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# The interpersonal effects of emotion intensity in customer service: Perceived appropriateness and authenticity of attendants' emotional displays shape customer trust and satisfaction



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#### ABSTRACT

Emotional expressions have a pervasive impact on organizational behavior. However, it is unclear how such effects are modulated by the intensity of emotional displays. We investigated in online, laboratory, and field experiments how varying intensities of service providers' emotional displays (expressed through text, intonation, or physical displays) influence customer service outcomes. We show that in mundane service interactions, displays of intense happiness or sadness are interpreted as inappropriate and inauthentic, and lead to reduced trust in the service provider. We further demonstrate the mediating effect of trust on satisfaction with the service (Study 1), expected satisfaction with the product (Studies 2 and 3), and actual product use (Study 4). The studies highlight perceptions of appropriateness and sincerity as mechanisms underlying the interpersonal effects of emotional intensity. We propose that emotional intensity be incorporated in theorizing and research on organizational behavior to arrive at a more complete understanding of emotional dynamics.

#### 1. Introduction

Imagine you walk into a bookstore and ask for Jane Austin's *Sense and Sensibility*. After checking his stock, the service provider gives you a forlorn look, and with an air of intense sorrow says he is really, really sorry, but he only has *Pride and Prejudice*. How would his excessive show of sadness make you feel? Would you be gratified, or a bit suspicious? Would your satisfaction with the service be different if the service provider had apologized less profusely, with a cheery tone and mild smile?

Emotions play an important role in customer service (Mattila & Enz, 2002). Service workers are instructed and trained to display particular emotions (e.g., "service with a smile"; Barger & Grandey, 2006; Rafaeli & Sutton, 1987), and customers expect positive emotional displays from customer representatives as part of what constitutes "good" service (Grandey & Gabriel, 2015; Grove & Fisk, 1992). Service firms train their employees based on a general belief that appropriate (usually positive) emotion expressions improve customer assessments of service quality, customer satisfaction, and sales, whereas inappropriate emotion expressions have unfavorable outcomes (e.g., Clark & Taraban, 1991). But what kinds of emotional expressions, precisely, are appropriate? Is it

only the positivity of the emotion that matters? Or does the magnitude or intensity of the expression also play a role?

This paper examines whether and how the intensity of emotional expressions shapes customer service outcomes in routine, everyday service settings. We propose that in these settings, emotional expressions lead to diverging consequences based on the intensity with which they are displayed. Specifically, we suggest that in service settings, highly intense displays of emotion do not conform to prevailing "display rules" which prescribe emotional displays to be both positive and moderate (e.g., Diefendorff, Morehart, & Gabriel, 2010). Hence, as with inappropriate emotional valence, we propose that expressions of inappropriate emotional intensity may backfire, undermining customers' trust in the service provider and reducing satisfaction with the service and product. Moreover, we suggest that this effect is not limited to expressions of happiness (cf. Barger & Grandey, 2006; Wang, Mao, Li, & Liu, 2016), but also holds for emotions of negative valence. To test this proposition, we investigate the effects of intensity across two discrete emotions, happiness and sadness. In doing so, we extend past research on how service providers' emotional displays influence customers' judgments regarding the service provider, the service, and the product, and contribute to the ongoing line of inquiry on the social influence of

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emotional expressions (e.g., Côté & Hideg, 2011; Hareli & Rafaeli, 2008; Van Kleef, Van Doorn, Heerdink, & Koning, 2011).

We chose to investigate the interpersonal effects of emotion display intensity in the context of customer service for several reasons. First, current theorizing on emotions in the service setting explicitly or implicitly assumes that particular emotional expressions have similar interpersonal effects regardless of their intensity level. Yet there are good reasons to suspect that the effects of emotional expressions are shaped by their intensity, and as long as this possibility is not addressed, further theory development is impeded. Second, most research on emotion in the service context has focused on the affective impact of service providers' emotional expressions on customers (e.g., via emotional contagion). Here we draw attention to cognitive inferences as a route by which emotion displays can influence customers, thus contributing to a more complete understanding of the interpersonal effects of emotional expressions in the service context. Third, brief, mundane service interactions allow but do not necessarily require a prior relationship, enabling us to tease apart the effect of emotional displays from possible confounds such as prior knowledge or expected future relations. Fourth, the customer service setting allows us to examine the effects of intensity in relation to both positive and negative emotions in a credible way. Finally, from a practical perspective, service workers are commonly instructed and encouraged to express emotions in the workplace, but it is unclear how the intensity of such expressions influences critical outcomes such as trust and customer satisfaction. This study thus contributes to the literature on emotions as well as to the literature on customer service.

#### 2. Theoretical background

The theoretical model and predictions we develop here pertain to the effects of expressions of *emotions* of different intensities. Emotions can be distinguished from more diffuse affective states such as moods (Cropanzano, Weiss, Hale, & Reb, 2003; Schwarz, 1990; Watson, Clark, & Tellegen, 1988) in that they are relatively short-lived and tied to a particular triggering event (Elfenbein, 2007; Frijda, 1986). Specifically, we focus on happiness, which arises when a situation is appraised as conducive to attaining a particular goal, and sadness, which arises when one realizes that something of value has been lost and there is little one can do about it (Côté, 2005; Frijda, 1986).

Our model is situated at the interpersonal level of analysis. A growing body of research indicates that emotions do not only influence those who experience them (intrapersonal effects) but also those who perceive them (interpersonal effects; Van Kleef, Homan, & Cheshin, 2012). Indeed, emotional expressions have been shown to have important social consequences (e.g., Frijda & Mesquita, 1994; Hareli & Rafaeli, 2008; Keltner & Haidt, 1999; Van Kleef, 2009; Van Kleef, Cheshin, Fischer, & Schneider, 2016). Numerous studies have established that emotional expressions can trigger affective responses in observers, such as emotional contagion and other forms of affective linkage between individuals (see Elfenbein, 2014, for an integrative review). Moreover, research has documented that emotional expressions can trigger inferential responses in perceivers, whereby perceivers derive information from another's emotional expression about how that person appraises the situation (e.g., Van Kleef, 2016).

When it comes to customer service and consumer behavior, most research to date has focused on the affective consequences of emotional expressions, casting customers' moods and emotions as mediating mechanisms in the relationship between employee emotional displays and customers' service evaluations. For instance, positive emotional displays by bank tellers and shoe salesmen were associated with more positive affect in customer reports (Pugh, 2001; Tsai & Huang, 2002), and ambiguous products were assessed more favorably when presented by a smiling person due to positive emotional linkage (Howard & Gengler, 2001). We extend this literature by investigating how inferences about the trustworthiness of service providers and concomitant

customer satisfaction are shaped by the *intensity* of the service provider's emotional displays – an issue that has received very limited empirical attention to date.

The intensity of an emotion refers to the magnitude or strength of the experienced or expressed emotion (Frijda, Ortony, Sonnemans, & Clore, 1992; Sonnemans & Frijda, 1994). Differences in emotion intensity are argued to result from different cognitive appraisals (Clore, 1994). According to appraisal theories of emotion, a particular emotional experience and/or expression should be stronger to the degree that the goal which is facilitated or obstructed by the event connected to the emotion is more important to the individual (Ortony, Clore, & Collins, 1988). Following this perspective, more intense expressions of happiness should reflect more important successes, and more intense expressions of sadness should reflect greater losses. Importantly, variations in emotion intensity can be reliably perceived and identified by observers. For instance, Banse and Scherer (1996) showed that individuals were able not only to identify discrete emotions from vocal expressions, but also recognized variance in intensity within these emotions.

That people can pick up on differences in the intensity of others' emotional expressions is not to say that the intensity of others' outwardly visible displays of emotion always reflects the intensity of their internal emotional states. Situational pressures or personal goals – e.g., an attempt to influence others, or to comply with prevailing norms or expectations – may lead individuals to exaggerate or suppress outward expressions of the emotions they feel (Ashforth & Humphrey, 1993; Côté, 2005; Grandey, 2000; Hochschild, 1983; Morris & Feldman, 1996). With its emphasis on service with a smile, the customer service setting is a clear case where emotional expressions are used to influence the service experience (Barger & Grandey, 2006; Grandey, Fisk, Mattila, Jansen, & Sideman, 2005; Groth, Hennig-Thurau, & Walsh, 2009; Wang et al., 2016). Yet, it remains unclear how the intensity of a service provider's displayed emotion influences customers.

Barger and Grandey (2006) are among the few researchers who specifically examined how the intensity of emotion displays (specifically of happiness) by service providers can impact service quality appraisals and customer satisfaction. Their cross-sectional field study revealed that broader smiles were associated with higher customer satisfaction. However, even though broader smiles also improved customers' moods, this contagion effect did not mediate the relationship between service providers' emotion displays and customer satisfaction. This suggests that the effects of service providers' emotional intensity on service outcomes are mediated by alternative processes that involve evaluations of (rather than emotional reactions to) service providers (Wang et al., 2016). Building on this idea, we develop and test a theoretical model that links the intensity of service providers' emotional expressions to service outcomes via customers' inferences of the service provider's trustworthiness. In doing so, we further extend previous work by examining the effects of various degrees of intensity of both positive (happiness) and negative (sadness) emotional expressions in service encounters.

