

# The Consequences of Self- and Other-Focused Emotional Intelligence: Not All Sunshine and Roses

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Emotional intelligence (EI) contributes to good performance and well-being in jobs that involve frequent interpersonal contact. However, as EI is composed of self- and other-focused dimensions, it remains unclear which dimensions are responsible for better performance and well-being. We hypothesized that other-focused EI dimensions in particular relate to task performance, whereas self-focused EI dimensions relate to employees' subjective stress and physiological responses to emotional job demands. We asked Dutch secretaries ( $N = 110$ ) to professionally respond to five emotionally demanding work-related phone calls. The secretaries' skin conductance levels were recorded during the calls, and the secretaries had to indicate their stress levels after each call. Two independent raters coded the secretaries' effectiveness and the number of emotion regulation attempts during the phone calls. The results showed that other-focused emotion regulation was positively related to only one of the task performance indicators during three phone calls. In line with the hypotheses, self-focused emotion appraisal was negatively related to the secretaries' subjective stress levels after all the phone calls. Self-focused emotion regulation was positively related to the secretaries' skin conductance levels during all but one of the phone calls. This outcome suggests that self-focused EI dimensions decrease the subjective experience of stress but are accompanied by physiological costs, whereas other-focused emotion regulation may be positively but weakly related to task performance in emotionally demanding contexts.

*Keywords:* emotional intelligence, skin conductance, stress, task performance

Employees in jobs that involve frequent interpersonal contact are inevitably confronted with the emotions of others. Managing the emotions of others is often an essential component of such jobs. These jobs also require employees to deal with their own emotions to remain motivated, healthy, and effective (Grandey, 2000). One likely factor that could influence employees' performance in such situations is emotional intelligence (EI). EI can broadly be defined as the ability or knowledge to perceive and understand emotional processes and to regulate them effectively (Petrides, 2011; Salovey & Mayer, 1990; Zeidner, Roberts, & Matthews, 2008). Although scholars have disagreed on the theoretical model and measurement of EI (Zeidner et al., 2008), there is clear meta-analytic evidence that, irrespective of the model or

measurement, global EI levels are relevant to job performance and well-being (Martins, Ramalho, & Morin, 2010; O'Boyle, Humphrey, Pollack, Hawver, & Story, 2011). Nevertheless, the role of specific EI dimensions in these links has remained relatively unexplored. The current article addresses the distinction between other-focused and self-focused EI dimensions.

Other-focused EI dimensions are characterized by the aim of directly altering other people's psychological states, which may be effective when trying to influence their behavior or mood states. This notion is grounded in theories on social competence (Rose-Krasnor, 1997) and social-information processing (Crick & Dodge, 1994; Lerner & Arsenio, 2000) that devote an important role to emotional skills directed at others. Other-focused EI dimensions might play a role in different stages during the process of interacting with others. In the first stage, encoding social cues seems crucial to choosing the most appropriate regulatory strategy in social situations. In a later stage, one's actual enactment of the chosen regulatory strategy is vital for success (Lerner & Arsenio, 2000). Accordingly, other-focused EI has been associated with prosocial behavior (Nozaki, 2015), interview performance, and leadership outcomes (Pekaar, Bakker, Van der Linden, & Born, 2018). Building on this reasoning and initial evidence, in the present study, we further address the unique role of other-focused EI dimensions.

Self-focused EI dimensions are directed at one's own mood state, which may contribute to well-being when engaging in emotionally demanding (job) tasks. This notion can be related to theories on stress, coping, and emotion regulation (Grandey & Melloy, 2017; Jordan, Ashkanasy, & Härtel, 2002; Lazarus &

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Folkman, 1984). The transactional model of stress predicts that individuals experience stress when they appraise the environment as important but too demanding for their coping resources (Lazarus, 1966; Lazarus & Folkman, 1984, 1987). As high-EI individuals tend to possess superior emotion appraisal and coping skills, their experience of stress from emotionally demanding events is reduced (Zeidner, Matthews, & Roberts, 2009). Relatedly, emotional labor theory states that emotion regulation at work is associated with more job strain but not for high-EI employees who tend to choose the most effective emotion regulation strategies to deal with their own emotions (Grandey & Melloy, 2017). Self-focused EI dimensions might play a role in such processes because they influence one's emotional response to stressors and the way in which these emotions are managed (Jordan et al., 2002). In line with this notion, EI is indeed positively related to one's own mood state (Mikolajczak et al., 2015; Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007), mental and physical health (Martins et al., 2010), and occupational well-being (Zeidner et al., 2009). However, research has not yet addressed whether particularly self-focused EI dimensions may underlie these effects.

Moreover, EI has been only sparsely studied using physiological assessments of mood states (Matthews, Zeidner, & Roberts, 2017). Previous studies that have done so found mixed results (Bechtoldt & Schneider, 2016; Mikolajczak, Roy, Luminet, Fillée, & Timary, 2007). On the one hand, emotion regulation is associated with short-term physiological costs that may be replenished when regulation is successful (Grandey & Melloy, 2017). Accordingly, one would expect EI to be positively associated with physiological arousal (e.g., skin conductance). On the other hand, high-EI employees also tend to be more effective in emotion regulation (Grandey & Melloy, 2017; Zeidner et al., 2009), implying that they need less effort and would show lower physiological arousal. Subsequently, it remains unclear whether emotion regulation in high-EI individuals is associated with lower or higher physiological arousal. Empirical support for both ideas exists. EI has been associated with *lower* cortisol levels, blood pressure, and heart rate after exposure to a stressor (Laborde, Brüll, Weber, & Anders, 2011; Mikolajczak et al., 2007), suggesting that EI may buffer physiological arousal. However, EI has also been associated with *higher* cortisol levels and electroencephalogram signals during intense emotional episodes, indicating increased mental arousal (Bechtoldt & Schneider, 2016; Tolegenova, Kustubayeva, & Matthews, 2014). The current study aims to clarify these inconsistencies by gathering physiological and self-reported data and examining specific EI dimensions.

The main purpose and contribution of this study is to elucidate the differential contributions of self- and other-focused EI dimensions to task performance and mood states during a simulated emotionally demanding job task. Accordingly, we aim to integrate insights from social competence and social-information processing theories (Lerner & Arsenio, 2000; Rose-Krasnor, 1997) with theories regarding stress, coping, and emotion regulation (Grandey & Melloy, 2017; Jordan et al., 2002; Lazarus & Folkman, 1984). As a second contribution, the inclusion of physiological (skin conductance) data may extend the current limited understanding of the association between EI and physiological responses to emotional demands (Matthews et al., 2017). Finally, the simulated job setting enabled us to closely examine the role of EI in different types of emotional demands—a road that has only sporadically

been travelled in the EI literature (cf. Gooty, Gavin, Ashkanasy, & Thomas, 2014; Nozaki, 2015).

## Emotional Intelligence

There are different models of EI. The ability EI model reflects one of the major perspectives and conceptualizes EI as a set of abilities to accurately perceive and express emotions, to use emotions in one's thinking, to understand emotions, and to consciously regulate emotions (Mayer & Salovey, 1997). Another widely used model is the trait EI model. Trait EI is defined as a constellation of emotional perceptions at the lower levels of personality hierarchies (Petrides, Pita, & Kokkinaki, 2007). The EI measures used in conjunction with these models have been classified by Ashkanasy and Daus (2005) into three different "streams". Ability EI has been usually measured with performance-based tests (Stream 1 measures); however, under some circumstances, it has been more feasible to use self-reported questionnaires, such as the one used in the present study (Stream 2 measures). Trait EI has been mainly measured with self-reported questionnaires (Stream 3 measures). An important limitation in the literature is that most conventional EI instruments have not systematically distinguished self- from other-focused EI dimensions. Recently, however, scholars have emphasized the relevance of separating self- from other-focused EI by showing that individuals can differ in them and that they can lead to different outcomes (Brasseur, Grégoire, Bourdu, & Mikolajczak, 2013; Mikolajczak et al., 2015; Troth, Lawrence, Jordan, & Ashkanasy, 2018). The current study builds on these previous endeavors by further unravelling which psychological processes underlie the enactment of EI.

