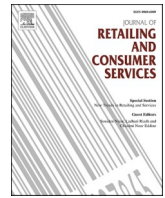


Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Journal of Retailing and Consumer Services

journal homepage: <http://www.elsevier.com/locate/jretconser>

Employee encouragement of self-disclosure in the service encounter and its impact on customer satisfaction

Magnus Söderlund

Center for Consumer Marketing, Stockholm School of Economics, P.O. Box 6501, SE-113 83, Stockholm, Sweden

ARTICLE INFO

Keywords:

Self-disclosure
Service encounters
Customer satisfaction
Virtual agents
Artificial intelligence

ABSTRACT

In the service encounter, the employee must often encourage customer self-disclosure (i.e., revealing of personal information) to be able to match the customer's needs with what the firm has to offer. This study uses an experimental approach to manipulate employee encouragement of self-disclosure (low vs. high) to explore its impact on the customer. It was found that encouraging self-disclosure enhanced customer perceptions of customization, employee effort, own effort, privacy concerns, and employee humanness, and that these responses influenced customer satisfaction. In addition, because many firms are beginning to replace human employees with various forms of virtual agents (and it has been argued that we humans may find it less threatening to self-disclose to such agents), the identity of the employee (virtual agent vs. human employee) was manipulated, too. The identity factor, however, did not influence customers' responses.

1. Introduction

This study examines the service encounter from an information exchange point of view. Such an exchange is required if firms want to adapt their offers to the needs of the customers, and both parties in the encounter – the frontline employee and the customer – have to contribute to the exchange. That is to say, the employee must identify the customer's needs, typically by asking questions to the customer, and the customer has to respond by providing information about his or her needs. This means that the service encounter resembles a therapy setting, in the sense that successful therapy is contingent on clients' transfer of information about themselves to therapists (Chaikin and Derlega, 1974; Cozby, 1973; Lucas et al., 2014).

Here, in the present study, the customer–employee exchange is examined through the lens of customer self-disclosure (i.e., the revealing of personal information to another person; Derlega and Chaikin, 1977; Mothersbaugh et al., 2012; Ruppel et al., 2016). Previous research on self-disclosure indicates that it may be a causally potent activity also in service encounters – particularly with respect to the customer's overall evaluation of the encounter in terms of customer satisfaction. It has been shown, for example, that self-disclosure to an interaction partner can increase the discloser's liking of the person who receives the self-disclosure (Berg and Archer, 1983). If this happens also in a service encounter, when the employee is the receiver of the customer's self-disclosure, one would expect increased liking of the employee.

Given that the employee typically is the company from the customer's point of view in a service setting (Bitner et al., 1990), one would also expect that increased liking of the employee can boost overall customer satisfaction. Moreover, self-disclosure can enhance self-affirmation and sense of worth (Ho et al., 2018), and such positive outcomes may carry over to service encounter satisfaction in a valence-congruent way. However, self-disclosure can also be negatively charged. To self-disclose, it has been argued, can make the discloser feel vulnerable (Derlega and Chaikin, 1977), and it can be associated with perceptions of physical harm, material damage (Moon, 2000), risks of being victimized (Robinson, 2017), exploitation, and loss of independence (Derlega and Chaikin, 1977). These negative aspects indicate that encouraging the customer to self-disclose may have the potential to reduce customer satisfaction in a service encounter setting.

Customer self-disclosure, then, appears to have the property of being needed for a match between the firm's offer and the customer's needs, at the same time as it may have both positive and a negative influences on overall customer satisfaction. In the light of this, and in a service encounter setting, the purpose of the present study is to (a) examine a set of potential consequences of employee-encouraged self-disclosure and (2) assess the impact of these consequences on customer satisfaction.

The aim of the examination is to make several contributions. First, most existing studies of self-disclosure have focused on its antecedents (e.g., Li, 2012; Mothersbaugh et al., 2012; Smith et al., 2011; Wang et al., 2016; Ward et al., 2005), while what happens after disclosure has

E-mail address: Magnus.Soderlund@hhs.se.

<https://doi.org/10.1016/j.jretconser.2019.102001>

Received 5 October 2019; Accepted 7 November 2019

Available online 15 November 2019

0969-6989/© 2019 Elsevier Ltd. All rights reserved.

been less frequently investigated (Im et al., 2008). The present study, then, expands the nomological net by examining a set of consequences stemming from self-disclosure. Second, several studies indicate that the employee's adaption of offers to customers' needs in service encounters has a satisfaction-boosting potential (Bitner et al., 1990). The present study contributes to this stream of research by examining influence mechanisms in terms of consequences of employee-encouraged self-disclosure. Third, much research on self-disclosure has involved either the individual in romantic, intimate relationships (e.g., Adams and Shea, 1981; Sprecher and Hendrick, 2004) or the individual in relation to various technologies that can be used to collect, process, and store customer data (e.g., Milne and Bahl, 2010). The present study, however, with its focus on service encounters, comprises the individual in his or her role as a customer who is involved in brief interactions with another party (who is the representative of a firm). This means that the present study is attempting to make a contribution to the self-disclosure literature by extending the situations in which self-disclosure can be made (and studied). Fourth, there is a rich literature comprising self-disclosure and various forms of computer usage, yet it has hitherto focused on what happens with self-disclosure when humans interact through computers versus on a face-to-face basis (Clark-Gordon et al., 2019; Ruppel et al., 2016). The present study, however, is based on the observation that new technology is transforming service industries so that virtual agents powered by artificial intelligence (AI) will replace or complement human employees in many service encounters (Steinhoff et al., 2019). Since it has been suggested that we humans behave differently when we self-disclose to another human compared to a computer program (Lucas et al., 2014), the present study aims to contribute also to the discourse on human-machine interaction by explicitly examining the impact of the interaction party's identity (virtual agent vs. human employee) in a self-disclosure context.

2. Theoretical framework and hypotheses

Self-disclosure has been defined as the voluntary revealing of personal information to another party (Derlega and Chaikin, 1977; Meeks et al., 1998; Mothersbaugh et al., 2012; Sprecher and Hendrick, 2004), and such information may comprise personal facts as well as feelings, opinions, attitudes, judgments, and experiences (Barak and Gluck-Ofri, 2007; Hassan et al., 2016; Sprecher and Hendrick, 2004). Self-disclosure can occur both spontaneously and as a response to another party's encouragement (such as by asking questions), and it is the latter type of self-disclosure that this study comprises. The point of departure, then, is employee encouragement of customer self-disclosure. It is hypothesized that (1) this employee activity in a service encounter enhances perceptions of customization, employee effort, the customer's own effort, privacy concerns, and employee humanness, and (2) each of these responses influences customer satisfaction.