# 3. Theoretical model and hypotheses

#### 3.1. Emotion intensity, appropriateness, authenticity, and trust

Various theoretical perspectives converge to suggest that responses to emotional expressions depend heavily on the degree to which the expressions are perceived as appropriate for the context (e.g., Ekman, 1993; Shields, 2005; Van Kleef, 2009). All else being equal, emotional expressions that are deemed appropriate by perceivers are more likely to elicit favorable responses than expressions that are deemed inappropriate. Such perceptions of appropriateness are informed by prevailing norms and expectations concerning emotional expressions, which are referred to as "display rules" (Ekman, 1993; Shields, 2005). Display rules dictate which (types of) emotions are appropriate to

express as well as which (types of) emotions one is expected to express in a particular situation (Diefendorff et al., 2010; Matsumoto, 1990; Moran, Diefendorff, & Greguras, 2012). Such rules can relate to the valence of emotions (positive or negative- Russell, 1980), to certain discrete emotions in particular, and/or to the proper intensity level of emotional expressions. In other words, emotional expressions may be perceived as inappropriate when their intensity does not match situational norms and expectations (Geddes & Callister, 2007; Shields, 2005; Van Kleef et al., 2012).

According to Frijda et al. (1992), intense emotions are more likely to arise when individuals have a long history of interaction rather than a fleeting relationship, because repeated interactions reflect stronger relationships that involve more concern for others. In such close relationships, intense emotional expressions are more common and more expected (Clark, Pataki, & Carver, 1996; Clark & Taraban, 1991), and accordingly they are more likely to be perceived as appropriate. In contrast, intense emotional expressions may be perceived as relatively inappropriate in contexts where individuals have less close contact, such as the typical brief, mundane customer service interaction. Similarly, intense emotional expressions are more likely to be perceived as inauthentic in exchange (as opposed to communal) relationships (Clark et al., 1996), where the parties may have ulterior motives for strategically up-regulating their emotions (Côté, Hideg, & Van Kleef, 2013). We therefore propose that, in the typical service context, more intense emotional displays may be deemed relatively inappropriate and raise suspicion with regard to their authenticity.

**Hypothesis 1.** In the service setting, intense emotional displays are perceived as more inappropriate (H1a) and inauthentic (H1b) than mild emotional displays.

Such perceptions of inappropriateness and inauthenticity may have downstream consequences for customers' trust in service providers. Trust is a key variable in any relationship, customer service included (MacNeil, 1980; Swan, Bowers, & Richardson, 1999). Trust can be defined as one person's belief that another's word or promise is reliable and that the person will fulfill his or her obligations in an exchange relationship (Blau, 1964; Rotter, 1967). The extent to which a person is trusted is intimately tied to that individual's capacity for persuasion and influence. As a result, trust plays an important role in customers' purchasing decisions (Doney & Cannon, 1997; Hovland, Janis, & Kelley, 1953), and in customer behavior more generally (Delgado-Ballester & Munuera-Aleman, 2001; Garbarino & Johnson, 1999; Swan et al., 1999)

Emotional displays serve as social cues of trustworthiness (Boone & Buck, 2003). For instance, displaying happiness has been found to lead to greater likability and perceived trustworthiness (Clark et al., 1996), because happiness signals a favorable and benign environment and promotes sharing behavior (Dillard & Pfau, 2002). Importantly, there is also suggestive evidence for a link between emotion intensity and trust. Okubo, Kobayashi, and Ishikawa (2012) found that cheaters in an economic game were perceived as expressing higher-intensity anger and happiness compared to non-cheaters, and that those expressing high-intensity anger were also perceived as less trustworthy than noncheaters (although cheaters who expressed high-intensity happiness were rated equally trustworthy as non-cheaters). These correlational data are open to multiple interpretations, one of which is that intense expressions of emotion - or at least of negative emotion - fuel perceptions of dishonesty, which in service settings may lead customers to mistrust the service provider. Thus, we propose:

**Hypothesis 2.** Trust in a service provider is lower after encountering intense rather than mild emotional expressions by the service provider.

Appropriateness and authenticity are key determinants of interpersonal trust (Côté et al., 2013). For instance, inauthentic displays of happiness have been found to undermine trust in job applicants (Krumhuber, Manstead, Cosker, Marshall, & Rosin, 2009). Similarly,

the perceived authenticity of service providers' emotional displays has been associated with perceptions of trustworthiness and competence (Barger & Grandey, 2006; Groth et al., 2009). Furthermore, expressions of inappropriate (i.e., gender-stereotype incongruent) emotions have been shown to reduce followers' trust in their leaders (Lewis, 2000). We therefore suggest that intense emotional expressions in settings where only mild emotion displays are expected undermine trust via their detrimental impact on perceptions of authenticity and appropriateness.

**Hypothesis 3.** The effect of emotion intensity on trust is mediated by perceptions of appropriateness (H3a) and authenticity (H3b).

#### 3.2. Trust and satisfaction in the service setting

Customer satisfaction with service plays a critical role in service industries. Satisfied customers tend to be loyal (Homburg, Muller, & Klarmann, 2011) and to spread positive word of mouth (Anderson, 1998; Ranaweera & Prabhu, 2003). Nourishing customers' trust in service providers leads to greater satisfaction and loyalty (Deng, Lu, Wei, & Zhang, 2009), while mistrust leads to lower satisfaction and loyalty (Kassim & Abdullah, 2008). Therefore, long-lasting customer relationships require the establishment and maintenance of trust between customer and service provider (e.g., Johnson & Grayson, 2005; Singh & Sirdeshmukh, 2000).

Customers' assessments of their service experience are crucial even in industries where, in theory, customers could be expected to focus more on the quality of the product. For instance, Goff, Boles, Bellenger, and Stojack (1997) showed that when customers were satisfied with the service they received from car salesmen, they were also more satisfied with the vehicle they purchased. Thus, satisfaction with service can produce a halo effect, in which impressions about quality of service transfer to the product (Garbarino & Johnson, 1999). We hence hypothesize:

**Hypothesis 4.** Customer satisfaction with both the service received (H4a) and the product offered (H4b) is higher after encountering mild rather than intense emotional expressions by service providers.

**Hypothesis 5.** The impact of emotional intensity on customer satisfaction with both the service (H5a) and the product (H5b) is mediated by trust.

To sum up, we propose that, in the service setting, more intense emotional displays are likely to be perceived as relatively inappropriate and inauthentic. This, in turn, reduces customers' trust in the service provider and general satisfaction with the service provided. The full theoretical model is depicted in Fig. 1.

To enhance the robustness of our conclusions, we tested the model in four complementary studies that involved different expressive modalities. We first establish that a service provider's verbal and nonverbal emotional expressions of intense rather than mild emotions (manipulated by means of video clips) reduce customer trust and satisfaction by instilling perceptions of inappropriateness and inauthenticity (Study 1). We then tease apart the valence of the emotion (happy/sad) from the nature of the service outcome (positive/negative) using an experimental design involving vocal emotional displays (manipulated by means of audio fragments; Study 2). To further enhance confidence in the robustness of our findings, we subsequently employ textual emotional displays and demonstrate a mediating role of inferences of trustworthiness above and beyond affective responses (Study 3). Finally, we report a field experiment that tested the impact of emotion intensity on actual behavior (Study 4). See Table 1for a summary of the key features of the four studies.

## 4. Study 1

In Study 1, we examine whether intense displays of happiness (in

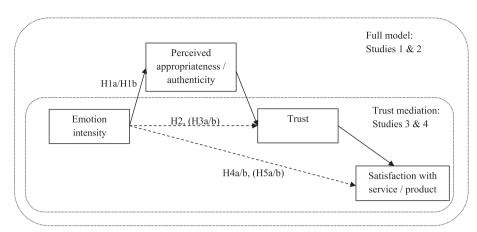


Fig. 1. Theoretical model of the interpersonal effects of emotion intensity in customer service. *Note*: The hypotheses in parentheses denote indirect effects.

the context of a positive outcome) or sadness (in the context of a negative outcome) by a service provider reduce customer trust and satisfaction compared to less intense expressions by instilling perceptions of inappropriateness and inauthenticity, as suggested by our theoretical model.

#### 4.1. Method

#### 4.1.1. Participants and procedure

The participants were 500 Israeli adults recruited from a local online panel. Panel participants answer surveys for monetary compensation, in a manner similar to Amazon's MTurk. Participants' age range was 25–35. Mean age was 26.40 (SD=2.47); 55% were female. Upon consent, participants were randomly assigned to one of eight conditions (between-subjects design), which differed in the service scenario and the emotional display of a service provider.

The participants were asked to imagine they had gone to a store to buy a new cell phone, and that they had chosen this specific store because of a discount being offered there on their preferred phone. The requested phone was available at the store in all conditions. However, based on the condition, the special offer was either still available or had just ended. This difference enabled us to investigate the effect of both happy and sad emotional expressions in circumstances where the valence of the service provider's emotional display was suited to the outcome of the service encounter. To examine the generalizability of our findings, we tested two levels of discount, a minor (5%) and a major (50%) discount.