There have been substantial debates on the best measurement method for EI (self-reports vs. performance tests), its conceptual nature (ability vs. trait), and its utility (practice vs. science; Antonakis, Ashkanasy, & Dasborough, 2009; Zeidner et al., 2008). Some scholars have even argued for abandoning EI because it would be inadequately defined, be scientifically invalid, and shares too much variance regarding personality or cognitive abilities (Antonakis et al., 2009; Locke, 2005). However, there is also a large body of research showing that EI is indeed relevant for work criteria (O'Boyle et al., 2011). We, among other scholars, consider such debates to be part of a healthy scientific process and see merit in examining how EI affects work life (Antonakis et al., 2009; Ashkanasy & Daus, 2005). Emotions play an important role in organizations because they influence decisions, behavior, and attitudes (Kahneman, 2011; Weiss & Cropanzano, 1996). Hence, studying how individuals deal with their own and others' emotions may improve our understanding of organizational behavior.

## Performance

High-EI individuals tend to be socially effective (Van der Linden et al., 2017) and perform better in social jobs (Joseph & Newman, 2010). We argue that mainly other-focused EI dimensions may underlie this association. To illustrate this notion, social competence theory (Rose-Krasnor, 1997) explains that socially effective individuals excel in interactions because these individuals fulfil their own needs while maintaining positive relationships with others. The emotional skills that facilitate this social success include perspective-taking, empathy, and communication, which

are all focused on the emotions of others (Rubin, Bukowski, & Parker, 1998). In addition, social information processing theory explains how processing social cues influences behavior (Crick & Dodge, 1994). Emotional skills qualify this information processing at different stages (Lemerise & Arsenio, 2000). In the stage of encoding social cues, the capacity to read others' affective states is of particular importance (Saarni, 1999). In the stage of responding to social cues, individuals' capacity to choose and employ the best interpersonal emotion regulatory strategy is crucial for social success (Lemerise & Arsenio, 2000). Drawing from these psychological processes, we hypothesized that other-focused EI dimensions in particular are positively associated with task performance in an emotionally demanding job task (*Hypothesis 1*).

However, the positive association between global EI and job performance in emotionally demanding jobs has also been explained by the high emotion regulation demands of interpersonal contact in which EI plays a role (Grandey, 2000; Joseph & Newman, 2010; Wong & Law, 2002). Yet, in line with the aforementioned theories on social behavior, we expected that not only the regulation aspect of EI is important but also the way in which individuals handle the emotions of others in particular facilitates performance. In most emotionally demanding jobs, an important factor is the service given to others (Grandey, 2000). Vital to this service is that one takes individual differences and preferences into account. For example, some customers are best approached with humor, whereas others might require a more neutral style. Such social flexibility is what high-EI individuals excel at (Salovey & Mayer, 1990), and this flexibility may be achieved by their other-focused EI. Initial evidence showed that other-focused EI (vs. self-focused EI) contributed to the number of donors recruited for charity (Brasseur et al., 2013), to the performance of divorce lawyers (Pekaar, Van der Linden, Bakker, & Born, 2017), and to relationship quality (Little, Klumper, Nelson, & Gooty, 2012; Niven, Holman, & Totterdell, 2012). Building on this notion, we examined the effects of specific other-focused EI dimensions on task performance in a simulated emotion-related job task.

### Subjective Stress

The transactional model of stress (Lazarus & Folkman, 1984) states that individuals experience stress when they perceive a situation to be personally relevant but do not feel equipped to deal with it. This appraisal process consists of two stages. First, individuals make a primary appraisal regarding the extent to which a stressor may threaten their goal attainment and well-being. This primary appraisal elicits an affective reaction. Next, a secondary appraisal is made regarding the capacity to cope with the stressor. The primary and secondary appraisals determine whether a stressor may be perceived as more of a threat or a challenge. This evaluation further influences the affective reaction (e.g., stress) and coping. Logically, when a stressor is perceived as a threat (vs. a challenge), it elicits more stress. The model is transactional because it describes a dynamic interplay between perceived capacities and the environment.

We argue that self-focused EI may qualify the primary and secondary appraisal stages. Self-focused EI may influence the primary appraisal because it helps individuals to react emotionally only to stressors that are deemed important (Ashkanasy, Ashton-James, & Jordan, 2003). Hence, the affective response of high

self-focused EI individuals will be more accurate. Self-focused EI may also influence the secondary appraisal because it helps one to understand which coping strategies are most effective and to successfully implement them (Ashkanasy et al., 2003; Jordan et al., 2002). Consequently, we hypothesized that self-focused EI dimensions in particular are negatively associated with the experience of subjective stress in response to emotional work-related stressors (*Hypothesis 2*).

Meta analyses, including many studies with stress-related outcomes, have confirmed that EI is positively associated with psychological and physiological health (Martins et al., 2010; Schutte et al., 2007). Studies have also found that EI may directly buffer against job stress (Weng et al., 2011; Zeidner et al., 2009). Importantly, most previous research on this topic has used only global EI scores. Thus, it remains unclear whether self- or other-focused EI is more strongly related to (subjective) stress. The indirect support for the hypothesized role of self-focused EI has suggested that self-focused EI was most predictive of objective mental health indicators (Mikolajczak et al., 2015), which can be assumed to include stress-related symptoms. We aim to extend this knowledge by explicitly examining the role of self-focused EI dimensions for employees' subjective stress response to emotional work-related stressors.

### Physiological Arousal

Emotional labor theory (Grandey & Melloy, 2017) assumes that emotion regulation at work is accompanied by short-term physiological costs. However, it is unclear what role EI plays in this process. There are two relevant possibilities: The first is that physiological measures of arousal mirror the commonly reported negative relation between EI and (subjective) stress. Low-EI individuals may be less effective in dealing with their own emotions, resulting in prolonged physiological arousal to emotional demands (Mikolajczak et al., 2007). In this sense, physiological arousal would be reflective of appraising stressors as threatening to one's well-being (Lazarus, 1991). Supporting this view, EI has been associated with lower cortisol levels, lower blood pressure responses, and lower increases in the low frequency/high frequency heart rate ratio (i.e., a biological indicator of mental stress; Laborde et al., 2011; Mikolajczak et al., 2007; Salovey, Stroud, Woolery, & Epel, 2002) in response to stressors.

A second possibility, however, is that effectively dealing with one's own emotions may cost one effort, which would manifest as higher physiological arousal. From this perspective, arousal would be reflective of appraising stressors as challenges that offer opportunities (Lazarus, 1991). This view has been supported by EI's positive relationship with electroencephalogram patterns that signal mental effort in emotion regulation during exposure to a stressor (Tolegenova et al., 2014). More generally, engaging in emotion regulation strategies has arousal-related physiological effects, including enhanced heart rate, increased skin conductance, and heightened finger temperature (Egloff, Schmukle, Burns, & Schwerdtfeger, 2006; Giuliani, McRae, & Gross, 2008; Ohira et al., 2006). Moreover, emotion regulation may be costlier for high-EI individuals because they are more sensitive to emotions (Bechtoldt & Schneider, 2016; Fiori & Ortony, 2016), possibly resulting in an increased need to manage their emotions. Research has shown that when participants were asked to present themselves

favourably (which obviously requires control over one's own emotions), emotion recognition actually predicted higher cortisol reactivity (Bechtoldt & Schneider, 2016).

Drawing from the two foregoing lines of reasoning, we presented two competing hypotheses: The first is that self-focused EI dimensions are associated with reduced physiological responses to emotional work stressors because the effective appraisal and/or regulation of emotion may diminish its negative effects (*Hypothesis 3a*). Alternatively, self-focused EI dimensions enhance physiological responses to emotional work stressors because effectively engaging in emotion appraisal and/or regulation is an effortful process (*Hypothesis 3b*). To test these contrasting hypotheses, skin conductance measures were included. Skin conductance is a physiological indicator that is often used to assess emotional arousal (Egloff et al., 2006; Ohira et al., 2006). Skin conductance captures fluctuations in the electrical properties of the skin caused by secretions from sweat glands (Benedek & Kaernbach, 2010), as controlled by the sympathetic nervous system (Boucsein, 1992). An increased skin conductance level is indicative of physiological activity and has been linked to emotional processing (Egloff et al., 2006) and emotional arousal (Bernat, Cadwallader, Seo, Vizueta, & Patrick, 2011; Boucsein, 1992).

