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# The Starbucks effect: When name-based order identification increases customers' store preference and service satisfaction <sup>☆</sup>



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## ABSTRACT

Retailers traditionally use a number system to match a product or service to a customer, ensuring that the customer receives the right product (e.g., a specific hot drink). However, some retailers have started to match an order by using a customer's name. Six studies, including an incentive-compatible experiment and field study, examine whether, when, and why order identification by a customer's name can either benefit or harm retailers. In contrast to prior research suggesting a negative effect of using a customer's name in marketing communications (e.g., online ads), the current research demonstrates a positive effect of identifying an order by name, which we refer to as the "Starbucks effect." This positive effect, however, is mitigated or even backfires under specific circumstances. The results suggest that managers can use customers' names while avoiding the use of numbers to increase customer preference for stores and service satisfaction, but with caution, especially in situations where privacy concerns may arise, even when the customer is only asked for their first name and could provide a fake name.

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## 1. Introduction

In many retail settings, firms need to match a product or service to a customer. For example, when a customer places an order for a hot drink or a sandwich, firms usually identify it by an order number. Some retailers, however, have relinquished this common practice in favor of name-based order identification—they identify an order by a customer's name, which may be motivated by operational efficiency. For example, at a coffee shop, such as Starbucks, using names might help overcome the issue of order misidentification in a noisy environment (Colin, 1953) caused by loud espresso machines.

How does identifying an order by name (as opposed to number) affect customers' evaluation and choice of a product or retailer? Outside of an ordering context, existing research in marketing communications suggests potential negative

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downstream consequences of using customers' names. Specifically, although including customers' names in advertisements (e.g., online banner, email) can capture greater attention from customers (e.g., customers are more likely to open an email; Sahni, Christian Wheeler, & Chintagunta, 2018), it can also trigger a sense of privacy invasion (Wattal, Telang, Mukhopadhyay, & Boatwright, 2012). In an ordering context, the positive effect on attention appears less important, given that the customer has already decided to proceed with their purchase and will be attentive to ensure the receipt of the item they ordered. Hence, the most closely related literature proposes that customers may perceive name-based order identification as an invasion of their privacy, thereby reacting negatively toward a retailer.

It remains uncertain, however, whether this negative effect will occur. Prior research has primarily centered on marketing communication contexts, where customers encounter their name in an ad or e-mail without knowing how the company obtained this information. In contrast, in the context of the current research—a retail ordering context, customers are openly asked for their name, and they have the option to either opt-out or even pick a fictitious name. Thus, using a customer's name for order identification might not necessarily elicit a strong sense of privacy invasion. Moreover, there might be a psychological factor that could drive a positive effect of name-based order identification (and counteract any negative effect coming from privacy invasion): de-objectification (Nussbaum, 1995; Van Osselaer, Fuchs, Schreier, & Puntoni, 2020), which suggests that having orders identified by name might make consumers feel treated more like a person and less like an object. In the era of globalization, automation, and faceless efficiency, a sense of de-objectification might enhance customers' evaluations of products and stores. In this sense, order identification by name might lead to a positive net effect.

The current research aims to examine whether, why, and when order identification by name (vs. number) generally engenders a negative or positive effect on retailers. In doing so, the current research contributes to the literature in the intersection of customer objectification (Van Osselaer et al., 2020) and privacy concerns (Kim, Barasz, & John, 2019), as well as research on the beneficial effects of marketing (Chandy, Johar, Moorman, & Roberts, 2021). First, the current research extends the existing literature on the utilization of customers' names beyond a marketing communication context (Wattal et al., 2012), unraveling how using customers' names in an ordering context influences their preference and satisfaction. Second, our research adds to existing research on how personal interactions with service providers can affect customer satisfaction and retention (Ganesh, Arnold, & Reynolds, 2000; Kelley, Hoffman, & Davis, 1993; Surprenant & Solomon, 1987). In expanding this literature, the current research investigates how a simple intervention—identifying an order by name—can make customers feel less objectified. Specifically, our research illuminates that name-based order identification, which initially may seem like a privacy invasion or a marketing gimmick, can benefit customers (Chandy et al., 2021) by making them feel like being treated as individual persons rather than as objectified, interchangeable instruments for profit.

## 2. Conceptual framework

### 2.1. Why order identification by name may have a negative effect: The role of perceived privacy violation

The prior research that probably comes closest to our topic of study is research on addressing (prospective) customers by name in marketing communications. This stream of research has shown that it has divergent influences on attention and product evaluation. Specifically, several studies demonstrated that using a recipient's first name in an advertisement or piece of direct mail has a positive effect on attention. For instance, Sahni et al. (2018) found that adding a customer's first name in the subject line of a promotional email increased the probability of opening the email. Similarly, Tam and Ho (2006) showed that customers paid greater attention to banner advertisements that contain their names (e.g., "Hello Jack, looking for gifts?"), leading to decreased exploration of other options (Tam & Ho, 2006). Effects on product evaluation, however, tend to be negative. For example, Wattal et al. (2012) found that customers were less likely to make a purchase after opening an email advertisement that greeted them by name. Similarly, Van Doorn and Hoekstra (2013) showed that including a customer's first name in an online banner ad was perceived as intrusive and did not boost purchase intention. White, Zahay, Thorbjørnsen, and Shavitt (2008) also found that customers showed greater reactance and lower click-through intentions when email advertisements used personal information, including the recipient's name, particularly when this information was used without explicit justification. Accordingly, prior research on using a customer's name in marketing communications has revealed both positive effects in terms of increased attention and negative effects in terms of reactions that center on privacy violations.<sup>1</sup>

However, it is unclear whether and how findings in marketing communications can be applied to the context of order identification due to a fundamental conceptual difference between the two contexts. The extant literature primarily focused on situations where consumers are passively exposed to unsolicited ads that use their names, leaving them with no control

<sup>1</sup> Note that related studies in non-marketing communication contexts are surprisingly scarce. A review of the literature revealed only one study that seems tangentially related at best. In a lab-based experiment, Surprenant and Solomon (1987) examined the effect of having more (vs. less) individual conversations with customers in a service encounter. Using a role-play format in a bank setting (in which participants played the role of customers), the authors found that instructing bank employees to have more (vs. less) small talk has more negative than positive effects: While more personal interaction (more small talk) increased customer evaluations on performance dimensions that were judged as less important (i.e., perceived sociability and friendliness of the employee, warmth of the bank), it reduced their evaluations on performance dimensions that were judged as more important (i.e., perceived competence and effectiveness of the bank employee, trustworthiness of the bank). Thus, the evidence from this research—which uses different independent variables (e.g., having more vs. less two-way discussion instead of merely asking for a name), dependent variables, and contexts—is inconclusive and does not help to answer our research questions.

over the situation. In contrast, order identification occurs in a retail setting where customers can actively choose a company to engage with. This distinction gives rise to two noteworthy implications. First, gaining a customer's attention becomes less important in the context of order identification compared to marketing communications, where customers are bombarded with unsolicited ads and emails, making attention a critical factor. In the context of order identification, however, the customer has willingly placed an order and thus will pay sufficient attention to receive their order. Accordingly, the attention path seems to be less prominent in the context of order identification. Second, privacy concerns may be less salient in the context of order identification. Compared to the context of marketing communications, consumers may feel a greater sense of control over their personal information in the context of order identification because they actively choose which company to interact with. Additionally, in the context of marketing communications, customers' names are often used without them knowing how the information about their name was gathered and whether other personal information beyond their name has been accessed. These factors have been found to increase customers' sense of privacy violation (Kim et al., 2019). In the context of order identification, store personnel typically ask for customers' first names only, enabling them to know how, where, and what information is obtained. In this regard, asking customers for their name gives them the opportunity to opt out. Given this distinction, privacy concerns identified in the marketing communication literature might play a less salient role in the context of identifying orders by name. Accordingly, consumers may find it less intrusive to be asked for one's name to identify an order rather than to see one's name on an advertisement.

