

Article

An Explorative Study of How Visceral States Influence the Relationship between Social Proof Heuristics and Donation Behavior When Consumers Are Using Self-Service Kiosks

Sanchit Pawar ^{1,*}, Asle Fagerstrøm ¹ and Valdimar Sigurdsson ²

¹ Department of Technology, Kristiania University, Prinsensgate 7-9, 0152 Oslo, Norway; asle.fagerstrom@kristiania.no

² Department of Business Administration, Reykjavik University, Menntavegur 1, 101 Reykjavik, Iceland; valdimars@ru.is

* Correspondence: sanchit.pawar@kristiania.no

Received: 21 October 2020; Accepted: 12 November 2020; Published: 14 November 2020



Abstract: Self-service kiosks are increasingly being used in situations where a person is out to buy food and/or drinks. Several cause-related marketing initiatives have capitalized on using self-service technology to include small donation requests at the point of purchase. In this context, it is highly likely that during such purchase situations, a person is under the influence of a visceral state like hunger or thirst. This study investigated how a simulated visceral state of thirst could influence donation behavior. More specifically, how donation social proof indicators presented on self-service kiosk screens can impact likelihood to buy. Results of a conjoint study ($n = 83$) demonstrate that, in a visceral state situation, only a high level of social proof related to donation has a positive impact on likelihood to buy. Any other level of social proof (medium, low and not mentioned), decrease the likelihood to buy in such situations. A scenario simulation analysis shows that cases which included a high level of social proof have relatively higher preference. Consequently, antecedent situational variables like visceral states must be taken into consideration when cause-related marketing activities such as social proof (related to donation) are used in self-service kiosks.

Keywords: visceral states; cause-related marketing; donation behavior; self-service kiosks; conjoint study

1. Introduction

Kiosks are one type of self-service technology that have been around for decades in the service sector (e.g., ATMs, vending machines, travel and ticketing machines). When used within the retail landscape, kiosks mainly deliver information to the customer or promote and sell products/services [1]. These standalone terminals are slowly making their way into diverse retail sectors, including food service, supermarkets, department stores, specialty stores, drug stores, bookstores, and entertainment [2]. It is logical to expect that kiosks provide functionalities tailored to the retail context. The practical applications of kiosks are quite extensive as they make way into many different sectors. For example, many restaurant companies like Olive Garden and Buffalo Wild Wings are equipping their facilities with self-service kiosks [3]. McDonald's plans to systematically introduce self-service kiosks to 1000 facilities each quarter for the next eight to nine quarters [4]. However, most research on self-service kiosks originates from the wider field of self-service technology research, which leads to a high degree of generalization [5]. Research has shown that situational states influence actual usage of self-service technology in retail [6–8]. On a

global scale, retailing sectors like supermarkets and convenience stores are increasingly under pressure to implement cause-related marketing activities to support sustainable social and/or environmental causes [9–11]. Self-service technologies have shown promise in supermarket contexts to motivate consumers to adopt more sustainable behaviors through interactive displays e.g., [12]. Thus, there is a need to study situational variables as they occur naturally (e.g., in the convenience context) when consumers interact with self-service kiosks. According to Belk [13], situational states are imperative in understanding of consumer behavior. Ward and Robertson [14] argue that “situational variables may account for considerably more variance than actor-related variables”. Belk [13] suggests the following situational characteristics that may influence consumer purchases: (1) Physical Surroundings, (2) Social Surroundings, (3) Temporal Perspective, (4) Task Definition, and (5) Antecedent States. Antecedent states such as visceral states (e.g., thirst, hunger, pain, warmth, sexual desire) are obvious situational conditions that might impact consumers’ choice when purchasing products in a convenience context, since they most probably will be in a state of thirst or hunger.

In recent times we have seen an increasing frequency of cause-related marketing initiatives that have capitalized on using self-service technology to include small donation requests at the point of purchase. Cause-related marketing involves a collaboration between a non-profit organization and a profit business for a common benefit [15]. For example, UNICEF can collaborate with a convenience store that has self-service kiosks to include a donation to a charitable cause when consumers are purchasing products. In this context, it is highly likely that during such purchasing situations a person is under the influence of a visceral state like hunger or thirst. In general, people are more charitable if they are told that others have previously behaved in a similar fashion [16–18]. Consequently, in the context where donation to a charitable cause is present on the self-service kiosk, the inclusion of social proof might also influence the donation behavior.

The aim of this exploratory study is to contribute to understanding of how visceral states influence the relationship between social proof and donation behavior when consumers are using self-service kiosks to purchase products. Therefore, research objective of this study is to examine how donation social proof indicators presented on self-service kiosk screens can impact likelihood to buy. Knowledge about the influence of such situational characteristics could give researchers a better foundation for understanding donation behavior in a setting where consumers usually are in a visceral state (e.g., when using self-service kiosks). A deeper insight to the relationship between social proof and donation behavior would also help non-profit organizations such as UNICEF, Save the Children, and Red Cross to manage their cause-related marketing activities with the profit business.