### The Present Study

We tested the hypotheses in a sample of secretaries who were exposed to a series of work-related phone calls that all had a relevant emotional component requiring some regulatory effort. For example, they received calls from fictitious colleagues or customers who experienced a specific emotion caused by a work-related problem. As EI entails the knowledge and/or ability to effectively deal with emotions in general (Petrides, 2011; Salovey & Mayer, 1990; Zeidner et al., 2008), we assumed that high-EI secretaries could more effectively deal with any discrete emotion. A useful framework to distinguish emotions is the circumplex model of affect (Russell, 1980), which organizes emotions along a valence- and arousal dimension. The phone calls used in this study included emotions that stem from the three quadrants of the circumplex model that require interpersonal emotion regulation efforts, namely, anger and worry (high-arousing negative emotions), sadness (low-arousing negative emotion), and enthusiasm and elatedness (high-arousing positive emotions). The quadrant representing positive low-arousing emotions (e.g., calmness) was not applicable because these type of emotions already tend to be effective at work (Hu & Kaplan, 2015).

The secretaries had to respond adequately to the emotional phone calls while their skin conductance level and subjective stress experience were measured. This interpersonal emotion regulation task provided qualitative vocal data that could be coded to determine task performance (Cheung & Gardner, 2015). We intentionally chose to sample secretaries because of their regular exposure to comparable emotionally demanding job tasks. The various and unpredictable interpersonal interactions that secretaries encounter demand the capacity to manage the emotions of others but may also be stressful for themselves. Hence, the occurrence of both self- and other-focused emotional demands in a secretary's job offers a unique setting to study the role of self- and other-focused EI dimensions in the work environment.

## Method

### Participants

A sample of 112 Dutch secretaries participated. After filling out the initial questionnaire and receiving further instructions on the procedure, two secretaries indicated that they did not want to continue with the study. Therefore, our final sample consisted of 110 participants with a mean age of 37.77 ( $SD = 15.12$ ) years. All but one of the secretaries were female, which can be considered representative of this occupational group (Central Bureau for Statistics, 2014). The majority of our sample had completed vocational education (33.6%) or higher vocational education (24.5%). On average, the participants had 13.32 ( $SD = 12.27$ ) years of work experience as a secretary and worked 29.54 ( $SD = 10.36$ ) hours per week. The secretaries were employed at various companies ranging from large industrial companies to small law firms.

### Procedure

We tested the participants in mobile labs that were installed at a conference for secretaries ( $n = 19$ ), a secretary school ( $n = 29$ ), or a secretarial agency ( $n = 24$ ). The remaining participants were tested in the lab of a Dutch university. We used convenience sampling to recruit participants. That is, we invited secretaries via personal contact at the locations of the mobile labs, or we sent them invitations via e-mail to visit the university lab. In return for their participation, the secretaries received personal feedback on their performance in the task. Upon arrival in the (mobile) lab, we informed the participants about the general purpose of the study ("social situations at work") and asked them to read and sign an informed consent form. Next, we attached two adhesive electrodes to their fingers for the skin conductance recordings. These two electrodes were first filled with a high impedance electrolyte paste and then placed on the second phalanges of the index and middle finger of the participants' non-dominant hand. We asked the participants to remain as quiet as possible so that no movements would interfere with the physiological measurements.

Next, the participants were seated, and we asked them to fill out an initial questionnaire assessing demographics, EI, and their current level of stress (baseline subjective stress). After this initial questionnaire, we instructed the participants regarding the phone call procedure and equipped them with a headset. Specifically, each participant had to listen to five incoming phone calls that each involved an emotional caller asking the secretary a work-related question. The first phone call (worry) was a trial call for the participants to become familiar with the procedure. The four subsequent phone calls (anger, sadness, enthusiasm, and elatedness) were presented in random order and could only be listened to once. We instructed the participants to respond naturally to the callers while their vocal responses were being recorded. We told them that the calls were simulations of actual work scenarios so that they did not expect "real" conversations or feedback on their responses. After each phone call, the participants had to indicate their current level of (subjective) stress. During this procedure, the lab assistant, who was situated in a corner of the (mobile) lab, manually placed a start and an end marker for each phone call in the skin conductance data on the recording device to enable the analysis of specific time intervals.

## Stimuli

The phone calls captured five different emotion-related scenarios (i.e., worry, anger, sadness, enthusiasm, and elatedness) that were expressed in the work context of a secretary and pre-recorded by semi-professional actors. Drawing from the circumplex model of affect (Russell, 1980), we chose five emotions that differed in valence and arousal. The included emotions originated from the three quadrants of the circumplex model that are likely to demand emotion regulation efforts within the current work setting because they are either too negative or too arousing to facilitate smooth and effective interactions. Furthermore, we selected discrete emotions that we could credibly manipulate (i.e., sadness rather than boredom) and that were feasible to express in the work context of a secretary (Wichroski, 1994). To ensure the ecological validity of the phone calls, we constructed the scenarios in collaboration with two professional secretaries. Each phone call lasted approximately 30 seconds. The general content of each emotional call involved: (a) *Worry*, in which a colleague is stressed about a relevant financial mistake that has been made with a customer and therefore asks the secretary for help; (b) *Anger*, in which a supervisor complains in a very hard tone about a mistake the secretary has caused and expects the secretary to find a solution; (c) *Sadness*, in which a colleague expresses great sadness about her dismissal and asks the secretary for support; (d) *Enthusiasm*, in which a potential collaborator talks enthusiastically about a project he has planned and requests an immediate meeting with the secretary's manager; and (e) *Elatedness*, in which a colleague talks in an informal way about a conference in London she took part in and asks the secretary for an informal reaction regarding this conference. See Table A1 in the Appendix for the scripts of the phone calls.

To select the most suitable voice for each scenario, a pretest with three actors playing all the scenarios (one male and two females) was conducted. Four researchers working on emotion-related topics rated the credibility and the extent to which all the candidate phone calls provided room for interpersonal emotion regulation efforts on 7-point scales (1 = *totally disagree*, 7 = *totally agree*). The results showed that there were no significant differences in credibility (all  $F$ 's < 2.27, all  $p$ 's > .05) or in the extent to which the phone calls provided room for interpersonal emotion regulation efforts (all  $F$ 's < 2.00, all  $p$ 's > .05) between the actors for each scenario. Furthermore, ratings on both measures for all the candidate phone calls fell in the upper range of the scales ( $M > 4.00$ ), suggesting sufficient credibility and sufficient room for interpersonal emotion regulation efforts in the stimuli. As all the candidate phone calls thus seemed suitable for use in the study, we ultimately chose those phone calls that, according to the authors, best captured the core of each scenario.

## Measures

**Emotional intelligence.** We measured EI with the 28-item Rotterdam Emotional Intelligence Scale (REIS; Pekaar et al., 2018). The REIS is a self-reported EI instrument based on the ability EI model and can, therefore, be classified as a Stream 2 measure of EI (Ashkanasy & Daus, 2005). The REIS consists of the dimensions of self-focused emotion appraisal ( $\alpha = .84$ ), self-focused emotion regulation ( $\alpha = .80$ ), other-focused emotion appraisal ( $\alpha = .81$ ), and other-focused emotion regulation ( $\alpha = .79$ ). We asked the participants to indicate the extent to which they

agreed with the items on a 5-point scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Example items are "I can distinguish my own emotions well" (self-focused emotion appraisal), "I do not let my emotions take over" (self-focused emotion regulation), "I know which feelings others experience" (other-focused emotion appraisal), and "I am able to calm others down" (other-focused emotion regulation). We used the REIS in the present study because it is one of the few EI questionnaires that allow us to assess self- and other-focused EI dimensions separately.

**Task performance.** We measured task performance by two indicators that were derived from the secretaries' vocal responses to the phone calls. The indicators that we used were the effectiveness of the vocal response in regulating the emotions of the caller and the number of emotion regulation attempts made in the vocal response.

**Effectiveness.** A pair of independent raters indicated the overall effectiveness of the secretaries in regulating the emotions of the caller in each scenario using a 5-point scale ranging from 1 (*not at all effective*) to 5 (*very effective*). This procedure was based on Cheung and Gardner (2015). Although the latter authors did not provide a behavioral observation protocol for coding this indicator, we provided the raters in the present study with a self-developed protocol. Specifically, this protocol stated that vocal responses that included neither practical nor emotional support should be rated as not at all effective. Vocal responses with practical advice were somewhat effective, and vocal responses with emotional support were more effective. The protocol described very effective vocal responses as providing practical *and* emotional support to the caller and included examples for these ratings per scenario. To illustrate, the protocol considered "offering to talk about the caller's dismissal and to help her find a new job" a very effective answer in response to the sad caller, as it included both emotional and practical support. As another example, the protocol considered "promises to work harder to satisfy the angry supervisor" a somewhat effective answer to the angry caller because it included only practical support and neglected the emotional state of the caller and the secretary. In addition, the protocol stated that the vocal tones that the secretaries used could qualify the content of their vocal responses, with a calm and understanding tone making the content more effective than a brusque and impatient tone. Two raters scored a random 20% of the vocal responses ( $n = 105$  phone calls), resulting in an intraclass correlation coefficient of .96. Because of this high interrater reliability, one rater scored the remaining responses, and this rater's scores were used in the analyses.