2.1. Perceived customization

Customization of the firm's offer has to do with satisfying as many needs as possible of each individual customer (Coelho and Henseler, 2012), which typically requires individual input from each customer – in terms of self-disclosure. Given the dramatic proliferation of customized products in the marketplace (Sundar and Marathe, 2010), and given that customers are increasingly asked to provide personal information in exchange for individually tailored offerings (Norberg and Dholakia, 2004), it can be expected that most customers are familiar with self-disclosure as a required activity in processes that are supposed to generate a customized outcome. It is assumed here this provides a basis for priming mechanisms to influence the customer (cf. Janiszewski and Wyer, 2014). More specifically, it is assumed that employee encouragement of customer self-disclosure in one particular service encounter primes the customer so that memories of experiences in the past, when self-disclosure was indeed related to the customization of an offer, are

activated. It is also assumed that this activation “informs” the customer that customization is underway in the present encounter, too. Hence the following is hypothesized:

H1a. Employee encouragement of customer self-disclosure has a positive impact on the perceived customization of an offer

Given that most individuals believe that they have a high level of self-uniqueness (Longoni et al., 2019), it is assumed that perceived customization is positively associated with the customer's beliefs that his or her specific needs can be satisfied by the offer. In addition, a high as opposed to a low level of customization is assumed to make an offer more valuable for the customer (Martin and Murphy, 2017; White, 2004) as well as more relevant (Martin and Murphy, 2017; Zhu and Chang, 2016) in the sense that it is seen as more instrumental for achieving his or her personal goal (Zhu and Chang, 2016). Moreover, the act of participating in producing a customized offer can foster a sense of agency, which is positively charged (Sundar and Marathe, 2010), and this can carry over to satisfaction. It is therefore expected that perceived customization is positively associated with customer satisfaction. In empirical terms, this result has been obtained in several studies (e.g., Bitner et al., 1990; Bressolles et al., 2007; Coelho and Henseler, 2012). Thus the following is expected in a service encounter context when it is the employee who provides customization of an offer:

H1b. Perceived customization of an offer has a positive impact on customer satisfaction

2.2. Perceived employee effort

Perceived employee effort has been defined as the customer's perceptions of the effort expended by the employee with whom the customer interacts (Mohr and Bitner, 1995; Söderlund and Sagfossen, 2017), and it is assumed here that people in general are attentive to how much effort their exchange partners expend (Söderlund and Sagfossen, 2017). More specifically, it has been shown that the time it takes to produce an offer is positively associated with perceived supplier effort (Kruger et al., 2004; Morales, 2005), so it is expected here that the time an employee spends with a customer in a service encounter would be positively associated with perceptions of employee effort. Given that a high as opposed to a low level of employee encouragement of customer self-disclosure requires that more questions are asked to the customer, which makes the service encounter longer and thus more time is spent by the employee in interacting with the customer, the following is hypothesized:

H2a. Employee encouragement of customer self-disclosure has a positive impact on perceived employee effort

Such effort perceptions can influence the perceived quality of an offer, because supplier-related effort signals supplier confidence, commitment, and motivation (Kirmani and Wright, 1989; Modig et al., 2014; Mohr and Bitner, 1995). Moreover, perceived quality is typically positively associated with customer satisfaction (Cronin and Taylor, 1992). Therefore, it is expected that high perceived supplier-related effort would boost customer satisfaction. Empirical evidence for this has been produced by Mohr and Bitner (1995) and Söderlund and Sagfossen (2017). The following, then, is hypothesized in a service encounter context:

H2b. Perceived employee effort has a positive impact on customer satisfaction

2.3. The customer's own effort

A high level of employee encouragement of customer self-disclosure, however, requires more effort also by the customer, particularly cognitive effort, because more questions about oneself has to be answered. Moreover, there are many possible negative consequences of

self-disclosing (Derlega and Chaikin, 1977; Moon, 2000; Robinson, 2017), so the customer needs to carefully consider such consequences, and balance them against the consequences of not disclosing (Inman and Nikolova, 2017; Li, 2012; Smith et al., 2011), which adds cognitive effort to the self-disclosing task. Further effort is added also when it is acknowledged that self-disclosure is likely to activate issues regarding how to present oneself to others (Norberg and Dholakia, 2004). Therefore, the following is hypothesized:

H3a. Employee encouragement of customer self-disclosure has a positive impact on the customer's perceived own effort

People in general are effort-averse with respect to their own effort that needs to be expended (Söderlund and Sagfossen, 2017), which is mirrored in commercial contexts by researchers who assume that customers typically want to minimize effort (e.g., Huppertz and Mower, 1992). This indicates that a high level of the customer's own effort is negatively charged, so one would expect a *negative* association between the customer's own effort in relation to an offer and the satisfaction that this offer provides. Such findings have been obtained by Söderlund and Sagfossen (2017). Thus the following is hypothesized in a service encounter setting:

H3b. The customer's perceived own effort has a negative impact on customer satisfaction

2.4. Privacy concerns

Privacy is usually referred to in terms such as "a fundamental human right to be left alone" and "freedom from being observed and disturbed by other people" (Martin and Murphy, 2017; Solove, 2008). In a marketing context, and from the customer's point of view, privacy concerns comprise the customer's uneasiness over collection of data from him or her and the use of these data for marketing purposes (Mothersbaugh et al., 2012), particularly in terms of who has access to the data and what is done with it (Eastlick et al., 2006; Martin and Murphy, 2017; White, 2004). A high level of such concerns are sometimes labelled privacy invasion, which represents the perception that one's personal life is monitored against one's wishes (Derlega and Chaikin, 1977).

In any event, several studies have examined privacy concerns as a potential antecedent to willingness to disclose information (e.g., Mothersbaugh et al., 2012), but in the present study the focus is on employee encouragement to self-disclose as a possible antecedent to privacy concerns. Given that there are increasing concerns among consumers regarding how firms collect and use consumer data (Lutz et al., 2018; Martin et al., 2017; Wang et al., 2016), and increasing concerns that their private information may be misused (Inman and Nikolova, 2017), it is expected that the employee's encouragement of self-disclosure in a service encounter – such as by asking personal questions to the customer – can prime the customer so that vulnerability issues become salient in the customer's mind. Vulnerability has been shown to positively influence privacy concerns (Dinev and Hart, 2004), so it is assumed here that collecting personal data from the customer can make him or her feel vulnerable (Martin et al., 2017). Moreover, service employees are under increasing pressure not only to provide service but also to sell in service encounters (Söderlund, 2013), and this can make customers interpret personal questions asked by the employee as attempts to build material for unwelcome sales attempts. Therefore, the following is hypothesized:

H4a. Employee encouragement of customer self-disclosure is positively associated with privacy concerns

Privacy concerns generally have a negative charge, and it is therefore expected that practices that raise such concerns would elicit negative evaluations and avoidance behavior (Martin et al., 2017). Such reactions have indeed been identified in previous research. For example, privacy concerns in relation to a firm are negatively associated with trust in the firm (Eastlick et al., 2006; Inman and Nikolova, 2017; Malhotra et al.,

2004), intent to purchase from the firm (Eastlick et al., 2006; Inman and Nikolova, 2017), actual purchases (Luo, 2002), and loyalty (Inman and Nikolova, 2017). Given that trust, purchase intent, actual purchases, and loyalty are typically positively associated with customer satisfaction, a *negative* association is expected for the privacy concern–satisfaction relationship. This has also been reported by Inman and Nikolova (2017), while Bressolles et al. (2007) found a positive association between perceptions that privacy is indeed protected by a vendor and customer satisfaction with the vendor. Hence the following is hypothesized in a service encounter context:

H4b. Privacy concerns have a negative impact on customer satisfaction

2.5. Perceived humanness

Humanness has to do with the extent to which an individual is perceived to have characteristics that are typical for humans (Haslam, 2006; Haslam et al., 2008). This means that one specific individual may be seen as having "more" of humanness than another individual (Epley et al., 2008), and existing research in this area has identified several capabilities of an individual that seem to contribute to a high level of perceived humanness with respect to this individual. Here, in the present study, it is assumed that employee encouragement of self-disclosure, particularly by asking questions to a customer, is likely to enhance perceptions of such capabilities – and that they would boost perceptions of overall employee humanness.