## 2.2. Why order identification by name may have a positive effect: The role of customers' sense of objectification

If privacy concerns identified in the marketing communication literature are less prominent in the context of identifying orders by name, it is not entirely certain that order identification by name would invariably lead to an overall negative effect, especially if there is another process that pulls in the opposite direction. One such process could be related to customers' perceptions of objectification (Nussbaum, 1995; Van Osselaer et al., 2020). Objectification refers to the act of treating another person as a mere interchangeable means to achieve one's own goals or needs (Nussbaum, 1995; Van Osselaer et al., 2020). This phenomenon can occur in different interpersonal contexts including war (Frankl, 1985), sexual objectification (Fredrickson & Roberts, 1997), and objectification in work environments (Belmi & Schroeder, 2020; Gruenfeld, Inesi, Magee, & Galinsky, 2008). For instance, in work related settings compared to non-work related settings, individuals tend to view and treat others more as an instrument to achieve their professional goals rather than as a person (Belmi & Schroeder, 2020).

Within the marketplace, individuals may also experience a sense of objectification in their role as customers (Van Osselaer et al., 2020). In an economy largely driven by profit maximization, customers may feel that producers perceive them merely as walking wallets, disregarding their personal worth (Holt, 2002; Pruden & Longman, 1972). We define this specific form of objectification in the marketplace as a *customer's sense of objectification*—the extent to which customers feel treated as interchangeable instruments for profit by a producer or a service provider (Van Osselaer et al., 2020). Although such a sense of objectification in the customer-producer relationship might not reach the extreme levels of objectification experienced in situations like war, sexual exploitation, or poor work environments, it might still generate negative effects on customer related outcomes.

Identifying an order by a customer's name does not involve any in-depth insight into a person's identity (e.g., thousands of people share the same first names) or alter the transactional nature of the customer-producer relationship. Nonetheless, we propose that order identification by name does affect customers' perceptions of how they are perceived by a producer or service provider. Personal names serve as markers of individuality, embody one's personhood, and constitute a central part of a person's identity (Jones, Pelham, Mirenberg, & Hetts, 2002; Kettle & Haubl, 2011; Trudel, Argo, & Meng, 2016; vom Bruck & Bodenhorn, 2006). Asking for someone's name is a core part of establishing relationships and recognizing people as individual social beings. Likewise, giving a personal name to an object causes people to treat it more like a human (Aggarwal & McGill, 2012). Consequently, name-based order identification (identifying an order by a customer's name) may prompt customers to expect that the *producer* would perceive them as less of an object, which may result in more positive customer related outcomes (preference, satisfaction).

Based on this line of reasoning, we propose that name-based order identification decreases customers' sense of objectification, leading to an overall positive effect on various outcomes, including greater preference and satisfaction. In this paper, we refer to this overall positive effect as the "Starbucks effect," named after Starbucks' well-known practice of asking for a customer's name when taking orders. Our theorizing also suggests potential moderators of this effect. Specifically, we identify two circumstances in which the Starbucks effect is likely to be mitigated: (i) when there is no human presence involved (e.g., when the producer is a robot) and (ii) when privacy is a salient consumer concern. We next discuss these two potential moderators to further test our objectification account through moderation.

## 2.3. When name-based order identification is less likely to reduce a sense of objectification: Moderation by non-human (vs. human) producers

We proposed that name-based order identification generates positive customer related outcomes by reducing customers' sense of objectification (i.e., by de-objectifying the customers). If this is the case, then the positive effect of name-based order identification should be mitigated when it is less likely to decrease customers' sense of objectification. For instance,

when a producer is a non-human agent (a robot), identifying an order by name may not necessarily decrease customers' sense of objectification.

A robot is a non-social agent that lacks human mindedness (Gray, Gray, & Wegner, 2007; Jin, Walker, & Reczek, 2024). Given that customers expect such non-social agents to perceive them as an array of numerical attributes, instead of seeing them as individuals (Yalcin et al., 2022), they would be less likely to feel that a robot identifying their order by name holds a de-objectifying perspective towards them. Thus, we propose that the positive effect of name-based order identification will be mitigated when name-based order identification is directed towards a non-human agent, such as a robot.

#### 2.4. When a sense of objectification matters less: Moderation by embarrassing purchases

If the positive effect of name-based order identification is indeed driven by a decreased sense of objectification, this effect should be mitigated when customers place less importance on a sense of objectification. One instance would be when the costs of privacy protection outweigh the benefits of de-objectification. Privacy entails anonymity, which inhibits service providers and producers from recognizing customers as individual persons. Accordingly, in situations where customers have stronger concerns about their privacy, the negative effect of name-order identification through privacy will outweigh the corresponding positive effect through a decreased sense of objectification.

The literature supports the idea that customers may have a stronger desire to protect their privacy in certain purchase situations. Relatedly, customers who make embarrassing purchases tend to be concerned more about the negative judgment of others (Dahl, Manchanda, & Argo, 2001). Thus, we propose that when a customer is making an embarrassing purchase, the positive effect of name-based order identification will be mitigated (and potentially reversed, in extreme cases). Fig. 1 summarizes our theoretical framework, including these two boundary conditions.

### 3. Overview of studies

Across six studies, we test our proposed theoretical framework (Fig. 1). We begin by conducting two studies to examine the general effect of order identification on consequential store choice (study 1) and actual service satisfaction measured at coffee shops in the field (study 2). We demonstrate that name-based order identification generates an overall positive net effect through a decreased sense of objectification (studies 2, 3a, and 3b), although it also entails greater concerns about privacy violation (study 3b). We further examine the de-objectification mechanism and managerial boundary conditions by testing moderation by a non-human producer (i.e., a robot; study 4) and when consumers have heightened privacy concerns (i.e., when making a potentially embarrassing purchase; study 5).