**Number of emotion regulation attempts.** A second pair of raters independently scored the number of attempts that participants made to regulate the emotions of the caller in a random 20% of the vocal responses ( $n = 105$ ). Accordingly, we followed a similar procedure as reported by Cheung and Gardner (2015), counting attempts that involved emotion-focused support, problem-focused support, cognitive reappraisal, distraction, and attempts at aiming to reduce physiological arousal. Next, we computed the total number of emotion regulation attempts for each phone call. As the interrater reliability was high (intraclass correlation coefficient of .94), one rater scored the remainder of the responses, and this rater's scores were used in the analyses.

**Subjective stress.** We measured subjective stress at baseline and after each phone call by asking the participants to move a

slider from 0 to 100 to indicate the extent to which they felt tense. The slider had no anchors but the extreme ends were labeled with *not at all* and *very much*. To validate the use of this measure, we also administered the four-item Tension subscale of the Perceived Stress Questionnaire (Levenstein et al., 1993) at baseline ( $\alpha = .73$ ) and after the angry phone call ( $\alpha = .78$ ). A sample item of this scale is "I feel frustrated" (1 = *totally disagree*, 7 = *totally agree*). Given the high correlation between the slider and the Perceived Stress Questionnaire at both moments ( $r = .73$  and  $r = .77$ ,  $p$ 's < .001, respectively), we considered it appropriate to rely on the slider as a proxy for participants' subjective stress.

**Skin conductance.** We recorded skin conductance continuously during the entire duration of the study using a Biopac MP150 with a GSR100C module. To obtain a baseline measurement, we used a time interval of 30 s that started 2 min after the participants began to fill out the initial questionnaire. We chose this interval because it provided the participants some time to physiologically adjust to their bodily position and the lab setting. For the five phone calls, we obtained time intervals starting 2 seconds after the start marker of a phone call and ending at the end marker of a phone call, resulting in time intervals ranging from 23 to 35 seconds (depending on the specific phone call they were exposed to; see Table A1 in the Appendix). We chose this procedure to avoid the unintentional measurement of physiological reactions to the hand movements of the participant by clicking on the start button of the sound clip. The skin conductance data were retrieved with the constant voltage technique of 0.5 V across the electrodes (Fowles et al., 1981). As we were interested in skin conductance levels with time constants of more than six seconds, tonic level control was not needed (Edelberg, 1967). Using the Biopac Acknowledge software, we calculated the average of the amplitude of the signal for the respective time intervals and exported this information to SPSS for further analysis (see also Egloff et al., 2006; Min et al., 2002; Ohira et al., 2006).

## Data Analysis

To test the hypotheses, we conducted hierarchical multiple regressions in which we first entered all relevant control variables, followed by the EI score. We performed the analyses with either

one of the EI dimensions or the global EI score (for a similar procedure, see Bechtoldt & Schneider, 2016). A proportion of our sample (26.4%) consisted of secretaries in training who had a lower educational level than the remainder of our participants; therefore, we controlled for this variance in our analyses. Furthermore, effectively responding to emotionally demanding phone calls at work may come with experience (Brotheridge & Lee, 2002), so we also controlled for work experience. In the analyses examining the link between EI and subjective stress or skin conductance, we controlled for baseline subjective stress and baseline skin conductance level, respectively. This procedure has explicitly been suggested for EI research on stress because it cancels out the tendency of high-EI individuals to be in a better mood at the start of a lab study (Keefer, Parker, & Saklofske, 2009).

Due to a technical error, the vocal responses of seven participants were not recorded. Therefore, the sample size for the task performance indicators was 103. We retrieved skin conductance data from a subsample of 69 participants because three secretaries were not in good physical condition, and the remaining 38 were tested without a Biopac recording device available.

## Results

Table 1 displays the means and standard deviations for all outcome variables regarding each phone call. Table A2 in the Appendix reports the correlation table. Before testing the hypotheses, we checked whether the secretaries responded in the same way to the different phone calls. A repeated measures analysis of variance with pairwise comparisons (using the Bonferroni procedure to correct for multiple comparisons) revealed that the secretaries were more effective and used more emotion regulation attempts in their vocal responses to the sad and angry callers than they did to the other callers. Furthermore, the secretaries' subjective stress after the negative emotional phone calls (i.e., anger and sadness) was higher than that after the positive emotional phone calls (i.e., enthusiasm and elatedness). In addition, the secretaries' skin conductance levels during the baseline and worried calls were significantly lower than those during the other calls. These exploratory results suggest that the different phone calls (involving distinct emotions) generally evoked typical responses (see Table 1).

Table 1  
Means and Standard Deviations for All Outcome Variables Involved in Each Phone Call

Outcome	Type of phone call						<i>F</i>
	Baseline <i>M</i> ( <i>SD</i> )	Worry <i>M</i> ( <i>SD</i> )	Anger <i>M</i> ( <i>SD</i> )	Sadness <i>M</i> ( <i>SD</i> )	Enthusiasm <i>M</i> ( <i>SD</i> )	Elatedness <i>M</i> ( <i>SD</i> )	
Effectiveness <sup>a</sup>		2.85 (0.90)	3.17 (0.80)	3.23 (0.79)	2.84 (0.97)	2.85 (0.97)	8.68***
Number of emotion regulation attempts <sup>b</sup>		4.83 (2.76)	5.53 (2.49)	5.81 (2.64)	4.75 (2.07)	3.81 (1.99)	28.54***
Subjective stress <sup>c</sup>	30.48 (25.68)	33.81 (26.60)	34.51 (26.10)	29.90 (24.10)	25.58 (21.53)	26.10 (22.25)	7.02***
Skin conductance level ( $\mu$ S) <sup>d</sup>	5.16 (2.98)	8.45 (4.46)	9.58 (4.74)	9.43 (4.46)	9.55 (4.59)	9.48 (4.55)	37.60***

Note.  $n = 103$  for effectiveness and the number of emotion regulation attempts;  $n = 110$  for subjective stress;  $n = 69$  for skin conductance level. All pair-wise comparisons were tested using the Bonferroni procedure ( $p < .05$ ).

<sup>a</sup> The mean for the angry call was significantly higher than the means for all the other calls, except for the sad call. The mean of the sad call was significantly higher than the means for all the other calls, except for the angry and elated calls. <sup>b</sup> The means for the angry and sad calls were significantly higher than the means for all the other calls. The mean for the elated call was significantly lower than the means for all the other calls. <sup>c</sup> The means for the angry and sad calls were significantly higher than the means for the enthusiastic and elated calls. <sup>d</sup> The means for the baseline and worried calls were significantly lower than the means for all the other calls.

\*\*\*  $p < .001$ .

## Task Performance

The first hypothesis was that mainly other-focused EI dimensions are positively associated with indicators of task performance. We tested this hypothesis for the two task performance indicators of effectiveness and number of emotion regulation attempts.

**Effectiveness.** Table 2 displays the results of the regression analyses on the effectiveness ratings of the vocal responses. The results showed that other-focused emotion regulation was positively associated with the effectiveness of the vocal responses for the worried phone call ( $\beta = .25$ , 95% confidence interval [CI; .07, .46],  $t = 2.70$ ,  $p = .008$ ,  $f^2 = .077$ ) but not for any of the other calls. Moreover, none of the other EI dimensions showed significant relations to the effectiveness with which the emotions of the callers in the phone calls were handled.

**Number of emotion regulation attempts.** Table 3 displays the results of the regression analyses on the number of emotion regulation attempts used in the vocal responses. The results showed a positive and significant association between other-focused emotion regulation and the number of emotion regulation attempts used in the vocal responses for the phone calls involving positive emotions, namely, enthusiasm ( $\beta = .20$ , 95% CI [.00, .42],  $t = 2.02$ ,  $p = .046$ ,  $f^2 = .043$ ) and elatedness ( $\beta = .22$ , 95% CI [.02, .45],  $t = 2.19$ ,  $p = .031$ ,  $f^2 = .051$ ). For the other (negative emotional) phone calls, none of the EI dimensions showed a significant relation with the number of emotion regulation attempts that secretaries used in their vocal responses. Altogether, the results concerning the link between other-focused EI and task performance were mixed and did not clearly support our hypothesis.