More specifically, it is assumed that asking questions to a customer signals that the employee has agency, which is a capability that can enhance humanness perceptions (Haslam et al., 2008). Moreover, if the employee listens to the answers after questions have been asked, and uses the answers for new questions, this is likely to signal that the employee is able to understand that the customer has agency, too. In other words, being recognized as an agent by another person indicates that this person has the capability of theory of mind – which is another capability that is likely to boost humanness perceptions (Epley, 2018; Gray et al., 2012). This, then, is hypothesized in a service encounter context:

H5a. Employee encouragement of customer self-disclosure has a positive impact on perceived employee humanness

Perceived humanness of an individual is expected to have a positive influence on the overall evaluation of this individual. One main reason is person positivity bias. That is to say, for us humans, other humans typically have a positive rather than a negative charge (Sears, 1983), because other humans offer social connection, belongingness, and intimacy, which are positively valued aspects of life for most humans (Söderlund, 2016). Moreover, we humans need other humans for both practical and existential issues (Epley et al., 2008), so from an evolutionary point of view it makes sense to equip us humans with an innate liking for other humans. Every other human, however, is not liked to the same extent, and we do dislike some others, so it is assumed here that perceptions of another person's humanness aids in fine-tuning our liking. Results in support for this, in a commercial context, can be found in several studies suggesting that the more human-like an object is, the more we tend to like it (Aggarwal and McGill, 2007; Delbaere et al., 2011; Rauschnabel and Ahuvia, 2014). Hence the following is hypothesized with respect to a service encounter context:

H5b. Perceived humanness of the employee has a positive impact on customer satisfaction

2.6. Mediation and moderation issues

Given that the employee's encouragement of self-disclosure in the service encounter boosts perceptions of customization, employee effort, the customer's own effort, privacy concerns, and humanness (i.e., H1a-

H5a), and given also that each of these responses has an impact on customer satisfaction (i.e., H1b-H5b), employee encouragement of self-disclosure can be seen as influencing customer satisfaction in a mediated way. To assess this explicitly, the following is hypothesized:

H6. The impact of employee encouragement of customer self-disclosure on customer satisfaction is mediated by customer perceptions of customization, employee effort, own effort, privacy concerns, and humanness

As for moderation aspects, the point of departure in the present study is that various types of virtual agents (i.e., computer programs) are expected to become more prevalent as firm representatives in service encounters (Steinhoff et al., 2019). The distinction between employees as humans or computer programs is indeed relevant from a self-disclosure perspective, because we humans appear to have a higher willingness to self-disclose, and have less fear of self-disclosing, when we are interacting with a computer program compared to another human (Lucas et al., 2014). It has been shown, for example, that individuals report higher levels of stigmatized behaviors when they interact with a computer interviewer as opposed to a human interviewer (Newman et al., 2002). Computer programs have also been shown to elicit less negative responses than humans in an interview situation (Hasler et al., 2013). Possible reasons for this is that the computer program reduces evaluation anxiety, the need for impression management, and feelings of vulnerability (Lucas et al., 2014; Weisband and Kiesler, 1996), while it may also increase a sense of anonymity (Lucas et al., 2014) and perceived privacy (Hasler et al., 2013). Given that the typical contemporary virtual agent is encountered online, it is also possible that the online setting itself may contribute to more self-disclosure to a virtual agent, because communication online – by its anonymity, neutralization of status, and lack of eye-contact – is likely to foster disinhibition in communication (Barak and Gluck-Ofri, 2007). It may be expected, therefore, that the identity of the interaction partner as a computer program (as opposed to a human) can boost both self-disclosure per se and the effects it has on downstream variables.

However, the opposite can also be argued: disclosers who interact with a virtual agent, and who know that this is the case, are likely to believe that a computer program cannot really understand them on a deep level. This would lead them to disclose less compared to what they do when they interact with a human, and it may result in less influence on downstream variables (Ho et al., 2018).

In any event, given that the identity of the interaction party can influence the level of the individual's self-disclosure and its impact on downstream variables, it is assumed here that interaction party identity can influence also the impact of attempts to encourage self-disclosure. More specifically, it is assumed that interaction party identity would moderate the hypothesized influence of encouraging customer self-disclosure on downstream responses (i.e., H1a-H5a). Given that it is unclear from previous research if a human or a computer program would have the greatest impact, this would have to be settled in empirical terms. The following, then, is hypothesized in a service encounter:

H7. The impact of employee encouragement of customer self-disclosure on customer perceptions of customization, employee effort, own effort, privacy concerns, and humanness is moderated by employee identity (virtual agent vs. human)

3. Research method

Hypotheses 1–7 were tested with a between-subjects experiment in which employee encouragement of self-disclosure (low vs. high) and the identity of the employee (virtual agent vs. human) were the two manipulated factors.

3.1. Stimulus development, procedure and participants

It was decided that the focal offer should be a service that allows the customer to find a movie that would fit with his or her specific needs. Moreover, to be able to manipulate the two factors in a service encounter context, a role-play scenario approach with four versions of the same service encounter was used. Each version described a customer who interacts with a service employee, called Alex, for the purpose of obtaining recommendations of a movie to watch. The participants were asked to imagine that they were the customer in the scenario. Scenarios of this type have been used frequently in service-related research (e.g., Bitner, 1990; Karande et al., 2007; Söderlund and Rosengren, 2008) and in research on self-disclosure (e.g., Chaikin and Derlega, 1974).

To manipulate the employee encouragement of self-disclosure (low vs. high), one version of the scenario comprised an employee who asked a relatively low number of questions to the customer. The other version comprised an employee who asked a relatively high number of questions. The identity factor (virtual agent vs. human employee) was manipulated by varying the scenario descriptions of the customer's interaction partner (see the Appendix for the four scenario versions).

The data were collected online in such a way that the participants were randomly allocated to one of the four scenario versions. After this they were asked to respond to questionnaire items regarding the variables in the hypotheses. Three hundred forty individuals were invited from the UK-based Prolific panel. Two of them were excluded from the analysis because they failed to pass attention check items, which resulted in a sample of 338 participants ($M_{age} = 38.48$; 91 men and 247 women) for the tests of the hypotheses.

3.2. Measures

Perceptions of customization were measured with the items “The movie recommendation was tailor-made for my needs”, “The movie recommendation recognized the uniqueness of my preferences”, “The movie recommendation was adapted to my personal preferences”, “The movie recommendation was made with full attention to my specific needs”, and “The movie recommendation was indeed based on my specifications”. These items were scored on a 10-point scale (1 = do not agree at all, 10 = agree completely; Cronbach's alpha = .94). Similar items have been used by, for example, Bressolles et al. (2007) and Mothersbaugh et al. (2012).

