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## RESEARCH ARTICLE



# Fake smiles. Customer reactions to employees' display inauthenticity and choice restrictions

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## Abstract

Frontline employees' fake smiles (i.e., positive emotion display inauthenticity) frequently occur despite firms' efforts to ensure real smiles in service delivery. Previous research on the effects of display inauthenticity on customers reveals considerable heterogeneity. Attempts to resolve this have largely been limited to stable and dispositional factors, which often escape managerial control. The present research investigates the impacts of display inauthenticity, choice restrictions, and their interaction on service performance. Choice restrictions may buffer inauthenticity effects as demonstrated by results from three factorial experiments in different contexts (e.g., restrictions of service provider choice in predelivery in Study 1 and in-store choice restrictions during service delivery in Studies 2 and 3). Frontline employees' display inauthenticity negatively affects service performance only if customers are subjected to low but not high choice restrictions. The interaction effect is explained by customers' interdependent self-construal and is generalizable to actual spending behaviors. Our findings inform managers about the interplay of increasingly common inauthenticity and choice restrictions due to market shocks such as COVID-19 and provide insights into managerial interventions that can be used to mitigate the effects of inauthenticity on customers.

## KEYWORDS

authenticity, choice, choice restrictions, fake smile, inauthenticity, interdependent self-construal, satisfaction, spending

## 1 | INTRODUCTION

Delivering "service with a smile" is challenging for many frontline employees, resulting in positive emotion display inauthenticity (i.e., fake smiles; Grandey et al., 2005). Service firms formulate rules that require employees to display authentic positive emotions to improve service performance (i.e., customers' assessment of employee output; Gosserand & Diefendorff, 2005; Huang & Dai, 2010; Paul et al., 2015) and develop authenticity training

programs; however, these programs are yet to show consistent effectiveness (Hülsheger et al., 2015; Richard, 2006; Tiffert, 2006). Despite such managerial interventions, display inauthenticity remains common, endangering service success (Gabriel et al., 2015). Inauthentic displays occur in up to two-thirds of all customer–employee interactions (Mann, 1999). COVID-19 has amplified the occurrence of display inauthenticity even further due to frontline employees' health anxiety and increased job stress (Trogakos et al., 2020; Voorhees et al., 2020). Managers are thus in need of

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insights about when inauthenticity is detrimental to service performance and how to mitigate its negative effects.

Recent meta-analyses find that effects of display inauthenticity on service performance outcomes (e.g., customer satisfaction or spending; Lechner & Mathmann, 2021) are not generalizable and suggest that moderators explain this heterogeneity (Hülshager & Schewe, 2011; Kammeyer-Mueller et al., 2013; G. Wang et al., 2011). Prior work on moderating factors, however, limits inquiry to stable and dispositional factors such as customer and employee race, customer motivational orientation, and employee extraversion (see Table 1 for a summary). Previous research has largely neglected moderating factors that may dynamically affect service performance such as choice restrictions, which are defined as “any internally or externally imposed boundary that limits and/or confines choices” (Botti et al., 2008, p. 185). In other words, customers constantly choose—however restricted their choices might be. The fact that choice is a ubiquitous aspect of service consumption (Papadopolou et al., 2019; see also Chernev et al., 2015; Patall et al., 2008; Scheibehenne et al., 2009 for reviews) warrants the study of choice restrictions that may serve as an important moderator to buffer inauthenticity effects.

Across three studies, we consistently show that choice restrictions mitigate the negative effects of positive emotion display inauthenticity on service performance. We take a holistic approach by conceptualizing choice restrictions in terms of service provider choice (i.e., the customer's ability to select a service provider; Botti & McGill, 2011) and restrictions during service delivery when the number of offerings within a service interaction is limited. Customers, for instance, may experience choice restrictions during the COVID-19 pandemic because lockdowns and social distancing policies reduce the number of service providers available (Singh et al., 2020), or service providers may simply limit their number of options to reduce costs. By examining whether and how the impact of display inauthenticity on service performance is moderated by choice restrictions, we present clear contributions for theory and practice.

First, we extend inauthenticity literature by drawing attention to the interpretational ambiguity of inauthenticity, which may drive customers to search for cues externally in the environment or

internally in their memory (Hassin et al., 2013; Yagil, 2020). When customers search for cues externally in the environment or internally in their memory to justify their judgment, the impact of choice restrictions on customer reactions to display inauthenticity will come into effect; that is, customers will react less adversely to inauthenticity when choice restrictions are high (vs. low). Thus, we contribute to the theoretical development of emotional labor theory by investigating a novel boundary condition: choice restrictions. This is important because scholars have devoted considerable attention to the consequences of inauthenticity for employees, organizations, and customers (for meta-analyses, see Hülshager & Schewe, 2011; Mesmer-Magnus et al., 2012; G. Wang et al., 2011). However, the study of boundary conditions of the effects of positive emotional (in)authenticity on customers is nascent, as evidenced by recent calls to “[i]dentify the boundary conditions of emotional labor on performance” as a key research priority (Grandey & Gabriel, 2015, p. 340).

Second, we explain the abovementioned interaction through self-construal, thus extending EASI theory (Emotion as Social Information; Van Kleef, 2009). According to EASI theory, employees' displays of emotion affect customer reactions through inferential and affective pathways (Keltner & Haidt, 1999). While previous research on positive emotion displays has widely focused on affective processes (e.g., Barger & Grandey, 2006; Otterbring, 2017), we contribute by showing that the interaction of display inauthenticity and choice restrictions on service performance is driven by interdependent self-construal (i.e., viewing the self as interconnected with others; Markus & Kitayama, 1991; Singelis, 1994). Our results thus extend existing findings on the cognitive (i.e., inferential) processes of EASI theory.

Finally, our paper provides three managerial implications. First, managers can manipulate choice restrictions during service delivery to mitigate inauthenticity effects. By mitigating inauthenticity effects with choice restrictions, managers may save resources<sup>1</sup> that can be invested in training to improve authenticity and employees' well-being for the long term. Second, when authentic displays are more cumbersome, such as during peak hours or disruptive events (Gabriel et al., 2015; Voorhees et al., 2020), store managers may use digital kiosks that allow them to create customized messages at low cost to encourage customers to think of others, thus improving service performance. Finally, thought leaders in marketing research have realized

**TABLE 1** Positioning and contributions of this paper in the literature on moderators of display inauthenticity effects on customers

Factors	Largely out of managerial control	Largely within managerial control
Stable and dispositional	<i>Customer</i> <ul style="list-style-type: none"> <li>• Race (Houston et al., 2018)</li> <li>• Detection accuracy (Brach et al., 2015; Groth et al., 2009)</li> <li>• Regulatory focus (Lechner &amp; Mathmann, 2021)</li> </ul>	<i>Employee</i> <ul style="list-style-type: none"> <li>• Race (Grandey et al., 2019)</li> <li>• Extraversion (Chi et al., 2011; Chi &amp; Grandey, 2019)</li> <li>• Openness (Chi &amp; Grandey, 2019)</li> </ul>
Dyadic	<ul style="list-style-type: none"> <li>• Relationship strength (Chi &amp; Chen, 2019; Wang &amp; Groth, 2014)</li> </ul>	<ul style="list-style-type: none"> <li>• Personalization (Wang &amp; Groth, 2014)</li> </ul>
Dynamic	<ul style="list-style-type: none"> <li>• Store busyness (Grandey et al., 2005)</li> <li>• Restrictions of service provider choice before service delivery (This paper, Study 1)</li> </ul>	<ul style="list-style-type: none"> <li>• Task performance (Grandey et al., 2005)</li> <li>• Restrictions of in-store choice during service delivery (This paper, Studies 2 and 3)</li> </ul>

the need for insights into dynamic factors by calling for research on market shocks (e.g., the COVID-19 pandemic; Voorhees et al., 2020). Certain choice restrictions can be seen as a direct consequence of such shocks (e.g., shutdowns of service providers). This study, therefore, sought to provide insights into choice restrictions and increased inauthenticity relevant to the pandemic (out of managerial control) and how to mitigate inauthenticity effects by adjusting operations (within managerial control). We show that choice restrictions can alleviate the timely managerial concern of display inauthenticity. When measuring, predicting, and managing service performance, managers are advised to factor in choice restrictions. Therefore, we recommend that managers consider relevant contextual cues such as choice restrictions to buffer inauthenticity effects.

## 2 | CONCEPTUAL BACKGROUND AND HYPOTHESES

### 2.1 | Inauthenticity of positive emotion displays

Frontline employees are commonly required to show positive emotion displays when serving customers (Pugh, 2001). Positive emotion displays are generally conceptualized in terms of smiles (e.g., Bruder et al., 2021; Hennig-Thurau et al., 2006) and the accompanying tone of voice (e.g., Gabriel & Diefendorff, 2015; Goldberg & Grandey, 2007). Positive emotion displays are qualified by their (in)authenticity (Hochschild, 1983). Display inauthenticity reflects the extent to which employees' emotional displays are inconsistent with their internal emotional experiences (Grandey, 2000), occurring when employees modulate their expressed emotions without altering their experiences (i.e., surface acting; Grandey, 2003). However, when employees alter their experienced emotions through deep acting to comply with organizational display requirements (Hochschild, 1983), their smiles are authentic (Gunnery & Ruben, 2016). Numerous studies show that customers perceive display inauthenticity both in face-to-face and voice-to-voice encounters (e.g., Goldberg & Grandey, 2007; Lechner & Paul, 2019) and that inauthenticity provides customers with cues that can be integrated into their judgment of frontline employees and service delivery overall (Gabriel & Diefendorff, 2015; Keh et al., 2013).

### 2.2 | Display inauthenticity and service performance

In this paper, we offer insights into how service performance is affected by display inauthenticity (Grandey & Gabriel, 2015) by

drawing on EASI theory (Van Kleef, 2009), which suggests that employees' emotional expressions provide useful information for customers (Keltner & Haidt, 1999); that is, from the customers' perspective, employees' emotion displays signal employee intentions, which, in turn, affect customer reactions. This inferential process may drive the effect of display inauthenticity on service performance (Lechner & Mathmann, 2021). In line with previous research (Huang & Dai, 2010; Hülshager et al., 2015; Lechner & Mathmann, 2021), we conceptualize service performance as the customers' assessment of employee output. Service performance can be operationalized with objective (e.g., customer spending) and subjective performance indicators (e.g., customer satisfaction).

We posit that display inauthenticity might, under certain circumstances, result in negative customer reactions. Customers may interpret employees' display inauthenticity as part of the service itself (Grandey & Gabriel, 2015), suggesting that customers hold expectations regarding (in)authenticity of positive emotion displays that can influence service performance (Tsai, 2001). When employees suppress their true emotions and show fake positive expressions (i.e., high inauthenticity), customers may perceive them as signaling a lack of interest in customers (Grandey et al., 2005). On the other hand, when displays are authentic (i.e., low inauthenticity), occurring naturally or via effortful regulation of emotions, customers may perceive them as signaling that the employee is genuinely interested in the customer (Grandey, 2003). Customers may thus exhibit decreased service performance with high (vs. low) inauthenticity as their needs are not fulfilled (Groth et al., 2009; Hennig-Thurau et al., 2006). Formally:

**H1:** Display inauthenticity has a negative effect on service performance.

However, importantly, and in line with EASI theory (Z. Wang et al., 2017), we expect that customer reactions will also vary depending on contextual cues before or during delivery and service encounters. This reasoning is in line with previous research theorizing distinct customer reactions based on preceding situations (Van Kleef et al., 2012); that is, customers tend to integrate information derived from employees' emotion displays with other contextual cues such as choice restrictions. Hence, we introduce choice restrictions (Botti et al., 2008) as a key contextual factor that determines how customers react to display inauthenticity.

