentiation (see Kashdan, Barrett, & McKnight, 2015 for a review). This finding suggests that individuals' ability to differentiate between negative emotions seems to capture more information about the knowledge that these individuals have of other people's emotions, compared to positive emotion differentiation. Although there is no research on why negative emotion differentiation seems to be more relevant for well-being than positive emotion differentiation, it is argued that it is more important to have accurate knowledge of negative than of positive emotions, especially in the light of emotion regulation. While knowledge about positive emotions is without a doubt important (e.g., see broaden-and-built theory; Fredrickson, 2001), an inability to regulate or misrecognize negative emotions will have much larger consequences and will be more costly, especially in the short run (Barrett et al., 2001). However, although we did not find a relation between positive emotion differentiation and empathic accuracy, it is possible that differentiation of positive emotions is relevant in interpersonal relationships in different ways than examined here.

The finding that participants' level of valence accuracy was significantly higher than their arousal accuracy indicates that a partner's valence may be more accurately inferred than his or her arousal. Indeed, studies have repeatedly shown that people primarily focus on the valence dimension of emotions (e.g., Barrett, 1998; Erbas et al., 2015). This may be even more the case in the interpersonal context, as the valence of someone's emotion is probably easier to communicate as well as easier to recognize, both through verbal and through nonverbal behavior.

While emotion differentiation was related to level accuracy, it was not related to people's ability to perceive fluctuations in their partners' mood across time. This means that specific knowledge of one's own emotions is related to making more accurate inferences about the partner's emotions but not to being more sensitive to changes in the partner's emotions. A possible explanation for this difference could be sought in the notion that both types of empathic accuracy may require different skills. However, it is too preliminary to speculate about what these skills could be, and more research is needed on this topic.

The finding that level empathic accuracy is related to individuals' level of emotion differentiation stands out in

a number of ways. First of all, it shows that it is important to extend the context in which emotion differentiation has so far been studied to the interpersonal domain. As Fischer and van Kleef (2010) argue, emotions are mostly reactions to other people, they take place in settings where other people are present, are expressed toward other people, and regulated because of other people (Fischer and van Kleef , 2010). However, while it is difficult to deny the importance of the social dimension of emotions, so far research on emotion differentiation has only looked at its importance for the individual himself and never examined its consequences for the interpersonal domain. The current study is the first to adopt this broader approach.

The current finding furthermore suggests that the link between emotion differentiation and well-being may also run via social pathways. So far it is generally assumed that a high level of differentiation is beneficial for well-being because it enhances emotion regulation (Barrett et al., 2001). However, research shows that the ability to read others' minds is also related to well-being (e.g., it is negatively related to depressive symptoms; Gadassi et al., 2011). Future research can examine whether the relationship between emotion differentiation and well-being can indeed be explained through such a process.

On a more general level, the findings show that the knowledge that we possess and apply to ourselves can also be used to make inferences about other individuals. It is unclear, however, how this process exactly works. For example, is it conceptual knowledge about emotions in general that we apply to both ourselves and others? Or is it mainly our introspective knowledge that we apply to other individuals when we make inferences on how they feel? Since the current study is correlational, it is not possible to draw conclusions on the direction of the relationship between empathic accuracy and emotion differentiation. Although we argue on a theoretical level that emotion differentiation precedes empathic accuracy in the process, other conceptual models are also possible. Experimental research on the topic can provide more insight into the underlying process as well as the direction of the relation between empathic accuracy and emotion differentiation.

Finally, the current finding suggests that better insight into one's own emotions may contribute to empathy in general. The established relationship between emotion differentiation and empathic accuracy may contribute to unravelling the mechanisms involved in experiencing empathy, which is considered to underlie core human features such as the ability to cooperate with other individuals and to engage in prosocial and moral human behavior (Eisenberg & Miller, 1987; Flack, & De Waal, 2000). Moreover, while the current study only examined its link with empathic accuracy, which is considered the cognitive component of empathy, emotion differentiation may also potentially be relevant for the affective component of empathy, (i.e., the ability to experience or internalize others' emotional states). Future research can examine whether high differentiators indeed have a higher ability to internalize or mimic others' emotions.

In sum, the present study shows that our perceptions of our own emotions are related to how we perceive others' emotions; the more specific and differentiated the perceptions of our own emotions are, the more accurately we can infer what other people are feeling. By establishing the relationship between emotion differentiation and level empathic accuracy, the current finding provides direct evidence for the notion that the skills we use to unravel our own emotions may also be relevant for understanding how others feel. The ability to accurately understand what others feel is an important component of the construct of empathy and can perhaps be viewed as a necessary condition to experience compassion or to sympathize with other individuals in an appropriate fashion.

Declaration of Conflicting Interests

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Notes

1. Although it seems that statistical models of longitudinal data from distinguishable dyads should consist of three levels (observations nested within persons and persons nested within dyads), it is recommended to use two-level models (Bolger & Laurenceau, 2013).
2. In each analysis, we examined the difference between males and females using contrast tests. These tests consistently revealed no significant differences between males and females. However, due to relatively low power, the results from these contrast tests should not be considered conclusive.
3. We examined whether the relation between negative emotion differentiation and empathic accuracy changes as a function of the partners being together or not at the time of the accuracy judgment (at each signal, participants were asked to indicate whether they were currently together with their partner or not [recoded into $1 = yes$; $0 = no$]). Results indicated that when participants were together with their partner, negative differentiation significantly predicted valence accuracy in males ($B = .24$, $SE = .12$, $p = .05$) but not in females ($B = .05$, $SE = .14$, $p = .71$), whereas when participants were not together with their partners, negative differentiation significantly predicted valence accuracy in females ($B = .25$, $SE = .13$, $p = .04$) but not in males ($B = .16$, $SE = .14$, $p = .24$). However, contrast tests revealed that none of the differences (either between or within genders) were significant ($p > .10$). Regarding arousal, there was a marginally significant relationship between negative differentiation and arousal accuracy for males but not for females. Contrast tests again revealed no significant differences both within and between males and females.

From these results, we can conclude that the presence of the partner is not a determining factor in the relationship between negative emotion differentiation and valence and arousal accuracy, although, again, the relatively low power may preclude conclusive findings in this respect.

4. A number of studies have shown that partner-related characteristics (e.g., the emotional expressivity of the partner; Zaki et al., 2008, 2009) can influence the perceiver's empathic accuracy. In line with this, it could be argued that the partner's level of emotion differentiation could influence the participant's level of empathic accuracy (e.g., because high differentiators may verbally and/or physically express their emotions differently than low differentiators). Using the Actor Partner Interdependence Model (Kenny, Kashy, & Cook, 2006), we reanalyzed our data by controlling for the partner's level of negative emotion differentiation (by including it at Level 2, simultaneously for males and females). Results showed that when predicting valence accuracy, negative emotion differentiation was still a significant predictor for both males ($B = .25$, $SE = .09$, $p = .01$) and females ($B = .20$, $SE = .09$, $p = .02$), while the effect of positive emotion differentiation on valence accuracy as well as the effects of both positive and negative emotion differentiation on arousal accuracy remained nonsignificant (all p's $> .10$).

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