This paper has four parts. Firstly, the concept of visceral states and social proof is reviewed in relation to donation behavior. This is followed by a description of the conjoint design used in the study. Next, the findings based on conjoint analysis are discussed and summarized. The paper concluded with a discussion of academic and managerial implications, and directions for future research are given.

2. Literature Review

2.1. Visceral States and Donation Behavior

Antecedent states often have a strong influence on preferences, behavior and final purchase. Visceral states are one example of situational variables that can be modelled as an instance of state-dependent preferences [19]. Visceral states is a collective term used to categorize intense states (e.g., thirst, hunger, pain, warmth, sexual desire) that have a disproportionate effect on attention [20]. The two main characteristics of visceral states are that: (1) they have a disproportionate effect on immediate behavior (which takes precedence over all goals other than that of mitigating the visceral state); and (2) people under weigh or ignore, the impact visceral states on past/future behavior, or that are experienced by other people [19,20]. In other words, people are unable to recall the impact of visceral states on themselves or others and are likely to underestimate the influence of visceral states.

These characteristics of visceral states have three distinct forms of attention-arousing effects caused by the experience of visceral states on the behavior of individuals. The first is that with increasing intensity visceral states focus attention and motivation on activities (like consumption) that are associated with the visceral state (e.g., thirst draws attention and motivation toward water).

The second form is increased temporal focus on the present. This present orientation, only applies to goods that are associated with the visceral state, and only to trade-offs between the present and some other point in time [20]. Empirical evidence has provided support for the present orientation for the visceral state. Research has demonstrated that hungry individuals show an increase in their desire to acquire hedonic food (vs. non-food) items, and this effect is driven by a shift in their time orientation, with a more prominent focus on present pleasures [21].

Visceral states focus attention inwardly, thus, the third form of attention-narrowing increases focus on oneself over others, effectively undermining altruism [20]. Empirical evidence suggests that people are less generous when experiencing a visceral state. Hunger promotes the intention to acquire food and even nonfood objects (e.g., binder clips), when these items are freely available and when they must be paid for [22]. Research has found the same effect in children between 4–9 years of age. Children that reported higher levels of hunger were less likely to share both food and nonfood resources, and this effect was particularly pronounced when it came to sharing food [23]. Similarly, evidence suggests that hunger affects donation behavior. Hungry participants were found less to donate to charity than satiated participants [24]. Harel and Kogut [25] found that for donation decisions, people tend to be less generous when actively experiencing a visceral state (hunger) when compared to being satiated and are less responsive to others' needs even when those needs match their own visceral state. Based on this, when consumers are experiencing a visceral state like thirst (which is often the case when using a self-service kiosk to buy something to drink) the likelihood to donate is low.

2.2. Social Proof and Donation Behavior

It is accurate to assume that visceral states are more essential to the daily functioning of an individual than many higher-level cognitive deliberations, that are often assumed to underlie decision-making [19]. On a daily basis, individuals are confronted with immeasurable amounts of information that can potentially influence a vast array of decisions. It is practically impossible to process each individual unit of information for a majority of daily decisions. In conditions of uncertainty, or in situations where a well-deliberated decision cannot be made, individuals use fast, general, mental shortcuts called heuristics to guide their decisions [26]. In the marketing of food products, a frequently used heuristic is the social proof heuristic, which refers to the tendency to adopt the option preferred by others [27]. It is based on the general heuristic rule that if many others are doing it, it must be good [28]. Social proof has been shown to be an effective nudge in situations where individual deviate from "ideal" behaviors. Studies have applied social proof to nudge pro-environmental towel reuse [29], promote household energy conservation [30], and to promote healthy food purchase [27,31,32]. Research has shown that under the visceral state of hunger, social proof can be an effective heuristic to help people make healthy decisions. Cheung, Kroese [33] found that when social proof heuristics are used to promote healthy food options, hungry participants made more healthy purchases in the presence of a social proof heuristic (vs. no social proof heuristic), and made just as many healthy food purchases as satiated participants. Thus, the simple inclusion of a social proof heuristic can "nudge" people to make optimal decisions.

In the donation context, the presence of social proof influences the decisions of potential donors. In general, people are more charitable if they are told that others have previously behaved in a similar fashion [16–18]. People do as other people do, presumably because they think that this is an effective and appropriate course of action in that situation [34]. Increasing attention to social proof heuristics increases donation behavior because when people learn that most other people give to charity, they are more likely to do so themselves [35]. Studies have shown that social proof which describes common behavior (e.g., 73% of students have contributed previously) triggered higher donations

than standardized altruistic appeals [34,36]. Overall, evidence suggests that the relationship between social proof and donation is quite robust [37]. Consequently, when social proof is presented on the self-service kiosk that describes common behavior it would trigger higher likelihood of donations.