After reading an introduction to the scenario, participants watched a short video clip conveying the emotional display manipulation. They then answered a number of questions on their perceptions and attitudes (see below).

# 4.1.2. Manipulation of emotion display

The participants learned the size of the discount (minor/major) and whether it was available or unavailable from a short video clip simulating the service provider's response to their (imagined) request. For each of the four scenarios (available-minor, available-major, unavailable-minor, unavailable-major), two video clips were produced, one featuring a mild and one an intense emotional display. The emotional expressions were valence-appropriate - i.e., happy (mild or intense) when the discount was available and sad (mild or intense) when the discount was unavailable. To maintain high realism, the video clips were filmed in an actual stall selling cell phones. A local service provider was personally coached by the first author and was the actor in all eight video clips. The valence and intensity of the emotional displays were conveyed through the actor's facial expressions, body language and posture, and intonation, along with the appropriate variations in script. Several video clips for each condition were pilot-tested to ensure the adequacy of the manipulation, and the best clips were selected for the study.

#### 4.1.3. Measures

For all measures, participants indicated the extent to which they agreed with each statement using a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). Measures were presented consecutively, in the order specified below.

**Appropriateness.** Seven statements were used to measure the perceived appropriateness of the service provider's emotional displays (e.g., "The emotions the service provider expressed were appropriate"; "The service provider's emotional display was odd" – reverse scored). The items were taken from Van Kleef and Côté (2007) and adapted to fit the service setting. An index of appropriateness was created by averaging across the seven items ( $\alpha = .83$ ), with higher scores indicating greater perceived appropriateness.

**Authenticity.** Six statements were used to measure the perceived authenticity of the service provider's emotions (e.g., "The emotions the service provider expressed were genuine"; "The service provider's expressed emotions were fake" – reverse scored). The items were taken from Côté et al. (2013) and Grandey et al. (2005) and adapted to fit the service setting. An index of authenticity was created by averaging the items ( $\alpha$  = .82), with higher scores indicating greater perceived authenticity.

**Trust** was measured using the three items developed by Côté et al. (2013), supplemented by two additional items ("The service provider seems to be trustworthy" and "I believe the service provider revealed all of the relevant information to me") that were specifically geared toward the current context ( $\alpha = .92$ ).

**Satisfaction with service** was measured using items tapping satisfaction with the service itself (e.g., "I would be willing to use the service again") and satisfaction with the service provider (e.g., "I would have preferred to be served by someone else" – reverse scored). The items were adapted from two short (1–3 item) scales measuring general satisfaction with service (Barger & Grandey, 2006; Westbrook & Oliver, 1991). To increase reliability, five items were used ( $\alpha = .92$ ).<sup>2</sup>

**Manipulation checks.** Three items assessed perceptions of happiness ("To what extent did the service provider seem happy?"), sadness ("To what extent did the service provider seem sad?"), and intensity ("How intense was the service provider's emotional display?").

#### 4.2. Results and discussion

Differences in means were tested with a three-way ANOVA, with emotional intensity (mild vs. intense), valence (happy vs. sad), and level of discount (minor vs. major) as independent variables. Table 2 presents an overview of the analyses pertaining to our hypotheses testing. Means and standard deviations of the manipulation checks are

<sup>&</sup>lt;sup>2</sup> Note that we measure only general satisfaction with service and not the quality of service, which is a more complex, multi-dimensional construct (e.g., Parasuraman, Zeithami, & Berry, 1985, 1988).

Table 1
Overview of the four studies conducted to test the proposed theoretical model

	•						
Study	Study Service Scenario	Emotion Display Modality	Context Sample	Sample	Experimental Design	Hypothesis Testing (see Fig. 1)	Dependent Variables
1	Service provider in a cell phone stall explaining that a particular discount was available (in the happy conditions) or unavailable (in the sad conditions). The service outcome hence differed between valence conditions (discount available or unavailable).	Video	Online	Online Sraeli adults	Three way full factorial: Emotional intensity (mild vs. intense) X valence (happy vs. sad) X level of discount (minor vs. major)	Full model (H1-H5)	- Satisfaction with service
77	A local cinema customer representative providing a recommendation Audio for a movie. The same movie was presented in all conditions.	Audio	Online	Israeli adults	Five emotional display conditions: mild sadness, intense sadness, mild happiness, intense	Full model (H1-H5) teasing apart valence from	<ul> <li>Satisfaction with service</li> </ul>
					happiness, or no emotion	outcomes.	<ul> <li>Expected satisfaction with the product</li> </ul>
က	A service provider in a video store providing a recommendation for a movie that does not fully accommodate the customer's request. The same movie was offered in all conditions.	Text	Lab	Dutch undergrad students	Same as Study 2	Trust mediation (H2-H5) beyond affective processes.	<ul> <li>Satisfaction with service</li> <li>Expected satisfaction with</li> </ul>
4	An online movie recommendation service. Customers were informed of the movie selected for them alleased to based on their input. The	Text	Field	Dutch adults	Same as Study 2	Trust mediation (H2-H5)	the product  – Satisfaction with
	of the filoye selected for their angreaty based on their input. The same movie was offered in all conditions.					inintence on actual behavior.	- Expected satisfaction with the product - Usage of product

presented in Table 3. Means for appropriateness, authenticity, trust, and satisfaction with service are presented in Fig. 2. As the figure shows, the level of discount – minor (5%) or major (50%) – did not affect the results and is therefore not discussed further. Throughout the paper we report one-tailed tests for planned comparisons based on directional hypotheses, and two-tailed tests otherwise.

**Manipulation check.** Compared to the sad (unavailable discount) conditions, the happy (available discount) conditions were perceived as more happy, F(1, 492) = 348.00, p < .001,  $\eta_p^2 = 0.415$  and less sad, F(1, 492) = 105.87, p < .001,  $\eta_p^2 = 0.177$ . Most importantly, the intense emotional displays were indeed perceived as more intense than the mild displays, F(1, 492) = 8.878, p = .003,  $\eta_p^2 = 0.018$ .

**Appropriateness and authenticity (H1a/b).** Compared to the mild emotional displays, the intense emotional displays were perceived as less appropriate, F(1, 492) = 126.23, p < .001,  $\eta_p^2 = 0.204$ , supporting Hypothesis 1a, and as less authentic, F(1, 492) = 26.735, p = .032,  $\eta_p^2 = 0.52$ , supporting Hypothesis 1b.

*Trust (H2, H3a/b).* Participants expressed less trust in the service provider who displayed intense rather than mild emotion, F(1, 492) = 21.981, p < .001,  $\eta_p^2 = 0.043$ , supporting Hypothesis 2. To test whether appropriateness and/or authenticity mediated the association between emotion intensity and trust, we used the PROCESS (Model 4) extension to SPSS (Hayes & Preacher, 2013). We predicted trust from intensity and the two proposed mediators, while including the valence and discount level as covariates. The total indirect effect of emotion intensity on trust was significant (bootstrap sample 1000, 95% CI: -0.71, -0.37), with a significant indirect effect of appropriateness (bootstrap sample 1000, 95% CI: -0.31, -0.10), supporting Hypothesis 3a, and authenticity (bootstrap sample 1000, 95% CI: -0.47, -0.21), supporting Hypothesis 3b.

Satisfaction with service (H4a, H5a). Compared to the mild emotional displays, participants in the intense emotional display conditions reported less satisfaction with the service, F(1, 492) = 7.893, p = .005,  $\eta_p^2 = 0.016$ , supporting Hypothesis 4a. We used the PROCESS (Model 4) extension to SPSS (Hayes & Preacher, 2013) to test the mediating role of trust. The hypothesized indirect effect of intensity on satisfaction, as mediated by trust, was fully confirmed (bootstrap sample 1000, 95% CI: -0.55, -0.22), supporting Hypothesis 5a.

These results provide initial evidence that the intensity of emotional displays matters in a customer service context. Our participants reliably identified the different intensity levels of the two discrete emotions under investigation (happiness and sadness). Moreover, variations in the intensity of the service provider's emotional display predicted participants' perceptions of authenticity and appropriateness. With regard to the downstream consequences on trust and satisfaction with service, the findings confirm the indirect effect of emotional intensity on trust. However, the direct effect of emotional intensity on trust and satisfaction with service is more pronounced in the sad (discount unavailable) than in the happy (discount available) conditions (see Table 2). We defer further discussion of these results to the General Discussion. In the meantime, in Study 2 we tease apart the valence of the emotion (happy/sad) from the nature of the outcome (positive/negative) and use a different expression modality.

#### 5. Study 2

In Study 1 we found that a service provider's intense emotional displays were perceived as inappropriate and inauthentic, which in turn undermined trust and satisfaction with the service. Consistent with how emotions tend to be expressed in everyday life, the effect of emotional intensity was tested in service settings where the valence of the emotion displayed matched the outcome of the scenario. That is, happiness was expressed when a discount was available, and sadness was expressed when a discount was not available. In Study 2 we test the effect of both emotions in an identical scenario. Moreover, to extend the generalizability of our findings, we turn to a leaner form of emotional expression, using auditory emotional displays.

