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Is this smile for real? The role of affect and thinking style in customer perceptions of frontline employee emotion authenticity

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1. Introduction

The display of positive emotions in frontline employee-customer interactions is key to satisfactory service delivery in many service industries (Pugh, 2001). In recent years, the authenticity of positive emotion displays from frontline employees has become the focus of attention. Studies have found that the expression of authentic positive emotions markedly outperforms inauthentic displays with respect to important customer outcomes (Hennig-Thurau, Groth, Paul, & Gremler, 2006). Accordingly, many service firms emphasize display authenticity. Authenticity is frequently regarded as a competitive advantage and key strategic goal, often rooted in the organizational values of service firms (e.g., The Ritz-Carlton; Solomon, 2015). Service firms account for employees' disposition to display authentic positive emotions in recruitment (e.g., Walt Disney amusement parks; Reyers, 2011; Hard Rock Café; Hard Rock Café International, 2017). Furthermore, investments in employee training on emotion regulation to ensure authentic positive emotion displays are a common practice in various service industries, such as airlines (e.g., Delta Air Lines; Hochschild, 2003), hotels (e.g., The Ritz-Carlton; Solomon, 2015), and retailing (e.g., Zappos; Kepes, 2010).

The importance placed on authenticity builds on the assumption that customers perceive displayed emotion authenticity. Recent evidence, however, indicates a high variability in the perception of the

displayed emotion authenticity in that authenticity is frequently misjudged (Ekman, O'Sullivan, & Frank, 1999; Van Dijk, Smith, & Cooper, 2011) and that the effects of frontline employee emotion authenticity on customers are contingent on the customer's ability to accurately detect felt and faked emotions (Groth, Hennig-Thurau, & Walsh, 2009). However, research on the perception of emotion authenticity is scarce and usually not concerned with frontline employee-customer interactions. The extant research investigates stable person-related factors, such as the demographics of gender (Gunnery & Ruben, 2016) and age (Del Giudice & Colle, 2007), as well as the capability of emotional intelligence in authenticity perceptions (Groth et al., 2009), but it does not consider customers' situational affective states or information processing. However, understanding whether and when customers perceive the emotion authenticity of frontline employees and how feeling and thinking are involved in this process are relevant for service firms because authenticity perceptions are positively related to important outcomes such as customer satisfaction (Grandey, Fisk, Mattila, Jansen, & Sideman, 2005).

This study addresses this gap by jointly investigating two factors influencing customer perceptions of frontline employee emotional authenticity: customer affect and thinking style. These two factors represent feeling and thinking, two key domains of the human mind, which continuously operate and shape customers' everyday life experiences across all types of contexts (Forgas, 2001). Affect refers to the

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customer's positive or negative emotional experience (Gross, 1998), whereas thinking style refers to individual differences in cognitive functioning and sheds light on how customers process information (Kozhevnikov, 2007). The central role of how customers feel and think is evidenced by their various effects on, for example, perception, attitude formation, and actual behavior (Epstein, 2003; Forgas, 1995). In addition, in emotional display research, feeling and thinking represent two important domains that affect customer perceptions and service evaluations (Groth et al., 2009; Hennig-Thurau et al., 2006). Because research on authenticity perceptions is still in an early stage, the focus on these two basic concepts, affect and thinking style, may lay the foundation for the future advancement of knowledge in this field (Forgas, 2001). Furthermore, this study replicates the effect of frontline employee emotion authenticity on customer satisfaction and highlights the key mediating role of authenticity perceptions.

This study focuses on frontline employee display of positive emotions, required by most service industries (Paul, Hennig-Thurau, & Groth, 2015). The results of two experimental studies that deliberately modify stimuli (videos, photos), manipulations (e.g., different inauthentic displays), samples (students, non-student), and industry (gastronomy, hotels) (i.e., Type 3 replication; Easley, Madden, & Dunn, 2000) reveal that customers perceive positive emotion authenticity, but customers' positive affect and the thinking style of combined processing create an upward bias in authenticity perceptions. The authors chose the two industries of gastronomy and hotels because they represent typical face-to-face, short interactions services where high emotional labor demands exist, positive emotion authenticity perceptions are possible, and customer affect may vary (Grandey et al., 2005; Hochschild, 2003). The findings should be generalizable to these types of services, which are of great economic importance (Ernst & Young, 2013). Overall, this study contributes to the literature on frontline-employee-customer interactions by advancing the understanding of customer perceptions of the displayed positive emotion authenticity of frontline employees. Service managers can use these findings for frontline employee management and service design.

The remainder of this article is structured as follows: in the next section, the background on relevant concepts is provided and the literature reviewed. In section 3, this study's conceptual model is presented. Sections 4 and 5 present the two experimental studies. The authors conclude by discussing the results and implications for service management and theory.

2. Theoretical background and literature review

2.1. Authenticity perceptions

Emotional display is one of the central perspectives of emotional labor, the "expression of work-role specified emotions that may or may not require conscious effort" (Grandey, Diefendorff, & Rupp, 2013, p. 6). Authenticity refers to the genuineness of emotional displays. Displays are considered authentic when a felt emotion is shown, which can be achieved by the modification of emotions via deep acting techniques (Hochschild, 2003). Inauthentic displays, in turn, are characterized by the expression of unfelt and faked emotions, or surface acting (Hennig-Thurau et al., 2006). The expression of felt and faked emotions is associated with distinct facial muscle activation patterns, which, in theory, allow a clear distinction of authentic and inauthentic displays (Ekman, Friesen, & Hager, 2002).

The authenticity of emotional expressions can be perceived in two ways. First, according to embodied cognition theories, such as the simulation of smiles model (Niedenthal, Mermillod, Maringer, & Hess, 2010), customers judge emotions and their authenticity based on a two-step process of mimicry and facial feedback (Korb, With, Niedenthal, Kaiser, & Grandjean, 2014). Customers first mimic the observed emotion, which then results in the experience of the emotion (Niedenthal et al., 2010). The second approach proposes an information-based

perception of authenticity in which customers judge the emotion display using their knowledge about the genuineness of facial expressions, such as specific facial muscle activation patterns (Goldman & Sripada, 2005). Many empirical studies support both approaches to authenticity perception (e.g., Korb et al., 2014; Rychlowska et al., 2014).

Understanding whether and when customers perceive frontline employee positive emotion authenticity is relevant for service firms because authenticity perceptions are positively associated with important customer outcomes, such as customer satisfaction (Grandey et al., 2005) and perceived service quality (Paul et al., 2015). However, evidence on the perception of positive emotion authenticity is mixed. Some studies support customer authenticity perception (e.g., Hennig-Thurau et al., 2006; Krumhuber, Manstead, Cosker, Marshall, & Rosin, 2009), whereas other studies find only limited (Groth et al., 2009) or no support (e.g., Ekman et al., 1999; Van Dijk et al., 2011). These mixed findings indicate that biasing factors may influence authenticity perceptions. Research finds that stable person-related factors, such as the demographics of gender (Gunnery & Ruben, 2016) and age (Del Giudice & Colle, 2007), as well as the capability of emotional intelligence, influence authenticity perceptions (Groth et al., 2009). However, the extant research is usually not concerned with frontline employee-customer interactions, and it does not consider customers' situational affective states and information processing as potential biasing factors of authenticity perceptions. This study addresses this gap by jointly investigating the effect of customer affect and thinking style, which represent feeling and thinking, two key domains of the human mind that continuously operate and shape customers' everyday life experiences across all types of contexts (Forgas, 2001).

2.2. Customer affect

This study defines customer affect as the "superordinate category for valenced [mental] states" in which a customer feels good or bad, or likes or dislikes certain stimuli (Gray & Watson, 2007; Gross, 1998, p.273), thereby also comprising the concepts of emotion and mood. The authors focus on customer affect as a situational state, that is, the transitory and short-lived experience of affect (Luong, 2005). In consumption settings, customer affect can be distinguished in the affective states the customer experiences before the service encounter, that is, pre-consumption affect; during the service encounter, that is, consumption affect; and after the service encounter, that is, post-consumption affect (Mattila & Wirtz, 2000).

In emotion display research, studies on how customers feel investigate the effects of positive emotion displays from frontline employees and display authenticity on customer consumption affect (e.g., Barger & Grandey, 2006) and post-consumption affect (e.g., Hennig-Thurau et al., 2006), but few studies address the role of pre-consumption affect in service delivery. The extant studies largely focus on the role of customer pre-consumption affect in post-consumption service evaluations (Mattila & Wirtz, 2000), but they do not address the effects on customer perceptions of frontline employees and emotion authenticity. However, for research, an investigation of pre-consumption affect in authenticity perceptions is important because it strongly influences perception so that findings add to emotional labor theory (Forgas, 1995). For practice, the findings may answer questions about whether and how service companies should manage customers' pre-encounter affect (e.g., a doctor's office making appointments and a hotel sending pre-stay emails).