In all studies, we determined sample sizes and exclusion criteria (if any) in advance. We report all manipulations, all measures, and all exclusions (see Web Appendix A for stimuli). We used attention checks and consistently excluded all

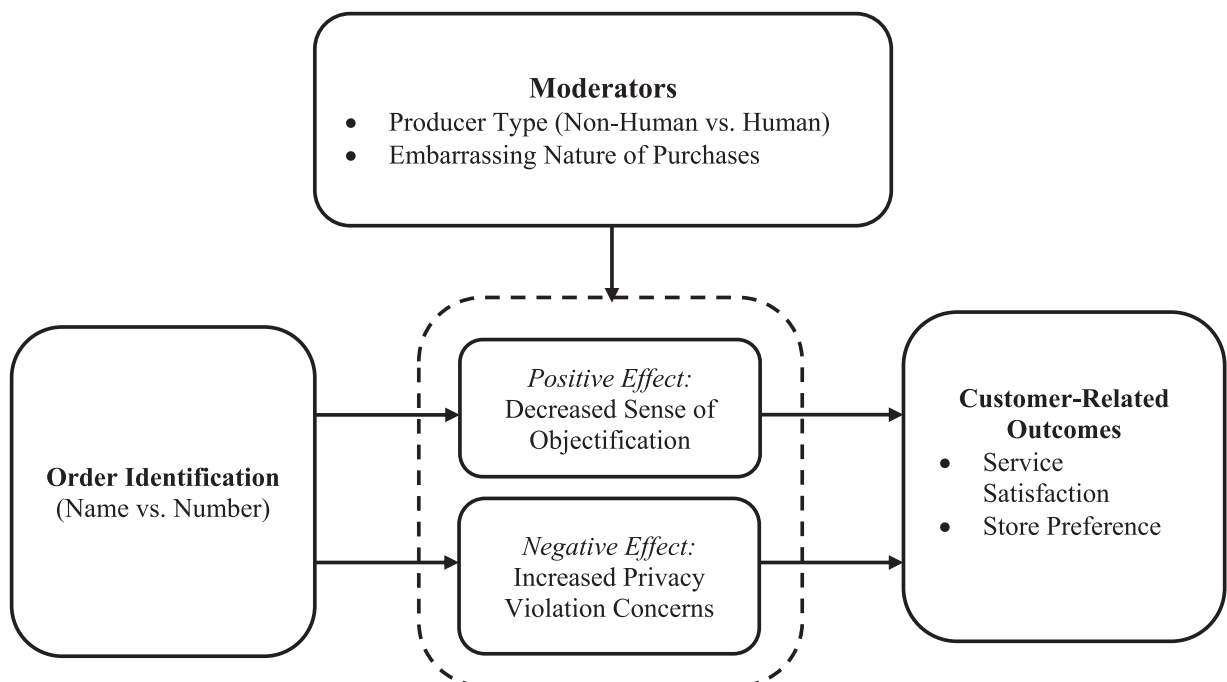


Fig. 1. Theoretical framework.

participants who failed any check (Meyvis & van Osselaer, 2018). We report full details of exclusion criteria if any (Web Appendix B) and supplementary analyses with excluded participants (Web Appendix C).<sup>2</sup> In addition to in-study attention checks, we screened participants *before* the study using an instructional manipulation check in studies 3b, 4, and 5 (Oppenheimer, Meyvis, & Davidenko, 2009). Those who failed the instructional manipulation check(s) were not allowed to proceed to the actual study, so they did not generate any data and were not counted as participants.

#### 4. Study 1: The effect of order identification on incentive compatible store preference

Study 1 provided an initial test of how order identification influences customer related outcomes. Specifically, study 1 tested whether the incentive-compatible preference for the same bakery changes as a function of order identification (name vs. number). To this end, we asked participants to indicate their relative preferences between two bakeries and manipulated which of the bakeries used name-based versus number-based order identification. We predicted that participants would indicate a greater preference for a bakery when it identifies an order by a customer's name (vs. number).

##### 4.1. Method

A total of 397 participants from an online panel (Amazon Mechanical Turk [Mturk];  $M_{\text{age}} = 35$  years, 232 female) completed this study. Participants were asked to consider buying a box of chocolate chip cookies and read descriptions of two real small bakeries selling cookies online: Gigi's and Casey's. Gigi's was described as a French-inspired pastry shop featuring fine baked goods, whereas Casey's was described as specializing in artisanal European pastry and delectable desserts.

Central to our hypothesis, we manipulated which of the bakeries identified an order by either name or number. We told half of the participants that Casey's bakery sent customers' first names to the baker along with their order (name-based order identification), whereas Gigi's bakery processed their order by an order number (number-based order identification). For the other half, we reversed this: Gigi's sent an order to the baker along with customers' first names, whereas Casey's processed it by number.

Next, participants indicated their preferences between the two bakeries ("Which bakery do you prefer?," 1 = definitely Gigi's bakery, 5 = indifferent, 9 = definitely Casey's bakery). Note that our manipulation of order identification does not involve any customization of products; the focal product was standard chocolate chip cookies, and it was not tailored in any respect for a specific customer (Vesanen & Raulas, 2006).

To make their response consequential, we told participants that five participants would receive cookies from their preferred bakery. Participants were also told that they would receive cookies randomly from one of the bakeries if they were indifferent between the two. Lastly, participants completed the perceived awareness of research hypothesis (PARH) scale (Rubin, Paolini, & Crisp, 2010;  $\alpha = .88$ ). After the experiment, we sent five participants a box of their chosen cookies (Gigi's or Casey's).

##### 4.2. Results and discussion

To examine our hypothesis of order identification, we tested for a change in preference for Casey's over Gigi's when Casey's identifies orders by name (and Gigi's does it by number), compared to when Casey's identifies them by number (and Gigi's does it by name). Consistent with our prediction, participants indicated a greater preference for Casey's (vs. Gigi's) when it identified an order by name ( $M_{\text{casey\_name}} = 5.94$ ,  $SD = 2.40$ ) rather than by number ( $M_{\text{casey\_number}} = 4.32$ ,  $SD = 2.51$ ;  $F(1, 395) = 43.10$ ,  $p < .001$ ,  $\eta_p^2 = .10$ ). Next, we conducted an additional analysis to explore if this effect is affected by participants' perceived awareness of the research hypothesis (PARH). There was neither a main effect of PARH nor an order identification  $\times$  PARH interaction ( $F_s < 1$ ), and the effect of order identification remained significant ( $F(1, 393) = 6.18$ ,  $p = .013$ ,  $\eta_p^2 = .02$ ). These results suggest that demand effects are unlikely to account for the effect observed. Taken together, study 1 demonstrated a positive effect of name-based (vs. number-based) order identification on incentive-compatible, consequential store preferences.

#### 5. Study 2: A sense of objectification mediates the effect of order identification on service satisfaction at coffee shops

The purpose of study 2 was threefold. First, we aimed to examine how name-based (vs. number-based) order identification affects the customer experience *after* making a purchase decision, namely service satisfaction. To this end, we collaborated with two coffee shops and ran a field study over two weeks. Second, we examined our proposed mechanism by testing whether a sense of objectification mediates the order identification effect. Third, we aimed to rule out the possibility that our effect is driven by customization. It might be possible that participants in study 1 believed their on-line order of cookies would be customized if their order was identified by name, but not when their order was identified by number. In this field study, customers could always customize their beverage (e.g., ordering a café latte with 2% milk) regardless of whether their order was identified by their name or order number.