Table 2
Summary of main hypotheses testing and supplementary analysis across studies.

Study	Effect	Trust		Satisfaction with service		Satisfaction with product	
		Stat.	$p^{\mathrm{d}}$	Stat.	$p^{\mathrm{d}}$	Stat.	$p^{ m d}$
1	Intensity main effect (H2) <sup>a</sup>	F(1, 492) = 21.98	< 0.001	F(1, 492) = 7.89	0.005	n/a	
	Mediation (H4, H5) <sup>b</sup>	n/a		[-0.55, -0.22]	*	n/a	
	Valence main effect <sup>a</sup>	F(1, 492) = 0.49	0.483	F(1, 492) = 32.89	< 0.001	n/a	
	Valence Intensity	F(1, 492) = 7.00	0.008	F(1, 492) = 8.02	0.005	n/a	
	Intensity in Happy <sup>c</sup>	F(1, 248) = 2.14	0.145	F(1, 248) = 0.07	0.079	n/a	
	Intensity in Sad <sup>d</sup>	F(1, 244) = 26.27	< 0.001	F(1, 244) = 24.84	< 0.001	n/a	
2	Intensity main effect (H2) <sup>e</sup>	$t(3\ 0\ 1)\ =\ 7.17$	< 0.001	t(301)=7.91	< 0.001	t(301)=5.10	< 0.001
	Mediation (H4, H5) <sup>b</sup>	n/a		[-0.87, -0.49]	*	[-0.71, -0.37]	*
	Valence main effect <sup>f</sup>	$t(3\ 0\ 1) = 2.51$	0.013	t(301)=5.89	< 0.001	t(301)=2.82	0.005
	Valence*Intensity <sup>g</sup>	$t(3\ 0\ 1)=0.62$	0.535	t(301) = 1.16	0.245	t(301)=1.75	0.081
	Intensity in Happy <sup>c</sup>	$t(3\ 0\ 1) = 4.83$	< 0.001	t(301)=4.97	< 0.001	t(301)=2.47	0.013
	Intensity in Sad <sup>d</sup>	t(301)=5.31	< 0.001	t(301)=6.18	< 0.001	t(301)=4.66	< 0.001
3	Intensity main effect (H2) <sup>e</sup>	$t(1\ 4\ 5)\ =\ 5.97$	< 0.001	t(145)=3.49,	< 0.001	t(145)=1.93	0.028
	Mediation (H4, H5) <sup>b</sup>	n/a		[-1.11, -0.46]	*	[-0.94, -0.32]	*
	Valence main effect <sup>f</sup>	$t(1\ 4\ 5)=0.85$	0.396	t(145)=5.42	< 0.001	t(145)=3.00	0.003
	Valence Intensity <sup>g</sup>	t(1 4 5) = 1.53	.129	t(145)=0.88	0.381	t(145)=0.15	0.878
	Intensity in Happy <sup>c</sup>	$t(1\ 4\ 5) = 3.14$	0.002	t(145)=5.97	< 0.001	t(145)=1.45	0.144
	Intensity in Sad <sup>d</sup>	t(145)=5.30	< 0.001	t(145)=3.09	0.002	t(145)=1.16	0.212
4	Intensity main effect (H2) <sup>e</sup>	t(154)=1.96	0.026	t(155)=2.33	0.021	t(157)=1.75	0.041
	Mediation (H4, H5) <sup>b</sup>	n/a		[059,001]	*	[-0.33, -0.01]	*
	Valence main effect <sup>f</sup>	t(154)=1.12	0.133	t(155)=1.12	0.132	t(157)=1.44	0.076
	Valence Intensity <sup>g</sup>	t(154)=1.92	0.057	t(155)=2.35	0.020	t(157)=0.13	0.894
	Intensity in Happy <sup>c</sup>	t(154)=2.11	0.036	t(155)=2.42	0.017	t(157)=1.34	0.82
	Intensity in Sad <sup>d</sup>	t(154) = 0.67	0.505	t(155)=0.88	0.379	t(157) = 1.14	0.256

Notes: Hypothesized effects are in bold. One-tailed significance is reported for planned comparisons, two-tailed otherwise.

- a three-way ANOVA
- <sup>b</sup> PROCESS model 4, bootstrap sample 1000, 95% CI.
- <sup>c</sup> Intensity simple effect, comparing Intense vs. Mild happiness using ANOVA with planned comparisons.
- <sup>d</sup> Intensity simple effect, comparing Intense vs. Mild sadness using ANOVA with planned comparisons.
- <sup>e</sup> Comparing Intense (sad & happy) and Mild (sad & happy) conditions using ANOVA with planned comparisons.
- $^{\mathrm{f}}$  Comparing Sad (mild & intense) and Happy (mild & intense) conditions using ANOVA with planned comparisons.
- g Comparing Sad (mild vs. intense) and Happy (mild vs. intense) conditions using ANOVA with planned comparisons.
- \* The confidence interval excludes 0, indicating significant mediation.

Table 3
Means and standard deviations of manipulation check items tapping perceived happiness, perceived sadness, and perceived emotional intensity of video clips in study 1.

Discount level	Outcome	Emotional display	Happiness	Sadness	Intensity
Minor (5%)	Available (happy)	Mild	3.41 (1.44)*	2.07 (1.34)*	2.18 (1.38)*
		Intense	5.41 (1.74)*	1.26 (0.75)*	5.59 (1.47)*
	Unavailable (sad)	Mild	1.85 (1.09)	2.48 (1.38) +	1.64 (0.097)+
		Intense	1.81 (1.30)	3.31 (1.70)+	3.57 (1.98)+
Major (50%)	Available (happy)	Mild	3.72 (1.39)#	1.88 (1.17)#	2.40 (2.22)#
		Intense	5.42 (1.56) <sup>#</sup>	1.37 (0.93)#	5.48 (1.53) <sup>#</sup>
	Unavailable (sad)	Mild	2.17 (1.42)	2.90 (1.48)	2.37 (1.55)§
		Intense	2.41 (2.29)	2.92 (1.83)	2.95 (1.96)§

Note. Significant simple effects comparing Mild and Intense conditions in each column are marked by \*, #, + and \$.

# 5.1. Method

# 5.1.1. Participants and procedure

The participants were 306 Israeli adults recruited by the online panel used in Study 1. Participants ranged in age from 18 to 67 years, with a mean age of 25.75 (SD=4.07, median =26.00); 50% were female. Upon consent, participants were randomly assigned to one of five conditions (between-subjects design), which differed in the emotional display of a service provider: intense or mild happiness, intense or mild sadness, and a control condition with a neutral emotional expression. Intermixed items measuring perceptions of appropriateness, authenticity, trust in the service provider, satisfaction with the service and expected satisfaction with the product followed. The survey ended with manipulation checks for the emotional display and demographic measures.

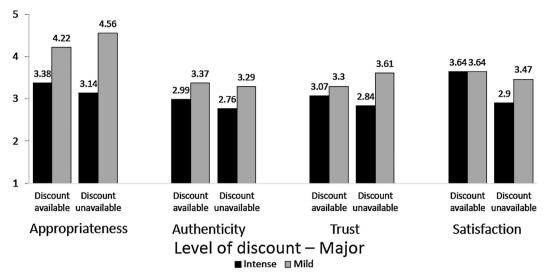
#### 5.1.2. Manipulation of emotional display

Participants were asked to imagine that they had called the local cinema to ask for a recommendation for a movie playing that night, and that they had explained to the customer representative that they were especially keen on movies of a specific type (dramas, preferably with a historical dimension). They were then instructed to press a "play" button to hear the answer provided by the customer representative. The participants heard one of five different vocal emotional displays reflecting mild sadness, intense sadness, mild happiness, intense happiness, or no emotion. The vocal segments were narrated by an actor who was personally coached by the second author. A number of takes were recorded and pretested before the best emotional display for each condition was chosen.

Representing a movie attendant, the actor narrated the exact same message in all five conditions: "Hmm, drama with a historical

# Level of discount - Minor

#### ■ Intense Mild



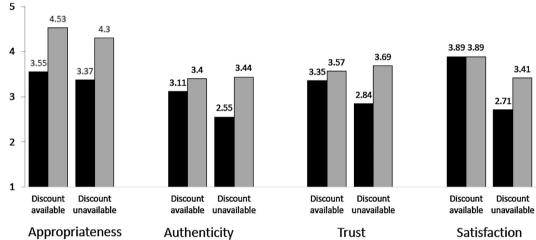


Fig. 2. Means of dependent variables by conditions in Study 1.

dimension playing today. I can offer you *one* movie matching this description: Woman in Gold." The different levels of emotional intensity and valence were conveyed through tone of voice. The emphasis on the number of movies found could represent either a favorable situation (having found a movie that matches the specific request) or a less favorable situation (having found only one movie that matches the request). Thus, both happiness and sadness could be credibly expressed given the situation.