2.3. Thinking style

According to cognitive-experiential self-theory (CEST; Epstein, Pacini, Denes-Raj, & Heier, 1996), thinking style is a trait that refers to individual differences in the dispositional and relatively stable reliance on two information processing systems, the rational and the experiential (Pacini & Epstein, 1999). The notion of dual information

processing is accepted in psychology and marketing, although different labels are used to describe the two systems (Novak & Hoffman, 2009). The rational system is associated with analytical, logical, and intentional processing, whereas the experiential system is characterized by heuristic, affective, and automatic processing (Epstein, 2003). As a trait, thinking style is not affected by situational states such as customer affect (Novak & Hoffman, 2009).

One fundamental premise of CEST is that the two systems, rational and experiential, operate in parallel and affect each other (Epstein, 2003). Accordingly, Sojka and Giese (1997) introduce a classification of four different types of information processors: thinking processors, who rely heavily on the rational system but not on the experiential system; feeling processors, who process information predominately via the experiential system but not via the rational system; combined processors, who rely heavily on both systems; and passive processors, who do not make strong use of either the rational or experiential system in information processing. This classification system receives empirical support from a variety of studies in marketing (e.g., Ruiz & Sicilia, 2004; Sojka & Giese, 2001, 2006) and psychology (Shiloh, Salton, & Sharabi, 2002; Sladek, Bond, & Phillips, 2010; Wolfradt, Oubaid, Straube, Bischoff, & Mischo, 1999).

The extant marketing research on thinking styles focuses on customer perceptions of brand practices (e.g., Monga & John, 2010) and advertisement (e.g., Ruiz & Sicilia, 2004) as well as product and channel choice (Becerra, Badrinarayanan, & Kim, 2013; Scarabis, Florack, & Gosejohann, 2006). In emotion display research, studies on how customers think are usually concerned with service evaluations (Groth et al., 2009). However, the effects of customer thinking style on customer perceptions of frontline employees and emotion authenticity have not been addressed in previous research. Because thinking style persistently affects customer perceptions, insights into their effects on customer authenticity perceptions are important for research and extend emotional labor theory (Epstein, 2003). For practice, insights on customer thinking styles may be useful for psychographic segmentation and targeted marketing activities.

2.4. Customer satisfaction

Customer satisfaction is defined as the customer's service interaction-related pleasurable fulfillment response, which is based on a comparison of the service outcome and a reference standard (Oliver, 2010). Customer satisfaction is a pivotal marketing metric with positive effects on customer retention, profitability, and financial performance (Gupta & Zeithaml, 2006).

Research on frontline employee emotion display finds that the

display of positive emotions results in higher customer satisfaction (Barger & Grandey, 2006; Pugh, 2001). In particular, the expression of authentic positive emotions markedly outperforms inauthentic displays with respect to customer satisfaction (Hülshöger & Schewe, 2011). This study replicates the effect of frontline employee emotion authenticity on customer satisfaction and highlights the key mediating role of authenticity perceptions.

3. Conceptual framework and hypotheses

3.1. Overview

This study's conceptual framework is presented in Fig. 1. As a pre-condition and baseline for investigating potential perception biases, the authenticity of positive emotion displays from frontline employees is expected to positively affect customer-perceived authenticity. The authors hypothesize that both customer positive pre-consumption affect (H1) and combined processing (high rational and high experiential thinking style; H2) bias authenticity perceptions upwards. Replicating findings from previous studies, the authors also test the effect of authenticity on customer satisfaction mediated by perceived authenticity.

3.2. Authenticity of positive emotion display and customer authenticity perceptions

In service delivery, frontline employees are often required to display positive emotions, which usually means smiling (Paul et al., 2015). In the literature, numerous types of smiles are discussed (Frank, Ekman, & Friesen, 1993). Whereas only one type of authentic smile exists, inauthentic smiles can be expressed in various ways (Ekman, 1992). This study focuses on two distinct types of inauthentic smiles: the low-intensity smile (Frank et al., 1993) and the asymmetric smile (Skinner & Mullen, 1991). Both types of inauthentic smiles are particularly suitable for this research because they are commonly displayed when employees do not feel like smiling (Frank et al., 1993) and are not blended with other discrete emotions (Ekman, 1992).

Distinctive facial muscle activity is associated with authentic and inauthentic smiles and can be described using the facial action coding system (FACS). FACS is a scientific classification approach of facial muscular activity that allows the evaluation of 44 distinct facial muscles, called action units (AU) (Ekman et al., 2002). All smiles share an activation of the lip corner puller (zygomaticus major; AU12), which produces an upward twist of the lips (Hennig-Thurau et al., 2006). Authentic smiles are characterized by a contraction of the cheek raiser (orbicularis oculi, AU6), which produces crow's feet wrinkles around

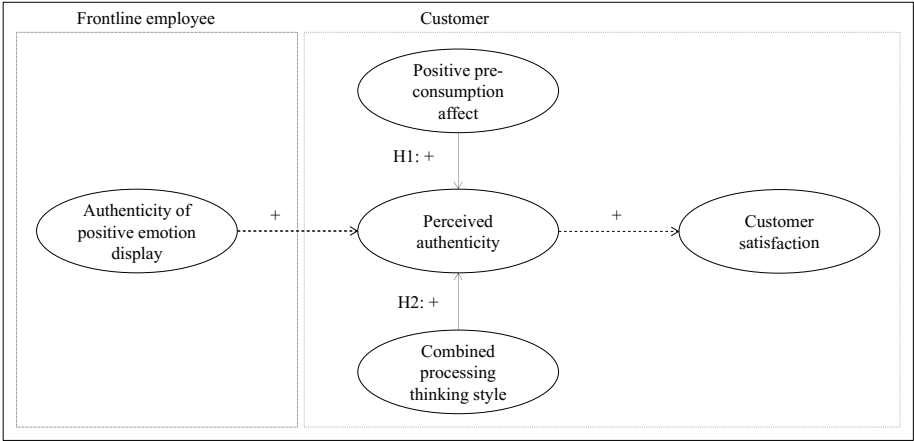


Fig. 1. Conceptual framework.
 Note: Customer satisfaction is measured in Study 1, but omitted in Study 2.

the eyes (Ekman et al., 2002). Cheek raiser activity is absent in both types of inauthentic smiles (Korb et al., 2014). In addition, the low-intensity smile is classified by lower lip corner puller activation compared to authentic smiles (Frank et al., 1993), whereas the asymmetric smile is characterized by higher left-sided asymmetry in the face (Skinner & Mullen, 1991).

Considering the available smile cues to judge emotion authenticity, customers are expected to perceive emotion authenticity (Grandey et al., 2005; Hennig-Thurau et al., 2006; Krumhuber et al., 2009). Authenticity perception is a precondition for the investigation of biasing factors because it allows an in-depth understanding of the nature of perception biases. Biases can pertain to the perception of both authentic and inauthentic smiles or may solely affect authentic or inauthentic smile perception. In the following, the authors present their rationale for the biasing effects of customer pre-consumption affect and thinking style.

3.3. Pre-consumption affect and customer authenticity perceptions

Research in psychology shows that people have a consistent habitual tendency to judge others as basically honest (Zuckerman, DePaulo, & Rosenthal, 1981). This tendency, often referred to as truth bias or correspondence bias (DePaulo, 1992), causes individuals to pay less attention to potentially deceptive verbal and nonverbal cues, letting them go unnoticed (McCornack & Parks, 1986). Affective states influence the extent of truth bias (Forgas & East, 2008). Individuals experiencing positive affect are primed to evaluate observed behavior in a more positive and trusting manner, whereas individuals in negative affective states interpret behavior in a more skeptical way (Forgas, 1998). This reasoning is in line with affect-as-information models (Forgas, 1995), which posit a less attentive processing with positive affect and a more attentive processing with negative affect (Forgas, 2001).

This study proposes that a positive pre-consumption affect of the customer heightens the occurrence of truth bias with respect to authenticity perceptions. Customers high in positive affect are expected to judge frontline employee smiles as more authentic compared to customers with a low positive affect or a high negative affect. This effect pertains to the perception of both authentic and inauthentic smiles. Regarding information-based perceptions of authenticity, customer perceptions are biased by positive affect in that information on inauthentic smiles is only selectively processed, as commonly observed in affect priming, and thus authenticity is taken for granted (Forgas, 1995). With respect to simulation-based perceptions of authenticity, customers may misattribute a positive post-observation emotional state to the observed smile of a frontline employee and not to their own positive pre-consumption affect. Thus, the following is proposed:

Hypothesis 1. Customer positive pre-consumption affect is positively related to perceived authenticity of frontline employee positive emotion display.