For *employee effort*, the following items were used (it should be recalled that the employee's name was Alex in the human employee conditions and in the virtual agent conditions):

“Alex put a lot of effort into helping me”, “Alex tried hard to find a suitable movie for me”, “Alex expended much energy to assist me”, and “Alex had to work hard to help me”. They were scored on a 10-point scale (1 = do not agree at all, 10 = agree completely; alpha = .89). Similar items have been used by, for example, Mohr and Bitner (1995) and Morales (2005).

The *customer's own effort* was assessed with the question “To answer Alex's questions about me was ...”, which was followed by the adjective pairs “not effortful at all-very effortful”, “easy-difficult”, and “not demanding-demanding”. They were scored on a 10-point scale (alpha = .89). Söderlund and Sagfossen (2017) have used similar items.

Privacy concerns were measured with the statements “The information I provided about myself in the interaction with Alex made me concerned about my privacy”, “I felt that too much personal information about me was collected”, “It bothered me to give the requested information to the firm”, “I am concerned that the information I provided about myself could be misused”, “It felt embarrassing to reveal what I did reveal about myself”, and “To reveal what I did in the interaction with Alex could make others evaluate me negatively”. A 10-point response format was provided (1 = do not agree at all, 10 = agree completely; alpha = .97). Similar items have been used by Dinev and Hart (2004), Malhotra et al. (2004), Mothersbaugh et al. (2012), and

White (2004).

Humanness was measured with the following adjective pairs in relation to Alex: “computer-like–human-like”, “acted as a machine–acted as a human being”, and “behaved as a non-person–behaved as a person”. They were scored on a 10-point scale ($\alpha = .96$). Items of this type appear, for example, in Aggarwal and McGill (2007) and Thompson et al. (2011).

Customer satisfaction was measured with three items used in several national satisfaction barometers (Anderson et al., 1994; Fornell, 1992), which were adapted to the present setting (i.e., a movie recommendation service): “How satisfied or dissatisfied are you with the movie recommendation service?” (1 = very dissatisfied, 10 = very satisfied), “To what extent does this service meet your expectations?” (1 = not at all, 10 = totally), and “Imagine a movie recommendation service that is perfect in every respect. How near or far from this ideal do you find this movie recommendation service?” (1 = very far from, 10 = cannot get any closer; $\alpha = .92$).

To check the manipulation of the employee encouragement of self-disclosure, this question was used: “In total, the volume of information that I was asked to provide about myself in the interaction with Alex was ...”, which was followed by the adjective pair “small-large” (scored on a 10-point scale as 1 = small and 10 = large). In addition, as an attempt to measure also the direct consequence of being encouraged to self-disclose, namely perceived self-disclosure per se, the following items were used: “In the interaction with Alex, I provided personal information about myself”, “In the interaction with Alex, I provided private information”, and “In the interaction with Alex, I provided information closely related to who I am” (scored as 1 = do not agree at all, 10 = agree completely; $\alpha = .91$).

As for the manipulation of the employee identity (i.e., virtual agent vs. human employee), this check item was used: “In the text, Alex was described as ...”, followed by the adjective pair “an artificial intelligence–a human being. It was scored on a 10-point scale (1 = an artificial intelligence, 10 = a human being).

4. Analysis and results

4.1. Manipulation checks

A 2 X 2 ANOVA with the employee encouragement of self-disclosure factor (low vs. high) and the identity factor (virtual agent vs. human employee) showed that the employee encouragement factor had a significant impact on the perceptions of the volume of information that was provided ($F = 122.21, p < .01$). The perceived volume was lower in the low encouragement conditions ($M = 5.94$) than in the high encouragement conditions ($M = 8.02$). Moreover, in a 2 X 2 ANOVA with the same factors as above, but now with perceived self-disclosure as the dependent variable, the encouragement factor had a significant impact on perceived self-disclosure ($F = 333.63, p < .01$). Perceived self-disclosure reached a lower level in the low encouragement conditions ($M = 4.16$) than in the high encouragement conditions ($M = 7.97$).

As for the identity factor, a 2 X 2 ANOVA, again with the employee encouragement and the identity factors, but with perceived identity of the employee as the dependent variable (scored as 1 = artificial intelligence and 10 = human), the identity factor had a significant impact on perceptions of the employee’s identity ($F = 298.16, p < .01$). The employee was perceived less as a human in the virtual agent conditions ($M = 2.62$) than in the human employee conditions ($M = 7.84$). Taken together, then, these outcomes suggest that the manipulations performed as intended.

4.2. Hypothesis testing

A set of 2 X 2 ANOVAs with employee encouragement of self-disclosure (low vs. high) and employee identity (virtual agent vs. human employee) as the factors, and with perceptions of customization,

employee effort, own effort, privacy concerns, and humanness as the dependent variables, was used to test H1a-H5a. In each such ANOVA, there was a significant main effect of the employee encouragement factor (each of the five $p < .01$), no significant main effect of the identity factor, and no significant interaction effect. Moreover, and for each dependent variable, the level was higher under the high encouragement of self-disclosure conditions compared to the low encouragement of self-disclosure conditions (see Table 1). This means that H1a-H5a were supported.

To test H1b-H5b, the zero-order correlation was computed between each of the variables and customer satisfaction. The outcome is presented in Table 2, which reveals that (a) each coefficient was significant ($p < .01$), (b) the correlation was positive for perceived customization ($r = 0.65$), perceived employee effort ($r = 0.41$), and perceived humanness ($r = 0.51$), while (c) it was negative for perceived own effort ($r = -0.39$) and privacy concerns ($r = -0.28$). This, then, provides support for H1b-H5b.

H6, the mediation hypothesis, was tested with the Hayes (2012) approach. More specifically, for each proposed mediator, Hayes’ Model 4 was used. The independent variable was employee encouragement of self-disclosure (scored as 1 = low and 2 = high, depending on which condition a participant was exposed to) and customer satisfaction was the dependent variable. Table 2 shows that there was a significant indirect effect for each proposed mediator, which provides support for H6. For each mediator variable, however, there was also a significant direct effect, which means that mediation in the present data should be seen as complementary (cf. Zhao et al., 2010).

It should be noted that the outcomes with respect to the influence on customer satisfaction indicate that opposing forces are set in motion by the encouragement of self-disclosure (i.e., some variables in Table 2 are positively associated with customer satisfaction, while the association is negative for other variables). Indeed, in the present data, an ANOVA with the two manipulated factors, encouragement of self-disclosure (low vs. high) and identity of the interaction party (virtual agent vs. human employee), and with customer satisfaction as the dependent variable, produced no significant main effect for encouragement of self-disclosure (the impact of the identity factor and the interaction were non-significant, too). This indicates that the opposing negative and positive influences on satisfaction were equal to each other in force and that they have cancelled each other out.

