

An Empirical Investigation of Perceived Retail Human Crowding On Shopping Confusion and Store Loyalty

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Abstract

Retail shopper confusion signifies mental sub states confines within mental state usually taking place in shopping conditions. Although contemporary research concentrated on confusion which is relevant to products, the research investigated shopper confusion evoked by store environment. This study investigated effect of perceived human crowding on store loyalty through the intervening factors of tripartite categorization of mental activities into shopping confusion in terms of cognition (inefficiency), emotion (irritation) and conation (helplessness) within a comprehensive SOR (Stimulus-Organism-Response) model. The data source is a structured survey among customers (n=523) of a retail grocery stores across Pakistan. The results showed that perceived human crowding accelerate shopping confusion which is inclined to lessen store loyalty. The insights offered academics, retailers and grocery store managers a more full-bodied comprehension of the relationships between human crowding, shopping confusion and store loyalty.

Keywords: Perceived human crowding, shopping confusion, SOR, store loyalty.

Introduction

The environmental element that has gained substantial research attention, specifically retail context, is crowding (Dion, 2004; Eroglu et al., 2005). Harrell, Hutt, and Anderson's (1980) conducted a research which scrutinized the dimension of perceived human retail crowding and discovered a variety of consumer responses ensuing from this dimension. Perceived crowding is explained by the number of people in a specific space at a given time. However, perceived crowding is a distressing feeling endured by the consumer (Hui & Bateson, 1991). In retail context, whenever two customers observe precisely the exact similar environmental cues, one might ascertain it's overly populated and another individual may believe it's just right.

Investigations linked with retail environment has revealed that extent of in-store perceived crowding sensed by customers have the tendency to influence their patronage decisions along with satisfaction (Eroglu et al., 2005; Machleit et al., 2000). Prospective customers may perhaps deflect from their scheduled shopping plan i.e. expend significantly less money compared to what initially planned or even depart the retail

store devoid of making any transaction, while the retail store is crowded (Harrell et al., 1980).

Research regarding the repercussions of retail crowding maintains primarily concentrated on affectional responses (Hui & Bateson, 1991) and satisfaction (Machleit et al., 1994). This research analyzed the consequence of perceived retail crowding on store loyalty centered on the call of (Walsh et al., 2011). The generation of dedicated recurring buyers has been an elementary intention of marketers for many decades and due to the fact, that holding onto current shoppers crave significantly fewer marketing resources as compared to prospecting ones (Knox & Walker, 2001). Knox & Denison, (2000) defines store loyalty as “the consumer's inclination to patronize a given store or chain of stores over time”. Hence, customer loyalty cannot be ignored in today's remarkably competitive environment where firms have to align themselves with customers' needs on day to day basis (Reinartz & Kumar, 2000).

Particularly, grocery shopping is distinguished by efficient task completion (i.e. buy a merchandise or acquisition of some important information) (Babin et al., 1994) and is predominantly functionally affiliated with goal attainment. Thusly, stimuli which tend to be excessively exciting can adversely affect buying intent and occurrence of visits to retail store (Milliman, 1982). The work of Walsh et al., (2007) integrates the existing research which recommend that shopping confusion entails adverse emotions for example anger, frustration, self-reproach, irritation, or anxiety, founding the affective (emotive) shopping confusion aspect. Confused customers react with negative responses, like as purchase deferral or abandonment (Mitchell et al., 2005), alteration of the choices of brand, as well as reduced store loyalty (Walsh et al., 2007). A large number of studies talk about causes together with repercussions regarding product-related confusion; notwithstanding, investigation associated to in-store environmental confusion is rare. Mohan et al., (2013) states that research studies which suggest that emotions intercede the association among certain in-store attributes and customer behaviors. In spite of the acknowledging the fact that confusion detrimentally affects shopper's behavior (Walsh & Mitchell, 2010), research which refers really encountered shopping confusion conditions to undesirable outcomes is scant. Hence, the intention of this paper is to analyze whether consumers with diverse perceptions pertaining to perceived crowding have diverse evaluations of the levels of irritation, inefficiency and helplessness enclosed within mental sub states of emotion, cognition and conation and re-patronage behavior (i.e. store loyalty) in consumption situations.

Literature Review

Generally, there are many kinds of repercussions while observing crowding in retail stores which are interceded by customers' emotive and cognitive assessments about the store, along with shopping value and coping strategies (Mehta, 2013). Customers tend to be significantly less satisfied inside crowded retail stores as compared to the less crowded ones (Eroglu & Machleit, 1990). The perceptions concerning crowding tend to generate a condition involving stress and due to increasing levels of stimulation generated by crowded store environments (Hui & Bateson, 1991) and emotions of stress (Stokols, 1972). Hence, it has been asserted (Baker & Wakefield, 2012; Das & Varshneya, 2017) that the store will be judged negatively because of elevated stress level. Machleit et al., (2000) provided with the fact that human crowding has shown adverse impact on satisfaction. Emotions are referred as a mediator within perceived crowding and satisfaction association affirming the fact that the greater levels of perceived human crowding restrict favorable feelings and stimulate adverse ones e.g., anxiousness, aggravation, irritation (Machleit et al., 2000). Those adverse feelings will indicate a negative understanding of the whole shopping experience and resultantly, lower store loyalty. Feelings of over-crowding can also impact customers' shopping attitudes in terms of avoidance.