3. Method

3.1. Participants and Procedure

An initial convenience sample of 101 undergraduate students willingly participated in the study (no compensation was offered). Ten cases had incomplete data and were removed. An additional eight responders were screened out from the analysis due to invalid cases. The final sample comprised of 83 participants with 50 females, 31 males, and 2 participants preferred not to disclose their gender. In this sample, one participant was in the <18 age category, 57 participants were in the 18–22 age category, 23 in the 23–30 age category, and 2 in the 31–45 age category. Eighty-eight percent of the participants had previously interacted with a self-service kiosk (either for shopping or in general).

Previous donation behavior was measured by asking, “How many times do you donated to charitable causes in a year?” Twenty-two participants were in the “never” category, 42 were in “1–2 times” category, 10 were in the “3–5 times” category, 4 were in the “6–10 times category, and 5 were in the “more than 10 times” category. All participants had heard of UNICEF, and 47% had previously supported UNICEF (with cash or time), while 53% were aware of UNICEF, but had not supported. In general, sample had a positive perception of UNICEF (69%), while 24% were neutral. Similarly, the perception towards the selected UNICEF cause aimed at supporting vulnerable children was overall positive (77%), and 17% were neutral.

Participants were informed that the purpose of the study was to examine interaction with self-service technologies (kiosks). The participants were then presented with a link to the study, which was conducted in Qualtrics. The participants were told to imagine a typical shopping trip where the person will make a few stops during their journey.

To make the scenario more realistic, the following information was presented: Imagine you are in a shopping mall. You enter an electronics store to buy a VR headset for your phone. You wear a demo unit, scan the QR code, and attach your phone to the headset. The headset transports you into a virtual 360 desert environment. You actually feel like you are in a desert. Imagine yourself in this place. Look around, notice all aspects of this environment. Pay attention to the colors. Imagine yourself breathing in the air and imagine any sounds you may hear in this environment. This was followed by the scenario to manipulate the visceral state of thirst. It has been shown that mentally simulating visceral states can substitute for actual visceral experiences [38,39]. Additionally, such simulations can be made more effective when used in conjunction with images [38,40]. Therefore, for the manipulation of thirst consisted of a scenario similar to Keesman, Aarts [39], along with a picture of an arid desert. The manipulation scenario was presented as follows: for the next 60 s, imagine that you are in this environment and are very thirsty. Please think about what it would be like to feel very thirsty in as much detail as possible. Think about what your experience would be like: What would you be thinking about? How would your body feel? How would you act? Please try to give us a general description of your thoughts and feelings (4–5 lines).

This was followed by the general scenario to ensure a common frame of reference when interacting with the self-service kiosk. The scenario was as follows: you have managed to buy all the items on your shopping list for today. You pass through a place where you can get something to eat and drink. As you enter, you notice a digital kiosk, with the words “order here” written at the top. This digital kiosk allows you to place your order without going to the cash counter. You have ordered your food. Now you are in a situation to order your favorite drink. You see the following information on the digital screen when you are placing your order. Based on the scenario, the participants were presented with 20 different stimulus cards (randomized) (see Figure A1 in the Appendix A for an example of the stimulus cards used in the study). They were asked to evaluate the purchase situation based on

the information provided by the self-service kiosk. After the participants evaluated the 20 stimulus cards, they filled out demographic and questions related to donation behavior, perception of UNICEF, the selected cause and interaction with self-service kiosks.

3.2. Design

Conjoint analysis is a research technique allows for the composition of consumer preferences while maintaining a high degree of realism [41]. Basically, conjoint analysis measures the relative importance of the predetermined independent variables and their levels. The relative utility of the different states and levels is “decomposed” from consumer purchases as they are presented with systematic combinations of the factors and levels. As a result, it is quite suited to measure the relative impact of the different variables encountered during the purchase situation.

A main effect model was used to design the combinations. This method assumes that participants add the values for each stimulus to get the total value of combinations of stimuli [41]. The conjoint data collection procedure was a full-profile approach that utilizes the complete set of factors (defining each levels of the factors) because it gives a more realistic description of the stimuli [42]. Thus, a full-profile method is also preferred when using actual images for the construction of experimental stimuli [43]. This method is also recommended when the number of factors is below six along [42]. In addition, the full-profile method is recommended to be used with a fractional factorial design as long as the number of attributes is small (up to six) [41,44]. The fractional factorial design is a method of designing stimuli that uses a subset of the possible stimuli needed (called an orthogonal array), to estimate the results based on the assumed composition rule [41]. We used IBM SPSS version 26, the fractional factorial design resulted in 20 stimulus cards, including four hold out cards (see Table A1 in Appendix B).

Table 1 summarizes the stimuli and levels used in the study. Based on the literature reviewed, social proof was operationalized at four levels: high level (3104 7-eleven customers have supported this cause); medium level at 25% of the high value (776 7-eleven customers have supported this cause), low level at 12.5% of the medium value (97 7-eleven customers have supported this cause), and not mentioned.

Table 1. Stimuli and levels used in the study.