Finally, with respect to H7, the moderation hypothesis, the already mentioned absence of a significant interaction effect in each of the ANOVAs to test H1a-H5a indicates that there was no support for the identity factor as a moderating variable. Thus H7 must be rejected: the identity of the interaction party in the service encounter (virtual agent vs. human employee) did not affect the impact of encouraging self-disclosure on the hypothesized responses. This is basically the same outcome as in Ho et al. (2018), who concluded that the identity of the interaction partner (in their case: chatbot vs. human) affected neither self-disclosure per se nor the downstream variables.

Table 1
The impact of encouragement of self-disclosure. on the dependent variables.

Dependent variable	Main effect of employee encouragement of self-disclosure	Mean for the low encouragement of self-disclosure conditions	Mean for the high encouragement of self-disclosure conditions
Customization	$F = 16.43^{**}$	7.31	8.01
Employee effort	$F = 21.56^{**}$	6.87	7.81
Own effort	$F = 40.34^{**}$	4.09	5.55
Privacy concerns	$F = 272.83^{**}$	2.89	6.76
Humanness	$F = 8.33^{**}$	6.10	6.85

** $p < .01$.

Table 2
Consequences of encouragement of self-disclosure and associations with customer satisfaction.

Variable	Association with customer satisfaction (<i>r</i>)	Indirect effect of encouragement of self-disclosure on customer satisfaction	Direct effect of encouragement of self-disclosure on customer satisfaction
Customization	.65 **	.59 *	-.68 **
Employee effort	.41 **	.43 *	-.53 **
Own effort	-.40 **	-.55 *	.46 *
Privacy concerns	-.28 **	-1.29 *	1.19 **
Humanness	.51 **	.32 *	-.42 *

* $p < .05$, ** $p < .01$.

5. Conclusions

5.1. Summary of main results

The main findings in the present study were that (1) employee encouragement of customer self-disclosure in the service encounter enhances customer perceptions of customization, employee effort, own effort, privacy concerns, and employee humanness, (2) these responses influence customer satisfaction, (3) the responses mediate the influence of employee encouragement of self-disclosure on satisfaction, and (4) the employee's identity (virtual agent vs. human) did not moderate the impact of employee encouragement of self-disclosure on the responses.

5.2. Discussion

In psychology, self-disclosure is recognized as an important activity for interpersonal communication and relationship formation (Berg and Archer, 1983), while marketing scholars typically acknowledge that customer self-disclosure is crucial for satisfying the firm's information needs (e.g., Joinson, 2001) and for facilitating the making of an offer that matches the customer's needs (Li, 2012). Most existing studies in marketing settings, however, comprise antecedents to self-disclosure, while the present study has been an attempt to examine its consequences.

Moreover, most studies in marketing on the customer self-disclosure construct comprise a digital technology context, presumably because it facilitates the collection and analysis of vast amounts of customer data. It seems to have been forgotten, however, that the main share of all consumers' transactions with firms still occur offline (Turow, 2017). Such transactions are typically carried out in interactions with employees of firms – and they do collect data from consumers. These data are not only used to match offers with customers' needs in the service encounter; it is not uncommon to also collect data for later use. This is the case, for example, when the cash desk operator asks about the customer's postal code and when the employee at the money exchange office at the airport asks to which country the customer will be traveling. Presumably, given that “data is the new oil”, as *The Economist* has expressed it, more such collection activities can be expected. The service encounter is thus far from obsolete in the contemporary marketplace, yet it has been a neglected medium when academic researchers examine exchange of information between customers and firms – and this is also a main reason why the present study has focused on a service encounter setting.

From the individual's point of view, and in general, self-disclosure may be viewed as a balancing act (Culnan and Bies, 2003; Milne and Bahl, 2010). Too little self-disclosure is likely to harm interpersonal communication (Berg and Archer, 1983; Derlega, 1988; Robinson, 2017; Ruppel et al., 2016). Too much self-disclosure, however, may result in a sense of no freedom to have private thoughts, loss of individuality (Cozby, 1973), and vulnerability to exploitation (Derlega, 1988). The

findings in the present study indicate that a balancing act is present also in the specific situation when the individual is a customer in a service encounter, in the sense that encouragement to self-disclose had a negative influence on some responses and it had a positive influence on other responses. This finding is consonant with the view that customers are aware of pros and cons stemming from disclosing personal information, and that they engage in a “privacy calculus” regarding costs and benefits (Inman and Nikolova, 2017; Li, 2012; White, 2004; Smith et al., 2011). Indeed, the benefit part of this calculus may explain why people frequently disclose personal information even though they do have concerns about doing so (Hallam and Zanella, 2017; Smith et al., 2011). In any event, several previous studies have examined the calculus in terms of a trade-off between privacy concerns and the benefits of customization (e.g., Sundar and Marathe, 2010), and the present study contributes to this stream of research by providing additional factors to the calculus (such as own effort and humanness).

As for the employee's identity issue (virtual agent vs. human), the impact of employee encouragement of self-disclosure was not moderated by employee identity. That is to say, there was no significant interaction between the identity factor and the encouragement of self-disclosure factor. It can be added that there were also no significant main effects of the identity factor on perceived customization, employee effort, own effort, privacy concerns, and humanness (and perceived self-disclosure per se). It may appear odd that the identity factor did not influence the perceived humanness of the employee, yet this is consistent with the idea that both humans and machines can vary in terms of humanness (Epley, 2018; Haslam, 2006) and with the observation that human service employees can appear in a “robotic” way in service encounters (Leidner, 1993). Be that as it may, the non-significant main effects of the identity factor in the present study are consonant with the assumption that people are likely to react to computer programs as if they were social actors, given that the programs exhibit social cues (Nass et al., 1994; Nass and Moon, 2000; Shank, 2012). In other words, humans are very liberal in assigning humanity to an artificial stimulus as long as it has at least minimal human features (Lee and Nass, 2003). One main reason is that we humans are equipped with evolution-based social responses that are applied more or less automatically in interaction situations resembling the situations in which they were originally developed (Nowak and Biocca, 2003; Shank, 2013). In empirical terms, several studies – in which participants are involved in a conversation with either a human or a computer program – show that different identities do not produce significantly different response levels for variables related to the interaction party, such as perceived friendliness (Appel et al., 2012), competence and trustworthiness (Patel and MacDorman, 2015), and perceived expertise (Aharoni and Fridlund, 2007). A similar result has been obtained also for self-disclosure by Ho et al. (2018), so the present study adds further evidence with respect to this particular variable.

5.3. Managerial implications

Collecting data from customers is a main dimension of the firm's market orientation, which in turn is positively associated with business performance (Jaworski and Kohli, 1993). Seen at a lower level of abstraction, and in terms of the service encounter, the individual employee with whom the customer interacts contributes to the collection of data (and the employee can in many cases react to these data immediately by providing a match between what the data reveals about the customer's needs and what the firm has to offer). The present study shows that employee data collection activities involving the encouragement of customer self-disclosure can influence responses that are positively associated with customer satisfaction (customization, employee effort, and humanness). So far, then, and given that customer satisfaction would enhance business performance (Fornell, 1992), there is no conflict with the market orientation paradigm – and the implication would be that managers should motivate employees to encourage

customer self-disclosure in the service encounter.