### 2.3 | Choice restrictions

We take a holistic approach by conceptualizing choice restrictions as restrictions of service provider choice (i.e., pre-delivery factor) and restrictions during service delivery (Botti et al., 2008). Service provider choice refers to the customer's ability to select a service provider (Botti & McGill, 2011). It is bound to, for example, the geographical proximity of service providers, quality (ratings), customer budgets, specific needs, consumption goals, business hours,

<sup>1</sup>Restricting choice reduces costs related to logistics and inventory management (e.g., the cost of warehouse storage, transportation, and shelf display; Dhar et al., 2001; Dreze et al., 1994; Sloot et al., 2006). Offering limited choice also improves efficiency and reduced costs due to supply chain disruptions and fluctuations of demand (Singh et al., 2020). The success of retailers such as Aldi also speaks to the benefit of limiting choice (Mortimer & Grimmer, 2021).

and service provider capacity (Botti et al., 2008). Importantly, choice restrictions may occur during service delivery by altering the number of available offerings presented to customers (Botti & McGill, 2011). Thus, customers are frequently faced with varying levels of service provider choice (Botti & McGill, 2006).

Literature on effects of choice and the related choice restrictions cite a dichotomy between positive outcomes of choice restrictions, given the tyranny of choice (Schwartz, 2000), and positive outcomes of absent restrictions in line with “more is better” effects (Baumol & Ide, 1956; Mathmann et al., 2017). According to the latter view, choice restrictions disadvantage customers as they do not allow for opportunities to serve various customer preferences (Baumol & Ide, 1956), which in turn creates reactance (Brehm, 1972; Grabitz-Gniech, 1971; Miron & Brehm, 2006). In alignment with this view, unrestricted choice (i.e., low choice restrictions) has been found to increase consumption (Kahn & Wansink, 2004), purchase likelihood (Koelemeijer & Oppewal, 1999), and the ease of making comparisons among options (Hutchinson, 2005). However, unrestricted choice may also create demotivation as choosing is difficult and often yields frustration and regret (Gu et al., 2013; Iyengar & Lepper, 2000). On the other hand, restricted choice (i.e., high choice restrictions) may facilitate the ease and fluency of processing due to reduced choice complexity and difficulty (Fasolo et al., 2009; Winkielman et al., 2003). Yet, several studies have found that choice has no effect (Flowerday & Schraw, 2003; Flowerday et al., 2004; Parker & Lepper, 1992; Reeve et al., 2003). Considering these mixed findings, we abstain from hypothesizing the main effect of choice restrictions on service performance.

## 2.4 | The interplay of display inauthenticity and choice restrictions

Our central research interest is to investigate the moderating role of choice restrictions on the relationship between display inauthenticity and service performance. Drawing on the EASI model (Van Kleef, 2009), our rationale builds on the interpretational ambiguity of display inauthenticity (Hassin et al., 2013; Yagil, 2020). Specifically, display inauthenticity might not be regarded as poor service across all circumstances. Given that inauthenticity contains inherently ambiguous cues, such as a smile of the mouth that is not mirrored by the eyes (Calvo et al., 2012; Krumhuber et al., 2007), we argue that the interpretational ambiguity of inauthentic positive emotion displays drives customers to search for cues. This search can be external (i.e., “Are choices restricted now that I am in the service environment?”) or internal, from memory (i.e., “Did I choose this service provider from a restricted set of options?”).<sup>2</sup> When customers search for cues to form a judgment about the service in question, the impact of choice

restrictions on customer reactions to display inauthenticity will come into effect. We predict that choice restrictions will mitigate the negative effect of display inauthenticity on service performance.

We first establish the effect of inauthenticity on service performance when choice restrictions are low. When customers search for cues to make sense of inauthenticity but find unrestricted choice, customers' sense of self is enhanced due to the opportunities they afford (Madan et al., 2020; Markus & Schwartz, 2010), and so, they adopt a self-focus (Cohen & Gunz, 2002; Cross et al., 2002). Self-focused people tend to consider their own outcomes and benefits (Gardner et al., 1999; Van Lange et al., 1997), leaving them relatively unconcerned with others' thoughts and feelings. Therefore, customers who are more self-focused tend to form service performance judgments solely based on how the employee satisfies their needs. High (vs. low) inauthenticity contains more ambiguous cues (Calvo et al., 2012; Krumhuber et al., 2007) that may be seen as more displeasing signals for customers who encounter low choice restrictions, leading to more adverse reactions.

By contrast, when customers look for cues to interpret display inauthenticity and find that choice restrictions are high, it is anticipated that customers will react less adversely to high (vs. low) inauthenticity. As choice restrictions inhibit customers' sense of freedom (Bone et al., 2014), they are likely to encourage an “other-focus” in the customer's mindset (i.e., customers think about others more than themselves). Other-focused people disproportionately consider the needs of others (Kogan et al., 2010; Van Lange et al., 1997), prefer decisions that jointly benefit others and themselves (Rusbult & Van Lange, 2003), and prioritize relationship maintenance (Gardner et al., 1999). Experiencing constraints such as choice restrictions may prompt an other-focused mindset associated with interconnection and integration (Madan et al., 2020; Oyserman et al., 2009; Savani & Rattan, 2012) and a focus on interpersonal harmony and compassion for others (Hess et al., 2016; Kuppens et al., 2008). Thus, customers who encounter high choice restrictions might construe employees' display inauthenticity with an other-focus in mind which prompts them to integrate others' needs in their service performance judgment and thereby, interpret display inauthenticity benevolently (i.e., acknowledge employees' smiles, regardless of fake or real smiles), leading to less adverse reactions.

Therefore, we expect that the effect of display inauthenticity on service performance will differ as a function of choice restrictions. Display inauthenticity will influence service performance negatively when choice restrictions are low but not when they are high. Hence, choice restrictions might buffer the inauthenticity effect in that the negative effect of inauthenticity on service performance might be reduced when customers encounter high (vs. low) choice restrictions. Formally, we propose:

**H2:** Choice restrictions will mitigate the negative effect of display inauthenticity on service performance. Particularly, the conditional effect of display inauthenticity on service performance will be weaker with high (vs. low) choice restrictions.

<sup>2</sup>By reversing the inauthenticity/choice restrictions order across experiments, we provide evidence for both possibilities, which increases opportunities for managers to leverage this effect flexibly.

## 2.5 | Overview of studies

Across three complementary studies, we tested the moderating effect of choice restrictions on the relationship between display inauthenticity and service performance. Choice restrictions were considered before service delivery (Study 1) and during service delivery (Studies 2 and 3). In Study 1, we first establish the link between display inauthenticity and customer satisfaction, a subjective indicator of service performance (H1), as well as the moderating effect of choice restrictions on how customers react to display inauthenticity (H2). In Study 2, we conceptually replicate findings from Study 1 and demonstrate mediation via customers' interdependent self-construal (see the development of H3 at the beginning of Study 2). Finally, Study 3 confirms all proposed hypotheses and generalizes findings to real customer spending, an objective service performance indicator, extending the ecological validity of our findings. Figure 1 displays our conceptual framework. For all studies, details of experimental materials (e.g., exemplary pictures of manipulations) appear in Web Appendix B and scale items appear in Web Appendix C.

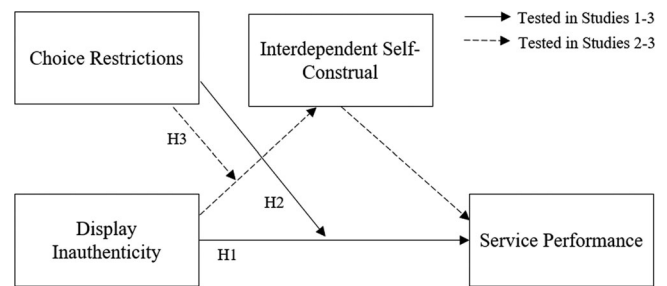
## 3 | STUDY 1

Study 1 sought to test H1 and H2 to show that choice restrictions can mitigate the negative effect of frontline employees' display inauthenticity on service performance, using customer satisfaction as a subjective service performance indicator. Customer satisfaction is conceptualized as a cognitive construct that is derived when customers compare the service outcomes with a standard of reference (Keh et al., 2013). Satisfaction is related to a specific consumption experience (Hennig-Thurau & Klee, 1997) whereby customers fulfill their requirements through purchasing a product or service. In Study 1, we used an experimental design involving "vocal expressions of emotions" only (Gabriel & Diefendorff, 2015, p. 1805; Goldberg & Grandey, 2007) as there is an increasing demand for making consultations via phones, such as contact-tracing calls from healthcare service employees or advice from salesclerks when customers shop online.

### 3.1 | Participants and procedure

We conducted a 2 (positive display inauthenticity: high vs. low)  $\times$  2 (choice restrictions: high vs. low) randomized between-subject laboratory experiment with a sample of 213 university students in Germany. Four cases were excluded during data collection as participants did not follow experimental instructions and showed an insufficient focus on study-related tasks (Huang et al., 2012), resulting in a final sample of 209 participants ( $M_{age} = 23.09$ ,  $SD = 3.62$ ; 55.50% female).

We conducted a laboratory experiment by setting up 10 laptops in a separate room on campus in which subjects participated in the study under the supervision of a lab assistant who briefed



**FIGURE 1** Conceptual framework

Note: Satisfaction is operationalized with a subjective indicator (i.e., customer satisfaction) in Studies 1 and 2 and with an objective indicator in Study 3 (i.e., customer spending)

participants, ensured they followed instructions, kept distractions to a minimum, and debriefed participants afterward. Once in the experiment, participants were asked to imagine they were looking to buy suitable materials to study Italian in their leisure time and now sought consultation from a local bookstore via the phone. After reviewing available bookstores and selecting one, they took part in a simulated interactive phone call via an interactive tool (Eko Studio), then answered a questionnaire at the end.

### 3.2 | Experimental manipulations

For the manipulation of display inauthenticity, we used short voice recordings that captured a book consultation. The vocal segments were recorded by a professional actress who was recruited and trained by the second author to effectively convey the varying inauthenticity of emotion displays. In the high inauthenticity condition, the employee applied surface acting, resulting in visible emotional facial expressions and an upbeat voice with a forced cheer (Gabriel & Diefendorff, 2015; Goldberg & Grandey, 2007). In the low inauthenticity condition, the employee applied deep acting to express a sincere interest using her voice, speaking cheerfully and asking questions in a concerned, helpful, and sincere tone (Gabriel & Diefendorff, 2015; Goldberg & Grandey, 2007). Both recordings were captured with professional equipment and were approximately equal in length, ranging from 17 to 18 s.

To manipulate choice restrictions, we altered the number of available bookstores, as suggested by Botti and McGill (2011). In the high choice restriction condition, participants were shown four bookstores, but only one was available (all others were closed). In the low choice restriction condition, participants saw four available bookstores. By showing the same number of choices in both conditions, we ruled out information load as an alternative explanation for the interaction effect. As in previous research (Greifeneder et al., 2010), the choice set was created by randomly combining different attribute levels, and no option dominated any other option. The bookstores were described by average rating and distance from one's location. All bookstores were highly rated and within



appropriate proximity (less than one kilometer). Details of experimental manipulations appear in Web Appendix B.