3.4. Thinking style and customer authenticity perceptions

The study proposes that combined processing, but not the three other types of thinking styles, exerts a biasing influence on customer perceptions of the positive emotion authenticity of frontline employees (Goldman & Sripada, 2005; Sojka & Giese, 1997). Although at first sight counterintuitive, research in psychology supports the notion that the combination of rational and experiential information processing is disadvantageous to the customer. Studies find that the combination of rational and experiential information processing is associated with irrational thinking (Epstein, 2003; Wolfradt et al., 1999). Compared to other processor types, combined processors are strongly susceptible to biases in perception (Shiloh et al., 2002), which stem from deficits in cognitive-perceptual performance (Genovese, 2005). For example,

combined processors more often misinterpret a person's behavior, which results in the misattribution of intent (Wolfradt et al., 1999). The literature reports similar effects of the combination of two entities in related domains. For example, Côté and Miners (2006) find that individuals high in both cognitive intelligence and emotional intelligence do not outperform individuals who are solely high in cognitive intelligence or emotional intelligence. Moreover, research on information load supports the notion that more information must not necessarily yield better outcomes (e.g., Jacoby, Speller, & Kohn, 1974). Whereas biases generally may occur in a positive or negative direction (Ayal, Hochman, & Zakay, 2011), this research proposes a positive authenticity perception bias based on the following rationales.

First, according to the Pollyanna principle (Matlin & Stang, 1978), individuals have a general disposition to perceive and recall positive information more accurately than negative information, a phenomenon that has received empirical support from a variety of studies (e.g., Ferrara & Yang, 2015; Matlin & Stang, 1978). Customers are thus automatically inclined to search for and process more positive consumption-related cues than negative ones (MacInnis & De Mello, 2005). This positive bias in perception is amplified in combined processing. Combined processing is characterized by a more holistic and comprehensive perception compared to other processing types (Shiloh et al., 2002) so that customers are likely to include a larger amount of cues in their perception (Epstein, 2003). Because of the Pollyanna principle, this implies that an increasingly larger amount of positive than negative cues will be perceived. Thus, holistic and comprehensive perception in combined processing ultimately affects customer perception and evaluation positively (Monga & John, 2010), introducing a positive perceptual bias that is expected to also occur with authenticity perceptions.

Second, the display of positive emotions generally triggers positive associations, regardless of its authenticity (Pugh, 2001). At the same time, combined processing induces a strongly association-based form of thinking (Wolfradt et al., 1999). Associations are disinhibited in combined processing resulting in a significant distortion of perception and thinking in favor of the associations elicited (Wolfradt et al., 1999). Thus, associations are made salient while limiting the perception of other cues (Ratneshwar, Warlop, Mick, & Seeger, 1997). It is thus proposed that the positive associations triggered by positive emotion displays will bias perception in combined processing upwardly because the salience of positive associations constrains the perception of other less positive information (e.g., inauthentic displays).

Building on these rationales, the authors propose that combined processors, compared to the other processor types, perceive frontline employee positive emotion displays as more authentic (Goldman & Sripada, 2005). Combined processing results in misperception with information-based authenticity perception and in the misattribution of post-observed affective states with simulation-based authenticity perception, both leading to upwardly biased evaluations of authenticity. Thus, the following is proposed:

Hypothesis 2. Combined processing is positively related to the perceived authenticity of frontline employee positive emotion display.

3.5. Authenticity, perceived authenticity, and customer satisfaction

Previous studies report positive effects of frontline employee positive emotion display authenticity on customer satisfaction (Hülsheger & Schewe, 2011). Two rationales help explain this effect. First, customers perceive positive emotion authenticity as an extra-role behavior that surpasses the employee's contractual job requirements (Hochschild, 2003) and thus increases the level of service performance (Grandey, 2003). A higher service performance, in turn, results in higher customer satisfaction due to higher expectation fulfillment (Grandey et al., 2005). Second, the display of authentic positive emotions makes the customer-employee interaction more enjoyable because the employee shows a genuine interest in the customer (Hülsheger & Schewe, 2011). Thus, the

customer is more likely to reveal personal information, which allows the employee to customize the service to the customer's needs (Gremier & Gwinner, 2000). The high level of customization positively affects customer satisfaction again due to higher expectation fulfillment (Hennig-Thurau et al., 2006). Notably, both rationales rely heavily on customer authenticity perception as a precondition for the effect of authenticity on customer satisfaction. This highlights the importance of customer authenticity perceptions as a key mediating construct.

4. Study 1

4.1. Participants and procedure

The authors conduct a laboratory experiment with a 2 (frontline employee positive emotion authenticity: high vs. low) by 3 (customer pre-consumption affect: positive vs. negative vs. control) between-subjects design. The respective authenticity and customer affect conditions are assigned randomly. In alignment with previous research (Monga & John, 2010), thinking style is measured as a trait and not manipulated. Study 1 uses film stimuli specially created for it. Film stimuli are often employed in laboratory services research (Grandey et al., 2005; Paul et al., 2015) and are shown to be ecologically valid (Bateson & Hui, 1992).

332 students participate in this study. 25 cases are removed from the analysis because of an invalid induction of pre-consumption affect. Furthermore, the authors exclude 3 cases of subjects giving strongly inconsistent demographic information, leaving a final sample size of 304. Random assignment results in roughly equivalent cell sizes. The sample's ages range from 18 to 34 ($m = 22.6$; $sd = 2.80$); 41% are male.

Participants are recruited by advertisements on campus and receive vouchers from two local restaurants in exchange for participation. Upon arrival, participants are informed that this study is on customer service experiences and that they will be watching a short film. Participants are then seated at partitioned terminals and first answer a short questionnaire on individual differences (including thinking style), after which they undergo a randomly assigned affect induction procedure and answer questions on their pre-consumption affect. Next, they watch the randomly assigned film depicting a short restaurant interaction (with high or low authenticity), after which they complete a survey measuring the dependent and other variables. They then are debriefed.

The scenario asks participants to imagine having a job interview early the next morning in a distant city (Grandey et al., 2005). They arrive in the evening and plan to go out to have dinner. Shortly before leaving their hotel room, a friend calls and asks for help in her dissertation project, which requires only 10 min of their time. She works on a life-event database and asks her friend to write a report according to the respective affect induction condition (cf. Adaval, 2001). After writing the report, participants leave for the restaurant and watch the respective video.

4.2. Stimuli development and experimental manipulations

The authors create short film stimuli depicting a restaurant visit starting with the waitress approaching the table, greeting the customer, handing over the menu, and taking and confirming the drink order. The script for the interaction is developed in close collaboration with professional waiters and a manager from a local hotel and restaurant. For the role of the waitress, the authors cast a set of 9 female students¹ who are either experienced in acting or work as a waitress. After shooting

short rehearsal videos, the two individuals with the most natural performance in front of the camera are selected based on independent votes from three services researchers. The first author trains each candidate for 15 h on site over a period of approximately 6 weeks. Candidates are trained in deep acting and surface acting techniques to ensure adequate regulation of emotion with respect to authenticity manipulation as well as the natural performance of the scripted interaction. These training interventions, which include a series of repeated rehearsals and test shots, are accompanied by both candidates' practice efforts at home. Based on feedback about the test shots from professional waiters, the candidates, and two authors, minor adjustments in the script are carried out to maximize the actor-role fit. The final test shots are then used to select the one actress to perform in the experimental videos.

The films are professionally recorded in a local mid-priced restaurant. Particular attention is paid to the location choice to ensure it is affordable for the target population and that the servicescape and ambience are appealing. The authors hire a professional film crew consisting of a camera operator, lighting and sound technicians, a make-up artist, a set decorator, and a film editor. The first author serves as the set director and production coordinator. All films are recorded on an HDV-camcorder with an external directional microphone. Proper lighting conditions are ensured with the use of three TecPro Felloni units. To ease participants' identification with the experimental setting, the films are recorded from the customer's point of view (i.e., no silhouette of a customer is shown). Each film is repeatedly recorded until the actress, the two set assistants, and the set director deem the recording appropriate. To further increase realism, the final films require participants' input twice by means of interactivity. The customer first decides whether an extra place setting ought to be removed and second places a drink order from a pretested set of five drinks ($n = 149$). The video is adapted accordingly. The analysis of variance reveals that participants' choices do not affect the dependent variable (both $p > 0.10$). All of the short films are roughly equal in length, ranging from 38 to 40 s. Using one item adapted from Dabholkar (1996), participants in the experiment rate the scenario as highly realistic on a seven-point Likert scale ("the restaurant visit described was realistic"; $m = 5.2$, $sd = 1.5$).