However, since other consequences of encouraging self-disclosure are negatively associated with customer satisfaction (the customer's own effort and privacy concerns), there is indeed a conflict. This implies that managers should identify what may mitigate the negative consequences. As for customer effort, attempts should be made to find ways of asking questions that are not perceived as effortful by the customer. With respect to privacy concerns, the existing literature provides several models of its antecedents, and such models can be used for interventions to attenuate privacy concerns. For example, it has been shown that trust (Krasnova et al., 2010), perceived control (Krasnova et al., 2010; Wang et al., 2016), value perceptions (Inman and Nikolova, 2017), and perceived relevance (Zhu and Chang, 2016) are negatively associated with privacy concerns, so interventions targeted at boosting these variables may reduce customers' privacy concerns. It should be noted that previous research has identified that customers with privacy concerns may react by providing incomplete information about themselves (Sheehan and Hoy, 1999), which in turn is likely to obstruct the employee's matching of customers' needs with the firms offerings – and this represents another way in which customer satisfaction can be attenuated. Privacy concerns, then, call for particular attention from managers who are interested in customer satisfaction.

5.4. Limitations and suggestions for further research

The present study examined the impact of employee encouragement of customer self-disclosure only for one particular service (movie recommendations), so further research on other services is needed. Moreover, both employee encouragement of customer self-disclosure (in terms of questions asked by the employee) and self-disclosure (in terms of the customer's answers to the questions) were manipulated variables in the present study. An alternative approach would be to capitalize on customers' own experience by using a critical incident approach (cf. Bitner et al., 1990) in which participants are instructed to (a) think about one particular service encounter in which they were subject to encouragements to self-disclosure and (b) answer questions about the responses to this encounter. It should also be noted that the focus in the present study was on customer self-disclosure as a direct response to encouragements to self-disclose. Self-disclosure, however, may also happen spontaneously. Both types indeed provide the employee with customer data, but they may be perceived as qualitatively different by the customer (and may therefore impact other variables differently). This, then, is an additional issue that deserves to be examined in further studies.

Moreover, the present study comprised five responses proposed as direct responses to encouragements to self-disclose (perceptions of customization, employee effort, the customer's own effort, privacy concerns, and employee humanness). Some of them, however, can be considered to be multi-faceted, so further precision would be obtained if they are conceptualized – and operationalized – as having several facets. Employee effort, for example, may manifest itself not only by asking questions but also by listening to the answers. Comer and Drollinger (1999) have developed a model of active empathetic listening with several dimensions (and each of them require employee effort), which may be useful for further examinations. Similarly, privacy concerns can be evoked not only by data collection activities; unauthorized use of the data, improper access to the data, and errors in protecting the data may also be subject of concerns (Martin and Murphy, 2017). It is possible, for example, that the customer has few concerns about the employee asking questions, and about the usage of the answers for producing an offer, but indeed has concerns about what may happen later with the disclosed data. To address this, then, privacy concerns should be captured on a level of analysis that allows for such concerns to refer to other activities than the collection of data per se.

As for moderation issues, it seems likely that individual traits related to self-disclosure may influence customer's responses when they are

encouraged to self-disclose in a service encounter. General self-esteem, for example, can be positively associated with self-disclosure, while social anxiety may be negatively associated with self-disclosure (Sprecher and Hendrick, 2004). Moreover, and with respect to the employee identity issue, those who are more socially anxious may be more willing to self-disclose when they interact with a virtual human than a real human (Kang and Gratch, 2010). Similarly, previous research shows that privacy concerns can be seen as trait variable, in the sense that consumers have varying levels of such concerns in relation to marketing in general (Milne and Bahl, 2010). Further research is therefore needed to examine if such trait variables may moderate the impact of employee encouragement of self-disclosure on the customer's responses. In addition, it should be noted that the scenario setting in the present study (implicitly) depicted the employee/the virtual agent as a stranger in relation to the participants. However, the extent to which people in exchange situation are familiar with each other when they self-disclose can affect how appropriate self-disclosure is perceived to be. For example, disclosure to a stranger has been found to be perceived as less appropriate than self-disclosure to a friend (Chaikin and Derlega, 1974). Given that the appropriateness of self-disclosure is likely to be affectively charged (i.e., it is expected that inappropriate disclosure is negatively charged and appropriate disclosure is positively charged), which in turn may influence satisfaction in a valence-congruent way, further research should examine the hypotheses in the present study also under the condition of high familiarity between the customer and his or her exchange partner in a service encounter.

Finally, the dependent variable in the present study was customer satisfaction, which is typically assumed to affects several customer behaviors after a specific transaction, such as word-of-mouth and repurchases (Anderson et al., 1994; Fornell, 1992). Presumably, however, customer satisfaction begins to form already during a specific service encounter and can influence behavior already in that encounter. It seems likely, for example, that emerging satisfaction in the encounter would be able to predict if and what the customer actually purchases within the frame of the encounter itself. Therefore, further studies of employee encouragement of self-disclosure in service encounters should make attempts to measure also customer behavior within the same encounter.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jretconser.2019.102001>.

References

- Adams, G.R., Shea, J.A., 1981. Talking and loving: a cross-lagged panel investigation. *Basic Appl. Soc. Psychol.* 2 (2), 81–88.
- Aggarwal, P., McGill, A.L., 2007. Is that car smiling at me? Schema congruity as a basis for evaluating anthropomorphized products. *J. Consum. Res.* 34 (4), 468–479.
- Aharoni, E., Fridlund, A.J., 2007. Social reactions toward people vs. computers: how mere labels shape interactions. *Comput. Hum. Behav.* 23 (5), 2175–2189.
- Anderson, E.W., Fornell, C., Lehmann, D.R., 1994. Customer satisfaction, market share, and profitability: findings from Sweden. *J. Mark.* 58 (3), 53–66.
- Appel, J., von der Pütten, A., Krämer, N.C., Gratch, J., 2012. Does humanity matter? Analyzing the importance of social cues and perceived agency of a computer system for the emergence of social reactions during human-computer interaction. *Adv. Hum. Comput. Interact.* <https://doi.org/10.1155/2012/324694>. Article ID 324694.
- Barak, A., Gluck-Ofri, O., 2007. Degree and reciprocity of self-disclosure in online forums. *Cyberpsychol. Behav.* 10 (3), 407–417.
- Berg, J.H., Archer, R.L., 1983. The disclosure-liking relationship: effects of self-perception, order of disclosure, and topical similarity. *Hum. Commun. Res.* 10 (2), 269–281.
- Bitner, M.J., 1990. Evaluating service encounters: the effects of physical surroundings and employee responses. *J. Mark.* 54 (April), 69–82.
- Bitner, M.J., Booms, B.H., Tetreault, M.S., 1990. The service encounter: diagnosing favorable and unfavorable incidents. *J. Mark.* 54 (1), 71–84.
- Bressolles, G., Durrieu, F., Giraud, M., 2007. The impact of electronic service quality's dimensions on customer satisfaction and buying impulse. *J. Cust. Behav.* 6 (1), 37–56.
- Chaikin, A.L., Derlega, V.J., 1974. Variables affecting the appropriateness of self-disclosure. *J. Consult. Clin. Psychol.* 42 (4), 588–593.