Stimuli	Levels
Social proof heuristic	1. High level 2. Medium level 3. Low level 4. Not mentioned
Price format	1. Donation mentioned separately 2. Donation included as a percentage
Cause proximity	1. Local 2. Region: Close 3. Region: Far

Literature on donation has shown that for cause-related marketing, the presentation format of the donation amount can cause confusion [45,46]. It is not surprising that consumers prefer to know exactly how much of their purchase is being contributed to the cause [47]. We presented donation formats as actual amounts (price plus absolute value donated) or as the full amount (with the donation being included in price and the percentage mentioned in parenthesis). Thus, we included two price formats where donation was mentioned separately in absolute NOK amount (price plus donation) and donation included in the price where the percentage being donated was mentioned in parenthesis. The final cost of the water bottle was the same at NOK 30. The “donation mentioned separately” level was operationalized as NOK25 + NOK5 donation. The “donation included as a percentage” condition was operationalized as NOK 30 (15% of proceeds will go to), donating an amount of

NOK 4.5 from the NOK 30 cost of the water bottle. The difference between amounts donated in the two operationalizations was negligible (0.50NOK).

We also included cause proximity as an additional independent variable. Cause proximity deals with the geographic distance between the donation cause and the consumer [48]. Studies have shown that cause proximity has an effect on donation behavior e.g., [49,50]. However, sometimes mixed effects occur with regards to cause proximity e.g., [51,52], we suspect that cause proximity effects are context-dependent. Visceral states themselves are transient and depend on external circumstances [20]. Therefore, we decided to include cause proximity as an additional independent variable. We operationalized cause proximity at three levels: “Local” (local region), “Close” (Scandinavia), and “Far” (East Africa). The dependent variable was purchase and was operationalized as “based on the information provided by the digital screen, what would be the likelihood that you would buy the product?” The response scale ranged from “Not at all” (coded 0) to “Extremely” (coded 7). See Figure A1 in Appendix A for an example of the stimulus cards used in the study.

4. Findings

Since the nature of this study was exploratory, we had no prior assumptions about the relationship between the variable levels and purchase. Thus, a discrete effect was used to analyze the data. The correlation between the observed and estimated preferences for likelihood to buy (Pearson’s $r = 0.900$, $p = 0.000$) shows a positive linear association. Table 2 demonstrates the impact estimate, standard error, and importance values for each stimulus and their levels. Cause proximity stimulus, with an importance value of 42.12%, was marginally more important than social proof heuristic value of 41.33%. Price format was the least important stimuli with a value of 16.55%.

Table 2. The impact of stimuli and levels on likelihood to buy.

Stimuli and Levels	Likelihood to Buy		
	Impact Estimate	Standard Error	Importance Values
Social proof heuristic			41.33%
1. High level	0.121	0.060	
2. Medium level	−0.047	0.060	
3. Low level	−0.044	0.060	
4. Not mentioned	−0.029	0.060	
Price format			16.55%
1. Donation mentioned separately	−0.067	0.035	
2. Donation included as a percentage	0.067	0.035	
Cause proximity			42.12%
1. Local	−0.174	0.046	
2. Region: Close	−0.112	0.054	
3. Region: Far	0.286	0.054	
(Constant)	3.573	0.037	

Table 2 shows that a high social proof level value increases the likelihood to buy, with an impact estimated score 0.121. However, medium social proof level, low social proof level and not mentioned, decrease the likelihood to buy, with an impact estimate score of −0.047, −0.044, and −0.029, respectively. It is interesting to note that that the not mentioned level had a lower negative impact than medium

social proof level and low social proof level. In addition, another interesting finding is that the difference between medium social proof level and low social proof level is not very large.

Table 3 shows the scenario simulation analysis for the study. Maximum utility is the most suitable for the scenario simulation analysis because it is suited for non-routine purchases [41]. Thus, it was used in this context because purchasing food/drinks from a smart kiosk is not routine for the majority of the population. Case H is the most preferred (19.4%), which comprises of a situation with no mention of social proof, donation included in the final price and donation towards a proximally far cause. The least preferred combination, case C, was a situation where only 4.5% of the participants preferred a medium level of social proof, donation mentioned separately and donation towards a local cause. Overall, both cases that included a high level of social proof have relatively higher values and less of a difference between them (14.1% and 16.3%), when compared to the other social proof levels and combinations of factors.

Table 3. Scenario simulation analysis.

Scenarios	Cases	Social Proof Heuristic	Price Format	Cause Proximity	Preference Scores	Maximum Utility ¹
High level	A	High level	Separately	Local	3.453	14.1%
	B	High level	Included	Far	4.047	16.3%
Medium level	C	Medium level	Separately	Local	3.285	4.5%
	D	Medium level	Included	Far	3.878	14.8%
Low level	E	Low level	Separately	Local	3.288	7.6%
	F	Low level	Included	Far	3.881	15.3%
Not mentioned	G	Not mentioned	Separately	Local	3.303	8.1%
	H	Not mentioned	Included	Far	3.898	19.4%

¹ Including tied simulations.