## Subjective Stress

The second hypothesis was that mainly self-focused EI dimensions are negatively associated with subjective stress in response to an emotional work-related stressor. Table 4 displays the results of the regression analyses. As expected, self-focused emotion appraisal was negatively related to subjective stress after all the calls. Furthermore, including this EI dimension in the models led to a significant increase in explained variance beyond the control variables (including baseline subjective stress). Regression weights were consistent for worry ( $\beta = -.16$ , 95% CI [-.32, -.00],  $t = -1.99$ ,  $p = .049$ ,  $f^2 = .040$ ), anger ( $\beta = -.20$ , 95% CI [-.33, -.06],  $t = -2.84$ ,  $p = .005$ ,  $f^2 = .080$ ), sadness ( $\beta = -.18$ , 95% CI [-.33, -.03],  $t = -2.33$ ,  $p = .022$ ,  $f^2 = .054$ ), enthusiasm ( $\beta = -.20$ , 95% CI [-.34, -.05],  $t = -2.62$ ,  $p = .010$ ,  $f^2 = .070$ ), and elatedness ( $\beta = -.21$ , 95% CI [-.36, -.05],  $t = -2.58$ ,  $p = .011$ ,  $f^2 = .068$ ). The magnitude of these effects was small (Cohen, 1992). Self-focused emotion regulation was not associated with subjective stress after any of the calls. Hence, hypothesis 2 was partially supported.

## Skin Conductance

The third hypothesis was that mainly self-focused EI dimensions are associated with participants' skin conductance levels during the phone calls in either a negative (Hypothesis 3a) or a positive (Hypothesis 3b) way. Table 5 displays the results of the regression analyses. Confirming hypothesis 3b, the results showed

that self-focused emotion regulation was positively associated with secretaries' skin conductance levels during all but one of the phone calls. Adding this EI dimension to the models led to a significant increase in explained variance beyond the control variables (including baseline skin conductance level). Regression weights were of similar size for anger ( $\beta = .19$ , 95% CI [.05, .31],  $t = 2.73$ ,  $p = .008$ ,  $f^2 = .118$ ), sadness ( $\beta = .18$ , 95% CI [.05, .30],  $t = 2.74$ ,  $p = .008$ ,  $f^2 = .119$ ), enthusiasm ( $\beta = .16$ , 95% CI [.02, .28],  $t = 2.27$ ,  $p = .027$ ,  $f^2 = .082$ ), and elatedness ( $\beta = .20$ , 95% CI [.06, .31],  $t = 2.93$ ,  $p = .005$ ,  $f^2 = .137$ ). The size of these effects was small (Cohen, 1992).

Self-focused emotion appraisal was not associated with the secretaries' skin conductance levels after any of the calls. Thus, hypothesis 3b was partially supported.

## Discussion

The present findings suggest that different EI dimensions can play a differential and critical role in the prediction of task performance, stress, and physiological arousal during an interpersonal emotion regulation task. Although the specific hypotheses motivating this investigation were not clearly supported by the collected data, the pattern of results that emerged is intriguing and worth communicating. That is, we found mixed results on the link between other-focused EI and task performance. However, the role of self-focused EI in relation to subjective stress and physiological arousal was more evident. That is, self-focused emotion appraisal was associated with lower levels of secretaries' subjective stress after an emotionally demanding task, whereas self-focused emotion regulation was associated with higher skin conductance levels during this task. These findings suggest that performing and feeling well at work may be associated with different psychological processes.

Only other-focused emotion regulation was related to one of the task performance indicators for three phone calls (Hypothesis 1), whereas the other EI dimensions did not relate to task performance. The finding that only other-focused emotion regulation has relevance for task performance is in accordance with the substantial role of emotion regulation in emotional labor jobs (Grandey, 2000; Joseph & Newman, 2010). In fact, these findings suggest that, in jobs with social components, effective employees are particularly able to manage the emotions of others, and this outcome can be explained by the contribution of other-focused EI dimensions to social competence and social-information processing (Lerner & Arsenio, 2000; Rose-Krasnor, 1997). The findings suggest that this role is most prominent in the regulatory phase of dealing with others' emotions, and this outcome is also in line with Joseph and Newman's (2010) cascading model of EI dimensions. As such, our findings may help to unravel which psychological process underlies the link between EI and (job) performance. Previous studies solely investigating other-focused emotion regulation have demonstrated that choosing appropriate strategies to manage others' emotions results in better social interactions (Little et al., 2012; Niven et al., 2012). By examining a work context in which social interactions largely determine the job (i.e., emotional labor jobs) with an EI instrument involving self- and other-focused dimensions, we could connect these studies with the EI literature.

Table 2  
Regression of Effectiveness on Emotional Intelligence (EI)

Type of phone call	Predictor	Self-focused emotion appraisal		Self-focused emotion regulation		Other-focused emotion appraisal		Other-focused emotion regulation		Global EI score	
		$\beta$	<i>t</i>	$\beta$	<i>t</i>	$\beta$	<i>t</i>	$\beta$	<i>t</i>	$\beta$	<i>t</i>
Worry	EI dimension	.14	1.47	-.02	-0.17	.06	0.59	.25**	2.70	.14	1.50
	$\Delta R^2$ <i>F</i> ( <i>df</i> = 3, 95)		.02 6.26**		.00 5.43**		.00 5.55**		.06** 8.27***		.02 6.29**
Anger	EI dimension	.04	0.42	-.17	-1.74	.08	0.84	.11	1.06	.00	0.02
	$\Delta R^2$ <i>F</i> ( <i>df</i> = 3, 96)		.00 3.21*		.03 4.26**		.01 3.41*		.01 3.56*		.00 3.15*
Sadness	EI dimension	.18	1.85	-.16	-1.70	.07	0.75	.13	1.38	.06	0.64
	$\Delta R^2$ <i>F</i> ( <i>df</i> = 3, 96)		.03 5.03**		.03 4.83**		.01 3.97*		.02 4.47**		.00 3.91*
Enthusiasm	EI dimension	.09	0.95	-.13	-1.34	.04	0.44	.02	0.22	-.00	-0.01
	$\Delta R^2$ <i>F</i> ( <i>df</i> = 3, 94)		.01 4.43**		.02 4.76**		.00 4.17**		.00 4.11**		.00 4.09**
Elatedness	EI dimension	-.04	-0.41	-.08	-0.76	.02	0.16	-.09	-0.82	-.07	-0.70
	$\Delta R^2$ <i>F</i> ( <i>df</i> = 3, 93)		.00 0.57		.01 0.70		.00 0.52		.01 0.74		.01 0.68

Note. Control variables (educational level and work experience) entered in Step 1 were identical across all the models for each type of phone call, with  $\Delta R^2 = .15$ , *F*(2, 96) = 8.21, for worry;  $\Delta R^2 = .09$ , *F*(2, 97) = 4.77, for anger;  $\Delta R^2 = .11$ , *F*(2, 97) = 5.70; for sadness;  $\Delta R^2 = .12$ , *F*(2, 95) = 6.20, for enthusiasm; and  $\Delta R^2 = .02$ , *F*(2, 94) = 0.77 (*ns* for elatedness). Except for the models for elatedness, all *p*'s < .05.

\* *p* < .05. \*\* *p* < .01. \*\*\* *p* < .001.