### 3.3 | Measures and manipulation checks

Customer satisfaction was measured with four items (Lechner & Paul, 2019;  $\alpha = 0.94$ ), with higher values indicating stronger agreement ( $M = 3.97$ ,  $SD = 1.54$ ; see Web Appendix C). The measure showed confirmed adequate levels of reliability (Nunnally, 1994) and convergent validity (average variance extracted [AVE] = 0.81; Hair et al., 2010). As satisfaction was the only scale, discriminant validity is not of concern. Table 2 displays the descriptive statistics.

To test the effectiveness of the inauthenticity manipulation, we used a four-item scale (Côté et al., 2013; Grandey et al., 2005;  $\alpha = 0.94$ ). For the manipulation check of choice restrictions, we used a two-item scale adapted from Lee and Lee (2004); split-half reliability = 0.91.

For the manipulation checks (and the hypotheses test), we applied Model 1 of the PROCESS macro version 3.5 for SPSS (Hayes, 2018) with 10,000 bootstrap samples. Following Hayes (2018, pp. 297–298), display inauthenticity and choice restrictions were coded  $-0.5$  (low inauthenticity, low choice restriction) and  $0.5$  (high inauthenticity, high choice restriction). Effect coding allows the interpretation of main effects (Hayes, 2018, pp. 297–298; see also Homburg et al., 2022, p. 293–294; Spiller et al., 2013, p. 280).

First, we regressed perceived inauthenticity (Y) on display inauthenticity (X), choice restrictions (W), and their interaction ( $X \times W$ ). The main effect of display inauthenticity on perceived inauthenticity was significantly positive ( $\beta = 2.06$ ,  $SE = 0.17$ ,  $t = 12.21$ ,  $p < 0.001$ , 95% confidence interval [CI]: [1.72, 2.39]), confirming the effectiveness of our inauthenticity manipulation. The main effect of choice restrictions was insignificant ( $\beta = 0.09$ ,  $p = 0.56$ ), as was the

interaction effect of display inauthenticity and choice restrictions ( $\beta = -0.61$ ,  $p = 0.07$ ) on perceived inauthenticity. Second, we regressed perceived choice restrictions (Y) on the same predictors. The main effect of choice restrictions on perceived restrictions was significantly positive ( $\beta = 0.91$ ,  $SE = 0.21$ ,  $t = 4.29$ ,  $p < 0.001$ , 95% CI: [0.49, 1.34]), confirming the effectiveness of our choice restriction manipulation. The main effect of display inauthenticity was insignificant ( $\beta = -0.00$ ,  $p = 0.99$ ), as was the interaction effect of display inauthenticity and choice restrictions ( $\beta = 0.19$ ,  $p = 0.64$ ), ruling out confounding of our experimental manipulations. Hence, both manipulations were successful.

### 3.4 | Results

To test H1 and H2, we regressed satisfaction (Y) on display inauthenticity (X), choice restrictions (W), and their interaction ( $X \times W$ ). Results showed a significant main effect of display inauthenticity ( $\beta = -0.81$ ,  $SE = 0.20$ ,  $t = -3.98$ ,  $p < 0.001$ , 95% CI: [-1.21, -0.41]), but no main effects of choice restrictions ( $\beta = 0.21$ ,  $p = 0.28$ ) on service performance. Importantly, the interaction effect of display inauthenticity and choice restrictions was significant ( $\beta = 0.84$ ,  $SE = 0.41$ ,  $t = 2.05$ ,  $p = 0.04$ , 95% CI: [0.03, 1.65],  $\Delta R^2 = 0.01$ ). The results of the conditional effects analysis revealed two simple effects of display inauthenticity conditional on each level of choice restrictions. The effect of inauthenticity on service performance was significant and negative in the low choice restriction condition ( $\beta = -1.23$ ,  $SE = 0.27$ ,  $t = -4.46$ ,  $p < 0.001$ , 95% CI: [-1.78, -0.69]), but insignificant in the high choice restriction condition ( $\beta = -0.39$ ,  $p = 0.19$ ). Figure 2 displays the results.<sup>3</sup>

### 3.5 | Discussion

In sum, partial support was found for H1. Although the main effect of inauthenticity on satisfaction as a subjective service performance indicator was significant, the simple effect of inauthenticity was significant only in the low choice restriction condition. The main effect of inauthenticity equals the mean of both simple effects (i.e.,  $(-1.23 - 0.39)/2 = -0.81$ ). That is, the significant simple effect in the low choice restriction condition was so strong that the main effect of inauthenticity (i.e., the unweighted average simple effect of inauthenticity) was significant (cf. Durante & Arsena, 2015, p. 1376; Hayes, 2018, p. 294; Homburg et al., 2022, p. 281). Additionally, the analysis of the interaction and its simple effects provided full support for H2. Hence, the negative effect of display inauthenticity on service performance only occurred when choice restrictions were low but not when they were high. Choice restrictions

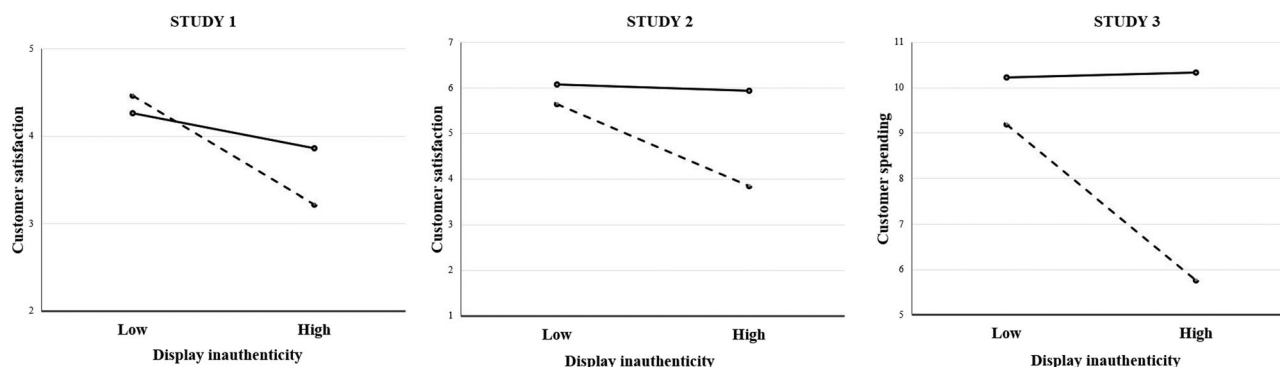
**TABLE 2** Descriptive statistics, reliabilities, and correlations

Variable	M	SD	AVE	Cronbach's $\alpha$	r
<i>Study 1</i>					
1. Customer satisfaction	3.97	1.54	0.81	0.94	
<i>Study 2</i>					
1. Customer satisfaction	5.41	1.35	0.73	0.91	
2. Interdependent self-construal	3.95	1.38	0.55	0.82	0.44**
<i>Study 3</i>					
1. Customer spending	8.89	5.30	–	–	
2. Interdependent self-construal	4.68	1.27	0.69	0.90	0.28**

Note: \* $p < 0.05$ , \*\* $p < 0.01$ .

Abbreviation: AVE, average variance extracted.

<sup>3</sup>As another robustness check, we applied the technique recommended by Umesh et al., (1996). The results of this analysis for all studies, which are reported in Web Appendix E, further support our findings. We thank an anonymous reviewer for this suggestion.



**FIGURE 2** The effect of display inauthenticity on service performance differs as a function of choice restrictions

Note: Choice restrictions: low (dashed line) versus high (solid line)

thus mitigated the negative effect of inauthenticity on service performance.

## 4 | STUDY 2

To delineate how display inauthenticity differently affects service performance when choice restrictions are high (vs. low), we build on the interpretational ambiguity of inauthentic emotion displays (Calvo et al., 2012; Krumhuber et al., 2007), suggesting that inauthenticity contains ambiguous cues that may be construed differently depending on choice restrictions. Self-construal is characterized by viewing the self as interconnected with others (i.e., interdependent self-construal) or separate from others (i.e., independent self-construal; Markus & Kitayama, 1991). These two distinct ways of viewing oneself can be measured as a state (e.g., “At this moment, I am focused on myself/At this moment, I am focused on others”; Chang & Hung, 2018; Hamilton & Biehal, 2005; Simpson et al., 2021). We posit that the inherent ambiguity of inauthenticity results in a search for cues that amplify the effect of contextual factors, which, in the case of choice restrictions, changes customers’ self-construal. In other words, choice restrictions might prompt an interdependent self-construal when customers seek to interpret ambiguous cues such as inauthentic smiles.

Specifically, when customers search for cues to interpret frontline employees’ display inauthenticity and find low choice restrictions, their sense of self is enhanced (Madan et al., 2020; Markus & Schwartz, 2010), thereby activating a self-focus (Cohen & Gunz, 2002; Cross et al., 2002). Self-focused customers prioritize their own interests and benefits over others’ needs (Kogan et al., 2010; Van Lange et al., 1997). Customers with a self-focus might thus feel less interconnected with frontline employees. Therefore, customers who encounter inauthenticity will exhibit an independent self-construal when choice restrictions are low, which, in turn, has implications for service performance.

In contrast, when customers look for contextual cues and find that choice restrictions are high, the experienced lack of freedom can

result in an inhibited sense of self (Madan et al., 2020; Markus & Schwartz, 2010), which may temporarily create an other-focus (Cohen & Gunz, 2002; Cross et al., 2002). Other-focused customers tend to be benevolent as they are concerned with helping others, sharing benefits, and maintaining relationships (Cross et al., 2000; Gardner et al., 1999). Consequently, other-focused customers will feel more interconnected with frontline employees and experience higher service performance. In other words, the interaction between choice restrictions and display inauthenticity will result in an interdependent customer self-construal.

In turn, the degree to which a customer views the self as being interdependent with others can influence judgment (Lalwani & Shavitt, 2013; Mandel, 2003; Simpson et al., 2018, 2020). Customers with an interdependent self-construal tend to show greater satisfaction with relationships (Cross et al., 2000), foster cooperation (Galang et al., 2021; Utz, 2004), and initiate actions that support others and good causes (Simpson et al., 2020; Vaidyanathan et al., 2013; Winterich & Barone, 2011). They also express more empathy for others (Chen et al., 2020; Lalwani & Shavitt, 2009) due to their focus on interpersonal harmony and compassion for others (Hess et al., 2016; Kuppens et al., 2008). Therefore, an interdependent (vs. independent) self-construal is more likely to exhibit a positive effect on service performance. Thus, we propose that the interaction of display inauthenticity and choice restrictions works through interdependent self-construal in that display inauthenticity might lead to a positive indirect effect on service performance when choice restrictions are high (vs. low). Hence, our hypothesis:

**H3:** The conditional effect of display inauthenticity on service performance is mediated by interdependent self-construal.

## 4.1 | Participants and procedure

Study 2 tested a different operationalization of choice in that choice was restricted during service delivery, adding generalizability to our



findings. Manipulating choice restrictions in this way provides managers with actionable insights into mitigating inauthenticity effects, as managers may, for instance, restrict choices by reducing the size of their menu at certain hours. We operationalized service performance as in Study 1.