5. Discussion

Intense visceral states tend to narrow one's focus inwardly to undermine altruism [20]. The aim of this exploratory research was to examine how visceral states influence the relationship between social proof and donation behavior when consumers are using self-service kiosks to purchase products. Using a conjoint study, we examined relevant situational stimuli when interacting with a smart kiosk to order a drink. A conjoint study was employed to create an ecologically valid situation that included relevant cause-related marketing stimuli, i.e., social proof heuristic, price format and cause proximity. Results demonstrate that the most important stimulus in a visceral state situation is cause proximity, closely followed by social proof heuristic. Price format was the least influential stimuli in this context.

The results demonstrate that, in a visceral state situation, a high social proof level has a positive impact on likelihood to buy. This is in accordance with literature that demonstrates that social proof has a positive relationship with prosocial behaviors [34–36], and partly supports literature that suggests that social proof heuristics can be used to lessen the impact of visceral states [33]. The results of the scenario simulation show that, overall, the scenarios with high social proof were more preferred when compared to factor combinations that included other social proof levels. Additionally, the utility scores for high social proof scenarios are relatively more preferred in a visceral state situation, and have a less polarizing difference between the scores (as seen in the combinations for the other factors). Social proof under lower levels, i.e., medium and low had the strongest negative impact on likelihood to buy. No mention of social proof had less of a negative impact than these two levels. These results demonstrate partial support for the notion that visceral states have a negative impact on sharing of resources as evident by the negative impact on likelihood to buy [22–25]. Taken together, these results suggest that only high levels of social proof might be an effective nudge strategy towards prosocial donation requests when individuals are actively experiencing a visceral state.

For cause proximity, the results indicate that the further the donation cause, the more positive impact on likelihood to buy. This finding is in contrast to other literature that has found that the proximally close cause is the most impactful e.g., [49,50]. Cultural effects could explain our findings,

as the local Norwegian government, and the regional Scandinavian governments provide a lot of support to the local charities. Therefore, our finding might be explained by advantageous inequity aversion, which states that people tend to respond negatively to unfairness in situations where they receive more than others [53]. To reduce this inequality, people end up giving more to others in situations where they have more resources e.g., [54]. In the context of our study, the inequality between East Africa and Norway is greater than Norway and Scandinavia. Therefore, in our study, we view that donation towards proximally close cause had a negative impact.

For price format, results show that donation included (as a percentage in the price) had a positive impact on likelihood to buy and donation is mentioned separately has a negative impact on likelihood to buy. The literature on copy formats suggests that consumers prefer to know exact donation amounts [47]. However, during the experience of a visceral state, consumers' attention is more focused on satisfying the visceral state [20]. Therefore, our results can be explained by the assumption that consumers would not prefer to make even simple calculations in when under the influence of a visceral state. From a general perspective, there is some indication for the attention-narrowing effects [20] of visceral states in our results. All of the factors studied in the conjoint study (social proof heuristic, cause proximity and price format) have a positive impact on purchase behavior, but only at "greater" levels. Since the focus is on oneself, cues at lower levels have a negative impact.

One limitation of this research is that visceral states were simulated. Even though previous research states that mentally simulating visceral states can substitute for actual visceral experiences [38,39]. Actual manipulation of visceral states like hunger or thirst (through deprivation) might influence the results differently. As the intensity of a specific visceral state increases, its influence on behavior tends to increase and to change in a characteristic fashion [20]. Using deprivation as manipulation, future research can examine different intensities of visceral states and their relationship with social proof. The current study only measured self-reported intentions to buy and not actual purchasing behavior. The interplay of visceral states with other demographic factors (e.g., gender, previous donation behavior etc.) could be examined further. We kept the product constant (an inexpensive water bottle from a well-known local brand). Replicating this study with a relatively more expensive product could change the relationship between visceral states and the influence of different social proof levels. In addition, ethnocentrism is another product attribute that can be studied in relation to the perception of the product used e.g., [55,56]. Cause-related marketing can include a wide range of cause types (e.g., current local issues or broader environmental issues), future research can examine how different types of causes influence consumer donation intentions. For cause proximity, the use of specific countries as a distant location might also be a factor. While we tried to circumvent this by using regions instead of countries (Scandinavia as the "close" region and East Africa as the "Far" region). Future research could replicate this study and use other regions and with populations from different countries to see how purchase behavior is affected.

This research contributes to the understanding of circumstances that give rise to biases in consumer evaluations and decisions making. More specifically, how the influence of cause-related marketing is modulated by visceral states. We contribute to the literature that examines the influence of cause-related marketing efforts in different retail contexts, especially in cases where it works and where it does not. In our case, we focused on the convenience context. Future research could replicate this study in contexts where consumers are under the influence of visceral factors and has to interact with self-service technologies like in the case of restaurants e.g., [3,4]. This study provides a clearer understanding of the possible consequences of including donation requests in self-service kiosks.