Table 3  
Regression of the Number of Emotion Regulation Attempts on Emotional Intelligence (EI)

Type of phone call	Predictor	Self-focused emotion appraisal			Self-focused emotion regulation			Other-focused emotion appraisal			Other-focused emotion regulation			Global EI score	
		$\beta$	$t$	$\Delta R^2$	$\beta$	$t$	$\Delta R^2$	$\beta$	$t$	$\Delta R^2$	$\beta$	$t$	$\Delta R^2$	$\beta$	$t$
Worry	EI dimension	.18	1.89	.03	.17	1.73	.03	.02	0.22	.00	.15	1.53	.02	.19*	2.04
	$\Delta R^2$ $F(df = 3, 95)$			5.24**			5.04**			3.93*			4.79**		5.47**
Anger	EI dimension	-.02	-0.17	.00	.02	0.23	.00	.04	0.39	.00	.07	0.66	.00	.04	0.38
	$\Delta R^2$ $F(df = 3, 96)$			2.72*			2.72*			2.76*			2.86*		2.76*
Sadness	EI dimension	.03	0.26	.00	-.01	-0.07	.00	-.01	-0.09	.00	.12	1.22	.01	.04	0.42
	$\Delta R^2$ $F(df = 3, 96)$			2.28			2.25			2.25			2.78*		2.31
Enthusiasm	EI dimension	-.01	-0.09	.00	-.09	-0.89	.01	.07	0.73	.01	.20*	2.02	.04*	.04	0.42
	$\Delta R^2$ $F(df = 3, 94)$			2.23			2.50			2.41			3.68*		2.29
Elatedness	EI dimension	.07	0.70	.01	-.08	-0.78	.01	.06	0.55	.00	.22*	2.19	.05*	.08	0.77
	$\Delta R^2$ $F(df = 3, 93)$			1.20			1.24			1.13			2.68*		1.23

Note. Control variables (educational level and work experience) entered in Step 1 were identical across all the models for each type of phone call, with  $\Delta R^2 = .11$ ,  $F(2, 96) = 5.93$ , for worry;  $\Delta R^2 = .08$ ,  $F(2, 97) = 4.10$ , for anger;  $\Delta R^2 = .07$ ,  $F(2, 97) = 3.41$ , for sadness;  $\Delta R^2 = .07$ ,  $F(2, 95) = 3.37$ , for enthusiasm; and  $\Delta R^2 = .03$ ,  $F(2, 94) = 1.56$  (ns for elatedness). Except for the models for elatedness, all  $p$ 's < .05.

\*  $p < .05$ . \*\*  $p < .01$ .

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Table 4  
Regression of Subjective Stress on Emotional Intelligence (EI)

Type of phone call	Predictor	Self-focused emotion appraisal			Self-focused emotion regulation			Other-focused emotion appraisal			Other-focused emotion regulation			Global EI score	
		$\beta$	<i>t</i>	$\Delta R^2$	$\beta$	<i>t</i>	$\Delta R^2$	$\beta$	<i>t</i>	$\Delta R^2$	$\beta$	<i>t</i>	$\Delta R^2$	$\beta$	<i>t</i>
Worry	EI dimension	-.16*	-1.99	.03*	-.07	-0.86	.01	-.10	-1.27	.01	-.03	-0.34	.00	-.14	-1.66
	$\Delta R^2$			14.46***			13.23***			13.56***			13.00***		13.99***
Anger	EI dimension	-.20**	-2.84	.04**	-.12	-1.59	.01	-.04	-0.62	.00	-.06	-0.83	.00	-.16*	-2.24
	$\Delta R^2$			28.00***			25.29***			24.24***			24.39***		26.51***
Sadness	EI dimension	-.18*	-2.33	.03*	-.06	-0.71	.00	-.09	-1.11	.01	-.10	-1.22	.01	-.15	-1.94
	$\Delta R^2$			18.05***			16.03***			16.33**			16.44***		17.37***
Enthusiasm	EI dimension	-.20*	-2.62	.04*	-.00	-0.02	.00	-.04	-0.51	.00	-.07	-0.88	.01	-.11	-1.43
	$\Delta R^2$			20.35***			17.42***			17.53***			17.75***		18.29***
Elatedness	EI dimension	-.21*	-2.58	.04*	-.03	-0.35	.00	-.08	-1.01	.01	-.04	-0.53	.00	-.13	-1.62
	$\Delta R^2$			15.61***			13.11***			13.46***			13.17***		14.07***

Note. Control variables (educational level, work experience, and baseline subjective stress) entered in Step 1 were identical across all the models for each type of phone call, with  $\Delta R^2 = .34$ ,  $F(3, 101) = 17.44$ , for worry;  $\Delta R^2 = .49$ ,  $F(3, 102) = 32.39$ , for anger;  $\Delta R^2 = .39$ ,  $F(3, 101) = 21.32$ , for sadness;  $\Delta R^2 = .42$ ,  $F(3, 99) = 23.46$ , for enthusiasm; and  $\Delta R^2 = .35$ ,  $F(3, 99) = 17.60$ , for elatedness. All  $p$ 's < .001.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 5  
Regression of Skin Conductance Level on Emotional Intelligence (EI)

Type of phone call	Predictor	Self-focused emotion appraisal			Self-focused emotion regulation			Other-focused emotion appraisal			Other-focused emotion regulation			Global EI score	
		$\beta$	$t$	$R^2$	$\beta$	$t$	$R^2$	$\beta$	$t$	$R^2$	$\beta$	$t$	$R^2$	$\beta$	$t$
Worry	EI dimension	.02	0.40	.00	.11	1.93	.01	.04	0.59	.00	.08	1.41	.01	.09	1.58
	$\Delta R^2$ $F(df = 4, 60)$			56.17***			60.40***			56.38***			58.33***		58.94***
Anger	EI dimension	.06	0.81	.00	.19**	2.73	.03**	.08	1.10	.01	.08	1.07	.01	.15*	2.18
	$\Delta R^2$ $F(df = 4, 63)$			36.17***			41.71***			36.62***			36.57***		39.52***
Sadness	EI dimension	.03	0.37	.00	.18**	2.74	.03**	.04	0.64	.00	.12	1.71	.01	.14*	2.03
	$\Delta R^2$ $F(df = 4, 63)$			37.40***			43.58***			37.62***			39.75***		40.75***
Enthusiasm	EI dimension	.05	0.69	.00	.16*	2.27	.02*	.05	0.70	.00	.09	1.24	.01	.13	1.85
	$\Delta R^2$ $F(df = 4, 63)$			39.95***			40.84***			36.97***			37.84***		39.40***
Elatedness	EI dimension	.01	0.13	.00	.20**	2.93	.04**	.02	0.21	.00	.05	0.71	.00	.11	1.55
	$\Delta R^2$ $F(df = 4, 63)$			37.01***			44.20***			37.04***			37.42***		39.02***

Note. Control variables (educational level, work experience, and baseline skin conductance level) entered in Step 1 were identical across all the models for each type of phone call, with  $\Delta R^2 = .79$ ,  $F(3, 61) = 75.88$ , for worry;  $\Delta R^2 = .69$ ,  $F(3, 64) = 48.27$ , for anger;  $\Delta R^2 = .70$ ,  $F(3, 64) = 50.50$ , for sadness;  $\Delta R^2 = .70$ ,  $F(3, 64) = 49.52$ , for enthusiasm; and  $\Delta R^2 = .70$ ,  $F(3, 64) = 50.12$ , for elatedness. All  $p$ 's < .001.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Importantly, we found only partial support for the abovementioned line of reasoning, implying that other psychological processes may (also) have played a role. Therefore, we encourage future EI researchers to delve deeper into the mechanisms that may influence employees' interpersonal emotion regulation proficiency at work, as this is a critical skill in many occupations. A recent review suggested multiple approaches to investigate this topic, ranging from a purely extrinsic approach, in which the researcher examines only how employees regulate others' emotions, to a dynamic co-regulation of emotion approach, in which the researcher examines how the interpersonal emotion regulation attempts of employees affect the regulation of their own emotions and vice versa (Troth et al., 2018). In addition, our post hoc explanations may be helpful when developing new study designs to examine the underlying processes. For example, the only scenarios in which other-focused emotion regulation was associated with the number of emotion regulation attempts that participants made were the positive emotional scenarios (i.e., enthusiasm and elatedness). The callers in these specific scenarios expressed their positive emotions in quite extreme ways that seem to violate norms for reasonable behavior at work. We speculate that high-EI secretaries perceived these violations and accordingly made more attempts to regulate the callers' emotions, whereas lower-EI secretaries may have perceived the callers' emotions simply as positive and did not see a need to regulate them.