### 5.1.3. Measures

For all measures, participants indicated the extent to which they agreed with each statement using 5-point scales ranging from 1 (not at all) to 5 (very much). Appropriateness, Authenticity, Trust, and Satisfaction with service were measured using the same scales as in Study 1 ( $\alpha$  = .88, .93, .85, and .89<sup>4</sup>, respectively). Furthermore, participants rated their expected satisfaction with the product (i.e., the movie) using two items ("I

would enjoy watching this movie"; "Watching this movie would be fun"). An index of expected satisfaction with the product was created by averaging the two items (r = .74, p < .001). We used the same three items as in Study 1 to check the adequacy of our manipulation.

#### 5.2. Results and discussion

Differences in means were tested using ANOVA with planned comparisons. Means and standard deviations of the manipulation checks are presented in Table 4. Means for appropriateness, authenticity, trust, and satisfaction with service are presented in Fig. 3. The main results of the hypothesis testing and supplementary analyses for trust, satisfaction with the service, and expected satisfaction with the product are summarized in Table 2.

**Manipulation check.** Compared to both sadness conditions, both happiness conditions were perceived as more happy, t(301)=14.14, p<.001, d=1.63, and less sad, t(86)=-12.30, p<.001, d=1.42. Moreover, for both emotions, the two intense emotional displays were indeed perceived as more intense than the two mild displays, t(301)=9.84, p<.001, d=1.13. Trend analysis based on testing all five experimental conditions simultaneously confirmed a linear pattern for the perception of both emotions across the five experimental conditions, with perceptions of happiness linearly increasing from intense

<sup>&</sup>lt;sup>3</sup> A description of "Woman in Gold" can be found at http://www.imdb.com/title/tt2404425/. Of the 306 participants, 41 had heard about the movie, of which 15 had seen it. Results of analyses removing the 41 participants who had heard about the movie were practically identical to those of the full sample. Thus, we report results based on the full sample of 306 participants.

<sup>&</sup>lt;sup>4</sup> One item was dropped from the *Satisfaction with service* measure because it was less suited to the current context.

Table 4

Means and standard deviations of manipulation check items tapping perceived happiness, perceived sadness, and perceived emotional intensity of audio messages in study 2.

	Happiness	Sadness	Intensity
Intense sadness Mild sadness Neutral Mild happiness Intense happiness	1.33 (0.83)* 1.93 (0.98)*,# 2.33 (1.21)**,+ 3.35 (1.17)*,§ 3.71 (1.06)§	3.54 (1.43)* 3.08 (1.24)*,# 2.34 (1.24)*,+ 1.65 (0.99)+ 1.39 (0.75)	3.40 (1.43)* 2.20 (1.20)* 1.87 (1.18)# 2.25 (1.28)#,+ 4.07 (0.91)+

*Note.* Standard deviations are in parentheses. The differences were tested using planned contrasts. Significant differences between adjacent means in each column are marked by  $^*$ . #. + and  $^{\$}$ .

product, t(301) = 5.10, p < .001, d = 0.59, supporting Hypothesis 4b. Mediation analysis (PROCESS Model 4) confirmed that the indirect effect of intensity on satisfaction was mediated by trust (bootstrap sample 1000, 95% CI: -0.87, -0.49), supporting Hypothesis 5a. Similarly, the indirect effect of intensity on expected satisfaction with the product was mediated by trust (bootstrap sample 1000, 95% CI: -0.71, -0.37), supporting Hypothesis 5b.

These findings provide support for our model using auditory emotional displays. To further extend the generalizability of our findings, in our next study we set out to test our hypotheses in the lab using a third common expressive modality – textual statements.

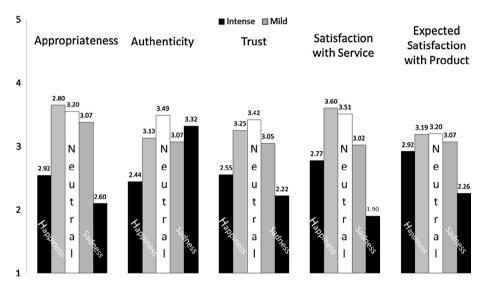


Fig. 3. Means of dependent variables by conditions in Study 2. *Note*: Main hypotheses were tested by comparing the intense to the mild emotion displays (i.e., comparing the black with the grey bars).

sadness to intense happiness, F(1, 301) = 209.02, p < .001, and perceptions of sadness linearly increasing from intense happiness to intense sadness, F(1, 301) = 152.91, p < .001.

**Appropriateness and authenticity (H1a/b).** Compared to the two mild emotional displays, the two intense emotional displays were perceived as less appropriate,  $t(3\,0\,1) = -11.29$ , p < .001, d = 1.30, supporting Hypothesis 1a, and as less authentic,  $t(3\,0\,1) = -2.15$ , p = .032, d = 0.25, supporting Hypothesis 1b.

*Trust (H2, H3a/b)*. The participants expressed less trust in the service provider when the service provider displayed an intense rather than mild emotion,  $t(3\,0\,1)=7.17$ , p<.001, d=0.83, supporting Hypothesis 2. Mediation analysis was conducted using PROCESS Model 4. We predicted trust from intensity (a dummy variable coded 1 for the intense conditions and 0 for the mild conditions<sup>5</sup>) and the two proposed mediators (appropriateness and authenticity), while including valence as a three-level continuous covariate from negative to positive valence (with the two sad conditions coded as −1, neutral coded as 0, and the two happy conditions coded as 1). The total indirect effect of emotion intensity on trust was significant (bootstrap sample 1000, 95% CI: −0.85, −0.58), with a significant indirect effect of appropriateness (bootstrap sample 1000, 95% CI: −0.76, −0.44), supporting Hypothesis 3a, and authenticity (bootstrap sample 1000, 95% CI: −0.18, −0.02), supporting Hypothesis 3b.

Satisfaction with service (H4a/b) and product (H5a/b). Participants in the intense emotional display conditions reported less satisfaction with the service, t(301) = 7.91, p < .001, d = 0.91, supporting Hypothesis 4a, and lower expected satisfaction with the

#### 6. Study 3

With customer service increasingly delivered via textual modalities such as email, chat, and websites, text-based emotional expressions are becoming more and more important in the service industry. In Studies 1 and 2 we established that intense emotional displays by a service provider, whether delivered multi-modally (i.e., with visual and auditory components) or through intonation alone, can undermine trust by increasing perceptions of inauthenticity and inappropriateness, and that this in turn reduces satisfaction with the service. In Study 3 we investigate whether displays of emotion have a similar effect when conveyed using textual statements alone. In this study we focus on the second part of our model, examining the role of trust as mediator of the effects of emotion intensity on satisfaction with the service and the product. We also measured affective responses to the service provider's emotional expressions in order to test whether inferences of the service provider's trustworthiness mediate the effects of emotional intensity on service outcomes above and beyond potential affective influences.

#### 6.1. Method

#### 6.1.1. Participants and procedure

The participants were 150 Dutch undergraduate students (average age = 21.00, SD = 3.73, 73.3% females) who participated in the experiment at a university laboratory. Participants received their choice of course credit or 7 euros. The participants were guided to individual cubicles. All instructions and questionnaires were presented on paper.

Upon consent, the participants were asked to imagine they had gone to a video store searching for a specific movie, and that the service provider had failed to find the film but offered an alternative recommendation. This allowed us to create a somewhat ambiguous

 $<sup>^5</sup>$  Emotional neutrality was operationalized as the absence of both happiness and sadness, and absent emotions cannot vary in intensity. Hence, the neutral condition was modeled as a missing value in the intensity variable.

Table 5
Statements used to manipulate emotion intensity and the means and standard deviations of the associated manipulation checks in study 3 and study 4.

	Statement	Happiness		Sadness		Intensity	
		Study 3	Study 4	Study 3	Study 4	Study 3	Study 4
Intense sadness	Unfortunately I can only offer this movie. I feel incredibly sad about this. Really a HUGE letdown!!!	4.44 (1.63)	2.33 (1.35)*	4.29 (2.39)*	4.13 (1.88)	3.07 (1.80)*	4.33 (1.86)*
Mild sadness	Sadly I can only offer this movie.	4.14 (2.36)	3.03 (1.19)*,#	2.78 (2.18)*	3.57 (1.07)*	2.39 (1.33)*	3.50 (1.57)*
Neutral	I can offer this movie.	4.06 (2.17)	3.73 (1.26) <sup>#,+</sup>	2.81 (2.01)#	2.25 (0.89)*	2.14 (1.27)	3.90 (1.40)#
Mild happiness	I am happy to offer you this movie.	5.10 (2.33)*	$5.07 (1.08)^{+,\Omega}$	1.49 (1.29)#	1.67 (0.83)	2.31 (1.24)#	5.63 (1.03)#
Intense happiness	I'm incredibly happy that I can offer you this movie! It is truly a HUGE pleasure. I am really enthusiastic about this!!!	6.61 (2.19)*	$5.83 (1.78)^{\Omega}$	1.65 (1.53)	1.48 (1.23)	4.16 (1.51)#	6.28 (1.28)

Note. Standard deviations are in parentheses. Statements were translated from Dutch. Text in CAPS was also CAPS in the original text. The differences were tested using planned contrasts. Significant differences among adjacent means in each column are marked by \*, #, + and  $\Omega$ .

stimulus, in the context of which a service provider could credibly express happiness for offering an adequate alternative as well as sadness for not being able to accommodate the original request. To control for potential affective influences, a measure of affect (the positive and negative affect scales, or PANAS; Watson et al., 1988) was included at the end of this study.