<sup>2</sup> Data for all studies are available at [bit.ly/3VBBeljZ](https://bit.ly/3VBBeljZ)

## 5.1. Method

We conducted a field study at two coffee shops located on the campus of Cornell University: Libe Cafe and Rusty's (We abbreviated their names to LC and R). The study took place over two weeks (8 a.m. to 3 p.m., Monday through Friday). We manipulated how orders were identified at each coffee shop. In the name-based order identification condition, baristas identified orders by name – they wrote the customer's name on the cup and called out their name when orders were ready. In the number-based order identification condition, baristas identified orders by number—they wrote down order numbers on cups and gave number cards to customers. We counterbalanced the ordering system implemented at each coffee shop across weeks. In the first week, baristas at LC used the number-based order identification, whereas those at R used the name-based order identification. In the second week, the opposite was the case.

At each coffee shop, customers who had received their drinks were asked to participate in a short survey. A total of 1120 customers agreed to complete the survey. To measure a sense of objectification, we asked customers to indicate the extent to which they felt that employees at the coffee shop treated them as an interchangeable source of money rather than as an individual person (0 = totally as an individual person, 10 = totally as an interchangeable source of money). We measured service satisfaction by asking them to indicate 1) how much they liked the way people at the coffee shop took and called out their order and 2) how they felt about their experience with the people who served them at the coffee shop (1 = bad, 7 = outstanding;  $r = .83$ ). In addition, we asked how many times a week they order a custom-made drink at the coffee shop. In the name-based order identification condition, we also asked participants whether they gave a fake name to the barista, as well as whether the barista wrote their name correctly.

## 5.2. Results

*Service satisfaction.* We conducted a 2 (order identification: name vs. number)  $\times$  2 (coffee shop: LC vs. R) ANOVA on service satisfaction. Confirming our hypothesis, customers indicated greater service satisfaction when their order was identified by name than by number ( $M_{name} = 5.35$ ,  $SD = 1.20$  vs.  $M_{number} = 5.13$ ,  $SD = 1.29$ ;  $F(1, 1116) = 7.10$ ,  $p = .008$ ,  $\eta_p^2 = .01$ ). Although customers indicated greater satisfaction at R rather than at LC ( $M_R = 5.75$ ,  $SD = 1.11$  vs.  $M_{LC} = 4.86$ ,  $SD = 1.22$ ;  $F(1, 1116) = 151.95$ ,  $p < .001$ ,  $\eta_p^2 = .12$ ), there was no significant interaction effect between order identification and coffee shop ( $F(1, 1116) = .37$ ,  $p = .541$ ). This result suggests that the effect of order identification did not systematically vary across the two coffee shops. The key effect of order identification remained significant after controlling for the average number of purchases of custom-made (i.e., not pre-packaged) drinks per week ( $F(1, 1109) = 8.24$ ,  $p = .004$ ,  $\eta_p^2 = .01$ ).<sup>3</sup>

*A sense of objectification.* As we hypothesized, participants felt a lower sense of objectification when baristas identified an order by name ( $M = 2.42$ ,  $SD = 2.25$ ) than by number ( $M = 3.00$ ,  $SD = 2.33$ ;  $F(1, 1099) = 16.60$ ,  $p < .001$ ,  $\eta_p^2 = .01$ ).<sup>4</sup> In addition, customers at R indicated a lower sense of objectification than those at LC ( $M_R = 2.03$ ,  $SD = 2.20$  vs.  $M_{LC} = 3.23$ ,  $SD = 2.25$ ;  $F(1, 1099) = 76.71$ ,  $p < .001$ ,  $\eta_p^2 = .07$ ). The interaction between order identification and coffee shop was not significant ( $F(1, 1099) = 1.32$ ,  $p = .251$ ), indicating that the effect of order identification did not systematically vary across the two coffee shops. The effect of order identification remained significant after controlling for the average number of drink purchases per week ( $F(1, 1092) = 18.01$ ,  $p < .001$ ,  $\eta_p^2 = .02$ ).

*Mediation analysis.* To test the mediating role of a sense of objectification, we conducted a mediation analysis (Hayes, 2013, Model 4) with order identification as the independent variable, a sense of objectification as the mediator, service satisfaction as the dependent variable, and coffee shops as a covariate. The analysis yielded a significant indirect effect of order identification through a sense of objectification ( $B_{indirect} = .10$ ,  $CI_{95\%} [.05, .16]$ ; this effect remained significant after controlling for the average number of drink purchases per week).

*Exploratory analysis.* One interesting question is whether the positive effect of name-based order identification holds even when a barista identifies a customer's name incorrectly. To address this question, we conducted an exploratory analysis on how an incorrect use of a customer's name affects their satisfaction and sense of objectification.<sup>5</sup> Order identification by incorrect name resulted in significantly lower service satisfaction than order identification by correct name ( $M_{name\_incorrect} = 4.66$ ,  $SD = 1.37$  vs.  $M_{name\_correct} = 5.42$ ,  $SD = 1.16$ ;  $F(1, 1115) = 9.88$ ,  $p = .002$ ,  $\eta_p^2 = .01$ ) and marginally lower service satisfaction than order identification by number ( $M_{number} = 5.13$ ,  $SD = 1.29$ ;  $F(1, 1115) = 3.34$ ,  $p = .068$ ,  $\eta_p^2 < .01$ ). Similarly, order identification by incorrect name resulted in a significantly greater sense of objectification than order identification by correct name ( $M_{name\_incorrect} = 4.10$ ,  $SD = 2.72$  vs.  $M_{name\_correct} = 2.25$ ,  $SD = 2.12$ ;  $F(1, 1098) = 22.98$ ,  $p < .001$ ,  $\eta_p^2 = .02$ ) and a marginally greater sense of objectification than order identification by number ( $M_{number} = 3.00$ ,  $SD = 2.33$ ;  $F(1, 1098) = 7.58$ ,  $p = .006$ ,  $\eta_p^2 = .01$ ).

<sup>3</sup> Six customers did not report the average number of drinks they purchase per week, which results in lower degrees of freedom.

<sup>4</sup> Seventeen participants did not complete the objectification measure, which results in lower degrees of freedom.

<sup>5</sup> One participant in the name condition did not report whether the barista identified the name correctly.

### 5.3. Discussion

Study 2 extends the findings of study 1 by examining the effect of order identification on service satisfaction in a field setting. Customers indicated greater satisfaction when baristas identified an order by name (vs. number), suggesting that name-based (vs. number-based) order identification can increase post-choice satisfaction beyond a store preference.

We note that the effect size in study 2 is relatively small, which is not surprising given that multiple factors likely influence service satisfaction in the field. Despite this noisy environment, our manipulation had a small but significant effect. Because name order identification incurs almost zero cost to implement, even a small effect can generate substantial accumulative returns across multiple transactions. It is also interesting to note that the effect could become larger when order identification by name is sustained for an extended period. With time, baristas may become familiar with a customer's name, which may enable them to write the name down without needing to ask or even greet the customer by name. This may further decrease the customer's sense of objectification and enhance service satisfaction.

Study 2 also provides support for the proposed mechanism of objectification. Name-based (vs. number-based) order identification makes customers feel less objectified, which in turn leads to greater satisfaction. We note that the average sense of objectification was relatively low in this study; however, we still found a significant difference between conditions, and this difference accounted for the effect of order identification on satisfaction. In addition, study 2 rules out the possibility that our effect is driven by product customization. In this field study, customers could customize their beverage regardless of name-based (vs. number-based) order identification. Still, customers indicated greater satisfaction when their order was identified by name rather than by number.