In addition, we found no associations regarding EI with the vocal responses to the angry and sad phone calls. A possible explanation for this unexpected finding is that the emotions displayed in these calls were too straightforward in their demands for interpersonal emotion regulation. Specifically, the callers of these respective phone calls were either crying or yelling; therefore, the secretaries could not ignore the callers' emotions and simply had to manage these emotions in some way, which might have resulted in the absence of individual differences. This speculation is in accordance with the dual route to empathic reactions stemming from empathy theory (Engen & Singer, 2013; Singer & Lamm, 2009). According to this theory, there is a stimulus–response perception-based route that follows when clear sensory information regarding the emotional state of others is available, and there is an abstract inferential route that follows when such information is not available and the emotional state of others has to be determined by contextual cues. Importantly, the first route is a relatively “easy” and more automatic process (Decety & Lamm, 2006), whereas the latter route may require more emotional competence. Indeed, a recent laboratory study manipulated the emotional expression of an ostracized target person and found that when the target expressed sadness (i.e., sensory information), individual differences in EI had no effect on the emotion regulation attempts that participants made. However, when the target expressed a neutral affect (i.e., no sensory information), EI increased these attempts (Nozaki, 2015). Given that our angry and sad phone calls provided far more sensory information regarding the emotional state of the caller than the other calls, we consider it likely that the angry and sad phone calls triggered the use of the stimulus–response perception-based route; this notion would explain the lack of findings in the vocal responses for these calls.

The EI dimension that was negatively associated with subjective stress in response to an emotional work-related stressor was self-focused emotion appraisal (Hypothesis 2). This finding supports

theories explaining how a focus on the emotions of the self may prevent an employee from becoming too stressed while facing emotional job demands (Grandey & Melloy, 2017; Jordan et al., 2002). Thus, in line with previous studies showing that particularly self-focused EI dimensions prevent people from experiencing negative health-related outcomes (Mikolajczak et al., 2015), we showed that self-focused emotion appraisal prevents secretaries from the subjective experience of stress when confronted with emotion-related phone calls at work. Interestingly, we found that self-focused emotion appraisal (vs. self-focused emotion regulation) reduced the participants' subjective experience of stress in response to the phone calls. Ashkanasy and colleagues (2003) argued that (self-focused) EI dimensions may reduce one's experience of stress from work-related stressors in various phases of responding to a stressor. For example, emotion appraisal may increase the accuracy of the primary appraisal process, whereas emotion regulation may contribute to the efficacy of the coping process. Our findings provide support for an important role regarding self-focused emotion appraisal, which presumably affects the appraisal of the stressor (i.e., primary appraisal, Lazarus & Folkman, 1987). A possible explanation could be that in some circumstances, the appraisal of an experienced emotion leads to the acceptance of this emotion, which may be calming in itself. Several emotion appraisal theorists have stressed that whether an emotion is perceived as controllable or not—or can be attributed to a certain situation or not—determines whether this emotion becomes a significant stressor (Ellsworth & Scherer, 2003). In this light, it could be that secretaries scoring high on self-focused emotion appraisal attributed their negative emotions during the study to the lab setting they were in, causing them experience less subjective stress.

Regarding the physiological response to emotional demands, we found that being confronted with emotional phone calls actually increased the skin conductance level of secretaries scoring high on self-focused emotion regulation (Hypothesis 3b). In accordance with Bechtoldt and Schneider (2016), who found that EI is associated with increased cortisol levels during a stressful social task, these findings suggest that having a high level of EI can be physiologically costly. Whether the physiological costs of EI are caused by an increased sensitivity toward others' negative emotions (Bechtoldt & Schneider, 2016; Fiori & Ortony, 2016) or by the actual engagement in (self-focused) emotion regulation behaviors (Bernat et al., 2011; Egloff et al., 2006; Giuliani et al., 2008) is something future research should examine. We can only speculate that the secretaries with high levels of self-focused emotion regulation in the present study engaged more in self-regulatory processes while they were listening to the phone calls, resulting in increased skin conductance levels. The status of skin conductance level as an indicator of emotional effort (Egloff et al., 2006) validates this assumption. However, as we did not measure the extent to which the secretaries actually engaged in self-regulatory behaviors during the task, this notion remains speculative.

When relating this physiological finding to the literature on stress, increased bodily activation in response to a stressor for high-EI individuals may be somewhat counterintuitive (Martins et al., 2010; Schutte et al., 2007). It can, however, be argued that physiological arousal prepares the body to adapt to changing circumstances, which makes this aroused state adaptive rather than maladaptive (Bechtoldt & Schneider, 2016; Kompier, 2005; Lin-

den, Earle, Gerin, & Christenfeld, 1997). From this point of view, physiological arousal reflects “activation” and may be related to appraising stressors as challenges or opportunities for mastery or gain (Lazarus, 1991). Alternatively, causality could be reversed in the sense that people who are highly physiologically reactive to evocative social stimuli learn to more frequently attempt to control their atypically elevated responses. Irrespective of the mechanisms underlying these findings, they may contribute to a growing body of research suggesting that there are circumstances in which EI can also be a vulnerability (Bechtoldt & Schneider, 2016; Mikolajczak et al., 2015).

Finally, there was a notable discrepancy between the effects of self-focused EI dimensions on subjective stress and skin conductance in the present study. Although this discrepancy has already been pointed out in the literature (Laborde et al., 2011; Mikolajczak et al., 2007; Salovey et al., 2002), it has been attributed to the assessment of EI, with positive effects for self-reported EI instruments and negative effects for performance-based EI instruments (Bechtoldt & Schneider, 2016). As the present study established the contradictory effects on stress and physiological arousal using the same self-reported EI instrument, the assessment of EI may not be the only factor that determines whether EI has positive or negative effects on such criteria. Rather, the timing of the measurement may be vital. In the present study, the physiological measures were retrieved during an emotionally demanding task, whereas the subjective experience of stress was indicated afterwards. It could be that the usage of EI is physiologically costly but that these costs result in a decreased subjective experience of stress. This confounding factor is not unique to the present study because physiological measures are typically retrieved during emotion regulation or appraisal (Bechtoldt & Schneider, 2016; Bernat et al., 2011; Egloff et al., 2006; Giuliani et al., 2008), whereas self-reported stress measures are typically retrieved in retrospect (Martins et al., 2010). To address this issue, future studies could adopt ecological momentary assessment methods (including physiological measurements) that prompt participants for responses to retrieve both indicators simultaneously.

From a theoretical point of view, however, the different associations of (self-focused) EI with subjective stress and skin conductance may point to the differences between psychological stress and physiological stress. Psychological stress can be defined as an unfavorable person–environment relationship with a personal meaning for an individual (Lazarus, 1993) and is often measured using self-reported questionnaires because they give access to individuals’ personal interpretations of their environment (Kompier, 2005). Physiologically, stress has been defined as a universal and nonspecific bodily reaction of an organism in adaptation to environmental stressors (Selye, 1956/1976). Physiological stress markers include increased cortisol, heart rate, and skin conductance levels but need to be interpreted with caution, as they may also play a role in other bodily functions (Kompier, 2005). The clear overlap between psychological and physiological stress is the organic interplay with the environment, whereas a prominent difference is the psychological meaning regarding what is perceived as threatening or challenging for an individual (Lazarus, 1993). In light of our contrasting findings, we can only speculate that our subjective stress measure primarily captured whether the secretaries perceived the phone calls as threatening for their goal attainment or well-being, whereas the skin conductance measure pri-

marily captured how their bodies adapted to the emotional task they had to perform (irrespective the personal meaning they gave to it).

In interpreting the present findings, four limitations should be taken into account. First, although we developed the tasks to closely mirror the real world, the lab setting of the study may have somewhat diminished its ecological validity. For example, the secretaries did not receive any vocal feedback from the callers on their responses. Conversely, this lab setting allowed for the standardization of the procedure for all participants. Related to this point is the fact that the study did not allow us to measure real job performance and real occupational well-being. Instead, we measured task performance and subjective stress, which we believe resembled the constructs quite closely. In fact, several participants indicated that the simulated work task to which they were exposed was an accurate reflection of what they normally do during their work. Second, the present study examined a specific occupational group, which may diminish the generalizability of the findings. Future studies may seek to examine the consequences of self- and other-focused EI among employees working in other (emotional labor) jobs, such as those in health care or sales.

A third limitation may be the lack of filler tasks between the different phone calls. Although there was a time lag of approximately five minutes between the different phone calls, and the order of the stimuli was randomized, this procedure may not have prevented the spillover of subjective stress or skin conductance levels from one phone call to the next (the subjective stress measures had a shared variance ranging between 31 and 74%, and the skin conductance levels between 69 and 96%; see Table A2 in the Appendix). However, although this procedure may have limited the within-person comparisons between the different phone calls, it does not discard the role of individual differences in responding to the phone calls, being the major focus of the current study. A final limitation may be the use of a self-reported EI instrument in the present study, possibly inducing a social desirability bias (Roberts, Matthews, & Zeidner, 2010). Despite this potential bias, we found associations between (self-reported) EI and relatively objective criteria such as skin conductance and other-rated task performance. These findings suggest that social desirability was not the sole underlying factor explaining these effects. Nevertheless, we encourage future studies to examine the psychological processes and consequences of self- versus other-focused EI using a performance-based EI instrument.