- Clark-Gordon, C.V., Bowman, N.D., Goodboy, A.K., Wright, A., 2019. Anonymity and online self-disclosure: a meta-analysis. *Commun. Rep.* 32 (2), 98–111.
- Coelho, P.S., Henseler, J., 2012. Creating customer loyalty through service customization. *Eur. J. Market.* 46 (3/4), 331–356.
- Comer, L.B., Drollinger, T., 1999. Active empathetic listening and selling success: a conceptual framework. *J. Personal Sell. Sales Manag.* 19 (1), 15–29.
- Cozby, P.C., 1973. Self-disclosure: a literature review. *Psychol. Bull.* 79 (2), 73–91.
- Cronin, J.J., Taylor, S.A., 1992. Measuring service quality: a reexamination and extension. *J. Mark.* 56 (July), 55–68.
- Culnan, M.J., Bies, R.J., 2003. Consumer privacy: balancing economic and justice considerations. *J. Soc. Issues* 59 (2), 323–342.
- Delbaere, M., McQuarrie, E.F., Phillips, B.J., 2011. Personification in advertising. *J. Advert.* 40 (1), 121–130.
- Derlega, V.J., Chaikin, A.L., 1977. Privacy and self-disclosure in social relationships. *J. Soc. Issues* 33 (3), 102–115.
- Derlega, V.J., 1988. Self-disclosure: inside or outside the mainstream of social psychological research? *J. Soc. Behav. Personal.* 3 (2), 27–34.
- Dinev, T., Hart, P., 2004. Internet privacy concerns and their antecedents-measurement validity and a regression model. *Behav. Inf. Technol.* 23 (6), 413–422.
- Eastlick, M.A., Lotz, S.L., Warrington, P., 2006. Understanding online B-to-C relationships: an integrated model of privacy concerns, trust, and commitment. *J. Bus. Res.* 59 (8), 877–886.
- Epley, N., Waytz, A., Akalis, S., Cacioppo, J.T., 2008. When we need a human: motivational determinants of anthropomorphism. *Soc. Cogn.* 26 (2), 143–155.
- Epley, N., 2018. A mind like mine: the exceptionally ordinary underpinnings of anthropomorphism. *J. Assoc. Consum. Res.* 3 (4), 591–598.
- Fornell, C., 1992. A national satisfaction barometer: the Swedish experience. *J. Mark.* 56 (January), 6–21.
- Gray, K., Young, L., Waytz, A., 2012. Mind perception is the essence of morality. *Psychol. Inq.* 23 (2), 101–124.
- Hallam, C., Zanella, G., 2017. Online self-disclosure: the privacy paradox explained as a temporally discounted balance between concerns and rewards. *Comput. Hum. Behav.* 68, 217–227.
- Haslam, N., 2006. Dehumanization: an integrative review. *Personal. Soc. Psychol. Rev.* 10 (3), 252–264.
- Haslam, N., Loughnan, S., Kashima, Y., Bain, P., 2008. Attributing and denying humanness to others. *Eur. Rev. Soc. Psychol.* 19 (1), 55–85.
- Hasler, B.S., Tuchman, P., Friedman, D., 2013. Virtual research assistants: replacing human interviewers by automated avatars in virtual worlds. *Comput. Hum. Behav.* 29 (4), 1608–1616.
- Hassan, M., Mydock III, S., Pervan, S.J., Kortt, M., 2016. Facebook, self-disclosure, and brand-mediated intimacy: identifying value creating behaviors. *J. Consum. Behav.* 15 (6), 493–502.
- Hayes, A.F., 2012. *Process: A Versatile Computational Tool for Observed Variable Mediation, Moderation, and Conditional Process Modeling*. The Ohio State University. White paper.
- Ho, A., Hancock, J., Miner, A.S., 2018. Psychological, relational, and emotional effects of self-disclosure after conversations with a chatbot. *J. Commun.* 68 (4), 712–733.
- Huppertz, J.W., Mower, E., 1992. An effort model of first-stage complaining behavior. *J. Consumer Satisfaction, Dissatisfaction Complain. Behav.* 16, 132–144.
- Im, S., Lee, D.H., Taylor, C.R., D’Orazio, C., 2008. The influence of consumer self-disclosure on web sites on advertising response. *J. Interact. Advert.* 9 (1), 37–48.
- Inman, J.J., Nikolova, H., 2017. Shopper-facing retail technology: a retailer adoption decision framework incorporating shopper attitudes and privacy concerns. *J. Retail.* 93 (1), 7–28.
- Janiszewski, C., Wyer Jr., R.S., 2014. Content and process priming: a review. *J. Consum. Psychol.* 24 (1), 96–118.
- Jaworski, B.J., Kohli, A.K., 1993. Market orientation: antecedents and consequences. *J. Mark.* 57 (3), 53–70.
- Joinson, A.N., 2001. Knowing me, knowing you: reciprocal self-disclosure in Internet-based surveys. *Cyberpsychol. Behav.* 4 (5), 587–591.
- Kang, S.H., Gratch, J., 2010. Virtual humans elicit socially anxious interactants’ verbal self-disclosure. *Comput. Animat. Virtual Worlds* 21 (3–4), 473–482.
- Karande, K., Magnini, V.P., Tam, L., 2007. Recovery voice and satisfaction after service failure: an experimental investigation of mediating and moderating factors. *J. Serv. Res.* 10 (2), 187–203.
- Kirmani, A., Wright, P., 1989. Money talks: perceived advertising expense and expected product quality. *J. Consum. Res.* 16 (3), 344–353.
- Krasnova, H., Spiekermann, S., Koroleva, K., Hildebrand, T., 2010. Online social networks: why we disclose. *J. Inf. Technol.* 25 (2), 109–125.
- Kruger, J., Wirtz, D., Van Boven, L., Altermatt, T.W., 2004. The effort heuristic. *J. Exp. Soc. Psychol.* 40 (1), 91–98.
- Leidner, R., 1993. *Fast Food, Fast Talk: Service Work and the Routinization of Everyday Life*. University of California Press, Berkeley.
- Lee, K.M., Nass, C., 2003. Designing social presence of social actors in human computer interaction. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 289–296.
- Li, Y., 2012. Theories in online information privacy research: a critical review and an integrated framework. *Decis. Support Syst.* 54 (1), 471–481.
- Longoni, Chiara, Bonezzi, Andrea, Morewedge, Carey, 2019. Resistance to medical artificial intelligence. *J. Consum. Res.* forthcoming.
- Lucas, G.M., Gratch, J., King, A., Morency, L.P., 2014. It’s only a computer: virtual humans increase willingness to disclose. *Comput. Hum. Behav.* 37, 94–100.
- Lutz, C., Hoffmann, C.P., Bucher, E., Fieseler, C., 2018. The role of privacy concerns in the sharing economy. *Inf. Commun. Soc.* 21 (10), 1472–1492.
- Luo, X., 2002. Trust production and privacy concerns on the Internet: a framework based on relationship marketing and social exchange theory. *Ind. Mark. Manag.* 31 (2), 111–118.
- Malhotra, N.K., Kim, S.S., Agarwal, J., 2004. Internet users’ information privacy concerns (IUIPC): the construct, the scale, and a causal model. *Inf. Syst. Res.* 15 (4), 336–355.