## 6. Studies 3A and 3B: Generalizing the effect of order identification on preference for a store

### 6.1. Study 3A

Study 3a aimed to examine the generalizability of the order identification effect by examining this effect without highlighting the notion that the producer knows for whom they are making a product. In the name-based order identification condition of study 1, we told participants that orders at one of the stores were identified by name so that "she will know for whom she is baking cookies." We included this explanation for two reasons: 1) it is a naturalistic consequence of name-based order identification given that producers would note a customer's name when preparing a product for them, and 2) managers can readily incorporate this explanation into their marketing messages to highlight the benefits of name-based order identification. Study 2 demonstrated the positive effect of name-based (vs. number-based) order identification on service satisfaction without such an explanation, suggesting that our effect generalizes beyond the inclusion of this explanation. Study 3a further examined the generalizability of the effect by focusing on store preferences. Moreover, study 3a aimed to provide further process evidence by examining whether customers' sense of objectification mediates the positive effect of name-based (vs. number-based) order identification on store preferences.

*Method.* A total of 346 students at the Ohio State University completed this study. Similar to study 1, participants imagined purchasing bread and were presented with two patisseries: Patisserie A and B. We again manipulated order identification by varying which patisserie identifies an order by a customer's name versus an order number. Specifically, we told half the participants that Patisserie A used customers' first names to identify an order (name-based order identification), whereas Patisserie B used an order number to identify it (number-based order identification). For the other half, we reversed this: Patisserie A used number-based order identification, whereas Patisserie B used name-based order identification.

Participants indicated their sense of objectification ("The pastry chef at \_\_\_\_\_ would treat me as just a random customer rather than as an individual"; "The pastry chef at \_\_\_\_\_ would perceive consumers like myself as a mere source of revenue"; "The pastry chef at \_\_\_\_\_ would give me the impression that I am an interchangeable object rather than a real person"; "The pastry chef at \_\_\_\_\_ would ignore that I am a human being"; 1 = A much more than B, 4 = A and B about equally, 7 = B much more than A;  $\alpha = .91$ ) and their relative preferences between the two patisseries ("Which patisserie would be more attractive to you?" "From which patisserie would you like to purchase your bread?" "Which patisserie would you prefer to order your bread from?" 1 = A much more [attractive] than B, 4 = A and B about equally [attractive], 7 = B much more [attractive] than A;  $\alpha = .94$ ). At the end of the study, participants completed an attention check asking at which patisserie customers were identified by their first name (instead of number).

*Results.* A total of 331 participants ( $M_{\text{age}} = 20$  years, 162 female) passed the attention check and were included in analyses.<sup>6</sup> To examine our hypothesis of order identification, we again tested for a change in relative preference for Patisserie B (over Patisserie A) when Patisserie B identified orders by name compared to number. Consistent with study 1, participants indicated a greater preference for Patisserie B (vs. Patisserie A) when Patisserie B identified orders by name (and Patisserie A identified orders by number;  $M_{B\_name} = 4.69$ ,  $SD = 1.63$ ) than when Patisserie B identified orders by number (and Patisserie A identified orders by name;  $M_{B\_number} = 2.57$ ,  $SD = 1.29$ ;  $t(329) = 13.20$ ,  $p < .001$ ,  $d = 1.45$ ). Also as expected, participants felt less objectified at Patisserie B (vs. Patisserie A) when it identified an order by name rather than by number

<sup>6</sup> For the following studies, we report (i) full information of inclusion criteria in Web Appendix B and (ii) analyses without data exclusions in Web Appendix C.

( $M_{B\_name} = 2.84$ ,  $SD = 1.07$  vs.  $M_{B\_number} = 5.31$ ,  $SD = 1.02$ ;  $t(329) = 21.50$ ,  $p < .001$ ,  $d = 2.36$ ). A mediation analysis (Model 4; Hayes, 2013) revealed that the sense of objectification significantly mediated the effect of order identification on store preference ( $B_{indirect} = .59$ ,  $CI_{95\%} [.35, .87]$ ).

*Discussion.* Study 3a demonstrated that the positive effect of name-based (vs. number-based) order identification on store preference generalizes to a situation in which customers are not reminded that name-based order identification allows the producer to know who they are making a product for. Furthermore, study 3a offers additional evidence supporting the proposed process of objectification. When participants knew that their order would be identified by name (vs. number), they felt less objectified and thus expressed a greater preference for the store.

## 6.2. Study 3b

Study 3b explores whether the positive effect of name-based order identification generalizes to a situation where the customer is asked not only for their first name but for their full name (i.e., first and last name). While our previous studies have so far primarily focused on order identification by one's first name, name-based order identification can occur in other forms. For instance, a producer could also identify an order by a customer's full name (e.g., Kate Brown instead of Kate). Study 3b explored if the positive effect of name-based order identification persists even when a producer uses the customers' full name to identify their order.

Moreover, study 3b examined whether order identification influences store preference through two countervailing forces. Although we found an overall positive effect driven by a decreased sense of objectification, we expected that a generally weaker countervailing process is also at play. That is, name-based order identification would not only decrease a customer's sense of objectification, but it would also increase concerns about privacy violation. Although it would be generally weaker than the positive effect of feeling less objectified, privacy concerns should have a negative effect on store preferences. To empirically test this theory and decouple the two countervailing effects, we added a measure of concerns about privacy violation in study 3b.

Finally, study 3b provides additional evidence against an alternative account of customization. Study 2 demonstrated the effect of order identification while holding customization constant (i.e., customers could customize their drink independent of name-based versus number-based order identification). Study 3b experimentally controlled for customization by having participants indicate their relative preferences for two patisseries differing only in order identification (name vs. number), but not in the extent to which they offer customized products.

*Method.* A total of 600 participants from an online panel (Connect) completed this pre-registered study (aspre-dicted.org/L3P\_JM4). We randomly assigned participants to one of four conditions in a 2 (order identification: counterbalancing of name-based order identification patisserie vs. number-based order identification patisserie)  $\times$  2 (name-based identification type: first vs. full) between-participants design.

Participants imagined purchasing a cake and were presented with descriptions of two patisseries. We explicitly told participants that these patisseries did not differ in the extent to which they customized their cakes. Similar to studies 1 and 3a, we manipulated order identification (name vs. number) by differing which of the two patisseries identified orders by name or by number. Specifically, we told half of the participants that Patisserie A identified customers' order by name (and Patisserie B identified customers' order by number) and the other half that Patisserie B identified customers' order by name (and Patisserie A identified customers' order by number). Critically, in study 3b, we also manipulated the type of name-based order identification used by the patisserie. We manipulated whether the patisserie using name-based order identification identified customers' order by their first name only or their full name (i.e., first and last name).

Similar to our previous studies, we measured participants' preference between the two patisseries (3-item; e.g., "Which patisserie would be more attractive to you?";  $\alpha = .98$ ) and sense of objectification (4-item; e.g., "The pastry chef at \_\_\_\_ would treat me as just a random customer rather than as an individual";  $\alpha = .93$ ). Furthermore, participants indicated their concerns about a privacy violation (3-item; "Purchasing a cake at \_\_\_\_ would be more likely to violate my privacy," "Purchasing a cake at \_\_\_\_ would expose me to a greater risk of having my private information sold to other entities without my authorization," "Purchasing a cake at \_\_\_\_ would make it more likely that my personal information is used for undesirable purposes";  $\alpha = .96$ ). All items were measured on a 7-point Likert Scale (1 = A much more than B, 7 = B much more than A). Lastly, participants completed an attention check asking at which patisserie customers were identified by their name instead of number.