This study used a 2 (positive display inauthenticity: high vs. low)  $\times$  2 (choice restrictions: high vs. low) randomized between-subject design. The sample consisted of 282 participants from Clickworker, an online panel in the United Kingdom (UK) (all complete and usable cases were included;<sup>4</sup>  $M_{\text{age}} = 35.41$ ;  $SD = 11.67$ ; 60.30% female).

Participants were instructed to put themselves in a situation of visiting a bookstore to look for Italian language courses for self-study. After checking out different learning materials at a digital kiosk, they saw a series of pictures depicting a female employee in a real bookstore. Picture stimuli are ecologically valid (Bateson & Hui, 1992) and commonly employed in service research (Bruder et al., 2021; Lechner & Mathmann, 2021). Each picture was presented on a separate page, including a short text describing the situation and a speech balloon with a short statement from the employee. Participants then completed the survey and were debriefed at the end.

## 4.2 | Experimental manipulations

To manipulate display inauthenticity, the second author hired a professional photographer to do the photoshoot in a local bookstore and trained a female actress to regulate her emotions in front of the camera. In the high inauthenticity condition, she applied surface acting techniques (Grandey, 2000, 2003; Hennig-Thurau et al., 2006) to perform an asymmetric smile, which is a common type of inauthentic display (Ekman et al., 1999; Ekman, 1993). In the low inauthenticity condition, she used deep acting techniques to evoke genuine happiness, which resulted in a pronounced symmetric smile (Skinner & Mullen, 1991).

To manipulate choice restrictions, we altered the number of available textbooks in the choice set shown to participants on the digital kiosk. In the high choice restriction condition, participants were shown only one available book (out of four books), whereas, in the low choice restriction condition, they were presented with four available books. The textbooks were generally described by average rating, number of reviews, and price. Details of experimental manipulations appear in Web Appendix B.

## 4.3 | Measures and manipulation checks

We used the same satisfaction scale as in Study 1 ( $\alpha = 0.91$ ;  $M = 5.41$ ,  $SD = 1.35$ ). Interdependent self-construal was measured as a

state using a 4-item, 7-point bipolar scale (higher scores indicate higher interdependent self-construal; Simpson et al., 2021;  $\alpha = 0.82$ ;  $M = 3.95$ ,  $SD = 1.38$ ; see Web Appendix C). All measures confirmed adequate levels of reliability (Nunnally, 1994) and convergent validity ( $AVE_{\text{service performance}} = 0.73$ ;  $AVE_{\text{self-construal}} = 0.55$ ; Hair et al., 2010). Discriminant validity was supported for all measures as all AVEs were greater than all squared correlations ( $r = 0.44$ ; Fornell & Larcker, 1981).

Manipulation checks for display inauthenticity ( $\alpha = 0.84$ ) and choice restrictions (*split-half reliability* = 0.77) were measured as in Study 1. We then applied Model 1 of the PROCESS macro (Hayes, 2018) with 10,000 bootstrap samples. First, we regressed perceived inauthenticity (Y) on display inauthenticity (X, effect-coded  $-0.5 = \text{low inauthenticity}$ ,  $0.5 = \text{high inauthenticity}$ ), choice restrictions (W, effect-coded  $-0.5 = \text{low choice restriction}$ ,  $0.5 = \text{high choice restriction}$ ), and their interaction ( $X \times W$ ). The main effect of display inauthenticity on perceived inauthenticity was significantly positive ( $\beta = 0.46$ ,  $SE = 0.17$ ,  $t = 2.73$ ,  $p < 0.001$ , 95% CI: [0.13, 0.80]), confirming the effectiveness of our inauthenticity manipulation. The main effect of choice restrictions was insignificant ( $\beta = -0.15$ ,  $p = 0.37$ ), as was the interaction effect of display inauthenticity and choice restrictions ( $\beta = -0.28$ ,  $p = 0.40$ ) on perceived inauthenticity. Second, we regressed perceived choice restrictions on the same predictors. The main effect of choice restrictions on perceived restrictions was significantly positive ( $\beta = 1.00$ ,  $SE = 0.17$ ,  $t = 5.73$ ,  $p < 0.05$ , 95% CI: [0.66, 1.35]), confirming the effectiveness of our choice restrictions manipulation. The main effect of display inauthenticity was insignificant ( $\beta = 0.06$ ,  $p = 0.72$ ), as was the interaction effect of display inauthenticity and choice restrictions ( $\beta = -0.57$ ,  $p = 0.09$ ), ruling out confounding of our experimental manipulation. Hence, both manipulations were successful.

## 4.4 | Results

As in Study 1, to test H1 and H2, we regressed satisfaction (Y) on display inauthenticity (X, effect-coded  $-0.5 = \text{low inauthenticity}$ ,  $0.5 = \text{high inauthenticity}$ ), choice restrictions (W, effect-coded  $-0.5 = \text{low choice restriction}$ ,  $0.5 = \text{high choice restriction}$ ), and their interaction ( $X \times W$ ) using the PROCESS macro for SPSS (Model 1, bootstrapped 10,000 samples; Hayes, 2018). The main effect of inauthenticity was significantly negative ( $\beta = -0.97$ ,  $SE = 0.12$ ,  $t = -7.82$ ,  $p < 0.01$ , 95% CI: [-1.21, -0.72]). The main effect of choice restrictions was significantly positive ( $\beta = 1.25$ ,  $SE = 0.12$ ,  $t = 10.04$ ,  $p < 0.001$ , 95% CI: [1.00, 1.49]). Importantly, the interaction effect of inauthenticity and choice restrictions was significant ( $\beta = 1.65$ ,  $SE = 0.24$ ,  $t = 6.65$ ,  $p < 0.001$ , 95% CI: [1.16, 2.14],  $\Delta R^2 = 0.09$ ). The results of the conditional effects analysis indicated that the effect of inauthenticity on service performance was significant and negative in the low choice restriction condition ( $\beta = -1.80$ ,  $SE = 0.17$ ,  $t = -10.12$ ,  $p < 0.001$ , 95% CI: [-2.15, -1.45]) but insignificant in the high choice restriction condition ( $\beta = -0.14$ ,  $SE = 0.17$ ,  $t = -0.83$ ,  $p = 0.40$ , 95% CI: [-0.48, 0.19]).

<sup>4</sup>Following previous research (e.g., Huang et al., 2012; Hyodo and Bolton, 2021; Nakkawita, Mathmann and Higgins, 2020), consistent across studies, we excluded fraudulent responses outside of the intended sample frame (e.g., 10 participants were not living in the UK at the time of participating in the study and 8 participants indicated that they were not Clickworkers) and one due to an invalid response regarding age (145).

To test H3, we next analyzed the proposed mediation through self-construal using Hayes' (2018) PROCESS macro (Model 8, bootstrapped 10,000 samples) with display inauthenticity ( $-0.5 = \text{low}$ ,  $0.5 = \text{high}$ ) as the independent variable (X), choice restrictions ( $-0.5 = \text{low}$ ,  $0.5 = \text{high}$ ) as the moderator (W), interdependent self-construal as a potential mediator, and satisfaction (a subjective service performance indicator) as the dependent variable (Y). We found a significant interaction effect of inauthenticity and choice restrictions on interdependent self-construal ( $\beta = 1.27$ ,  $SE = 0.25$ ,  $t = 4.96$ ,  $p < 0.001$ , 95% CI: [0.77, 1.78],  $\Delta R^2 = 0.05$ ). Specifically, the conditional effect of inauthenticity on interdependent self-construal was significantly negative in the low choice restriction condition ( $\beta = -0.60$ ,  $SE = 0.18$ ,  $t = -3.27$ ,  $p < 0.001$ , 95% CI: [-0.96, -0.24]), but significantly positive in the high choice restriction condition ( $\beta = 0.67$ ,  $SE = 0.18$ ,  $t = 3.74$ ,  $p < 0.001$ , 95% CI: [0.32, 1.02]). Interdependent self-construal exerted a significantly positive effect on service performance ( $\beta = 0.18$ ,  $SE = 0.05$ ,  $t = 3.28$ ,  $p < 0.001$ , 95% CI: [0.07, 0.29]). When controlling for interdependent self-construal, the interaction effect of inauthenticity and choice restrictions was significant ( $\beta = 1.41$ ,  $SE = 0.25$ ,  $t = 5.54$ ,  $p < 0.001$ , 95% CI: [0.91, 1.91]). The conditional direct effect of inauthenticity on service performance was significant and negative in the low choice restriction condition ( $\beta = -1.68$ ,  $SE = 0.17$ ,  $t = -9.47$ ,  $p < 0.001$ , 95% CI: [-2.03, -1.33]) but insignificant in the high choice restriction condition ( $\beta = -0.27$ ,  $p = 0.12$ ). Importantly, in support of H3, the conditional *indirect* effect of inauthenticity on service performance through interdependent self-construal was significant (Index = 0.23;  $SE = 0.10$ , 95% CI: [0.06, 0.46]; low restrictions:  $\beta = -0.11$ ,  $SE = 0.05$ , 95% CI: [-0.23, -0.02]; high restrictions:  $\beta = 0.12$ ,  $SE = 0.05$ , 95% CI: [0.03, 0.25]).<sup>5</sup>

## 4.5 | Discussion

Consistent with Study 1, the results of Study 2 provided partial support for H1 and full support for H2. The negative effect of display inauthenticity on service performance only occurred in the low but not high choice restriction condition. Choice restrictions, operationalized as restrictions during delivery but before the service encounter, thus mitigated the negative effect of display inauthenticity on service performance. Additionally, we demonstrated that interdependent self-construal mediated the focal interaction effect of display inauthenticity and choice restrictions on service performance, supporting H3. Furthermore, Study 2 found a positive main effect of choice restriction on service performance. According to the typology of moderators provided by Sharma et al. (1981),

choice restrictions could be classified as a quasi-moderator as the main effect of choice restrictions on service performance was significant, as was the interaction effect of display inauthenticity and choice restrictions.

## 5 | STUDY 3

Study 3 sought to replicate findings from Studies 1 and 2 using customer spending as an objective indicator of service performance, in line with previous literature (Fuchs et al., 2015; Huang & Dai, 2010; Hülshager et al., 2015; Wertenbroch & Skiera, 2002), adding ecological validity to our findings. Spending is defined as the amount of money that a customer pays for a product or service (Homburg et al., 2005).

Study 3 examines the interaction effect of interest in the context of within-service choice restrictions during delivery and the service encounter; that is, we examine the interaction effect of inauthenticity and choice restrictions on actual customer spending.

### 5.1 | Participants and procedure

Studies 3 used a 2 (positive display inauthenticity: high vs. low)  $\times$  2 (choice restrictions: high vs. low) randomized between-subject design. The sample included 474 complete and usable cases collected via Amazon Mechanical Turk in the United States (USA;  $M_{\text{age}} = 39.62$ ;  $SD = 11.77$ ; 53.20% male).<sup>6</sup>

In the experiment, participants were offered an additional bonus of US\$0.15 on top of their incentive of US\$1.00 for participating in the study. Participants were then instructed to put themselves in a situation of wanting to order a meal kit online. As in Study 2, participants were presented with a series of pictures showing a female employee who guided them on setting up their meal kit. Each picture included a speech balloon with a short statement by the employee. After greeting the customer, the employee asked them to select their preference of meal kit (e.g., meat and veggies, veggies only, etc.). Participants were then informed by the employee about the number of options available. Next, they were shown either one (of four) or four available meal recipes. After that, participants were asked to indicate whether they wanted to use part of the additional bonus of US\$0.15 to purchase lottery tickets (one cent each), with each ticket increasing the chance they would win a real meal kit (see also Fuchs et al., 2010, 2015; Mathmann & Chylinski, 2021; Nunes & Boatwright, 2004). After indicating the highest amount of money that they were willing to spend on lottery tickets, participants received payment and the rest of the bonus. They then completed the survey and were debriefed at the end.