The main takeaway of this exploratory research is that situational states must be taken into consideration when cause-related marketing is used in relation to self-service technology. In the specific context examined in this research, only high levels of social proof is effective for donation requests when interacting with self-service kiosks while under the influence of visceral states. In this case, social proof is one attribute that can significantly influence consumer choice when under the influence of visceral states. Only the most important, relevant states should be considered for cause-related

marketing initiatives that are encountered when a person is actively experiencing a visceral state. Practitioners can better understand the effects of visceral states on buying behavior and use nudge strategies that are effective. In the context of this study, only high levels of social proof might be an effective nudge towards prosocial donation requests when individuals are under the influence of a visceral state. The practical implications that arise from this work demonstrate the usefulness of conjoint analysis as a tool to evaluate the impact of situational states present in self-service kiosks. More specifically, this method is useful to examine how various situational states come together to influence the consumer. In addition, it is useful to examine the use and eventual adoption of novel technologies like self-service kiosks.

Author Contributions: Conceptualization, S.P., A.F., and V.S.; methodology, S.P., A.F., and V.S.; validation, S.P. and A.F.; formal analysis, S.P. and A.F.; investigation, S.P.; resources, S.P.; data curation, S.P. and A.F.; writing—original draft preparation, S.P., and A.F.; writing—review, editing and supervision, S.P., A.F., and V.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A



Figure A1. An example of a stimulus card used in the study.

Appendix B

Table A1. Factorial design used to synthesize the stimulus cards.

Stimulus Card	Stimuli and Levels		
	Social Proof Heuristic	Price Format	Cause Proximity
1	Low level	Included	Close
2	Low level	Included	Local
3	Not mentioned	Included	Local
4	Medium level	Included	Local
5	High level	Included	Local
6	Low level	Separately	Far
7	Low level	Separately	Local
8	Not mentioned	Separately	Far
9	High level	Separately	Local
10	High level	Included	Far
11	Medium level	Separately	Close
12	Not mentioned	Separately	Local
13	Medium level	Included	Far
14	High level	Separately	Close
15	Medium level	Separately	Local
16	Not mentioned	Included	Close
17	Not mentioned	Included	Far
18	Not mentioned	Separately	Close
19	High level	Separately	Far
20	Low level	Included	Far

Antecedent stimuli and their levels correspond to Table 1.

References

- Inman, J.J.; Nikolova, H. Shopper-facing retail technology: A retailer adoption decision framework incorporating shopper attitudes and privacy concerns. *J. Retail.* **2017**, *93*, 7–28. [CrossRef]
- Cho, H.; Fiorito, S.S. Self-service technology in retailing. The case of retail kiosks. *Symph. Emerg. Issues Manag.* **2010**, 43–55. [CrossRef]
- Puzder, A. Why restaurant automation is on the menu. *The Wall Street Journal*, 24 March 2016.
- Whitten, S. McDonald's to Add Self-Order Kiosks to 1000 Stores Each Quarter. Available online: <https://www.cnbc.com/world/?region=world> (accessed on 4 June 2018).
- Vakulenko, Y.; Hellström, D.; Oghazi, P. Customer value in self-service kiosks: A systematic literature review. *Int. J. Retail Distrib. Manag.* **2018**, *46*, 507–527. [CrossRef]
- Demoulin, N.T.; Djelassi, S. An integrated model of self-service technology (SST) usage in a retail context. *Int. J. Retail Distrib. Manag.* **2016**, *44*, 540–559. [CrossRef]
- Wang, C.; Harris, J.; Patterson, P.G. Customer choice of self-service technology: The roles of situational influences and past experience. *J. Serv. Manag.* **2012**, *23*, 54–78. [CrossRef]
- Meuter, M.L.; Ostrom, A.L.; Bitner, M.J.; Roundtree, R. The influence of technology anxiety on consumer use and experiences with self-service technologies. *J. Bus. Res.* **2003**, *56*, 899–906. [CrossRef]
- Lehner, M. Translating sustainability: The role of the retail store. *Int. J. Retail Distrib. Manag.* **2015**, *43*, 386–402. [CrossRef]
- Yen, G.-F.; Yang, H.-T. Does consumer empathy influence consumer responses to strategic corporate social responsibility? The dual mediation of moral identity. *Sustainability* **2018**, *10*, 1812. [CrossRef]
- Jones, P.; Hillier, D.; Comfort, D. Shopping for tomorrow: Promoting sustainable consumption within food stores. *Br. Food J.* **2011**, *113*, 935–948. [CrossRef]
- Van Giesen, R.; Leenheer, J. Towards more interactive and sustainable food retailing. *Int. J. Retail Distrib. Manag.* **2019**, *47*, 55–75. [CrossRef]
- Belk, R.W. Situational variables and consumer behavior. *J. Consum. Res.* **1975**, *2*, 157–164. [CrossRef]
- Ward, S.; Robertson, T.S. *Consumer Behavior: Theoretical Sources*; Prentice Hall: New York, NY, USA, 1973.