Authenticity of positive emotion display of frontline employee. The authors manipulate the authenticity of positive emotions by altering the emotional display of the trained actress. In the high authenticity condition, the actress alters her emotional experience using cognitive change emotion regulation techniques to genuinely feel happy (Gross, 1998). In the low authenticity condition, she induces a neutral mood and then acts friendly by exclusively modulating her facial expression displaying a low intensity smile (cf. Grandey et al., 2005), which is a common expression of inauthentic positive emotions (Frank et al., 1993). At the shooting, the first author and the actress ensure that the emotion display is in alignment with the reported facial muscle activation for authentic and low-intensity inauthentic positive displays (Ekman et al., 2002). All other facets of the employee's emotional expression are held constant (e.g., number of smiles per film, lips part so that teeth are visible). Fig. 2 shows stills from both conditions.

Customer pre-consumption affect. The authors manipulate customer pre-consumption affect by using the established autobiographical recall method (Schwarz & Clore, 1983). Participants in the positive (negative) affect condition are asked to recall a personally important event that made them very happy (sad), relive that event, and write a detailed account of this event. Borrowing from other studies (Garg, Wansink, & Inman, 2007), the authors also include a neutral control condition for comparison purposes. Participants in the control condition are asked to recall a boring event, relive it, and report it (Wright & Mischel, 1982). A neutral emotional state denotes low levels of experienced positive or negative emotions (Gross & Levenson, 1995). Boredom is an emotion that is predominately characterized by low levels of emotional experience and thus classified as a neutral emotion (Jhang, Grant, &

¹ The authors choose a female actor because of the common use of female actors in experimental emotional display research (e.g., Grandey et al., 2005; Paul et al., 2015) as well as the lack of evidence on service provider gender effects in emotional display research (e.g., Luong, 2005; Tsai & Huang, 2002).



Fig. 2. Stills from authenticity of positive emotion display manipulation in Study 1.

Campbell, 2012). The wording for the affect manipulation is closely based on the work of Wright and Mischel (1982).

4.3. Measures and manipulation checks

4.3.1. Measures

All instruments are measured on seven-point Likert scales with higher numbers indicating stronger agreement. All measurements used in this research appear in the Appendix. Customer satisfaction is measured with 4 items from Keh, Ren, Hill, and Li (2013) and Burnham, Frels, and Mahajan (2003). Perceived authenticity (Cronbach's $\alpha = 0.93$) is measured with 4 items from Côté, Hideg, and Van Kleef (2013) and Grandey et al. (2005). Thinking style is measured with 6 items from the rational thinking style scale (0.76) and 7 items from the experiential thinking style scale (0.86), both taken from Pacini and Epstein (1999). As in previous studies (e.g., Ayal et al., 2011), the different thinking style types are operationalized using the interaction term of both thinking style measures. For the customer pre-consumption affect manipulation check, this study uses the PANAS scale (Watson, Clark, & Tellegen, 1988) to measure positive affect (0.94) and negative affect (0.89).

To test the validity of the measures, the authors perform confirmatory factor analysis including all measures from the model. Although the four factor model shows acceptable fit to the data ($\chi^2(180) = 356.33$, $p < 0.05$; CFI = 0.95; TLI = 0.94; RMSEA = 0.06; SRMR = 0.06), factor loadings for rational and experiential thinking style are in part below the 0.5 threshold (Hair, Black, Babin, & Anderson, 2010) resulting in low AVEs. Item removal does not yield an acceptable AVE for rational thinking style but does for experiential thinking (one item removed). The re-estimated model fits the data well ($\chi^2(161) = 250.06$, $p < 0.05$; CFI = 0.97; TLI = 0.97; RMSEA = 0.04; SRMR = 0.05).

As displayed in the upper part of Table 1, all measures show adequate levels of reliability with all alpha values being > 0.70 (Nunnally, 1978). Convergent validity for customer satisfaction, perceived authenticity, and experiential thinking style is supported because the

AVEs are greater 0.5. Despite the relatively low AVE values for rational thinking style, the authors still find support for convergent validity because the composite reliability values are > 0.70 (Hulland, 1999), and Fornell and Larcker (1981, p. 46) state that “on the basis of ρ_c alone [i.e., composite reliability], the researcher may conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to error”. Factor loadings range from 0.59 to 0.93 for customer satisfaction, from 0.73 to 0.94 for perceived authenticity, from 0.54 to 0.84 for experiential thinking style, and from 0.37 to 0.65 for rational thinking style. Previous studies report similarly low factor loadings for the thinking style scales (e.g., Björklund & Bäckström, 2008; Witteman, van den Bercken, Claes, & Godoy, 2009), which may originate from the use of reversed items (Weijters & Baumgartner, 2012). Cut-off values for indicator reliability exist (squared loadings > 0.40 ; Bagozzi & Baumgartner, 1994), but Bagozzi and Yi (2012, p. 17) argue they should “be taken with some leeway in mind”. Discriminant validity is established because all the AVEs are greater than the respective shared variances (Fornell & Larcker, 1981).

4.3.2. Manipulation checks

To test the success of the authenticity manipulation, the short films depicting authentic and inauthentic displays are FACS coded by one certified and one trained FACS coder. The coders code each smile in both films in terms of action units (AU6 = cheek raiser, AU12 = lip corner puller, AU25 = lips part, teeth are visible) and intensity (A = trace, B = slight, C = pronounced, D = severe, E = maximum). All smiles in the inauthentic film ($n = 7$) are consistently coded AU12B + AU25. The seven smiles in the authentic film are coded AU6C + AU12C + AU25. These coding results are as intended and in line with the FACS (Ekman et al., 2002). The proportional reduction in loss (PRL) for the two coders is 0.96 (Rust & Cooil, 1994), demonstrating high inter-coder reliability.

To further test the success of the authenticity manipulation, the authors conduct a pretest with the authenticity manipulation. Fifty-six students participate in the pretest, with a mean age of 23.5 ($sd = 4.5$); 64% are female. Perceived authenticity is measured as in the main

Table 1
Descriptive statistics and validity assessment.

		Number of items	M	SD	Cronbach's alpha	Composite reliability	AVE	Shared variance		
								1	2	3
Study 1	1 Rational thinking style	6	5.11	0.84	0.76	0.73	0.34			
	2 Experiential thinking style	7	4.69	0.98	0.85	0.86	0.50	0.02		
	3 Perceived authenticity	4	3.88	1.52	0.93	0.91	0.72	0.00	0.00	
	4 Customer satisfaction	4	5.86	0.90	0.87	0.91	0.71	0.00	0.00	0.14
Study 2	1 Rational thinking style	8	5.33	1.10	0.93	0.94	0.67			
	2 Experiential thinking style	8	4.43	1.43	0.96	0.96	0.74	0.00		
	3 Perceived authenticity	4	4.22	1.75	0.97	0.96	0.86	0.01	0.00	

study (Cronbach's $\alpha = 0.97$), smile intensity is measured with three items adapted from [Barr and Kleck \(1995\)](#); $\alpha = 0.96$), and cheek raiser activity is measured with four items based on the work of [Ekman and Friesen \(2003\)](#); $\alpha = 0.84$). Pretest participants report higher authenticity perceptions in the high authenticity condition compared to the low authenticity condition ($m_{\text{high authenticity}} = 4.4$; $m_{\text{low authenticity}} = 3.2$; $t(54) = 2.84$, $p < 0.05$). Furthermore, participants report higher perceptions of smile intensity in the high versus low authenticity condition ($m_{\text{high authenticity}} = 4.7$; $m_{\text{low authenticity}} = 3.1$; $t(54) = 4.25$, $p < 0.05$), and higher perceptions of cheek raiser activity in the high compared to low authenticity condition ($m_{\text{high authenticity}} = 4.9$; $m_{\text{low authenticity}} = 2.8$; $t(54) = 7.47$, $p < 0.05$). These results are in alignment with the intended manipulation. The authors furthermore test for confounding effects of the authenticity manipulation on task performance, the attractiveness of the actress, and the aesthetic appeal of the servicescape. Using one item for each construct, participants in the pretest do not perceive significant differences in task performance ($m_{\text{high authenticity}} = 6.0$; $m_{\text{low authenticity}} = 5.7$; $t(54) = 0.23$, *ns*), attractiveness ($m_{\text{high authenticity}} = 4.6$; $m_{\text{low authenticity}} = 4.2$; $t(54) = 0.28$, *ns*), or the aesthetic appeal of the servicescape ($m_{\text{high authenticity}} = 5.5$; $m_{\text{low authenticity}} = 5.1$; $t(54) = 0.21$, *ns*).