<sup>5</sup>In Study 2, we controlled for choice confidence which reflects the customers' certainty about the appropriateness of their choice as an additional robustness check (Lechner et al., 2021). We used three-item scale from Heitmann et al., (2007;  $M = 5.35$ ;  $SD = 1.21$ ;  $\alpha = 0.84$ ). The interaction effect of display inauthenticity and choice restrictions remained significant in directly ( $\beta = 1.64$ ,  $p < 0.001$ ) and indirectly (Index = 0.23, 95% CI [0.07, 0.46]) predicting service performance when entering choice confidence as a covariate. We also tested a three-way interaction of display inauthenticity, choice restrictions, and choice confidence which was insignificant in directly and indirectly predicting service performance.

<sup>6</sup>Consistent across studies, we excluded fraudulent responses outside of the intended sample frame (e.g., 91 participants were not living in the US at the time of participating in the study, and 4 participants indicated that they were not Mechanical Turk workers), one invalid response about age (456), and 53 incomplete responses as participants dropped out before the dependent measure.

## 5.2 | Experimental manipulations

For the manipulation of display inauthenticity, we followed the same process reported in Study 2 with another actress, who showed a low-intensity smile without eye-muscle activation in the high inauthenticity condition and a large smile including an eye-muscle contraction in the low inauthenticity condition. To manipulate choice restrictions, participants were shown either one (of four) or four available meal recipes. These options were described by images, the average rating, and the number of reviews. Details of experimental manipulations appear in Web Appendix B.

## 5.3 | Measures and manipulation checks

We measured customer spending in Cents ranging from 0 to 15 ( $M = 8.89$ ,  $SD = 5.30$ ). Interdependent self-construal ( $M = 4.68$ ,  $SD = 1.27$ ,  $\alpha = 0.90$ ,  $AVE = 0.69$ ) was measured as a state using the same scale in Study 2. Interdependent self-construal showed adequate levels of reliability and convergent validity (Hair et al., 2010) and was discriminant from spending (AVE greater than squared correlation,  $r = 0.28$ ; Fornell & Larcker, 1981).

For the manipulation checks, we used the same scales and test procedure as in Studies 1 and 2 ( $\alpha_{\text{inauthenticity}} = 0.75$ , *split-half reliability*<sub>choice restrictions</sub> = 0.94). We found a significantly positive main effect of display inauthenticity on perceived inauthenticity ( $\beta = 1.45$ ,  $SE = 0.09$ ,  $t = 15.36$ ,  $p < 0.001$ , 95% CI: [1.27, 1.64]) and a significantly positive main effect of choice restrictions on perceived restrictions ( $\beta = 1.68$ ,  $SE = 0.17$ ,  $t = 9.75$ ,  $p < 0.001$ , 95% CI: [1.34, 2.02]), confirming the effectiveness of both manipulations. The interaction effect of inauthenticity and choice restrictions on perceived inauthenticity ( $\beta = 0.07$ ,  $p = 0.71$ ) and on perceived restrictions ( $\beta = -0.16$ ,  $p = 0.62$ ) were both insignificant, ruling out confounding of our experimental manipulation. Hence, both manipulations worked as intended.

## 5.4 | Results

To test H1 and H2, as in Studies 1 and 2, we regressed spending (Y) on display inauthenticity (X), choice restrictions (W), and their interaction ( $X \times W$ ) using Model 1 within the PROCESS macro (bootstrapped 10,000 samples; Hayes, 2018). Both experimental factors were effect-coded ( $-0.5$  = low inauthenticity, low choice restriction;  $0.5$  = high inauthenticity, high choice restriction) for a substantial interpretation of the main and interaction effects (Homburg et al., 2022; Spiller et al., 2013). Results yielded a significant main effect of inauthenticity ( $\beta = -1.66$ ,  $SE = 0.45$ ,  $t = -3.63$ ,  $p < 0.001$ , 95% CI: [-2.56, -0.76]) and choice restrictions ( $\beta = 2.80$ ,  $SE = 0.45$ ,  $t = 6.11$ ,  $p < 0.001$ , 95% CI: [1.90, 3.70]). Importantly, the interaction effect of inauthenticity and choice restrictions was significant ( $\beta = 3.52$ ,  $SE = 0.91$ ,  $t = 3.84$ ,  $p < 0.001$ , 95% CI: [1.72, 5.32],  $\Delta R^2 = 0.02$ ). The results of conditional effects analysis showed that the effect of inauthenticity on service performance was significant and

negative in the low choice restriction condition ( $\beta = -3.42$ ,  $SE = 0.64$ ,  $t = -5.27$ ,  $p < 0.001$ , 95% CI: [-4.69, -2.14]) but insignificant in the high choice restriction condition ( $\beta = 0.09$ ,  $p = 0.88$ ).

To test H3, as in Study 2, we used Model 8 within the PROCESS macro (bootstrapped 10,000 samples; Hayes, 2018) with display inauthenticity ( $-0.5$  = low,  $0.5$  = high) as the IV (X), choice restrictions ( $-0.5$  = low,  $0.5$  = high) as the moderator (W), interdependent self-construal as the potential mediator, and spending (an objective service performance indicator) as the DV (Y). We found a significant interaction effect of inauthenticity and choice restrictions on interdependent self-construal ( $\beta = 2.05$ ,  $SE = 0.21$ ,  $t = 9.71$ ,  $p < 0.001$ ; 95% CI: [1.63, 2.46],  $\Delta R^2 = 0.16$ ). Inauthenticity had significant effects on interdependent self-construal in both choice restriction conditions (low restrictions:  $\beta = -1.22$ ,  $SE = 0.14$ ,  $t = -8.19$ ,  $p < 0.001$ ; 95% CI: [-1.52, -0.93]; high restrictions:  $\beta = 0.82$ ,  $SE = 0.14$ ,  $t = 5.54$ ,  $p < 0.001$ ; 95% CI: [0.53, 1.11]). Interdependent self-construal exerted a positive effect on service performance ( $\beta = 0.83$ ,  $SE = 0.19$ ,  $p < 0.001$ , 95% CI: [0.44, 1.21]). When controlling for interdependent self-construal, the interaction effect of inauthenticity and choice restrictions on service performance became insignificant ( $\beta = 1.80$ ,  $p = 0.06$ ). The conditional direct effect of inauthenticity on service performance was significantly negative in the low choice restriction condition ( $\beta = -2.40$ ,  $SE = 0.68$ ,  $t = -3.52$ ,  $p < 0.001$ , 95% CI: [-3.74, -1.06]) but insignificant in the high choice restriction condition ( $\beta = -0.59$ ,  $p = 0.36$ ). Importantly, in support of H3, the conditional indirect effect of inauthenticity on service performance through interdependent self-construal reached significance (Index = 1.71,  $SE = 0.44$ , 95% CI: [0.85, 2.61]; low restrictions:  $\beta = -1.02$ ,  $SE = 0.27$ , 95% CI: [-1.59, -0.49]; high restrictions:  $\beta = 0.68$ ,  $SE = 0.20$ , 95% CI: [0.31, 1.11]).<sup>7</sup>

## 5.5 | Discussion

With Study 3, we again found partial support for H1 and full support for H2 and H3. Frontline employees' display inauthenticity negatively affected spending as an objective indicator of service performance only for customers who encountered low choice restrictions, but no effects for those who encountered high choice restrictions. Study 3 also replicated interdependent self-construal as a potential underlying mechanism, in that a high choice

<sup>7</sup>In Study 3, we tested positive affect, a well-established mediator of authenticity effects (Hennig-Thurau et al., 2006) as an alternative explanation using the four-item scale from Hennig-Thurau et al. (2006;  $\alpha = 0.91$ ,  $M = 4.65$ ,  $SD = 1.41$ , see Web Appendix C). Using Model 8 within the PROCESS macro (10,000 bootstrap samples; Hayes, 2018), we found a significant interaction effect of inauthenticity and choice restrictions on positive affect ( $\beta = 0.56$ ,  $p = 0.02$ ). Importantly, inauthenticity had a significant effect on positive affect only in the low choice restriction condition ( $\beta = -0.38$ ,  $p = 0.03$ ), replicating Hennig-Thurau et al. (2006). However, in the high choice restriction condition, inauthenticity had no effect ( $\beta = 0.17$ ,  $p = 0.33$ ). Likewise, the conditional indirect effects of inauthenticity on service performance through positive affect showed that positive affect worked as a mediator only in the low choice restriction condition (low:  $\beta = -0.28$ ,  $SE = 0.13$ , 95% CI: [-0.58, -0.03]; high:  $\beta = 0.12$ ,  $SE = 0.14$ , 95% CI: [-0.14, 0.43]; Index = 0.40,  $SE = 0.21$ , 95% CI: [0.03, 0.86]). These findings rule out positive affect as an alternative explanation for our focal finding that customers react less adversely to display inauthenticity when choice restrictions are high.

restriction buffers the inauthenticity effect by prompting a customer's interdependent self-construal (i.e., viewing the self as interconnected to others), resulting in fewer adverse reactions to display inauthenticity. Similar to Study 2, in Study 3, we observed a positive main effect of choice restrictions on service performance. This fosters the classification of choice restrictions as a quasi-moderator (Sharma et al., 1981).

## 6 | GENERAL DISCUSSION

### 6.1 | Theoretical contributions

Scholars have been increasingly concerned with customer perceptions of frontline employees' positive emotion display inauthenticity (Bruder et al., 2021; Kulczynski et al., 2016; Liu et al., 2019; K. L. Wang et al., 2021) as it is a persistent phenomenon in service interactions despite managerial interventions in the form of display rules and authenticity training (Groth et al., 2009; Hülshager et al., 2015; G. Wang et al., 2011). Previous research, however, is inconclusive regarding customer reactions to display inauthenticity, with some studies suggesting negative effects and others finding no effects (for recent meta-analyses, see Hülshager & Schewe, 2011; Kammeyer-Mueller et al., 2013), suggesting the presence of moderating factors (Grandey & Gabriel, 2015). Although studies have explored some stable and chronic moderators (e.g., individual customer differences; Chi et al., 2011; Lechner & Mathmann, 2021), less is known about the impact of dynamic factors on the link between employees' display inauthenticity and service performance. In this paper, we focus on choice restrictions as a dynamic moderator because choice is a ubiquitous aspect of service consumption (for reviews, see Chernev et al., 2015; Papadopoulou et al., 2019; Scheibehenne et al., 2009).

This paper contributes to emotional labor literature by investigating the impact of choice restrictions on the relationship between frontline employees' display inauthenticity and service performance. Across three studies, our findings consistently provide partial support for the link between display inauthenticity and service performance (H1) and show full support for the interaction effect of display inauthenticity and choice restrictions on service performance (H2). Specifically, we found a consistent negative main effect of display inauthenticity on service performance for customers in the low choice restriction condition, but no effects of display inauthenticity for people in the high choice restriction condition. These results thus provide empirical evidence that choice restrictions can mitigate the negative effect of display inauthenticity on service performance, operationalized as a subjective (i.e., customer satisfaction, Studies 1 and 2) and objective (i.e., spending, Study 3) indicator.