15. Baghi, I.; Gabrielli, V. Brand prominence in cause-related marketing: Luxury versus non-luxury. *J. Prod. Brand Manag.* **2018**, *27*, 716–731. [[CrossRef](#)]
16. Croson, R.; Handy, F.; Shang, J. Keeping up with the Joneses: The relationship of perceived descriptive social norms, social information, and charitable giving. *Nonprofit Manag. Leadersh.* **2009**, *19*, 467–489. [[CrossRef](#)]
17. Shang, J.; Croson, R. A field experiment in charitable contribution: The impact of social information on the voluntary provision of public goods. *Econ. J.* **2009**, *119*, 1422–1439. [[CrossRef](#)]
18. Nook, E.C.; Ong, D.C.; Morelli, S.A.; Mitchell, J.P.; Zaki, J. Prosocial conformity: Prosocial norms generalize across behavior and empathy. *Personal. Soc. Psychol. Bull.* **2016**, *42*, 1045–1062. [[CrossRef](#)]
19. Loewenstein, G. Emotions in economic theory and economic behavior. *Am. Econ. Rev.* **2000**, *90*, 426–432. [[CrossRef](#)]
20. Loewenstein, G. Out of control: Visceral influences on behavior. *Organ. Behav. Hum. Decis. Process.* **1996**, *65*, 272–292. [[CrossRef](#)]
21. Otterbring, T. Time orientation mediates the link between hunger and hedonic choices across domains. *Food Res. Int.* **2019**, *120*, 124–129. [[CrossRef](#)]
22. Xu, A.J.; Schwarz, N.; Wyer, R.S. Hunger promotes acquisition of nonfood objects. *Proc. Natl. Acad. Sci. USA* **2015**, *112*, 2688–2692. [[CrossRef](#)]
23. Huppert, E.; Shaw, A.; Decety, J. The effect of hunger on children’s sharing behavior and fairness preferences. *J. Exp. Child Psychol.* **2020**, *192*, 104786. [[CrossRef](#)] [[PubMed](#)]
24. Briers, B.; Pandelaere, M.; Dewitte, S.; Warlop, L. Hungry for money: The desire for caloric resources increases the desire for financial resources and vice versa. *Psychol. Sci.* **2006**, *17*, 939–943. [[CrossRef](#)] [[PubMed](#)]
25. Harel, I.; Kogut, T. Visceral needs and donation decisions: Do people identify with suffering or with relief? *J. Exp. Soc. Psychol.* **2015**, *56*, 24–29. [[CrossRef](#)]
26. Tversky, A.; Kahneman, D. Judgment under uncertainty: Heuristics and biases. *Science* **1974**, *185*, 1124–1131. [[CrossRef](#)] [[PubMed](#)]
27. Salmon, S.J.; de Vet, E.; Adriaanse, M.A.; Fennis, B.M.; Veltkamp, M.; De Ridder, D. Social proof in the supermarket: Promoting healthy choices under low self-control conditions. *Food Qual. Prefer.* **2015**, *45*, 113–120. [[CrossRef](#)]
28. Cialdini, R.B.; Goldstein, N.J. Social influence: Compliance and conformity. *Annu. Rev. Psychol.* **2004**, *55*, 591–621. [[CrossRef](#)]
29. Goldstein, N.J.; Cialdini, R.B.; Griskevicius, V. A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *J. Consum. Res.* **2008**, *35*, 472–482. [[CrossRef](#)]
30. Schultz, P.W.; Nolan, J.M.; Cialdini, R.B.; Goldstein, N.J.; Griskevicius, V. The constructive, destructive, and reconstructive power of social norms. *Psychol. Sci.* **2007**, *18*, 429–434. [[CrossRef](#)]
31. Salmon, S.J.; Fennis, B.M.; De Ridder, D.; Adriaanse, M.A.; De Vet, E. Health on impulse: When low self-control promotes healthy food choices. *Health Psychol.* **2014**, *33*, 103. [[CrossRef](#)]
32. Sigurdsson, V.; Larsen, N.M.; Alemu, M.H.; Gallogly, J.K.; Menon, R.G.V.; Fagerström, A. Assisting sustainable food consumption: The effects of quality signals stemming from consumers and stores in online and physical grocery retailing. *J. Bus. Res.* **2020**, *112*, 458–471. [[CrossRef](#)]
33. Cheung, T.T.L.; Kroese, F.M.; Fennis, B.M.; De Ridder, D. The Hunger Games: Using hunger to promote healthy choices in self-control conflicts. *Appetite* **2017**, *116*, 401–409. [[CrossRef](#)] [[PubMed](#)]
34. Lindersson, L.; Guntell, L.; Carlsson, R.; Agerström, J. Reassessing the impact of descriptive norms on charitable giving. *Int. J. Nonprofit Volunt. Sect. Mark.* **2019**, *24*, e1617. [[CrossRef](#)]
35. Bartke, S.; Friedl, A.; Gelhaar, F.; Reh, L. Social comparison nudges—Guessing the norm increases charitable giving. *Econ. Lett.* **2017**, *152*, 73–75. [[CrossRef](#)]
36. Agerström, J.; Nicklasson, L.; Guntell, L.; Carlsson, R. Using descriptive social norms to increase charitable giving: The power of local norms. *J. Econ. Psychol.* **2016**, *52*, 147–153. [[CrossRef](#)]
37. Lay, S.; Zagefka, H.; González, R.; Álvarez, B.; Valdenegro, D. Don’t forget the group! The importance of social norms and empathy for shaping donation behaviour. *Int. J. Psychol.* **2020**, *55*, 518–531. [[CrossRef](#)]
38. Steinmetz, J.; Tausen, B.M.; Risen, J.L. Mental simulation of visceral states affects preferences and behavior. *Personal. Soc. Psychol. Bull.* **2018**, *44*, 406–417. [[CrossRef](#)]
39. Keesman, M.; Aarts, H.; Vermeent, S.; Häfner, M.; Papies, E.K. Consumption simulations induce salivation to food cues. *PLoS ONE* **2016**, *11*, e0165449. [[CrossRef](#)]