In the main study, participants also report higher authenticity perceptions in the high authenticity condition compared to the low authenticity condition ($m_{\text{high authenticity}} = 4.3$; $m_{\text{low authenticity}} = 3.5$; $t(301) = 4.63$, $p < 0.05$). To rule out confounding effects of the authenticity manipulation on customer affect, the authors test for differences in positive affect ($\alpha = 0.92$) and negative affect ($\alpha = 0.88$) measured after the authenticity manipulation. The authenticity manipulation does not alter the emotional experience of positive affect ($m_{\text{high authenticity}} = 3.8$; $m_{\text{low authenticity}} = 3.6$; $t(302) = 1.61$, *ns*) and negative affect ($m_{\text{high authenticity}} = 1.3$; $m_{\text{low authenticity}} = 1.3$; $t(302) = 0.82$, *ns*). Thus, the manipulation is considered successful.

To test the success of the affect manipulation, event descriptions from all study participants are coded in a first step. Two independent coders, who are blind to the experimental condition of the subjects, rate the valence (happy, sad, or bored) and the seriousness (serious or not serious) of each report on categorical scales. The inter-coder reliability is high for both valence (PRL = 0.95) and seriousness (PRL = 0.95). A lack of agreement on one of the two criteria is resolved by a third coder. Based on the coding, 25 cases were removed from analysis because of incorrect report valence ($n = 8$) or a lack of seriousness ($n = 17$). In a second step, the authors use participants' self-reported affect measured immediately after the affect induction to test the success of the affect manipulation. Participants in the positive affect condition report significantly more positive affect compared to participants in the negative affect ($m_{\text{positive}} = 5.2$; $m_{\text{negative}} = 3.3$; $t(200) = 12.36$, $p < 0.05$) and control conditions ($m_{\text{positive}} = 5.2$; $m_{\text{control}} = 2.7$; $t(200) = 16.06$, $p < 0.05$). Participants in the negative affect condition report significantly more negative affect compared to participants in the positive affect ($m_{\text{negative}} = 2.6$; $m_{\text{positive}} = 1.4$; $t(200) = 9.58$, $p < 0.05$) and control conditions ($m_{\text{negative}} = 2.6$; $m_{\text{control}} = 1.8$; $t(202) = 5.47$, $p < 0.05$). Thus, the affect manipulation is successful.

4.4. Results

The authors test the hypotheses using multiple regression analysis. For the purposes of clear interpretation, the experimental manipulations are effect coded, and both thinking style scales are mean centered. Authenticity is coded as 1 high and -1 low. Positive affect is coded as 1 positive and 0 negative, -1 control. Negative affect is coded as 1 negative, 0 positive, and -1 control. [Table 2](#) shows the results.

[Hypothesis 1](#) receives support, indicated by the significant positive impact of customer positive pre-consumption affect on perceived

Table 2
Results of hypotheses tests.

DV: perceived authenticity	Study 1		Study 2	
	Estimate	SE	Estimate	SE
Intercept	3.89*	0.08	4.29*	0.08
Authenticity	0.38*	0.08	0.79*	0.08
Positive affect	0.24*	0.12	0.21*	0.10
Negative affect	-0.11	0.12	0.07	0.10
Rational thinking style	0.07	0.10	0.13	0.08
Experiential thinking style	0.03	0.08	0.07	0.06
Rational thinking style \times experiential thinking style	0.20*	0.09	0.10*	0.04
R ²	0.10		0.24	
ΔR^2 for interaction term	0.02*		0.01*	
F	5.27*		17.97*	

* $p < 0.05$.

authenticity ($b = 0.24$, $p < 0.05$). This finding indicates that positive affect biases the perception of both authentic and inauthentic displays upwards. Negative affect does not show a main effect on perceived authenticity.

Regarding [Hypothesis 2](#), a significant positive interaction effect of rational thinking style and experiential thinking style on perceived authenticity is found ($b = 0.20$, $p < 0.05$). Probing the interaction using spotlight analysis reveals a significant simple slope for high experiential thinking ($m + 1$ sd; $b = 0.31$, $se = 0.15$, $p < 0.05$) but not for low experiential thinking ($m - 1$ sd; $b = -0.19$, *ns*). Inserting high ($m + 1$ sd) and low ($m - 1$ sd) values of rational thinking style in the simple slopes of experiential thinking, combined processing (rational $m + 1$ sd, experiential $m + 1$ sd), results in higher authenticity perception than feeling processing (rational $m - 1$ sd, experiential $m + 1$ sd). Conducting the moderation analysis with rational thinking as the moderator results in a significant simple slope for high rational thinking ($m + 1$ sd; $b = 0.22$, $se = 0.11$, $p < 0.05$) but not for low rational thinking ($m - 1$ sd; $b = -0.18$, *ns*). Inserting high ($m + 1$ sd) and low ($m - 1$ sd) values of experiential thinking style in the simple slopes of rational thinking, combined processing (rational $m + 1$ sd, experiential $m + 1$ sd) results in higher authenticity perceptions than thinking processing (rational $m + 1$ sd, experiential $m - 1$ sd). Furthermore, the authors conduct a floodlight analysis ([Spiller, Fitzsimons, Lynch, & McClelland, 2013](#)). The Johnson-Neyman points of significance for experiential thinking style and rational thinking style are 5.47 and 5.87, respectively. [Hypothesis 2](#) thus receives support. Perceived authenticity for passive processors does not significantly differ from thinking and feeling processors. [Fig. 3](#) (Panel A) visualizes the spotlight analyses.

The authors additionally test the mediating effect of perceived authenticity in the authenticity-customer satisfaction relationship. The total effect of authenticity on customer satisfaction is significantly positive ($b = 0.16$; $se = 0.51$; $p < 0.05$), whereas the direct effect of authenticity on customer satisfaction (i.e., the effect of authenticity when perceived authenticity is included in the model) is insignificant ($b = 0.08$; $se = 0.50$; $p > 0.05$). The indirect effect is significantly positive ($b = 0.08$; $se = 0.02$; 95% bias corrected bootstrap CI with 10,000 samples [0.04, 0.13]), indicating that perceived authenticity fully mediates the authenticity-customer satisfaction relationship. This finding highlights the key mediating role of customer authenticity perceptions.

As robustness checks, the authors additionally test non-hypothesized interaction effects on perceived authenticity. The interaction of the authenticity and affect manipulations is insignificant ($p > 0.05$). Furthermore, the three-way interaction of authenticity and the two thinking styles is not significant. Finally, the three-way interaction of affect and the two thinking styles is also insignificant. To further test the robustness of the results, the authors rerun the analysis including

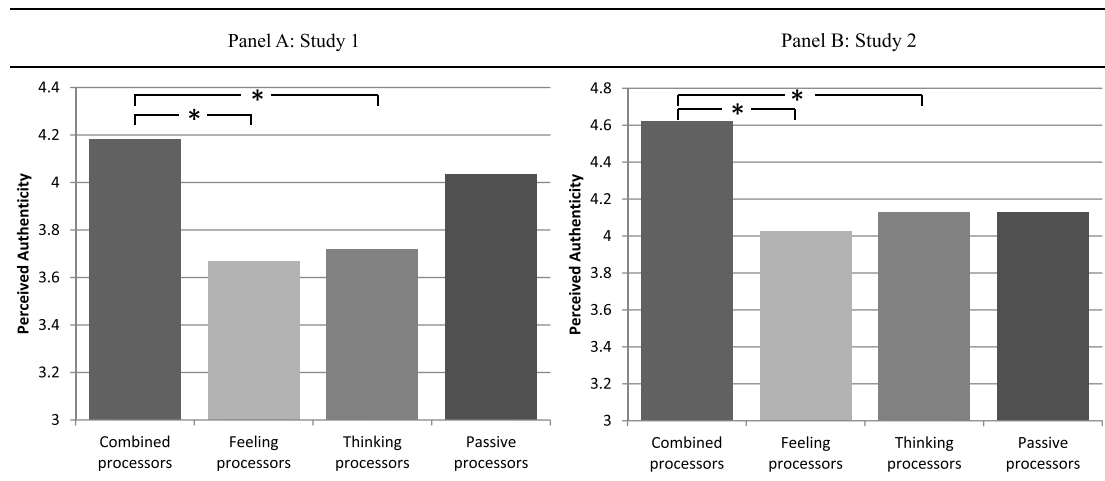


Fig. 3. Thinking style and perceived authenticity.