Furthermore, we shed light on the process through which display inauthenticity and choice restrictions jointly affect service performance, extending research on the EASI model (Van Kleef, 2014). Previous literature on positive emotion displays

has focused on affect as the process through which (in)authenticity impacts attitudes and behavior (e.g., Barger & Grandey, 2006; Otterbring, 2017) or has neglected mediators altogether (e.g., Tan et al., 2004). According to EASI theory, affect and cognitive inferences are two mechanisms through which (in)authentic positive emotion displays provoke effects on customers (Van Kleef, 2009). In this paper, we show that the interaction effect of display inauthenticity and choice restrictions works through interdependent self-construal (H3). The negative effect of inauthenticity on service performance was mitigated by choice restrictions because a high choice restriction encouraged customers to construe themselves as more interconnected to others and, thus, reducing reduced adverse reactions to high (vs. low) inauthenticity. This is a cognitive process through which customers view themselves as interconnected with others under restricted choice, which, in turn, explains their reactions to employees' display inauthenticity. We thus extend EASI theory by showing that the inferential pathway plays a crucial role in the process of how display inauthenticity elicits effects on customers.

Interestingly, we observed a nonhypothesized positive main effect of choice restrictions in two of the three studies (Studies 2 and 3), so that choice restrictions should be considered a quasi-moderator (Sharma et al., 1981). The psychometric literature has considered moderators that exhibit main effects not as moderators to "obviate the ambiguity about which of the predictor variables is the moderator" (Sharma et al., 1981, p. 294). However, a quasi-moderator is accepted in the marketing literature as a moderator as long as the aforementioned ambiguity can be reduced on theoretical grounds (Sharma et al., 1981; see also Hayes, 2018; Homburg et al., 2022), which we did by anchoring and incorporating our conceptual model in emotional labor theory and EASI theory (Hochschild, 1983; Van Kleef, 2014). Also, particularly in the emotional labor literature, it is not uncommon that moderators show main effects either consistently (e.g., Grandey et al., 2005; Wang & Groth, 2014) or only in some studies (e.g., Chi & Chen, 2019; Chi et al., 2011; Houston et al., 2018; Lechner & Mathmann, 2021).

Further, we can only speculate as to why the positive main effect of choice restrictions was significant in Studies 2 and 3. Choosing during service delivery (as opposed to choosing before service delivery in Study 1) may trigger aversion as customers feel observed by the frontline employee during preference construction (Zwebner & Schrift, 2020). High choice restrictions may shorten preference construction thereby triggering less aversion, resulting in higher service performance appraisals.

### 6.2 | Managerial implications

First, managers are advised to leverage the mitigating effects demonstrated in this study by using different types of choice restrictions. Choice restrictions can be flexibly operated as a predelivery factor (e.g., service provider choice, Study 1) or during service delivery (before service encounter as in Study 2 and during

service encounter as in Study 3). Service firms, for instance, may operate in flexible hours, such as opening earlier and closing later than others. They may also consider limiting the number of offerings when inauthentic displays are rampant (e.g., at the end of a working shift).

Second, managers are advised to encourage customers to think of others, thus improving service performance when inauthenticity is prolific. Findings from Studies 2 and 3 show that the interaction of display inauthenticity and choice restrictions works through interdependent self-construal in that display inauthenticity leads to a positive indirect effect on service performance when choice restrictions are high as opposed to when they are low. The emotional labor process is often illustrated as “a dynamic and reciprocal” interaction between customers and employees (Grandey & Gabriel, 2015, p. 327). Therefore, encouraging an other-focus may increase service performance when display inauthenticity is common. Managers, for instance, may leverage digital kiosks to communicate dynamically with customers at a low cost. When low display inauthenticity is difficult to achieve for frontline employees, such as during peak hours, store managers could use these kiosks to display messages that direct the customer's focus to other service aspects, such as product quality and ambiance, thus compelling customers to react less adversely to display inauthenticity. Although training may further authenticity and employee well-being in the long run (Hennig-Thurau et al., 2006; Hülshager et al., 2015), it is pertinent to provide actionable solutions for managers to mitigate the inauthenticity effect before such training achieves the desired effect (Lechner & Mathmann, 2021).

Finally, we provide implications for service firms that operate under market shocks such as the COVID-19 pandemic, causing a significant impact on frontline employees' ability to be authentic, given the added stress, uncertainty, and rude customer behaviors (Trogakos et al., 2020; Voorhees et al., 2020). Such shocks also significantly disrupt global supply chains (Singh et al., 2020), importantly causing choice restrictions due to the shutdown of certain service locations, restricted floor space, or changes in hours of operation. These problems emphasize the need for managerial insights into dynamic factors such as choice restrictions. Training, while effective at times, is not a dynamic intervention that can be employed on the spot. Managers, therefore, are advised to factor in relevant contextual cues, such as choice restrictions, when predicting, measuring, and managing service performance. By using choice restrictions to mitigate inauthenticity, managers may save resources that can be employed for long-term investments in employee training and well-being.

### 6.3 | Limitations and future research

Our research sheds light on the interplay of choice restrictions and display inauthenticity on service performance. Future research could deepen our understanding of the main and interaction effects of different types of restrictions (e.g., different types of restrictions before and during service delivery) and their underlying mechanisms. Relatedly,

an exploration of customer reactions to pandemic-related restrictions seems worthwhile (e.g., store closures, lockdowns, supply shortages).

Notably, Study 1 involved store and service provider restrictions, whereas Studies 2 and 3 were based on within-service restrictions. An alternative theory that could explain this differential increase in service performance when choice restrictions are high (vs. low) during the service interaction is that customers may have felt bad for frontline employees who have to present them with limited options. Interestingly, the present line of research indirectly suggests that service provider choice restrictions, which have become more common during the COVID-19 pandemic due to store closures and lockdowns, yield different reactions compared to conventional within-service choice restrictions. If future research were to test this more deliberately—for instance, by developing a typology of pandemic versus nonpandemic-related choice restrictions and testing their respective effects on service performance more systematically—relevant implications for the current pandemic or similar future events could be derived.

Furthermore, we conducted our studies in countries with predominantly individualistic cultures (Germany, the UK, and the USA). Whereas people from collectivist countries such as Greece and China adopt a relatively interdependent self-construal, those from individualist countries such as Germany and the UK adopt a relatively independent self-construal (for reviews, see Cross et al., 2011; Markus & Kitayama, 1991). Future research could investigate if customers in collectivist cultures react similarly to those in individualist cultures to choice restrictions and display inauthenticity.

Finally, it is important to acknowledge the limitations of our spending measure as an objective indicator of satisfaction in Study 3. First, participants could only spend a maximum of US\$0.15, and second, this would not go directly to a product but rather a bid that could win a product. While our measure is consistent with current practice in leading marketing journals (e.g., Crow et al., 2019; Fuchs et al., 2015; Mathmann & Chylinski, 2021), it is important for future researchers to creatively extend the ecological validity of spending measures and replicate our findings.

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### CONFLICT OF INTERESTS

The authors declare no conflict of interest.

### DATA AVAILABILITY STATEMENT

Data available at [https://osf.io/2jb85/?view\\_only=76ed1c5de00e-449e9817ddd70baea289](https://osf.io/2jb85/?view_only=76ed1c5de00e-449e9817ddd70baea289)

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## REFERENCES

- Barger, P. B., & Grandey, A. A. (2006). Service with a smile and encounter satisfaction: Emotional contagion and appraisal mechanisms. *Academy of Management Journal*, 49(6), 1229–1238.
- Bateson, J. E. G., & Hui, M. K. (1992). The ecological and validity of photographic and videotapes in simulating the service setting. *Journal of Consumer Research*, 19(2), 271–281.
- Baumol, W. J., & Ide, E. A. (1956). Variety in retailing. *Management Science*, 3(1), 93–101.
- Bone, S. A., Christensen, G. L., & Williams, J. D. (2014). Rejected, shackled, and alone: The impact of systemic restricted choice on minority consumers' construction of self. *Journal of Consumer Research*, 41(2), 451–474.
- Botti, S., Broniarczyk, S., Häubl, G., Hill, R., Huang, Y., Kahn, B., Kopalle, P., Lehmann, D., Urbany, J., & Wansink, B. (2008). Choice under restrictions. *Marketing Letters*, 19(3–4), 183–199.
- Botti, S., & McGill, A. L. (2006). When choosing is not deciding: The effect of perceived responsibility on satisfaction. *Journal of Consumer Research*, 33(2), 211–219.
- Botti, S., & McGill, A. L. (2011). The locus of choice: Personal causality and satisfaction with hedonic and utilitarian decisions. *Journal of Consumer Research*, 37(6), 1065–1078.
- Brach, S., Walsh, G., Hennig-Thurau, T., & Groth, M. (2015). A dyadic model of customer orientation: Mediation and moderation effects. *British Journal of Management*, 26(2), 292–309.
- Brehm, J. W. (1972). *Responses to loss of freedom: A theory of psychological reactance*. General Learning Corporation.
- Bruder, M., Lechner, A. T., & Paul, M. (2021). Toward holistic frontline employee management: An investigation of the interplay of positive emotion displays and dress color. *Psychology & Marketing*, 38(11), 2089–2101.
- Calvo, M. G., Fernández-Martín, A., & Nummenmaa, L. (2012). Perceptual, categorical, and affective processing of ambiguous smiling facial expressions. *Cognition*, 125(3), 373–393.
- Chang, H. H., & Hung, I. W. (2018). Mirror, mirror on the retail wall: Self-focused attention promotes reliance on feelings in consumer decisions. *Journal of Marketing Research*, 55(4), 586–599.
- Chen, J., Chang, B., Li, W., Shi, Y., Shen, H., Wang, R., & Liu, L. (2020). Dispositional self-construal modulates the empathy for others' pain: An ERP study. *Frontiers in Psychology*, 11, 508141.
- Chernev, A., Böckenholt, U., & Goodman, J. (2015). Choice overload: A conceptual review and meta-analysis. *Journal of Consumer Psychology*, 25(2), 333–358.
- Chi, N. W., & Chen, P. C. (2019). Relationship matters: How relational factors moderate the effects of emotional labor on long-term customer satisfaction. *Journal of Business Research*, 95, 277–291.
- Chi, N.-W., & Grandey, A. A. (2019). Emotional labor predicts customer satisfaction depending on activation and inhibition regulatory fit. *Journal of Management*, 45(2), 673–700.
- Chi, N.-W., Grandey, A. A., Diamond, J. A., & Kimmel, K. R. (2011). Want a tip? Customer satisfaction as a function of emotion regulation and extraversion. *Journal of Applied Psychology*, 96(6), 1337–1346.
- Cohen, D., & Gunz, A. (2002). As seen by the other ...: Perspectives on the self in the memories and emotional perceptions of Easterners and Westerners. *Psychological Science*, 13(1), 55–59.
- Côté, S., Hideg, I., & Van Kleef, G. A. (2013). The consequences of faking anger in negotiations. *Journal of Experimental Social Psychology*, 49(3), 453–463.
- Cross, S. E., Bacon, P. L., & Morris, M. L. (2000). The relational-interdependent self-construal and relationships. *Journal of Personality and Social Psychology*, 78(4), 791–808.
- Cross, S. E., Hardin, E. E., & Gercek-Swing, B. (2011). The what, how, why, and where of self-construal. *Personality and Social Psychology Review*, 15(2), 142–179.
- Cross, S. E., Morris, M. L., & Gore, J. S. (2002). Thinking about oneself and others: The relational-interdependent self-construal and social cognition. *Journal of Personality and Social Psychology*, 82(3), 399–418.
- Crow, K., Mathmann, F., & Greer, D. (2019). Got a dollar? Locomotion orientation decreases the effect of defaults on charitable giving. *Journal of Retailing and Consumer Services*, 48, 1–6.
- Dhar, S. K., Hoch, S. J., & Kumar, N. (2001). Effective category management depends on the role of the category. *Journal of Retailing*, 77(2), 165–184.
- Dreze, X., Hoch, S. J., & Purk, M. E. (1994). Shelf management and space elasticity. *Journal of Retailing*, 70(4), 301–326.
- Durante, K. M., & Arsena, A. R. (2015). Playing the field: The effect of fertility on women's desire for variety. *Journal of Consumer Research*, 41(6), 1372–1391.
- Ekman, P. (1993). Facial expression and emotion. *American Psychologist*, 48(4), 384–392.
- Ekman, P., O'Sullivan, M., & Frank, M. G. (1999). A few can catch a liar. *Psychological Science*, 10(3), 263–266.
- Fasolo, B., Carmeci, F. A., & Misuraca, R. (2009). The effect of choice complexity on perception of time spent choosing: When choice takes longer but feels shorter. *Psychology & Marketing*, 26(3), 213–228.
- Flowerday, T., & Schraw, G. (2003). Effect of choice on cognitive and affective engagement. *The Journal of Educational Research*, 96(4), 207–215.
- Flowerday, T., Schraw, G., & Stevens, J. (2004). The role of choice and interest in reader engagement. *The Journal of Experimental Education*, 72(2), 93–114.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Fuchs, C., Prandelli, E., & Schreier, M. (2010). The psychological effects of empowerment strategies on consumers' product demand. *Journal of Marketing*, 74(1), 65–79.
- Fuchs, C., Schreier, M., & van Osselaer, S. M. J. (2015). The handmade effect: What's love got to do with it? *Journal of Marketing*, 79(2), 98–110.
- Gabriel, A. S., Daniels, M. A., Diefendorff, J. M., & Greguras, G. J. (2015). Emotional labor actors: A latent profile analysis of emotional labor strategies. *Journal of Applied Psychology*, 100(3), 863–879.
- Gabriel, A. S., & Diefendorff, J. M. (2015). Emotional labor dynamics: A momentary approach. *Academy of Management Journal*, 58(6), 1804–1825.
- Galang, C. M., Johnson, D., & Obhi, S. S. (2021). Exploring the Relationship Between Empathy, Self-Construal Style, and Self-Reported Social Distancing Tendencies During the COVID-19 Pandemic. *Frontiers in Psychology*, 12, 328.
- Gardner, W. L., Gabriel, S., & Lee, A. Y. (1999). "I" value freedom, but "We" value relationships: Self-construal priming mirrors cultural differences in judgment. *Psychological Science*, 10(4), 321–326.
- Goldberg, L. S., & Grandey, A. A. (2007). Display rules versus display autonomy: Emotion regulation, emotional exhaustion, and task performance in a call center simulation. *Journal of Occupational Health Psychology*, 12(3), 301–318.
- Gosserand, R. H., & Diefendorff, J. M. (2005). Emotional display rules and emotional labor: The moderating role of commitment. *Journal of Applied Psychology*, 90(6), 1256–1264.
- Grabitz-Gniech, G. (1971). Some restrictive conditions for the occurrence of psychological reactance. *Journal of Personality and Social Psychology*, 19(2), 188–196.
- Grandey, A. A. (2000). Emotional regulation in the workplace: A new way to conceptualize emotional labor. *Journal of Occupational Health Psychology*, 5(1), 95–110.