*Results.* Consistent with our preregistration, we included 572 participants who passed the attention check ( $M_{age} = 39$  years, 284 female). As in studies 1 and 3a, our main hypothesis was that relative preference between the patisseries would change based on which one identifies orders by name versus by number. Furthermore, study 3b explored whether this effect depends on the type of name-based order identification—whether the patisserie identifies orders by first name only or full (first and last) name.

To test this hypothesis, we conducted a 2 (order identification)  $\times$  2 (name-based identification type) ANOVA on preference. The results revealed a significant main effect of order identification, such that name (vs. number) identification increased participants' preference for a patisserie regardless of whether it was based on a first name or full name. That is, participants exhibited a stronger preference for Patisserie B (vs. Patisserie A) when Patisserie B identified orders by name (and A identified orders by number;  $M_{B\_name} = 4.37$ ,  $SD = 2.00$ ), compared to when it identified orders by number (and A identified orders by name;  $M_{B\_number} = 3.57$ ,  $SD = 1.89$ ;  $F(1, 568) = 24.42$ ,  $p < .001$ ,  $\eta_p^2 = .04$ ). There was neither a



main effect of name identification type ( $F(1, 568) = .74, p = .389, \eta_p^2 < .01$ ) nor an interaction between order identification and name identification type ( $F(1, 568) = .50, p = .482, \eta_p^2 < .01$ ). Thus, preferences were not significantly influenced by whether the patisserie that identified customers by name did so using the customers' first name-only or using their full name. Central to our pre-registered prediction, we found a significant simple effect of first name-based versus number-based order identification ( $M_{B\_name} = 4.50, SD = 1.91$  vs.  $M_{B\_number} = 3.58, SD = 1.88; F(1, 568) = 15.89, p < .001, \eta_p^2 = .03$ ), which replicates our prior findings.

We conducted a corresponding  $2 \times 2$  ANOVA on a sense of objectification. We found a significant main effect of order identification such that name-based (vs. number-based) order identification decreased participants' sense of objectification ( $M_{B\_name} = 2.82, SD = 1.17$  vs.  $M_{B\_number} = 5.14, SD = 1.13; F(1, 568) = 576.41, p < .001, \eta_p^2 = .50$ ) regardless of whether the name-based order identification was based on a first name only or full name. There was neither a main effect of name-based identification type ( $F(1, 568) = .41, p = .523, \eta_p^2 < .01$ ) nor an interaction ( $F(1, 568) = .07, p = .787, \eta_p^2 < .01$ ). As we predicted, we found a significant simple effect of first name-based (vs. number-based) order identification ( $M_{B\_name} = 2.80, SD = 1.18$  vs.  $M_{B\_number} = 5.10, SD = 1.17; F(1, 568) = 280.85, p < .001, \eta_p^2 = .33$ ).

We conducted a corresponding  $2 \times 2$  ANOVA on privacy violation concerns. We found a significant main effect of order identification such that name-based (vs. number-based) identification induced greater concerns about privacy violation ( $M_{B\_name} = 4.96, SD = 1.24$  vs.  $M_{B\_number} = 2.99, SD = 1.16; F(1, 568) = 395.62, p < .001, \eta_p^2 = .41$ ), which was qualified by a significant interaction ( $F(1, 568) = 17.86, p < .001, \eta_p^2 = .03$ ). As predicted, we found a significant simple effect of name (vs. number) within the first name conditions ( $M_{B\_name} = 4.75, SD = 1.17$  vs.  $M_{B\_number} = 3.20, SD = 1.07; F(1, 568) = 122.30, p < .001, \eta_p^2 = .18$ ). This effect was stronger within the full name conditions ( $M_{B\_name} = 5.16, SD = 1.27$  vs.  $M_{B\_number} = 2.77, SD = 1.21; F(1, 568) = 291.73, p < .001, \eta_p^2 = .34$ ). In other words, participants were concerned about privacy when providing their first name (compared to a number) and even more concerned when providing their full name (The absence of the interaction on store preference indicates that the interaction effect on privacy concern was relatively weak to generate a significant difference in preference).

To test whether both a sense of objectification and privacy violation concerns mediate the effect of order identification on store preference, we conducted a moderated mediation analysis (Model 7; Hayes, 2013) with order identification as the independent variable, type of name-based order identification (first vs. full name basis) as the moderator, a sense of objectification and privacy violation concerns as the mediators, and store preference as the dependent variable. First, the indirect effect through a sense of objectification was significant both for the first name condition ( $B_{indirect} = .81, CI_{95\%} = [.61, 1.02]$ ) and for the full name condition ( $B_{indirect} = .83, CI_{95\%} = [.63, 1.03]$ ). This indirect effect did not differ across conditions ( $B_{moderated\ mediation} = .02, CI_{95\%} = [-.12, .15]$ ). Second, the indirect effect through privacy violation concerns was significant for the first name condition ( $B_{indirect} = -.40, CI_{95\%} = [-.53, -.28]$ ) and for the full name condition ( $B_{indirect} = -.61, CI_{95\%} = [-.80, -.45]$ ). The indirect effect for the full name condition was significantly stronger than the corresponding effect for the first name condition ( $B_{moderated\ mediation} = -.22, CI_{95\%} = [-.34, -.11]$ ).

**Discussion.** Study 3b showed that the effect of order identification by name versus number on store preference generalizes to a situation where name-based order identification involves the customer's full name and where order identification does not involve customization of a product. Importantly, study 3b documented the two opposing processes involved in name-based versus number-based order identification: name-based order identification decreased customers' sense of objectification, but it also increased their privacy concerns. Study 3b demonstrated the overall positive effect of name-based order identification on store preference, suggesting that the positive effect through a decreased sense of objectification outweighs the negative effect through privacy concerns. Although order identification by full name (vs. number) led to greater privacy concerns than order identification by first name-only (vs. number), this difference in privacy concerns was relatively weak to significantly mitigate the overall effect of name-based (vs. number-based) order identification on store preference.

## 7. Study 4: Moderation by a human versus non-human producer

In study 4, we examined whether the positive effect of name-based order identification would be mitigated in an increasingly common retail situation where the product is made by a non-human producer, such as a robot. A robot is a nonliving, non-human, and non-social agent that is expected to have no social perceptions (Gray et al., 2007; Jin et al., 2024). Because customers would not expect a robot to be capable of having much of any perception of a customer (as an individual person or as an object), the effect of identifying an order by name (vs. by number) should be mitigated when the producer is a robot (vs. a human).

### 7.1. Method

A total of 814 participants from an online panel (Mturk) completed this study. We randomly assigned participants to one of four conditions in a  $2$  (order identification: counterbalancing of name-based order identification patisserie vs. number-based order identification patisserie)  $\times$   $2$  (producer type: human vs. robot) between-participants design.