Note: * $p < 0.05$; a comparison of combined and passive processing is not possible as they are not on the same slope.

additional control variables. Drawing on the findings from extant research, the authors include customer age (Del Giudice & Colle, 2007) and gender (Gunnery & Ruben, 2016), and their respective interaction terms with the authenticity manipulation as control variables. The results of the hypothesis tests remain unchanged. These results provide further support for the theoretical framework of this study. Detailed results for the robustness checks are available from the first author.

4.5. Discussion

In Study 1, the authors find support for all proposed hypotheses. Based on the precondition of authenticity perception, the authors find positive biases in authenticity perceptions with customer positive pre-consumption affect and the combined processing thinking style. Furthermore, perceived authenticity is found to fully mediate the authenticity-customer satisfaction relationship, which emphasizes the importance of authenticity perceptions. This finding replicates and extends the previously reported positive effects of authentic positive emotion displays (e.g., Hennig-Thurau et al., 2006; Hülshager & Schewe, 2011). Regarding combined processing and in support of our reasoning of H2, the floodlight analysis indicates that individuals have to make use of both thinking styles, and high levels of rational and experiential thinking style are necessary for the bias to occur. The bias increases in intensity with increasing levels of rational and experiential thinking style.

Study 1 has limitations. First, this study investigates the proposed model in only one industry (i.e., gastronomy), raising questions about the generalizability of the findings. Second, the use of a student sample may be considered a limitation because they represent a very homogeneous group in society. Third, the low authenticity condition is represented by the low intensity smile, and affect is induced using the autobiographical recall method. There are, however, other types of inauthentic smiles (Ekman, 1992) and alternative ways to induce emotions (Gross & Levenson, 1995). Fourth, this study uses one type of stimulus (videos), but other stimuli may also be used (e.g., photos). Finally, the factor loadings of the thinking style scales are rather low. To address these limitations and to provide further evidence for the proposed model, the authors conduct a second experiment that deliberately modifies the stimulus, manipulations, sample, and industry (Type 3 replication). Because the positive effect of authenticity on customer satisfaction is consistently reported in the literature (see for a meta-analysis Hülshager & Schewe, 2011) and replicated in Study 1, Study 2 focuses solely on the replication of H1 and H2.

5. Study 2

5.1. Participants and procedure

The authors conduct an online experiment with a non-student sample of 353 participants from a large customer panel. Employing various attention checks in the experiment (Oppenheimer, Meyvis, & Davidenko, 2009), high data quality is ensured because inattentive participants are not allowed to complete the study. The sample's ages range from 20 to 66 ($m = 39.0$; $sd = 10.7$); 53% are male. Participants have different educational backgrounds and work in a variety of different occupations.

The experimental design is similar to that in Study 1. However, other manipulations for positive emotion authenticity and customer pre-consumption affect manipulation are used. For Study 2, the authors create photographic stimuli. Photographic stimuli are often employed in services research (e.g., Söderlund & Rosengren, 2004) and are shown to be ecologically valid (Bateson & Hui, 1992). In the experiment, participants first complete the thinking style scales. Next, they undergo an emotion induction procedure, after which their pre-consumption affect is measured. Participants are then asked to imagine checking into a hotel, watch a series of photographs of the hotel check-in (with high or low authenticity), and complete the final survey.

5.2. Stimuli development and experimental manipulations

A female actress other than the one in Study 1 is casted and trained on emotion regulation techniques. For the experimental scenario, a professional photographer shoots a series of four photographs displaying a hotel check-in from the customer's point of view. The photographs are shot in a local mid-class hotel, ensuring both the realism of the scenario and affordability for the target population. The first picture shows the entrance area of the hotel, and the next three pictures show the frontline employee greeting the customer, checking the reservation on the computer, and handing over the room key. The pictures are displayed on separate pages and complemented by short texts (e.g., "the frontline employee welcomes you and asks for your name"). As in Study 1, participants rate the scenario as highly realistic on a seven-point Likert scale ($m = 5.9$, $sd = 1.2$).

Authenticity of positive emotion display of frontline employee. As in Study 1, the actress alters her emotional display by means of emotion regulation techniques, using cognitive change techniques in the high authenticity condition. In Study 2, however, she displays an asymmetric smile in the low authenticity condition. The smile intensity is identical in the high and low authenticity conditions. At the shooting, the first

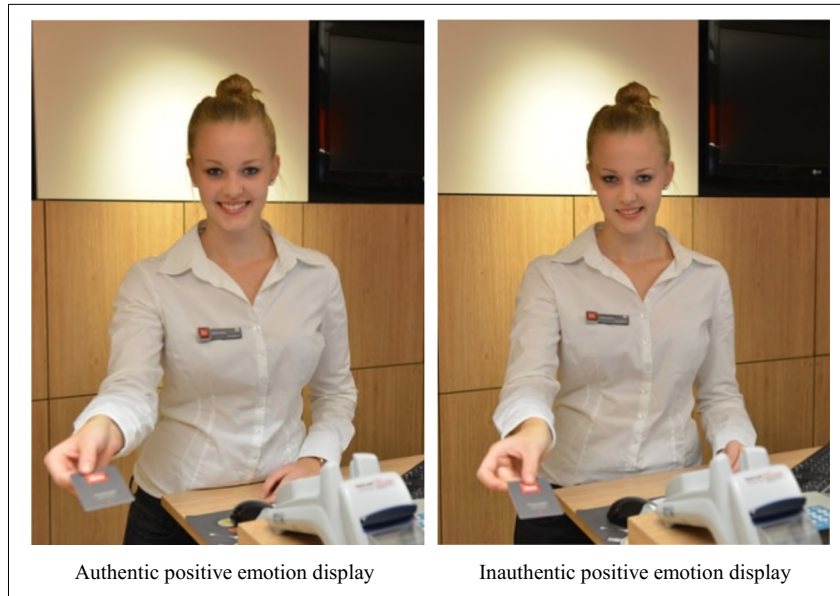


Fig. 4. Exemplary pictures from authenticity of positive emotion display manipulation in Study 2.

author and the actress ensure that the emotion display is in alignment with the reported facial muscle activation for authentic and asymmetric inauthentic positive displays (Ekman et al., 2002). Fig. 4 displays exemplary pictures of the authenticity manipulation.

Customer pre-consumption affect. The authors manipulate customer pre-consumption affect by using validated film clips (Gross & Levenson, 1995). In the literature, however, there is no clear guidance on film length to elicit emotions (Rottenberg, Ray, & Gross, 2007). The authors therefore use two different film lengths by showing participants either one or two film clips of 2:30 min (Forgas, 1990). All film clips are taken from the validated film sets of Gross and Levenson (1995) and Schaefer, Nils, Sanchez, and Philippot (2010).

5.3. Measures and manipulation checks

5.3.1. Measures

The authors use the same measurement instruments as in Study 1. However, in light of the low factor loadings of rational and experiential thinking style, three reversed items used in Study 1 are replaced by non-reversed items. In addition, the number of items per scale is increased to eight.

To test the validity of the measures, the authors perform confirmatory factor analysis including all measures from the model. The three-factor model shows acceptable fit to the data ($\chi^2(164) = 535.43$, $p < 0.05$; CFI = 0.95; TLI = 0.94; RMSEA = 0.08; SRMR = 0.04). As displayed in the lower part of Table 1, all measures show adequate levels of reliability because all alphas are > 0.7 . All composite reliability values and AVEs are > 0.70 and 0.50 , respectively, indicating convergent validity. Additionally, all AVEs are greater than the latent correlations, supporting discriminant validity. The factor loadings are satisfactory (squared loadings > 0.40) because they range from 0.89 to 0.97 for perceived authenticity and from 0.68 to 0.89 and 0.76 to 0.91 for rational and experiential thinking styles, respectively (Bagozzi & Baumgartner, 1994).

5.3.2. Manipulation checks

To test the success of the authenticity manipulation, all photographs showing the smiling frontline employee are FACS-coded by two trained coders. All smiles in the high authenticity condition are consistently coded AU6C + AU12C + AU25, whereas all smiles in the low authenticity condition are coded AU12rC + AU25 ($r = \text{asymmetric}$).