- Grandey, A. A. (2003). When "the show must go on": Surface acting and deep acting as determinants of emotional exhaustion and peer-rated service delivery. *Academy of Management Journal*, 46(1), 86–96.
- Grandey, A. A., Fisk, G. M., Mattila, A. S., Jansen, K. J., & Sideman, L. A. (2005). Is "service with a smile" enough? Authenticity of positive displays during service encounters. *Organizational Behavior and Human Decision Processes*, 96(1), 38–55.
- Grandey, A. A., & Gabriel, A. S. (2015). Emotional labor at a crossroads: Where do we go from here? *Annual Review of Organizational Psychology and Organizational Behavior*, 2(1), 323–349.
- Grandey, A. A., Houston, L., & Avery, D. R. (2019). Fake it to make it? Emotional labor reduces the racial disparity in customer satisfaction judgments. *Journal of Management*, 45(5), 2163–2192.
- Greifeneder, R., Scheibehenne, B., & Kleber, N. (2010). Less may be more when choosing is difficult: Choice complexity and too much choice. *Acta Psychologica*, 133(1), 45–50.
- Groth, M., Hennig-Thurau, T., & Walsh, G. (2009). Customer reactions to emotional labor: The roles of employee acting strategies and customer detection accuracy. *Academy of Management Journal*, 52(5), 958–974.
- Gu, Y., Botti, S., & Faro, D. (2013). Turning the page: The impact of choice closure on satisfaction. *Journal of Consumer Research*, 40(2), 268–283.
- Gunnery, S. D., & Ruben, M. A. (2016). Perceptions of duchenne and non-duchenne smiles: A meta-analysis. *Cognition and Emotion*, 30(3), 501–515.
- Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis: A global perspective*. Pearson.
- Hamilton, R. W., & Biehal, G. J. (2005). Achieving your goals or protecting their future? The effects of self-view on goals and choices. *Journal of Consumer Research*, 32(2), 277–283.
- Hassin, R. R., Aviezer, H., & Bentin, S. (2013). Inherently ambiguous: Facial expressions of emotions, in context. *Emotion Review*, 5(1), 60–65.
- Hayes, A. F. (2018). *Methodology in the social sciences, Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford.
- Heitmann M., Lehmann D. R., Herrmann A. (2007). Choice Goal Attainment and Decision and Consumption Satisfaction. *Journal of Marketing Research*, 44, (2), 234–250.
- Hennig-Thurau, T., Groth, M., Paul, M., & Gremler, D. D. (2006). Are all smiles created equal? How emotional contagion and emotional labor affect service relationships. *Journal of Marketing*, 70(3), 58–73.
- Hennig-Thurau, T., & Klee, A. (1997). The impact of customer satisfaction and relationship quality on customer retention: A critical reassessment and model development. *Psychology & Marketing*, 14(8), 737–764.
- Hess, U., Blaison, C., & Kafetsios, K. (2016). Judging facial emotion expressions in context: The influence of culture and self-construal orientation. *Journal of Nonverbal Behavior*, 40(1), 55–64.
- Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*. University of California Press.
- Homburg, C., Klarmann, M. & Vomberg, A., (Eds.). (2022). *Handbook of Market Research*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-57413-4>
- Homburg, C., Koschate, N., & Hoyer, W. D. (2005). Do satisfied customers really pay more? A study of the relationship between customer satisfaction and willingness to pay. *Journal of Marketing*, 69(2), 84–96.
- Houston III, L., Grandey, A. A., & Sawyer, K. (2018). Who cares if "service with a smile" is authentic? An expectancy-based model of customer race and differential service reactions. *Organizational Behavior and Human Decision Processes*, 144, 85–96.
- Huang, J. L., Curran, P. G., Keeney, J., Poposki, E. M., & DeShon, R. P. (2012). Detecting and deterring insufficient effort responding to surveys. *Journal of Business and Psychology*, 27(1), 99–114.
- Huang, P. F., & Dai, C. W. (2010). The impacts of emotional contagion and emotional labor perception on employees' service performance. *International Journal of Electronic Business Management*, 8(1).
- Hülshager, U. R., Lang, J. W. B., Schewe, A. F., & Zijlstra, F. R. H. (2015). When regulating emotions at work pays off: A diary and an intervention study on emotion regulation and customer tips in service jobs. *Journal of Applied Psychology*, 100(2), 263–277.
- Hülshager, U. R., & Schewe, A. F. (2011). On the costs and benefits of emotional labor: A meta-analysis of three decades of research. *Journal of Occupational Health Psychology*, 16(3), 361–389.
- Hutchinson, J. M. (2005). Is more choice always desirable? Evidence and arguments from leks, food selection, and environmental enrichment. *Biological Reviews*, 80(1), 73–92.
- Hyodo, J. D., & Bolton, L. E. (2021). How does religion affect consumer response to failure and recovery by firms? *Journal of Consumer Research*, 47(5), 807–828.
- Iyengar, S. S., & Lepper, M. R. (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, 79(6), 995–1006.
- Kahn, B. E., & Wansink, B. (2004). The influence of assortment structure on perceived variety and consumption quantities. *Journal of Consumer Research*, 30(4), 519–533.
- Kammeyer-Mueller, J. D., Rubenstein, A. L., Long, D. M., Odio, M. A., Buckman, B. R., Zhang, Y., & Halvorsen-Ganepola, M. D. (2013). A meta-analytic structural model of dispositional affectivity and emotional labor. *Personnel Psychology*, 66(1), 47–90.
- Keh, H. T., Ren, R., Hill, S. R., & Li, X. (2013). The beautiful, the cheerful, and the helpful: The effects of service employee attributes on customer satisfaction. *Psychology & Marketing*, 30(3), 211–226.
- Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition & Emotion*, 13(5), 505–521.
- Van Kleef, G. A. (2009). How emotions regulate social life: The emotions as social information (EASI) model. *Current Directions in Psychological Science*, 18(3), 184–188.
- Van Kleef, G. A. (2014). Understanding the positive and negative effects of emotional expressions in organizations: EASI does it. *Human Relations*, 67(9), 1145–1164.
- Van Kleef, G. A., Homan, A. C., & Cheshin, A. (2012). Emotional influence at work: Take it EASI. *Organizational Psychology Review*, 2(4), 311–339.
- Koelemeijer, K., & Oppewal, H. (1999). Assessing the effects of assortment and ambience: A choice experimental approach. *Journal of Retailing*, 75(3), 319–345.
- Kogan, A., Impett, E. A., Oveis, C., Hui, B., Gordon, A. M., & Keltner, D. (2010). When giving feels good: The intrinsic benefits of sacrifice in romantic relationships for the communally motivated. *Psychological Science*, 21(12), 1918–1924.
- Krumhuber, E., Manstead, A. S., & Kappas, A. (2007). Temporal aspects of facial displays in person and expression perception: The effects of smile dynamics, head-tilt, and gender. *Journal of Nonverbal Behavior*, 31(1), 39–56.
- Kulczynski, A., Ilicic, J., & Baxter, S. M. (2016). When your source is smiling, consumers may automatically smile with you: Investigating the source expressive display hypothesis. *Psychology & Marketing*, 33(1), 5–19.
- Kuppens, P., Realo, A., & Diener, E. (2008). The role of positive and negative emotions in life satisfaction judgment across nations. *Journal of Personality and Social Psychology*, 95(1), 66–75.
- Lalwani, A. K., & Shavitt, S. (2009). The "me" I claim to be: Cultural self-construal elicits self-presentational goal pursuit. *Journal of Personality and Social Psychology*, 97(1), 88–102.
- Lalwani, A. K., & Shavitt, S. (2013). You get what you pay for? Self-construal influences price-quality judgments. *Journal of Consumer Research*, 40(2), 255–267.