Participants imagined buying a box of chocolates and placing an order online. They were presented with descriptions of two patisseries (i.e., Patisserie A and B) that make chocolates on a made-to-order basis. We manipulated order identification in a similar fashion to our previous studies. Half of the participants were told that Patisserie A sent the producer an order with the customer's first name (order identification by name), whereas Patisserie B processed it by number (order

identification by number). In contrast, the other half were told the opposite: Patisserie A processed an order by number, and Patisserie B did it by name.

In addition to order identification, we manipulated whether the producer was a human or a robot. Half of the participants were told that both patisseries sold chocolates made by a chocolatier, whereas the other half were told that both sold chocolates made by a robot.<sup>7</sup> Participants indicated their preference between the two patisseries (“Which patisserie would be more attractive to you?”, “From which patisserie would you like to purchase your chocolates?”, and “Which patisserie would you prefer to order your chocolates from?”; 1 = definitely A, 7 = definitely B;  $\alpha = .98$ ). Lastly, participants completed two attention check questions asking 1) at which patisserie customers were identified by their first name and 2) who was making chocolates at the two patisseries.

## 7.2. Results

A total of 719 participants ( $M_{\text{age}} = 40$  years, 388 female) passed the two in-study attention check questions and were included in our analyses. We found a significant effect of order identification ( $F(1, 715) = 23.70, p < .001, \eta_p^2 = .03$ ), which is qualified by the predicted interaction between order identification and producer type ( $F(1, 715) = 9.71, p = .002, \eta_p^2 = .01$ ). When the chocolatier was a human, we replicated the positive effect of name-based (vs. number-based) order identification: participants preferred Patisserie B (vs. Patisserie A) more when Patisserie B identified orders by name rather than by number ( $M_{B\_name} = 4.43, SD = 1.86$  vs.  $M_{B\_number} = 3.34, SD = 1.84; F(1, 715) = 31.76, p < .001, \eta_p^2 = .04$ ). However, when the chocolatier was a robot, participants’ preference for a patisserie was not significantly influenced by order identification type ( $M_{B\_name} = 3.90, SD = 1.79$  vs.  $M_{B\_number} = 3.66, SD = 1.82; F(1, 715) = 1.54, p = .215, \eta_p^2 < .01$ ).

## 7.3. Discussion

Study 4 supports our hypothesis that the effect of order identification is mitigated in the context of a non-human producer. When the chocolatier was a human, participants reacted more positively to a patisserie that identified an order by name (vs. number). However, when the chocolatier was a robot, this effect was significantly mitigated. These results support the proposed mechanism of objectification because identifying an order by name would not necessarily reduce customers’ sense of objectification when the producer is a robot that lacks social perception (i.e., cannot recognize customers as a person).

## 8. Study 5: Moderation by relative importance of privacy (vs. feelings of de-objectification)

In study 5, we tested whether increasing the need for privacy, which is common in many retail situations, can mitigate the positive effect of name-based order identification. We also aimed to further test the proposed mechanism of objectification by examining when customers’ sense of objectification is less likely to produce a greater preference. Although name-based order identification can make customers feel less objectified, it can come at the cost of privacy, as found in study 3b.

We predicted that the positive effect of name-based order identification would be mitigated when customers value protecting their privacy more than feeling less objectified. To test this prediction, study 5 manipulated people’s need for privacy protection by using a potentially embarrassing product, medicine for sexually transmitted diseases (STDs). When customers are making an embarrassing purchase, they are concerned about being judged negatively by others (Dahl et al., 2001), and they tend to avoid interacting with a human service provider (Sun, Wang, Hoegg, & Dahl, 2023). Given such self-consciousness of social evaluations, customers who purchase an embarrassing product should value privacy more and care relatively less about being de-objectified.

### 8.1. Method

A total of 616 participants from an online panel (Mturk) completed this study. We randomly assigned participants to one of four conditions in a 2 (purchase occasion: embarrassing purchase vs. non-embarrassing purchase)  $\times$  2 (order identification: counterbalancing of name-based order identification pharmacy vs. number-based order identification pharmacy) between-participants design.

To manipulate the need for privacy protection, we first asked participants to imagine purchasing a homeopathic medicine either for a sexually transmitted disease (STD; embarrassing purchase condition) or for a food allergy (non-embarrassing purchase condition). We conducted a separate pretest ( $N = 120$ ) to examine whether customers find privacy protection more important than de-objectification when making an embarrassing purchase. Confirming our prediction, participants indicated that protecting their privacy was more important (relative to not being objectified by a pharmacist) when they purchased an STD medicine rather than a food allergy medicine ( $M_{STD} = 4.32, SD = 2.12$  vs.  $M_{allergy} = 3.00, SD = 1.91; F(1, 118) = 12.78, p < .001, \eta_p^2 = .10$ ; see Web Appendix D for details).

<sup>7</sup> We conducted a post-test ( $N = 98$ ) to examine whether a robot chocolatier using name-based order identification was credible to the participants. A large majority of participants found the scenario understandable (99%), convincing (76%), and believable (76%).

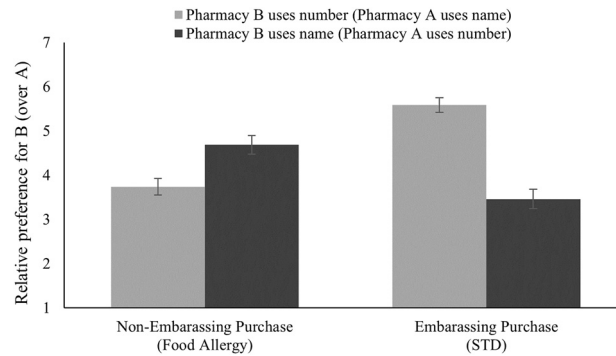


Fig. 2. Moderation by embarrassing nature of a purchase.

In both conditions, participants were presented with descriptions of two homeopathic pharmacies (i.e., Pharmacy A and B). Similar to our previous studies, we manipulated order identification by varying between participants which of the two pharmacies identified an order by name versus by number. Participants assessed their relative preference between the two pharmacies (“Which homeopathic pharmacy would be more attractive to you?”, “From which homeopathic pharmacy would you like to purchase your [STD/ food allergy] medicine?”, “Which homeopathic pharmacy would you prefer to order your [STD/ food allergy] medicine from?”; 1 = definitely A, 7 = definitely B;  $\alpha = .99$ ). Lastly, participants completed two attention check questions asking 1) at which homeopathic pharmacy customers were identified by their first name and 2) which homeopathic medicine they were purchasing in the scenario.

## 8.2. Results

A total of 454 participants ( $M_{\text{age}} = 38$  years, 209 female) passed the two in-study attention check questions and were included in our analyses. We found a significant main effect of order identification ( $F(1, 450) = 8.95, p = .003, \eta_p^2 = .02$ ), qualified by the predicted interaction between order identification and purchase occasion ( $F(1, 450) = 60.95, p < .001, \eta_p^2 = .12$ ; Fig. 2). In the non-embarrassing purchase condition (food allergy medicine), participants exhibited a greater preference for Pharmacy B (vs. Pharmacy A) when it identified orders by name ( $M_{B\_name} = 4.69, SD = 2.14$ ) rather than by number ( $M_{B\_number} = 3.74, SD = 2.03; F(1, 450) = 11.23, p < .001, \eta_p^2 = .02$ ). In the embarrassing purchase condition (STD medicine), however, this pattern was fully reversed: participants indicated a greater preference for Pharmacy B (vs. Pharmacy A) when it identified orders by number ( $M_{B\_number} = 5.58, SD = 1.85$ ) rather than by name ( $M_{B\_name} = 3.46, SD = 2.35; F(1, 450) = 60.25, p < .001, \eta_p^2 = .12$ ).