To further test the success of the authenticity manipulation, the

authors conduct a pretest measuring perceived authenticity ($\alpha = 0.97$), cheek raiser activity (0.92), and smile intensity (0.94), as in the pretest of Study 1. Fifty-eight individuals participate in this pretest with a mean age of 37.8 ($sd = 12.5$); 52% are female. Pretest participants report higher authenticity perceptions in the high authenticity condition compared to the low authenticity condition ($m_{\text{high authenticity}} = 5.0$; $m_{\text{low authenticity}} = 3.3$; $t(56) = 3.94$, $p < 0.05$). Furthermore, participants report higher perceptions of cheek raiser activity in the high compared to low authenticity condition ($m_{\text{high authenticity}} = 4.6$; $m_{\text{low authenticity}} = 2.4$; $t(56) = 5.81$, $p < 0.05$), and no differences in perceptions of smile intensity in the high versus low authenticity condition ($m_{\text{high authenticity}} = 3.9$; $m_{\text{low authenticity}} = 3.5$; $t(56) = 0.79$, ns). These results are in alignment with the intended manipulation. Furthermore, the authors test for confounding effects of the authenticity manipulation on task performance, the attractiveness of the actress, and the aesthetic appeal of the servicescape, as in the pretest of Study 1. Participants do not perceive significant differences in task performance ($m_{\text{high authenticity}} = 6.2$; $m_{\text{low authenticity}} = 5.7$; $t(56) = 1.76$, ns), actress attractiveness ($m_{\text{high authenticity}} = 5.8$; $m_{\text{low authenticity}} = 5.4$; $t(56) = 1.27$, ns), and the aesthetic appeal of the servicescape ($m_{\text{high authenticity}} = 4.9$; $m_{\text{low authenticity}} = 4.8$; $t(56) = 0.27$, ns).

In the main study, participants report higher authenticity perceptions in the high authenticity condition compared to the low authenticity condition ($m_{\text{high authenticity}} = 5.0$; $m_{\text{low authenticity}} = 3.5$; $t(351) = 9.38$, $p < 0.05$). To rule out confounding effects of the authenticity manipulation on customer affect, the authors test for differences in positive affect ($\alpha = 0.95$) and negative affect (0.94) measured after the authenticity manipulation. The authenticity manipulation does not alter the emotional experience of positive affect ($m_{\text{high authenticity}} = 4.6$; $m_{\text{low authenticity}} = 4.4$; $t(351) = 1.46$, ns) and negative affect ($m_{\text{high authenticity}} = 1.4$; $m_{\text{low authenticity}} = 1.5$; $t(351) = 1.91$, ns). Thus, the manipulation is considered successful.

To test the success of the affect manipulation, the authors use the self-reported affect measured immediately after the emotion induction. Participants in the positive affect condition report significantly more positive affect compared to participants in the negative affect ($m_{\text{positive}} = 4.8$; $m_{\text{negative}} = 3.5$; $t(233) = 7.13$, $p < 0.05$) and control condition ($m_{\text{positive}} = 4.8$; $m_{\text{control}} = 3.9$; $t(228) = 4.95$, $p < 0.05$). Participants in the negative affect condition report significantly more negative affect compared to participants in the positive affect ($m_{\text{negative}} = 2.5$; $m_{\text{positive}} = 1.6$; $t(233) = 6.22$, $p < 0.05$) and control conditions ($m_{\text{negative}} = 2.5$; $m_{\text{control}} = 1.7$; $t(239) = 6.08$, $p < 0.05$).

Thus, the affect manipulation is successful. The authors find that both types of film length used elicit a sufficient emotional response evidenced by the significance of all manipulation checks for each film length.

5.4. Results

The authors test the hypotheses as in Study 1. As displayed in Table 2, a significant positive impact of customer positive pre-consumption affect on perceived authenticity is found ($b = 0.21$, $p < 0.05$), supporting Hypothesis 1. Regarding Hypothesis 2, a significant positive interaction effect of rational thinking style and experiential thinking style on perceived authenticity is found ($b = 0.10$, $p < 0.05$). Probing the interaction using spotlight analysis reveals a significant simple slope for high experiential thinking ($m + 1$ sd; $b = 0.27$, $se = 0.10$, $p < 0.05$) but not for low experiential thinking ($m - 1$ sd; $b = -0.00$, *ns*). Combined processing (rational $m + 1$ sd, experiential $m + 1$ sd) results in higher authenticity perception than feeling processing (rational $m - 1$ sd, experiential $m + 1$ sd). To test for differences between combined and thinking processing, the moderation analysis is rerun with rational thinking as the moderator. A significant simple slope for high rational thinking is found ($m + 1$ sd; $b = 0.17$, $se = 0.07$, $p < 0.05$), whereas the slope for low rational thinking is insignificant ($m - 1$ sd; $b = -0.04$, *ns*). Combined processing (rational $m + 1$ sd, experiential $m + 1$ sd) results in higher authenticity perception than thinking processing (rational $m + 1$ sd, experiential $m - 1$ sd). The authors furthermore conduct a floodlight analysis. The Johnson-Neyman points of significance for experiential thinking style and rational thinking style are 4.58 and 5.81, respectively. Thus, Hypothesis 2 is again confirmed. As in Study 1, perceived authenticity for passive processors does not significantly differ from thinking and feeling processors. Fig. 3 (Panel B) visualizes the spotlight analyses.

The authors additionally test non-hypothesized interaction effects on perceived authenticity. The interaction of the authenticity and affect manipulations is insignificant ($p > 0.05$). Furthermore, the three-way interaction of authenticity and the two thinking styles is not significant. Finally, the three-way-interaction of affect and the two thinking styles is also insignificant. These results provide further support for the theoretical framework. To further test the robustness of the results, the authors rerun the analysis, including additional control variables. Including customer age and gender, and their respective interaction terms with the authenticity manipulation as control variables, the results of the hypothesis tests remain unchanged. Detailed results for the robustness checks are available from the first author.

5.5. Discussion

In Study 2, the authors again find support for all proposed hypotheses. Based on the precondition that customers do perceive frontline employee positive emotion authenticity, the authors replicate the biases in authenticity perceptions with customer positive pre-consumption affect and the combined processing thinking style reported in Study 1. The findings are replicated using other stimuli and manipulations for both authenticity and affect in a different industry with a non-student sample. This Type 3 replication provides strong evidence for the proposed model (Easley, Madden, & Dunn, 2000).

Interestingly, the effect size for the authenticity manipulation in Study 2 (Cohen's $d = 1.00$) is substantially larger than that in Study 1 ($d = 0.53$). The static stimulus in Study 2 may allow participants to exclusively focus their attention on the facial display of emotion. In Study 1, the dynamic video stimulus may make authenticity perception more difficult because multiple cues other than the facial display of emotion (e.g., body movement, gestural and vocal cues of the frontline employee) divert participants' attention.

With respect to combined processing, the floodlight analysis in Study 2 again supports our rationale that high levels of experiential,

especially a rational thinking style, are necessary to cause the perception bias. The bias intensity increases with higher levels of rational and experiential thinking style.

With respect to the low factor loadings of rational and experiential thinking style in Study 1, the omission of reversed items in Study 2 increased the factor loadings substantially. Although the use of reversed items is often advocated as a means to foster attentive responding and to reduce acquiescent responding (Weijters & Baumgartner, 2012), the authors propose that other means such as the use of explicit attention checks (Oppenheimer et al., 2009) can yield similar outcomes that do not affect the model fit or factor loadings negatively. However, the authors acknowledge the more complete construct coverage by the inclusion of reversed items (Weijters & Baumgartner, 2012). However, it is important to note that differences in indicator reliability in Study 1 and Study 2 do not change the results of the hypotheses tests.

6. General discussion and implications

6.1. Discussion of results

All hypotheses of this research are supported. First, whereas previous studies report mixed findings with respect to customer authenticity perception (e.g., Van Dijk et al., 2011), this study presents compelling support for authenticity perception in four different samples (2 pretests and 2 experiments). This study also replicates the positive effect of authenticity on customer satisfaction fully mediated by perceived authenticity. This underscores the relevance of frontline employee positive emotion display authenticity and customer perceptions of display authenticity.

Second, the authors find an upward perceptual bias introduced by positive customer pre-consumption affect. Customers perceive both authentic and different inauthentic displays as more authentic when they are in a good mood. In contrast, a negative affect does not alter customer authenticity perceptions. This finding is in alignment with the proposed independence of positive and negative affect (Watson et al., 1988) and adds to research highlighting the importance of customer positive affect for service perception and evaluation (Mattila & Wirtz, 2000).

Third, combined processing also upwardly biases authenticity perceptions. This study thus adds to research on perceptual biases with combined processing (Wolfradt et al., 1999) by showing the previously unexplored role of thinking style in emotion perception. With respect to other types of information processing, the results suggest that passive processors are placed in-between thinking, feeling, and combined processors. At the current stage of research on the interaction of thinking styles, however there is too little information on passive processors to explain this pattern of results (Sojka & Giese, 2006). It remains unclear how passive processors process information because they do not rely on any system (Wolfradt et al., 1999).