- Van Lange, P. A., Agnew, C. R., Harinck, F., & Steemers, G. E. (1997). From game theory to real life: How social value orientation affects willingness to sacrifice in ongoing close relationships. *Journal of Personality and Social Psychology*, 73(6), 1330–1344.
- Lechner, A. T., & Mathmann, F. (2021). Bringing service interactions into focus: Prevention- versus promotion-focused customers' sensitivity to employee display authenticity. *Journal of Service Research*, 24(2), 284–300.
- Lechner, A. T., Mathmann, F., Paul, M. (2020). Frontline Employees' Display of Fake Smiles and Angry Faces: When and Why They Influence Service Performance. *Journal of Service Research*, <http://doi.org/10.1177/1094670520975148>
- Lechner, A. T., & Paul, M. (2019). Is this smile for real? The role of affect and thinking style in customer perceptions of frontline employee emotion authenticity. *Journal of Business Research*, 94, 195–208.
- Lee, B. K., & Lee, W. N. (2004). The effect of information overload on consumer choice quality in an on-line environment. *Psychology & Marketing*, 21(3), 159–183.
- Liu, X.-Y., Chi, N.-W., & Gremler, D. D. (2019). Emotion cycles in services: Emotional contagion and emotional labor effects. *Journal of Service Research*, 22(3), 285–300.
- Madan, S., Nanakdewa, K., Savani, K., & Markus, H. R. (2020). The paradoxical consequences of choice: Often good for the individual, perhaps less so for society? *Current Directions in Psychological Science*, 29(1), 80–85.
- Mandel, N. (2003). Shifting selves and decision making: The effects of self-construal priming on consumer risk-taking. *Journal of Consumer Research*, 30(1), 30–40.
- Mann, S. (1999). Emotion at work: To what extent are we expressing, suppressing, or faking it? *European Journal of Work and Organizational Psychology*, 8(3), 347–369.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224–253.
- Markus, H. R., & Schwartz, B. (2010). Does choice mean freedom and well-being? *Journal of Consumer Research*, 37(2), 344–355.
- Mathmann, F., & Chylinski, M. (2021). When, for whom and why expanding single-option offerings creates value: Locomotion fit from choice between options. *European Journal of Marketing*, 43, 1427–1439.
- Mathmann, F., Chylinski, M., de Ruyter, K., & Higgins, E. T. (2017). When plentiful platforms pay off: Assessment orientation moderates the effect of assortment size on choice engagement and product valuation. *Journal of Retailing*, 93(2), 212–227.
- Mesmer-Magnus, J. R., DeChurch, L. A., & Wax, A. (2012). Moving emotional labor beyond surface and deep acting: A discordance-congruence perspective. *Organizational Psychology Review*, 2(1), 6–53.
- Miron, A. M., & Brehm, J. W. (2006). Reactance theory-40 years later. *Zeitschrift für Sozialpsychologie*, 37(1), 9–18.
- Mortimer, G., & Grimmer, L. (2021). The rise and rise of Aldi: two decades that changed supermarket shopping in Australia. *The Conversation*, (22 January, 2021). <https://theconversation.com/the-rise-and-rise-of-aldi-two-decades-that-changed-supermarket-shopping-in-australia-152822>
- Nakkawita, E., Mathmann, F., & Higgins, E. T. (2020). Does your gain define my loss?: Socially-defined counterfactual loss and prevention-focused decision-making. *Personality and Individual Differences*, 160, 109926.
- Nunes, J. C., & Boatwright, P. (2004). Incidental prices and their effect on willingness to pay. *Journal of Marketing Research*, 41(4), 457–466.
- Nunnally, J. C. (1994). *Psychometric theory* 3E. Tata McGraw-Hill
- Otterbring, T. (2017). Smile for a while: The effect of employee-displayed smiling on customer affect and satisfaction. *Journal of Service Management*, 28(2), 284–304.
- Oyserman, D., Sorensen, N., Reber, R., & Chen, S. X. (2009). Connecting and separating mind-sets: Culture as situated cognition. *Journal of Personality and Social Psychology*, 97(2), 217–235.
- Papadopoulou, N., Raies, K., Mir Bernal, P., & Woodside, A. G. (2019). Gifts as conduits in choice overload environments. *Psychology & Marketing*, 36(7), 716–729.
- Parker, L. E., & Lepper, M. R. (1992). Effects of fantasy contexts on children's learning and motivation: Making learning more fun. *Journal of Personality and Social Psychology*, 62(4), 625–633.
- Patall, E. A., Cooper, H., & Robinson, J. C. (2008). The effects of choice on intrinsic motivation and related outcomes: A meta-analysis of research findings. *Psychological Bulletin*, 134, 270–300.
- Paul, M., Hennig-Thurau, T., & Groth, M. (2015). Tightening or loosening the "iron cage"? The impact of formal and informal display controls on service customers. *Journal of Business Research*, 68(5), 1062–1073.
- Pugh, S. D. (2001). Service with a smile: Emotional contagion in the service encounter. *Academy of Management Journal*, 44(5), 1018–1027.
- Reeve, J., Nix, G., & Hamm, D. (2003). Testing models of the experience of self-determination in intrinsic motivation and the conundrum of choice. *Journal of Educational Psychology*, 95(2), 375–392.
- Richard, E. M. (2006). Applying appraisal theories of emotion to the concept of emotional labor. *LSU Doctoral Dissertations*, 2268.
- Rusbult, C. E., & Van Lange, P. A. (2003). Interdependence, interaction, and relationships. *Annual Review of Psychology*, 54(1), 351–375.
- Savani, K., & Rattan, A. (2012). A choice mind-set increases the acceptance and maintenance of wealth inequality. *Psychological Science*, 23, 796–804.
- Scheibehenne, B., Greifeneder, R., & Todd, P. M. (2009). What moderates the too-much-choice effect? *Psychology & Marketing*, 26(3), 229–253.
- Schwartz, B. (2000). Self-determination: The tyranny of freedom. *American Psychologist*, 55(1), 79–88.
- Sharma, S., Durand, R. M., & Gur-Arie, O. (1981). Identification and analysis of moderator variables. *Journal of Marketing Research*, 18(3), 291–300.
- Simpson, B., Robertson, J. L., & White, K. (2020). How co-creation increases employee corporate social responsibility and organizational engagement: The moderating role of self-construal. *Journal of Business Ethics*, 166(2), 331–350.
- Simpson, B., Schreier, M., Bitterl, S., & White, K. (2021). Making the world a better place: How crowdfunding increases consumer demand for social-good products. *Journal of Marketing Research*, 58(2), 363–376.
- Simpson, B., White, K., & Laran, J. (2018). When public recognition for charitable giving backfires: The role of independent self-construal. *Journal of Consumer Research*, 44(6), 1257–1273.
- Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin*, 20(5), 580–591.
- Singh, S., Kumar, R., Panchal, R., & Tiwari, M. K. (2020). Impact of COVID-19 on logistics systems and disruptions in food supply chain. *International Journal of Production Research*, 59, 1–16.
- Skinner, M., & Mullen, B. (1991). Facial asymmetry in emotional expression: A meta-analysis of research. *British Journal of Social Psychology*, 30(2), 113–124.
- Sloot, L. M., Fok, D., & Verhoef, P. C. (2006). The short-and long-term impact of an assortment reduction on category sales. *Journal of Marketing Research*, 43(4), 536–548.
- Spiller, S. A., Fitzsimons, G. J., Lynch Jr., J. G., & McClelland, G. H. (2013). Spotlights, floodlights, and the magic number zero: Simple effects tests in moderated regression. *Journal of Marketing Research*, 50(2), 277–288.
- Tan, H. H., Foo, M. D., & Kwek, M. H. (2004). The effects of customer personality traits on the display of positive emotions. *Academy of Management Journal*, 47(2), 287–296.
- Tiffert, A. (2006). *Entwicklung und Evaluierung eines Trainingsprogramms zur Schulung von Techniken des Emotionsmanagement: Eine Längsschnittstudie im persönlichen Verkauf*. Hampp.

- Trougakos, J. P., Chawla, N., & McCarthy, J. M. (2020). Working in a pandemic: Exploring the impact of COVID-19 health anxiety on work, family, and health outcomes. *Journal of Applied Psychology*, 105(11), 1234–1245.
- Tsai, W. C. (2001). Determinants and consequences of employee displayed positive emotions. *Journal of Management*, 27(4), 497–512.
- Umesh, U. N., Peterson, R. A., McCann-Nelson, M., & Vaidyanathan, R. (1996). Type IV error in marketing research: The investigation of ANOVA interactions. *Journal of the Academy of Marketing Science*, 24(1), 17–26.
- Utz, S. (2004). Self-construal and cooperation: Is the interdependent self more cooperative than the independent self? *Self and Identity*, 3(3), 177–190.
- Vaidyanathan, R., Aggarwal, P., & Kozłowski, W. (2013). Interdependent self-construal in collectivist cultures: Effects on compliance in a cause-related marketing context. *Journal of Marketing Communications*, 19(1), 44–57.
- Voorhees, C. M., Fombelle, P. W., & Bone, S. A. (2020). Don't forget about the frontline employee during the COVID-19 Pandemic: Preliminary insights and a research agenda on market shocks. *Journal of Service Research*, 23(4), 396–400.
- Wang, G., Seibert, S. E., & Boles, T. L. (2011). Synthesizing what we know and looking ahead: A meta-analytical review of 30 years of emotional labor research, *What have we learned? Ten years on*. Emerald Group Publishing Limited
- Wang, K. L., & Groth, M. (2014). Buffering the negative effects of employee surface acting: The moderating role of employee–customer relationship strength and personalized services. *Journal of Applied Psychology*, 99(2), 341–350.
- Wang, K. L., Nguyen, H., Johnson, A., & Groth, M. (2021). Caught out! The role of customer emotional intelligence and dual thinking processes in perceptions of frontline service employees' inauthentic positive displays. *Psychology & Marketing*, 38(12), 2191–2208.
- Wang, Z., Singh, S. N., Li, Y. J., Mishra, S., Ambrose, M., & Biernat, M. (2017). Effects of employees' positive affective displays on customer loyalty intentions: An emotions-as-social-information perspective. *Academy of Management Journal*, 60(1), 109–129.
- Werthenbroch, K., & Skiera, B. (2002). Measuring consumers' willingness to pay at the point of purchase. *Journal of Marketing Research*, 39(2), 228–241.
- Wieseke, J., Geigenmüller, A., & Kraus, F. (2012). On the role of empathy in customer–employee interactions. *Journal of Service Research*, 15(3), 316–331.
- Winkielman, P., Schwarz, N., Fazendeiro, T., & Reber, R. (2003). The hedonic marking of processing fluency: Implications for evaluative judgment. *The Psychology of Evaluation: Affective Processes in Cognition and Emotion*, 189, 217.
- Winterich, K. P., & Barone, M. J. (2011). Warm glow or cold, hard cash? Social identity effects on consumer choice for donation versus discount promotions. *Journal of Marketing Research*, 48(5), 855–868.
- Yagil, D. (2020). Positive framing of surface acting: The mitigating effect of self-serving attributions on sense of inauthenticity and emotional exhaustion. *International Journal of Stress Management*, 27(3), 217–941.
- Zwebner, Y., & Schrift, R. Y. (2020). On My Own: The aversion to being observed during the preference-construction stage. *Journal of Consumer Research*, 47(4), 475–499.

## SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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