## 8.3. Discussion

Using moderation, study 5 tested the underlying process of name-based (vs. number-based) order identification on store preference by identifying privacy concerns as a key countervailing effect and a boundary condition. Study 5 demonstrated that participants were less willing to make a purchase at a pharmacy using name-based order identification when making a privacy sensitive purchase. These findings suggest that merely passing on the customer’s first name to the producer can trigger privacy concerns. Moreover, study 5 expands prior research showing that consumers tend to dehumanize a service provider in a situation involving embarrassing social interactions (Sun et al., 2023). Extending this prior work, our findings suggest that customers’ perceptions of themselves being objectified by producers hold less importance when making embarrassing purchases.

## 9. General discussion

Six studies examined the effect of order identification by name (vs. by number) on retailer preference and service satisfaction. Overall, we found that customers prefer and are satisfied more with retailers who identify orders by name rather than by number (studies 1-5). Furthermore, we provide evidence that this effect occurs because name-based order identification decreases customers’ sense of objectification by producers (studies 2-3b), making them feel valued as human beings rather than merely a source of profit. In addition to the positive effect through a decreased sense of objectification, we identified a negative effect underlying name-based order identification: name-based (vs. number-based) order identification elicited greater concerns about privacy violation (study 3b). However, we consistently observed a positive net effect of name-based order identification, suggesting that privacy concerns were secondary to the stronger effects of de-objectification.

Examining theoretically relevant moderators, we found that the positive effect of name-based (vs. number-based) order identification was mitigated when the producer could not truly perceive the customer as an individual person, such as

when the producer was a robot (study 4). Furthermore, the positive effect of name-based order identification was reversed when consumers placed less importance on de-objectification relative to privacy protection (i.e., when customers purchase an embarrassing item; study 5).

### 9.1. Theoretical contribution

Our research offers several theoretical implications. First, to the best of our knowledge, this research presents a direct empirical test of the effect of name-based order identification on retailer preference and service satisfaction. Prior research, which primarily focuses on the use of customers' names in marketing communications, suggests a negative effect of name-based order identification. However, our findings illustrate that name-based order identification generally yields a positive effect by mitigating customers' sense of objectification. In doing so, the current research documents that using customers' names in order identification contexts can generate positive outcomes for retailers.

Second, our work documents the detrimental consequences of objectification in the marketplace (Van Osselaer et al., 2020). We provide direct empirical evidence demonstrating that customer objectification can influence important business outcomes, such as customers' satisfaction with service and choice of retailers. At a more general level, our findings suggest that a simple and cost-efficient intervention such as name-based order identification can facilitate the reconnection between customers and producers.

Lastly, the current research advances our understanding of consumer privacy by addressing the trade-off between privacy concerns and connections with customers. Our results revealed that name-based order identification can cost customers' privacy, although it creates an opportunity to connect with customers. Privacy comes with anonymity, which inhibits service providers and producers from recognizing customers as individual persons beyond interchangeable sources of profit.

### 9.2. Managerial implications

Our research has important implications for retailers, marketers, and service providers. Our findings suggest a simple (and relatively inexpensive) intervention that marketers can employ to reduce customers' sense of objectification: identifying an order by name. The effect of name-based order identification on any purchase decision may be small relative to large differences in product features and quality; however, given the low cost of implementation, name-based order identification is likely to generate a meaningful change in customer related metrics, particularly when it accumulates across billions of transactions.

To home in on the economic impact of order identification by name, we conducted a follow-up field study. In this difference-in-differences study, which was unexpectedly cut short by the COVID-19 pandemic, we tracked the sales of two dining facilities at a large university over two semesters. We introduced name-based order identification to one of these dining facilities in Spring 2020 and examined how this intervention impacted revenue relative to Fall 2019. When we compared sales of pre- versus post-intervention periods, the sales at the control store decreased by about 2%, whereas the sales at the intervention store increased by 5%. This result, even if merely suggestive, implies that order identification by name might yield an increase in revenue.

Retailers and service providers might benefit even more from name-based order identification over time as baristas or other producers would learn customers' names and potentially form more "real" personal relationships. This notion is consistent with the difference between the two coffee shops in our field study (study 2), where we found both a lower sense of objectification and greater service satisfaction in coffee shop R (which was substantially larger than the effect of our short-term intervention). We noticed that R used a name-based order identification before the field study, whereas LC did not (it used an ordering system in which the drink type was written on the cup). The more personal interactions engendered by a name-based order identification over time may create even stronger effects than the immediate effects we documented in our studies.

Furthermore, our field study suggests that correct identification of customer names might be a critical factor in generating the positive effect of name-based order identification. Study 2 suggests that the positive effect of name-based (vs. number-based) order identification might reverse when a barista identifies customers' names incorrectly. To mitigate these potential negative downstream consequences of incorrect name identification, retailers might introduce a short feedback loop into their protocols (e.g., "Is this how I write your name?"). They might also ask customers to write or type their own name. Future research should further explore the effects of misspelled names and ways to avoid such misspellings.

Lastly, we note that name-based order identification is not always beneficial, and we identify situations when it may not produce positive consequences. The positive effect of name-based order identification decreases when it does not necessarily prompt consumers to feel recognized more as a person, such as when a robot producer identifies an order by name (vs. number). Marketers may believe that name-based order identification can offer more human-like interactions with a robot service provider, but our result suggests that this might not be the case. Furthermore, another factor that managers need to consider is the privacy sensitive nature of purchases. Name-based order identification induced more negative reactions when consumers placed less importance on de-objectification (vs. protecting one's privacy).

### 9.3. Future directions

The current research opens up fruitful avenues for future research. First, future research can explore how name-based order identification affects customers' perceptions of brands and companies. Although the current research focuses on a sense of objectification, future research can examine how name-based order identification shifts consumers' perception of warmth, sincerity, and friendliness of workers at a store. Second, future research can investigate when name-based order identification generates even more negative reactions relative to number-based order identification by making them feel more objectified. For instance, consumers with a stigmatized name may feel even more objectified when a producer identifies their order by name rather than number. In particular, this effect can be salient when name-based order identification involves public reveal and a customer's name is called out.

### 9.4. Coda

In sum, the current research explores the effect of order identification by name (vs. number) and its psychological mechanisms on customers' evaluations of retailers. Customers appreciate being identified as an individual rather than treated as a mere source of profit, even though it comes at the cost of privacy. By simply identifying a customer's order by their name, retailers and service providers can cultivate more meaningful and personal relationships with their customers and ultimately help the firm and increase consumer well-being.

## Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.jretai.2024.04.002](https://doi.org/10.1016/j.jretai.2024.04.002).

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