#### 6.1.2. Manipulation of emotion display

Participants were asked to imagine they had gone to a video store searching for a specific film and had asked for assistance. They were further asked to imagine that, after a search, the attendant could not accommodate their request and had offered an alternative recommendation. Emotional display was manipulated by five different statements (see Table 5).

#### 6.1.3. Measures

For all measures, participants indicated the extent to which they agreed with each statement using a 7-point scale ranging from 1 (not at all) to 7 (very much). Trust, Satisfaction with service and Expected satisfaction with the product were measured using the same measures as in Studies 1 and 2 ( $\alpha=.94$ ,  $\alpha=.88$ , r=.81, p<.001, respectively). In addition, Positive and Negative Affect were measured using the PANAS (Watson et al., 1988), which includes 10 items for positive ( $\alpha=.85$ ) and 10 items for negative ( $\alpha=.87$ ) affect.

Manipulation checks. We used the same three items as in Study 1.

#### 6.2. Results and discussion

As in Study 2, differences in means were tested using ANOVA with planned comparisons, and mediation analysis was performed using PROCESS Model 4 with 1000 bootstrap samples. Means and standard deviations of the manipulation checks are presented in Table 5. Means for trust, satisfaction with service, and expected satisfaction with product are presented in Fig. 4. A summary of the results for the main hypothesis testing and supplementary analyses for trust, satisfaction with the service, and expected satisfaction with the product can be found in Table 2.

**Manipulation check.** Compared to both sadness conditions, both happiness conditions were perceived as more happy, t(144) = 12.05, p < .001, d = 2.01, and as less sad, t(144) = -6.56, p < .001, d = -1.09. Trend analysis confirmed a linear pattern for the perception of both emotions across the five experimental conditions: Perceptions of happiness linearly increased from intense sadness to intense happiness, F(1, 144) = 153.81, p < .001, while perceptions of sadness linearly increased from intense to intense sadness, F(1, 144) = 43.06, p < .001. Most importantly, for both emotions the two intense emotional displays were indeed perceived as more intense than the two mild displays, t(144) = 2.76, p = .006, d = 0.46.

Trust (H2). Compared to participants encountering a mild emotional display, those encountering an intense emotional display

reported less trust in the service provider, t(145) = 5.97, p < .001, d = 0.99, supporting Hypothesis 2.

Satisfaction with service (H4a/b) and product (H5a/b). Compared to the mild emotional display conditions, participants in the intense conditions reported less satisfaction with the service, t(145) = 3.49, p < .001, d = 0.58, and lower expected satisfaction with the product, t(145) = 1.93, p = .028, d = 0.32, supporting Hypotheses 4a and 4b. The hypothesized indirect effect of intensity on satisfaction, as mediated by trust, was fully confirmed for satisfaction with the service (95% CI: -1.11, -0.46) and expected satisfaction with the product (95% CI: -0.94, -0.32), supporting Hypotheses 5a and 5b.

**Affect.** Adding positive and negative affect as covariates yielded virtually the same results for both satisfaction with the service (95% CI: -1.04, -0.45) and expected satisfaction with the product (95% CI: -0.90, -028). Neither positive nor negative affect predicted trust, satisfaction with the service, or expected satisfaction with the product (all regression coefficients were non-significant). Further analysis failed to show differences in affect across any of the experimental conditions; F(4, 145) = 1.105 and F(4, 144) = 1.838 for positive and negative affect respectively (both ns).

The participants in the above three studies rated hypothetical service encounters. In the final study we set out to test our hypotheses in the field to further establish the impact of emotion intensity on actual behavior.

# 7. Study 4

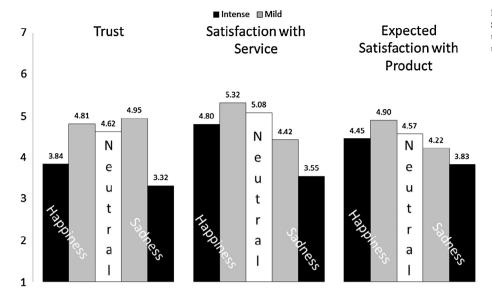
In Studies 2 and 3 we demonstrated that the intensity of emotional displays by service providers goes beyond satisfaction with the service to influence expected satisfaction with a hypothetical product. In the current study we sought to establish the external validity of our previous findings by testing the second part of our model (trust mediation) in a real-life service encounter and adding a measure of actual satisfaction with a real product. We created a fictitious web service providing movie recommendations, and measured our "customers" trust in the service provider, satisfaction with the service, and satisfaction with the product.

As part of the study, participants were offered an actual movie (on DVD). After informing them of the movie the service provider had chosen for them, we measured their subjective satisfaction with the product via a questionnaire. Ten days after sending the DVD to participants, we contacted them again and asked whether they had watched the movie.

#### 7.1. Method

#### 7.1.1. Participants and procedure

We recruited our participants by distributing flyers at major train stations in Amsterdam and at the entrance to a large supermarket in the city, inviting adults to try a new movie recommendation web service in return for a free DVD. The study had three stages. In Stage 1, participants registered for the online service, and completed a variety of measures that might be deemed relevant to establishing a movie



**Fig. 4.** Means of dependent variables by conditions in Study 3. *Note*: Main hypotheses were tested by comparing the intense to the mild emotion displays (i.e., comparing the black with the grey bars).

recommendation (personality, demographics, and movie genre preferences). In Stage 2, a few days after registration, participants were contacted by email and directed to a link with a message from the "service provider." This message informed participants which movie had been selected for them, and asked them to complete a short questionnaire (this contained the measures of trust, satisfaction with the service, and expected satisfaction with the product). Following a design similar to that used in Studies 2 and 3, the message was expressed in language reflecting one of the five types of emotional display: mild or extreme sadness, mild or extreme happiness, or no emotion. Importantly, regardless of their pre-registration entries (i.e., personality, demographics, and movie genre preferences), all participants were offered the same movie. Ten days after the DVD was sent to the participants, we contacted them for a third time (Stage 3 of the study) to ask whether they had taken the opportunity to watch the movie. At this point, a short post-movie survey was administered.

One hundred and sixty-two participants (47.5% females; average age = 30.78, SD = 10.85) completed both Stage 1 and Stage 2 of the study; of these, 98 also completed the short post-movie survey administered in Stage 3 (a response rate of 60%). To motivate our participants to respond to the final post-movie survey in Stage 3, we raffled off ten cinema tickets to a movie of their choice among those who participated. We included all 162 participants who completed the first two stages in the analysis.

#### 7.1.2. Manipulation of emotion display

The email with the bogus movie recommendation was allegedly sent by a human service provider called Robin (a gender-neutral name). In the email, "Robin" listed the top three movie genre preferences the participant had supplied in Stage 1, and then informed participants of the movie being recommended for them, supposedly based on their personality and preferences. The email continued with one of the five emotional displays (randomly assigned), using the same messages as in Study 3 (see Table 5 for the five messages).

All participants were offered the same movie – "Appaloosa," a Hollywood Western made in 2008. We chose this movie because it is reasonably well-rated (6.8/10 in the Internet Movie Database, or IMDb) and features well-known Hollywood actors (Renee Zellweger, Ed Harris, and Viggo Mortensen), yet as a Western, represents a relatively less popular genre in Europe. This allowed us to create a somewhat ambiguous stimulus, in the context of which a service provider could

credibly express happiness as well as sadness.

#### 7.1.3. Measures

Except where noted, answers to all items were given on a scale from 1 (not at all) to 5 (very much).

*Trust*, and *Satisfaction with service* were measured using the same measures used in Study 1 ( $\alpha = .88$  and  $\alpha = .86$ , respectively).

Expected satisfaction with product was measured after it was introduced in Stage 2. Participants rated their satisfaction with the product on six items (e.g., "I think I will enjoy watching this movie") adapted from existing items designed to measure service satisfaction (Greenwell, Fink, & Pastore, 2002; Yoon & Shu, 2004). The scale ranged from 1 (strongly disagree) to 5 (strongly agree). An index of subjective satisfaction with the product was created by averaging across the six items ( $\alpha = .92$ ), with higher scores indicating higher satisfaction.

Usage of product (actual behavior). In Stage 3 (the short postmovie questionnaire), we asked participants to indicate whether they had watched the movie that had been sent to them (yes/no). A "yes" answer provided an objective behavioral measure of participants' expectation that the movie would be worth watching, reflecting expected satisfaction with the product.