- Martin, K.D., Murphy, P.E., 2017. The role of data privacy in marketing. *J. Acad. Mark. Sci.* 45 (2), 135–155.
- Martin, K.D., Borah, A., Palmatier, R.W., 2017. Data privacy: effects on customer and firm performance. *J. Mark.* 81 (1), 36–58.
- Meeks, B.S., Hendrick, S.S., Hendrick, C., 1998. Communication, love and relationship satisfaction. *J. Soc. Pers. Relatsh.* 15 (6), 755–773.
- Milne, G.R., Bahl, S., 2010. Are there differences between consumers’ and marketers’ privacy expectations? A segment-and technology-level analysis. *J. Public Policy Mark.* 29 (1), 138–149.
- Modig, E., Dahlen, M., Colliander, J., 2014. Consumer-perceived signals of “creative” versus “efficient” advertising. *Int. J. Advert.* 33 (1), 137–154.
- Mohr, L.A., Bitner, M.J., 1995. The role of employee effort in satisfaction with service transactions. *J. Bus. Res.* 32 (3), 239–252.
- Moon, Y., 2000. Intimate exchanges: using computers to elicit self-disclosure from consumers. *J. Consum. Res.* 26 (4), 323–339.
- Morales, A.C., 2005. Giving firms an “E” for effort: consumer responses to high-effort firms. *J. Consum. Res.* 31 (March), 806–812.
- Mothersbaugh, D.L., Foxx, W.K., Beatty, S.E., Wang, S., 2012. Disclosure antecedents in an online service context: the role of sensitivity of information. *J. Serv. Res.* 15 (1), 76–98.
- Nass, C., Steuer, J., Tauber, E.R., 1994. Computers are social actors. In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. Association for Computing Machinery, pp. 72–78.
- Nass, C., Moon, Y., 2000. Machines and mindlessness: social responses to computers. *J. Soc. Issues* 56 (1), 81–103.
- Newman, J.C., Des Jarlais, D.C., Turner, C.F., Gribble, J., Cooley, P., Paone, D., 2002. The differential effects of face-to-face and computer interview modes. *Am. J. Public Health* 92 (2), 294–297.
- Norberg, P.A., Dholakia, R.R., 2004. Customization, information provision and choice: what are we willing to give up for personal service? *Telematics Inf.* 21 (2), 143–155.
- Nowak, K.L., Biocca, F., 2003. The effect of the agency and anthropomorphism on users’ sense of telepresence, copresence, and social presence in virtual environments. *Presence Teleoperators Virtual Environ.* 12 (5), 481–494.
- Patel, H., MacDorman, K.F., 2015. Sending an avatar to do a human’s job: compliance with authority persists despite the uncanny valley. *Presence* 24 (1), 1–23.
- Rauschnabel, P.A., Ahuvia, A.C., 2014. You’re so lovable: anthropomorphism and brand love. *J. Brand Manag.* 21 (5), 372–395.
- Robinson, S.C., 2017. Self-disclosure and managing privacy: implications for interpersonal and online communication for consumers and marketers. *J. Internet Commer.* 16 (4), 385–404.
- Ruppel, E.K., Gross, C., Stoll, A., Peck, B.S., Allen, M., Kim, S.Y., 2016. Reflecting on connecting: meta-analysis of differences between computer-mediated and face-to-face self-disclosure. *J. Computer-Mediated Commun.* 22 (1), 18–34.
- Sheehan, K.B., Hoy, M.G., 1999. Flaming, complaining, abstaining: how online users respond to privacy concerns. *J. Advert.* 28 (3), 37–51.
- Sears, D.O., 1983. The person-positivity bias. *J. Personal. Soc. Psychol.* 44 (2), 233–250.
- Shank, D.B., 2012. Perceived justice and reactions to coercive computers. *Sociol. Forum* 27 (2), 372–391.
- Shank, D.B., 2013. Are computers good or bad for business? How mediated customer-computer interaction alters emotions, impressions, and patronage toward organizations. *Comput. Hum. Behav.* 29 (3), 715–725.
- Smith, H.J., Dinev, T., Xu, H., 2011. Information privacy research: an interdisciplinary review. *MIS Q.* 35 (4), 989–1016.
- Solove, D.J., 2008. *Understanding Privacy*. Harvard University Press, Cambridge, Massachusetts.
- Sprecher, S., Hendrick, S.S., 2004. Self-disclosure in intimate relationships: associations with individual and relationship characteristics over time. *J. Soc. Clin. Psychol.* 23 (6), 857–877.
- Steinbock, L., Arli, D., Weaven, S., Kozlenkova, I.V., 2019. Online relationship marketing. *J. Acad. Mark. Sci.* 47 (3), 369–393.
- Sundar, S.S., Marathe, S.S., 2010. Personalization versus customization: the importance of agency, privacy, and power usage. *Hum. Commun. Res.* 36 (3), 298–322.
- Söderlund, M., 2013. Positive social behaviors and suggestive selling in the same service encounter. *Manag. Serv. Qual.: Int. J.* 23 (4), 305–320.
- Söderlund, M., 2016. Employee mere presence and its impact on customer satisfaction. *Psychol. Mark.* 33 (6), 449–464.
- Söderlund, M., Sagfossen, S., 2017. The consumer experience: the impact of supplier effort and consumer effort on customer satisfaction. *J. Retail. Consum. Serv.* 39, 219–229.
- Thompson, J.C., Trafton, J.G., McKnight, P., 2011. The perception of humanness from the movements of synthetic agents. *Perception* 40, 695–705.
- Turow, J., 2017. *The Aisles Have Eyes: How Retailers Track Your Shopping, Strip Your Privacy, and Define Your Power*. Yale University Press, New Haven, CT.
- Wang, T., Duong, T.D., Chen, C.C., 2016. Intention to disclose personal information via mobile applications: a privacy calculus perspective. *Int. J. Inf. Manag.* 36 (4), 531–542.
- Ward, S., Bridges, K., Chitty, B., 2005. Do incentives matter? An examination of on-line privacy concerns and willingness to provide personal and financial information. *J. Mark. Commun.* 11 (1), 21–40.

- Weisband, S., Kiesler, S., 1996. April). Self-disclosure on computer forms: meta-analysis and implications. Proceedings of the CHI 96 Conference on Human Factors in Computing Systems. Canada, Vancouver, pp. 3–10. April 13-18.
- White, T.B., 2004. Consumer disclosure and disclosure avoidance: a motivational framework. *J. Consum. Psychol.* 14 (1–2), 41–51.
- Zhao, X., Lynch, J.G., Chen, Q., 2010. Reconsidering baron and kenny: myths and truths about mediation analysis. *J. Consum. Res.* 37 (August), 197–206.
- Zhu, Y.Q., Chang, J.H., 2016. The key role of relevance in personalized advertisement: examining its impact on perceptions of privacy invasion, self-awareness, and continuous use intentions. *Comput. Hum. Behav.* 65, 442–447.