## Conclusion

The current study contributes to the understanding of the differential role of self- and other-focused EI dimensions in the work domain. Especially in jobs with significant social elements such as those of teachers, psychotherapists, or secretaries such as in the present study, a focus on the emotions of the self is essential to avoid the experience of strain. However, such a focus may be accompanied by some physiological costs. Furthermore, being able to manage the emotions of others may under some circumstances enhance aspects of task performance. Therefore, a distinction between self- and other-focused dimensions of EI may be a promising avenue for future EI research, as it may reveal different psychological processes. Elucidating these processes may move emotion theories or interventions forward.

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## Appendix

### Additional Information on the Method and Results of the Study

Table A1  
*Scripts of the Different Phone Calls Used in the Study*

Worry 35 seconds Male voice	“Hello, this is Wim speaking from the finance department. I am calling you because something just went completely wrong. I just realized that there is a huge mistake in the final invoice that I sent to one of our most important customers last week. I can’t properly turn this around anymore, man. What now? It’s a very important customer that took us so long to recruit. And it’s not just any small mistake . . . We’re talking about thousands of euros. Oh my god, I’m going to get into so much trouble for this. Can you help me out?”
Anger 38 seconds Female voice	“Yes hello this is Carla. Listen, I came by your office this morning to get Mr. Pieters’s documents, and I just realized that you gave me the wrong documents again. I’m starting to wonder whether you might need a hearing aid or something. This is now the third time that you have given me a wrong document! Look, I understand if you make a mistake once, but this is just so unprofessional and sloppy to me. It makes me look like a fool to the client! If you continue working like this, we’ll have to reconsider your position. I need to talk to Mr. Pieters now, how are you going to solve this?”
Sadness 27 seconds Female voice	“Hello, this is Sophie. I am calling you because I had my performance evaluation at work this morning. But it did not go well at all . . . [crying] . . . They fired me! I feel so terrible! I really enjoy my job here, and I really need the salary to care for my two children . . . [crying] . . . Oh it really hit me hard . . . [crying] . . . Isn’t there anything you can do for me?”
Enthusiasm 27 seconds Male voice	“Good afternoon, madam. Is this the secretarial office? Yes, you’re speaking with the Van Dijk firm. Listen, I came up with a totally great new concept! My company and yours, we’re going to collaborate and it’s going to be a success! What do you think? Can I come by now? I need to speak with the CEO and the manager right now. I am convinced that they will love my plan. I can be there in one hour; the taxi is already here. What do you think?”
Elatedness 33 seconds Female voice	“Hey, how are you? I met your manager last week at a conference in London and I thought I would call to catch up with her. But now you answered the phone, and you don’t know me at all of course . . . But hey, that doesn’t matter! What a lovely lady your manager is. We really had a nice time there; we went shopping and had some nice dinners and drinks. Those conferences . . . you can’t even really call it working anymore. Everything is paid for. Oh my god, and those guys from London . . . Do you know what happened with that one guy? She must have told you . . . Please, tell me?!”

(Appendix continues)



Table A2  
Correlations Between All the Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
1. SFEA																													
2. SFER	.28**																												
3. OFEA	.34***	.15																											
4. OFER	.31***	.27**	.35***																										
5. Eff total	.71***	.69***	.64***	.67***																									
6. Eff 1	.18	-.08	.02	.24*	.11																								
7. Eff 2	.07	-.21*	.05	.12	-.01	.43***																							
8. Eff 3	.21*	-.22*	.04	.11	.03	.56***	.39***																						
9. Eff 4	.11	-.16	.01	.05	-.01	.43***	.46***	.39***																					
10. Eff 5	-.02	-.10	.00	-.09	-.08	.27**	.28**	.42***	.50***																				
11. Attempts 1	.22*	.10	-.02	.12	.16	.53***	.30***	.39***	.34**	.26*																			
12. Attempts 2	.02	-.03	.01	.04	.01	.54***	.52***	.46***	.48***	.48***	.67***																		
13. Attempts 3	.05	-.05	-.04	.11	.02	.47***	.36***	.58***	.49***	.32**	.67***	.65***																	
14. Attempts 4	.02	-.13	.04	.20	.02	.51***	.49***	.58***	.30**	.66***	.64***	.68***	.65***																
15. Attempts 5	.09	-.11	.05	.19	.06	.43***	.33**	.45***	.44***	.54***	.53***	.59***	.61***	.65***															
16. Subj stress 0	-.14	-.07	-.02	-.10	-.12	-.13	-.13	-.23*	-.03	-.04	-.16	-.08	-.09	-.06	-.10														
17. Subj stress 1	-.23*	-.08	-.11	-.09	-.19	-.21*	-.11	-.17	-.13	-.07	-.15	-.15	-.08	-.04	-.11	.56**													
18. Subj stress 2	-.29**	-.17	-.06	-.10	-.24*	-.22*	-.11	-.20*	-.06	-.01	-.13	-.11	-.04	-.08	-.07	.67***	.62***												
19. Subj stress 3	-.26**	-.09	-.10	-.11	-.20*	-.14	-.09	-.11	.03	.07	-.10	-.14	.00	.09	-.04	.58***	.63***	.83***											
20. Subj stress 4	-.30**	-.05	-.05	-.06	-.18	-.14	-.16	-.20*	-.13	-.03	-.14	-.17	-.01	.00	-.06	.62**	.67***	.75***	.78***										
21. Subj stress 5	-.29**	-.07	-.09	-.05	-.19	-.16	-.07	-.24*	-.13	.01	-.10	-.15	-.04	-.02	-.11	.57***	.74***	.81***	.86***										
22. SC 0	-.02	-.16	.07	-.05	-.07	-.16	.05	-.19	.17	.05	-.06	-.20	-.08	.04	-.01	.28*	.33**	.40**	.32**	.27*	.27*								
23. SC 1	.01	-.04	.12	.01	.03	-.24	-.06	-.25	.10	-.01	-.04	-.28*	-.15	.03	-.05	.26*	.25*	.33**	.28*	.25*	.25*	.88***							
24. SC 2	.04	-.04	.14	.02	.09	-.19	-.03	-.21	.08	-.04	-.04	-.23	-.10	.02	-.05	.28*	.23	.46***	.34**	.32**	.28*	.83***	.95***						
25. SC 3	.01	.04	.11	.07	.08	-.19	-.04	-.25	.10	-.05	-.05	-.25	-.12	.02	-.09	.32**	.24*	.47***	.37**	.35**	.31*	.84***	.95***	.98***					
26. SC 4	.03	.01	.12	.03	.07	-.20	-.03	-.19	.10	.01	-.05	-.23	-.11	.02	-.03	.27*	.20	.42***	.31**	.29*	.25*	.83***	.97***	.98***	.97***				
27. SC 5	-.01	.05	.09	.00	.05	-.23	-.03	-.24	.09	-.01	-.05	-.24	-.12	-.02	-.07	.26*	.19	.41***	.32**	.30*	.26*	.83***	.95***	.97***	.96***	.97***			
28. Edu level	.09	-.16	-.09	.04	-.06	.36***	.30**	.26*	.32**	.11	.30**	.21*	.25*	.26**	.11	-.10	-.09	.06	.07	.03	.04	.16	.11	.10	.11	.10	.09		
29. Work exp	-.09	-.19*	-.07	-.19*	-.13	.23*	.08	.28**	.02	.11	.25*	.24*	.17	.13	-.17	-.32**	-.28**	-.21*	-.29**	-.24*	-.24*	-.02	.07	.04	.00	.03	.04	.35***	

Note. SFEA = self-focused emotion appraisal; SFER = self-focused emotion regulation; OFEA = other-focused emotion appraisal; OFER = other-focused emotion regulation; Eff = effectiveness; Attempts = number of emotion regulation attempts; Subj stress = subjective stress; SC = skin conductance level; Edu level = educational level; Work exp = work experience; 0 = baseline; 1 = worry; 2 = anger; 3 = sadness; 4 = enthusiasm; 5 = elatedness.  $n = 110$  for EI and the subjective stress levels;  $n = 103$  for effectiveness and the number of emotion regulation attempts;  $n = 69$  for the skin conductance levels.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

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