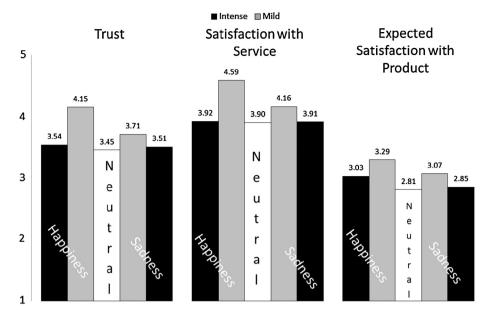
**Manipulation checks.** We used expanded measures for the manipulation checks, including three "happiness" items (happy, joyful, cheerful;  $\alpha = .90$ ), three "sadness" items (sad, gloomy, down;  $\alpha = .93$ ), and three items measuring emotion intensity (e.g., "How extreme were the feelings Robin displayed?";  $\alpha = .92$ ).

#### 7.2. Results and discussion

As in Studies 2 and 3, differences in means were tested using ANOVA with planned comparisons, and mediation analysis was performed using PROCESS Model 4 with 1000 bootstrap samples. Means and standard deviations of the manipulation checks are presented in Table 5. Means for trust, satisfaction with the service, and expected satisfaction with the product are presented in Fig. 5. The main results and supplementary analyses for trust, satisfaction with the service, and expected satisfaction with the product are presented in the bottom row of Table 2.

**Manipulation check.** Compared to both sadness conditions, both happiness conditions were perceived as more happy, t(140) = 4.00, p < .001, d = 0.68, and less sad, t(124) = -5.19, p < .001, d = 0.93. The two intense emotional displays were indeed perceived as more intense than the two mild displays, t(155) = 4.97, p < .001, d = 0.80. Again, trend analysis confirmed a linear pattern for the perception of

 $<sup>^6</sup>$  This proved to be true, as only 8 participants (out of 162) chose Westerns as one of their top three movie genres, and none had it as their top choice.



**Fig. 5.** Means of dependent variables by conditions in Study 4. *Note*: Main hypotheses were tested by comparing the intense to the mild emotion displays (i.e., comparing the black with the grey bars).

**Table 6**Number of participants who watched the movie in the intense and mild emotional display conditions of study 4.

	Mild emotional display	Intense emotional display
Across emotional conditions:		
Watched the movie	25	15
Did not watch the movie	15	26
In the happiness conditions only:		
Watched the movie	15	5
Did not watch the movie	7	13
In the sadness conditions only:		
Watched the movie	10	10
Did not watch the movie	8	13

*Note.* Effect of intensity across emotions:  $\chi^2 = 3.65$ , p = .04; effect within happiness condition:  $\chi^2 = 6.47$ , p = .012; effect within sadness condition:  $\chi^2 = 0.59$ , p = .326.

both emotions across the five conditions, with perceptions of happiness linearly increasing from intense sadness to intense happiness, F(1, 140) = 18.44, p < .001, and perceptions of sadness linearly increasing from intense happiness to intense sadness, F(1, 140) = 30.87, p < .001.

**Trust (H2).** Compared to participants encountering a mild emotional display, those encountering an intense emotional display expressed less trust, t(154) = 1.96, p = .026, d = 0.32.

Satisfaction with service (H4a/b) and product (H5a/b). Compared to the mild emotional display conditions, participants in the intense emotional display conditions reported less satisfaction with the service,  $t(1\,5\,5)=2.33,\ p=.021,\ d=0.37,\$ and lower expected satisfaction with the product,  $t(1\,5\,7)=1.75,\ p=.041,\ d=0.29,\$ supporting Hypotheses 4a and 4b. The hypothesized indirect effect of intensity on satisfaction, as mediated by trust, was fully confirmed for satisfaction with the service (95% CI:  $-0.59,\ -0.01$ ) and for expected satisfaction with the product (95% CI:  $-0.33,\ -0.01$ ), supporting Hypotheses 5a and 5b.

**Validation of the satisfaction with product measure.** Expected satisfaction with the product was significantly higher among participants who eventually watched the movie (M=3.27, SD=0.77) than among

those who did not (M = 2.89, SD = 0.87), t(70) = 1.93, p = .03. To the extent that actually watching the movie reflects higher expected satisfaction, these findings constitute predictive validity for the self-report measure of expected satisfaction with the product. The similarities in the results for the two-item measure used in Studies 1–3 and the sixitem measure used in this study provide support for the construct validity of the short, two-item scale.

*Use of product (actual behavior)*. We examined the effect of the emotion manipulation on participants' actual behavioral response (watching the movie). The distribution of those who watched the movie across the various conditions is presented in Table 6. Participants were more likely to watch the movie after encountering a mild rather than an intense emotional display ( $\chi^2 = 3.65$ , p = .04), supporting Hypothesis 4b.

Overall, the results of Study 4 demonstrate that the intensity of the emotional expressions customers encountered affected not only their satisfaction with the service they received and the product they were offered, but also their actual use of the product.

# 8. General discussion

In this manuscript we extend research on the effects of emotional displays in customer servicers, answering the call by Van Kleef et al. (2012) to investigate the social consequences of emotion intensity. To provide a thorough test of our arguments, we presented four complementary studies investigating the effects of service providers' expressions of sadness and happiness. The studies were conducted in different countries (Israel and the Netherlands), examined different service industries (phones and movies), and employed different research settings (online, lab, and field experiments) involving different manipulations of emotional expressions (video, audio, and text). Together, the findings provide convergent support for our theoretical model (see Fig. 1), indicating that the intensity of service providers' emotional expressions influences customers' perceptions of appropriateness and authenticity, their trust, and their satisfaction with both the service provided and the product offered (see Table 1 for a summary of the key features of the studies, and Table 2 for a summary of the key

Specifically, Study 1 revealed that more intense emotional expressions by a service provider were perceived as less appropriate and less authentic than expressions of the same emotions at a lower intensity level, and this in turn undermined trust in the service provider and satisfaction with the service (although the effects were more

 $<sup>^{7}\,\</sup>mathrm{Some}$  participants did not complete the entire survey; hence the degrees of freedom differ somewhat across variables.

pronounced for sadness than for happiness). In Studies 2–4 we teased apart the valence from the service outcomes. The findings replicated the detrimental effects of intense emotional expressions on customers' trust using different modalities, and further showed downstream consequences for customers' satisfaction with service and product. We also demonstrated that the effect of customers' inferences of service providers' trustworthiness based on the intensity of their emotional displays predicts service outcomes above and beyond potential affective influences (Study 3) and may extend to actual product use (Study 4). Finally, the findings across all four studies indicate that while the *intensity* of the emotion displayed had a consistent significant impact on trust, the effect of the *valence* of the emotion was not consistent (see Table 2). Below we discuss theoretical and practical implications of our findings, and suggest future directions for investigation.

#### 8.1. Theoretical implications

Customer service research typically focuses on the positive effects of happiness expressed by service providers in improving customer assessments of service quality, customer satisfaction, and sales. Extending this literature, our findings indicate that overly intense expressions of happiness as well as sadness may backfire. Our findings thus make three novel contributions to the literature on emotions in customer service: They point to the importance of modulating emotional intensity in the service setting; they begin to document the effects of appropriate and inappropriate expressions of negative emotions in service encounters; and they highlight the importance of inferential processes (i.e., inferences of trustworthiness) as opposed to more commonly investigated affective processes such as reciprocal emotional reactions.

Whereas the implications of displays of happiness have previously been examined in the context of customer service, displays of sadness have not received much attention. We created a context where sadness was clearly relevant to customer service (a missed sale in Study 1), along with ambiguous contexts in which both sad and happy expressions were relevant (offering customers only a single, not necessarily optimal, alternative in Studies 2, 3, and 4). The findings indicate that whereas expressing mild sadness may be deemed appropriate and authentic, expressions of intense sadness were interpreted as inappropriate and inauthentic, resulting in lower trust in the service provider and lower customer satisfaction.

Focusing specifically on expressions of happiness, the findings of Studies 2, 3, and 4 indicate that in the typical brief, mundane service setting, expressions of intense happiness may have a damaging effect on desired service outcomes. At first glance, our findings appear to be at odds with those presented by Barger and Grandey (2006), who showed a positive association between the intensity of employees' smiles and customer satisfaction. However, this apparent contradiction may be resolved by considering differences between the studies. Whereas Barger and Grandey used a correlational approach, we manipulated emotional intensity experimentally. It is possible that these different approaches resulted in different ranges of emotional intensity. More specifically, it is conceivable that the spontaneously occurring expressions of positive emotion in Barger and Grandey's field study among fast-food workers were relatively mild compared to our intense happiness condition. To the degree that this is true, our findings would be fully consistent with those reported by Barger and Grandey, while adding the new insight that overly intense expressions of happiness backfire. It is further of note that the intensity of the emotional expressions in Barger and Grandey's study may have co-varied with actual service quality. Our experimental approach allowed us to rule out such alternative explanations by disentangling the quality of the service from the intensity of the emotion expression, similar to the procedure used by Wang et al. (2016).