6.2. Implications for service managers

This study offers relevant insights for service managers. First, authenticity is perceived by customers and influences customer satisfaction as an important marketing metric. Managers are thus advised to ensure frontline employees' authentic emotional displays in service delivery. Capabilities that enable employees to display authentic emotions, such as emotional intelligence and emotional stability (Liu, Prati, Perrewé, & Ferris, 2008), should be considered relevant in hiring decisions. Additionally, managers should train their frontline employees in deep acting emotional labor strategies to ensure authentic displays in service encounters. Deep acting outperforms other emotional labor strategies not only with regard to authenticity but also regarding employee personal and job-related well-being as well as performance (Hülsheger & Schewe, 2011). In addition, managers may also target employee well-being at work to foster emotion display authenticity

(Grandey et al., 2005). Studies have found that work environment characteristics such as leadership (Bono & Ilies, 2006), job autonomy (Spector & Jex, 1991), and conflict (DeChurch, Mesmer-Magnus, & Doty, 2013) influence employees' emotional experience at work. Employees in a positive mood display positive authentic emotions more easily because they naturally experience the required emotions and thus do not have to regulate their emotions (Diefendorff, Croyle, & Gosserand, 2005).

Second, customer positive pre-consumption affect is a relevant factor in authenticity perceptions. Service managers should try to enhance customers' affective states before they enter into the service encounter with frontline employees by means of servicescape design. Previous research indicates that music (Bitner, 1992), colors (Bellizzi & Hite, 1992), and scents (Roschk, Maria, Loureiro, & Breitsohl, 2016) alter customer affective states. Thus, managers are advised to target customer senses individually or at best holistically by means of pleasant background music, a pleasant ambient scent, and calming and warm colors.

Furthermore, as in many service industries customers make appointments for consumption (e.g., hotels and spas), service providers may capitalize on this by creating and fostering pleasant anticipation of the customer. This can be accomplished by means of direct communication ahead of the appointment, ensuring that customers enter the service delivery in positive affective states. Measures of this type will improve the impact of frontline employees' authentic emotional displays on the customers' service experience.

Third, because frontline employees may eventually display inauthentic emotions due to emotional exhaustion (Liu et al., 2008), customer positive pre-consumption affect can be understood as a buffer against the negative effects of inauthenticity; that is, a positive affect may compensate for the potential negative effects of employee emotional display inauthenticity on customers. This may be especially relevant for hedonic services and industries in which positive customer affect is most common (e.g., theme parks). Service providers in those industries can benefit from the buffering effect of customer positive affect and thus need not overly emphasize frontline employee display authenticity. However, service providers in other industries where customer positive affect is less common (e.g., consulting, education, health care) are advised to emphasize display authenticity in recruitment and training because a buffering effect of positive customer affect is expected to occur to a lesser extent.

Fourth, the positive effect of combined processing on perceived authenticity sheds light on important differences between individual customers in authenticity perception. This finding helps to further understand why differences in authenticity perceptions and subsequent customer satisfaction arise (Grandey et al., 2005). Managers are advised to measure their customers' thinking style and use this information for customer-specific frontline employee display behavior in interaction-intensive services. Managers may additionally benefit from knowing their customers' information processing style because it can serve as a relevant input for segmentation and targeted marketing activities. For example, previous research indicates that different types of information processors respond differently to affect-laden visual and cognition-rich verbal advertisements (cf. Sojka & Giese, 2006). Service managers should pay particular attention to the design of the servicescape as well as to the design of the service delivery process, including frontline employee behavior, to ensure that both emotional and cognitive customer needs are sufficiently addressed (Bitner, 1992).

6.3. Implications for theory and future research

This study contributes to the literature on frontline employee-customer interactions and emotional labor in three ways. First, in line with other studies, this study presents evidence that customers perceive emotion authenticity (Grandey et al., 2005; Groth et al., 2009; Paul

et al., 2015). The relatively small mean difference in authenticity perceptions suggests that there is high difficulty associated in making authenticity judgments, which may explain the lack of judgment accuracy reported in other studies (Ekman et al., 1999; Van Dijk et al., 2011).

Second, this study deepens the understanding of the pivotal role of customer affect in service delivery. Whereas past research addresses the influence of the service encounter and frontline employees on consumption and post-consumption customer affect (e.g., Hennig-Thurau et al., 2006), this study finds pre-consumption affect to be relevant in customer perceptions of frontline employees. Thus, this study extends the understanding of customer affect in service delivery (Mattila & Wirtz, 2000).

Third, this study sheds light on the positive effect of combined processing on authenticity perceptions, but does not find any effects of either a purely rational or purely experiential thinking style on authenticity perceptions, supporting the proposed association of thinking style and authenticity perception. This finding thus adds to extant studies reporting perceptual biases (Shiloh et al., 2002) and cognitive-perceptual deficits (Wolfradt et al., 1999) associated with combined processing, advancing the understanding of thinking style interactions. However, because research on the interaction of thinking styles is still in its infancy, future research should explore the effects and underlying mechanisms especially for combined and passive processing.

This study investigates biases in authenticity perception in the gastronomy and hotel industries. Both industries represent typical face-to-face, short interactions services in which high emotional labor demands exist, positive emotion authenticity perceptions are possible, and customer affect may vary (Grandey et al., 2005; Hochschild, 2003). Thus, the findings should be generalized to these types of services. However, it is unclear whether these effects also occur in long interactions services. Furthermore, because many service encounters are technologically mediated in that service delivery takes place over the phone or via text-based chat, the authors can only speculate as to the occurrence of perceptual biases. These limitations may serve as starting points for future research.

As to other limitations of this study, the authors test the hypotheses in routine service contexts. Future research should thus expand the study design by investigating the effects of customer affect and thinking style in different contexts and in specific, non-routine service encounters (e.g., customer complaint situations). Finally, this study considers only the positive emotions of frontline employees. Because there is initial evidence of authenticity effects with negative displayed emotions (Côté et al., 2013), future research should investigate the role of affect and thinking style in customer authenticity perceptions when frontline employees display negative emotions.

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Appendix A. Item measures

Customer satisfaction (^aBurnham et al., 2003; ^bKeh et al., 2013)
 I am pleased with the overall service provided by the employee.^a
 I am completely satisfied with the experience by the employee.^a
 I feel delighted with the overall service provided by the employee.^a
 What I get from my service employee meets what I expect for this type of service.^b
Perceived authenticity (^aCôté et al., 2013; ^bGrandey et al., 2005)
 The emotions that the server was showing were real.^a
 The server displayed emotions that she did really feel inside.^a

This server seemed to be faking how she felt in this interaction. (reverse scored)^b

This server seemed to be pretending, or putting on an act, in this interaction. (reverse scored)^b

Rational thinking style (Pacini & Epstein, 1999)

I am very good in solving problems that require careful logical analysis.^{Study 1,2}

I'm good at figuring out complicated problems.^{1,2}

I like to have to do a lot of thinking.^{1,2}

Thinking is my idea of an enjoyable activity.^{1,2}

Reasoning things out carefully is not one of my strong points. (reverse scored)¹

I try to avoid situations that require thinking in depth about something. (reverse scored)¹

Reasoning things out carefully is one of my strong points.²

I am a very analytical thinker.²

I enjoy intellectual challenges.²

I enjoy solving problems that require hard thinking.²

Experiential thinking style (Pacini & Epstein, 1999)

Using my "gut-feelings" usually works well for me figuring out problems in my life.^{Study 1,2}

I believe in trusting my hunches.^{1,2}

When it comes to trusting people, I can usually rely on my gut feelings.^{1,2}

I like to rely on my intuitive impressions.^{1,2}

I often go by my instincts when deciding on a course of action.^{1,2}

If I were to rely on my gut feelings, I would often make mistakes. (reverse scored)¹ (deleted)

I don't like situations in which I have to rely on intuition. (reverse scored)¹

I trust my initial feelings about people.²

I like situations in which I have to rely on intuition.²

Intuition can be a very useful way to solve problems.²

PANAS (Watson et al., 1988)

(positive affect) I feel this way right now... interested/alert/excited/inspired/strong/determined/attentive/enthusiastic/active/proud.

(negative affect) I feel this way right now... irritable/ distressed/ashamed/upset/ nervous/ guilty/scared/hostile/ jittery/afraid.

Smile intensity (Barr & Kleck, 1995)

The smile of the frontline employee was big/intense/extreme.

Cheek raiser activity (Ekman & Friesen, 2003)

The frontline employee smiled with her eyes.

When smiling, the frontline employee had wrinkles around her eyes.

The eyes of the frontline employee were smiling.

The eyes of the frontline employee were inexpressive. (reverse scored)

Attractiveness (Argo, Dahl, & Morales, 2008)

The frontline employee is attractive.

Task performance (Grandey et al., 2005)

This frontline employee seems competent in required skills.

Servicescape aesthetics (Lam & Mukherjee, 2005)

The interior design of the restaurant was pleasing.

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