40. Shalev, I. Implicit energy loss: Embodied dryness cues influence vitality and depletion. *J. Consum. Psychol.* **2014**, *24*, 260–270. [[CrossRef](#)]
41. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. *Multivariate Data Analysis*, 7th ed.; Pearson Prentice Hall: Upper Saddle River, NJ, USA, 2014.
42. Green, P.E.; Srinivasan, V. Conjoint analysis in consumer research: Issues and outlook. *J. Consum. Res.* **1978**, *5*, 103–123. [[CrossRef](#)]
43. Wittink, D.R.; Vriens, M.; Burhenne, W. Commercial use of conjoint analysis in Europe: Results and critical reflections. *Int. J. Res. Mark.* **1994**, *11*, 41–52. [[CrossRef](#)]
44. Green, P.E.; Srinivasan, V. Conjoint analysis in marketing: New developments with implications for research and practice. *J. Mark.* **1990**, *54*, 3–19. [[CrossRef](#)]
45. Olsen, G.D.; Pracejus, J.W.; Brown, N.R. When profit equals price: Consumer confusion about donation amounts in cause-related marketing. *J. Public Policy Mark.* **2003**, *22*, 170–180. [[CrossRef](#)]
46. Pracejus, J.W.; Olsen, G.D.; Brown, N.R. On the prevalence and impact of vague quantifiers in the advertising of cause-related marketing (CRM). *J. Advert.* **2003**, *32*, 19–28. [[CrossRef](#)]
47. Grau, S.L.; Garretson, J.A.; Pirsch, J. Cause-related marketing: An exploratory study of campaign donation structures issues. *J. Nonprofit Public Sect. Mark.* **2007**, *18*, 69–91. [[CrossRef](#)]
48. Varadarajan, P.R.; Menon, A. Cause-related marketing: A coalignment of marketing strategy and corporate philanthropy. *J. Mark.* **1988**, *52*, 58–74. [[CrossRef](#)]
49. Grau, S.L.; Folse, J.A.G. Cause-related marketing (CRM): The influence of donation proximity and message-framing cues on the less-involved consumer. *J. Advert.* **2007**, *36*, 19–33. [[CrossRef](#)]
50. Kulshreshtha, K.; Bajpai, N.; Tripathi, V.; Sharma, G. Cause-related marketing: An exploration of new avenues through conjoint analysis. *Benchmarking Int. J.* **2019**, *26*, 2017–2050. [[CrossRef](#)]
51. Ross, J.K.; Patterson, L.T.; Stutts, M.A. Consumer perceptions of organizations that use cause-related marketing. *J. Acad. Mark. Sci.* **1992**, *20*, 93–97. [[CrossRef](#)]
52. Smith, S.M.; Alcorn, D.S. Cause marketing: A new direction in the marketing of corporate responsibility. *J. Consum. Mark.* **1991**, *8*, 19–35. [[CrossRef](#)]
53. Shaw, A.; Choshen-Hillel, S. It's not fair: Folk intuitions about disadvantageous and advantageous inequity aversion. *Judgm. Decis. Mak.* **2017**, *12*, 208.
54. Sweeney, P.D. Distributive justice and pay satisfaction: A field test of an equity theory prediction. *J. Bus. Psychol.* **1990**, *4*, 329–341. [[CrossRef](#)]
55. Casado-Aranda, L.-A.; Sánchez-Fernández, J.; Ibáñez-Zapata, J. Ángel; Liébana-Cabanillas, F.J. How consumer ethnocentrism modulates neural processing of domestic and foreign products: A neuroimaging study. *J. Retail. Consum. Serv.* **2020**, *53*, 101961.
56. De Nisco, A.; Mainolfi, G.; Marino, V.; Napolitano, M.R. Effect of economic animosity on consumer ethnocentrism and product-country images. A binational study on the perception of Germany during the Euro crisis. *Eur. Manag. J.* **2016**, *34*, 59–68. [[CrossRef](#)]

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).