An important contribution to the literature on the social influence of emotions in customer service and beyond lies in the mediating processes uncovered here. Most previous research on the role of emotional

expressions in the service setting has focused on emotion contagion as an underlying process (e.g., Barger & Grandey, 2006; Howard & Gengler, 2001; Pugh, 2001; Tsai & Huang, 2002). Overall, the findings of such studies point to affective processes underlying the interpersonal effects of emotional expressions, whereby the affective state of service providers transfers to customers and thereby influences their satisfaction with service outcomes. Interestingly, while such contagion effects have been observed for affective states of both positive and negative valence, evidence for contagion of intensity is scarce and inconsistent. Barsade's (2002) findings show a contagion effect of valence, but no such effect for intensity (termed energy level by Barsade), while Bartel and Saavedra's (2000) findings show mood convergence of both valence and intensity (termed activation) affective dimensions. We suggest that these inconsistencies can be explained by adopting a more inferential interpretation (Van Kleef, 2009), in which the effect of intensity depends on whether intense emotional expressions are deemed appropriate. In our own study, based solely on emotion contagion (and in line with Bartel & Saavedra, 2000), positive affect should be higher in the intense happiness condition (compared to mild happiness), while negative affect should be higher in the intense sadness condition (compared to mild sadness). However, analysis of the affective measure in Study 3 failed to show differences in affect across any of the experimental conditions. As such, our findings complement the literature on emotion contagion by pointing to more cognitive processes (see Elfenbein, 2014), whereby the effect of emotion intensity on service outcomes was mediated by inferences of appropriateness, authenticity, and trust.

There is growing interest in the social consequences of emotional expressions. Besides the literature on emotions in customer service settings reviewed above, a substantial body of research points to the intricate social effects of emotional expressions in negotiations (e.g., Kopelman, Rosette, & Thompson, 2006; Sinaceur & Tiedens, 2006; Van Kleef & Côté, 2007; Van Kleef, De Dreu, & Manstead, 2004), leadership (e.g., Lewis, 2000; Sy, Côté, & Saavedra, 2005; Van Kleef et al., 2009), and decision making and team work (e.g., Barsade, 2002; Cheshin, Heerdink, Kossakowski & Van Kleef, 2016; Cheshin, Rafaeli, & Bos, 2011; Heerdink, Van Kleef, Homan, & Fischer, 2013). Although this research has uncovered many contingencies affecting the social consequences of emotional expressions, it has not yet considered the role of emotion intensity. The present findings suggest that there is value in investigating the role of emotion intensity in the context of negotiations, leadership, group decision making, and team work, among other settings.

# 8.2. Practical implications

Setting emotion display rules and training service workers in emotion regulation skills are important aspects of customer service (Grandey, 2000). Our studies show that it is not enough to train service providers to display specific emotions (e.g., "service with a smile"). It is also important to display emotions with the right intensity for the given context. We found that customers' perceptions of the appropriateness, authenticity, and trustworthiness of a service provider are reliably influenced by the intensity of the service provider's emotional displays. Moreover, variations in emotion intensity had downstream effects on customers' satisfaction with the service and the product. Indeed, this effect was seen not only in subjective evaluations of a hypothetical product, but also in actual use of a real product. In Study 4, participants were substantially more likely to watch the movie they were given (meaning that they considered the product worth investing their time) after being exposed to mild expressions of emotion. As such, training programs aimed at increasing emotion management skills in the workplace should consider not only the valence of emotion, but also the optimal range of emotion intensity for the context concerned.

The current findings must be interpreted in light of the context in which our studies took place. In the current study we demonstrated that

high-intensity displays lead to negative evaluations of the displayer, and we showed that this is due in part to the inappropriateness of displaying intense emotions in a service setting. However, there are other situations in which intense emotional displays are more consistent with display rules and norms than mild displays (cf. Diefendorff & Richard, 2003; Shields, 2005). For instance, in the context of hostile takeovers, or severe conflict, mild emotion displays may seem out of place, whereas intense displays would be deemed appropriate. The interpretation of emotions is a highly context-dependent inferential process (de Melo, Carnevale, Read, & Gratch, 2014; Van Kleef, De Dreu, & Manstead, 2010). Accordingly, we do not claim that high-intensity emotional displays are universally detrimental, but rather that the perceived appropriateness of such displays shapes their effects.

#### 8.3. Future directions

Our findings raise a number of questions that could fruitfully be addressed by future research. Building on the Affective Process Theory (Elfenbein, 2014), we can speculate that the effects of intense and mild emotion displays may follow different paths. Intense displays are brought to observers' conscious attention more than mild emotion displays (which can more easily blend into the service encounter and operate on a nonconscious level). As such, intense displays should lead to the forward process mechanisms suggested in the Affective Process Theory (Elfenbein, 2014), in which the emotions are recognized and could lead to emotional responses (Hatfield, Cacioppo, & Rapson, 1994), emotional interpretation (Hareli & Rafaeli, 2008), as well as consequences-through-recognition such as drawing inferences from the emotional display (Van Kleef, 2009) or engaging in social comparison (Barsade, 2002) or social appraisal (Manstead & Fischer, 2001). In contrast, the effect of mild emotion displays might follow a more imitative process (Elfenbein, 2014) via primitive emotion contagion (Hatfield et al., 1994) or entrainment (Kelly & Barsade, 2001). These and other possibilities could be addressed in future research.

Another set of questions raised by the current findings relates to the possible social effects of changes and shifts in emotional displays. Filipowicz, Barsade, and Melwani (2011) showed that transitions in emotional displays influence negotiators. In their study, participants negotiated with a counterpart who exhibited either a stable emotion (anger or happiness) or an emotional transition (from happy to angry or vice versa) as the negotiation progressed. Transitions between emotions (as compared to stable emotional displays) were found to influence participants' attitudes and, in some cases, negotiation outcomes (also see Sinaceur, Adam, Van Kleef, & Galinsky, 2013). Given the current findings, it is plausible that not only shifts between emotions, but also changes in intensity within a given emotion engender such social influence. Future research could examine the effects of changing emotional intensities.

A further avenue for future study relates to the degree to which variations in the intensity of emotions (whether felt, expressed, or perceived) follow a linear pattern or a threshold pattern. While we believe that the intensity of felt emotions follows a linear pattern, such that (for instance) a person might feel mildly, moderately, or extremely happy, our findings suggest the possibility that *perceptions* of intensity follow a threshold pattern instead (also see Geddes & Callister, 2007). Though we did not develop hypotheses regarding potential differences between neutral and mild emotional expressions, the results across our last three studies indicate that these differences were perceived as rather subtle. In contrast, participants consistently identified differences in intensity within specific discrete emotions (see Tables 3, 4, and 5). Future studies could explore perceptions of emotional intensity in greater depth, for instance by incorporating more gradients of intensity than included in the current research.

Our findings indicate that the consequences of the intensity of emotional displays are tied to the perceived (in)appropriateness of the emotional displays, which depends on situation-specific display rules. Such display rules vary across (organizational) cultures - what is appropriate in one culture may be deemed inappropriate in another (Eid & Diener, 2001). We conducted our studies in two different countries characterized by different sets of cultural values (Schwartz, 1999), and obtained similar results. However, the interpretation of different levels of emotion intensity may vary across different settings in ways not captured by the present research. For example, the stereotype of service in the United States is one of exaggerated smiles and enthusiasm, creating an emotional display norm of relatively more intense (positive) emotion (Grandey, Rafaeli, Ravid, Wirtz, & Steiner, 2010; Rafaeli & Sutton, 1989). Thus, in such a cultural setting the adverse effects of high-intensity happiness that we observed in both our Israeli and Dutch samples may be attenuated, while the effects of intense sadness might be amplified. Moreover, organizational culture as well as national culture may affect norms about what kinds of emotional displays are acceptable (Diefendorff & Richard, 2003). Future studies could tap into the cultural contingencies of the social effects of emotion intensity.

Lastly, the replication of our findings across visual, auditory, and textual modalities speaks to the general effect of emotion intensity even in the leanest (Daft & Lengel, 1986), text-based form of communication (Studies 3 and 4) - a form that is increasingly important in the digital age (Glikson, Cheshin, & Van Kleef, 2017). It is important to note in this respect that, naturally, the social-signaling function of emotion intensity depends on people's ability to detect and identify it. Recent research suggests that people's ability to detect and identify emotional intensity in facial cues and body language differs, with the latter being easier for observers to read than the former (Aviezer, Trope, & Todorov, 2012). This suggests that the magnitude of the effects we found might vary as a function of the expressive modality involved, even if the direction of the effects is the same (Van Kleef, 2017). Future research could explore the effects of intensity in other emotions, different settings, and additional modalities to further substantiate our conclusions and explore boundary conditions.

### 9. Conclusion

This paper presents the first systematic investigation of the ways in which positive and negative emotional expressions at various levels of intensity influence customer service outcomes. Though it has long been acknowledged that individuals can reliably identify variations in intensity within discrete emotions, the potential differential effects of intense versus mild positive and negative emotional expressions on customer service outcomes are uncharted territory. Our research constitutes a first step toward understanding the role of intensity in shaping the effects of emotional expressions. Our findings indicate that intensity matters and should be incorporated in theorizing and research on the role of emotions in organizations to enable a more complete understanding of interpersonal emotional dynamics.

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