Retail crowding is an essential determinative concerning customer satisfaction which is a prerequisite of loyalty and is regarded as an element of retail store environment (Zehrer & Raich, 2016). Retailers probably give considerable attention to store loyalty. Bloemer & Odekerken - Schroder (2002) defined that loyalty is characterized as commitment towards retail store and is affected by both satisfaction and trust. Store loyalty can also be defined as by customers revisiting (behavioral outcome) one particular retail store out of available ample number of stores, and brand commitment which is a product concerning psychological processes (i.e. decision making and evaluation) (Bloemer & Ruyter, 1998). Elevated store loyalty offers countless positive effects including the favorable positive word-of-mouth as well as enhanced shopper retention that results in reducing marketing costs. The utmost priority of loyal customers is to patronize the store when making purchasing decision, irrespective of any hurdle presented (Osman, 1993).

It has been a fundamental concern that through which means emotions might affect decision making of customers (Angie et al., 2011), environmental reactions (particularly in retailing, Ladhari et al., 2017). The predominant attribute concerning marketing research pertaining to confusion is of the opinion that the “state of being confused” remained

substantially insufficiently researched (except Garaus & Wagner, 2016). Particularly, this research discusses the trilogy of human mind (Hilgard, 1980) which further serves as the foundation for the attitude theory proposed by Fishbein and Ajzen (1975). Attitude theory explains that the human mind is the product of three sub states (i.e. emotion, cognition and conation) which consequently develops mental functioning.

Shopping confusion was found to be interconnected with negative word-of-mouth (Walsh & Mitchell, 2010), cognitive dissonance (Mitchell & Papavassiliou, 1999), discontentment/dissatisfaction (Hall-Phillips & Shah, 2017) shopping exhaustion (Mitchell & Papavassiliou, 1997), diminished or elevated loyalty or commitment (Chen & Chang, 2013).

This prevailing inquiry hence hypothesizes the shopper confusion comprising three-dimensional, provisional mental state that consist of the very cognitive efforts which is imperative in order to handle with inefficiency (cognition), emotions exhibiting uncomfortableness connected with irritation (emotion), as well as constrained attitudinal intentions (conation).

Literature relevant to psychology and medical sciences both clearly showed “confusion as a mental state explained by impairment of orientation accompanied by lack of ability to act or speak reasonably” (De Smet et al., 1982). When encountered within the retail settings, confusion affects shoppers' behavior by impairing it. Existing research described confusion as a state regarding human mind that influences information handling as well as decision making (Mitchell & Papavassiliou, 1999). It also affects customer's ability to establish an appropriate judgment while gathering information regarding multiple aspects of products and services (Turnbull, Leek, & Ying, 2000). Literature shows that this confusion, particularly related to the products can result in a number of unwanted customer behaviors, for example, deferring a purchase (Mitchell et al., 2005), abandoning a purchase (Mitchell & Papavassiliou, 1999) or the need to acquire more information before making a purchase (Matzler, Waiguny, & Füller, 2007). Besides it may also result in customer distrust (Walsh & Mitchell, 2010).

It has been clearly argued in the literature that the retail store atmosphere may cause confusion that further reduces perceived shopping value for shoppers (Garaus et al., 2015). Research that reckon confusion as an interceding variable between precursors and outcomes to offer the justification for shoppers' adverse attitudes are scant. Garaus et al. (2015) are the key researchers who cogitate about the affective, cognitive, and conative components as

a part of their confusion definition. The psychological literature regarding retail shopping, researchers concur that the emotion, cognition, as well as conation dimensions can be distinguished as an “intellectual emotion” (Darwin, 1965). It can also be viewed as an emotion of being unaware, which is accompanied with meta cognition, which asserts and notifies the human body regarding its state of comprehension (Clore, 1992; Hess, 2003). Thus it is a situation of the human mind which indicates that the individual is occupied with the information but is unsure about his/her intentions regarding that information (Rozin & Cohen, 2003). Hence, any variations in any of the emotional, cognitive or conative mental sub-states will result in retail shopper confusion.

Among these dimensions, all the affective feelings such as, irritation, aggression, aggravation, or anxiousness are part of the emotional dimension within the retail shopper confusion instrument (Mitchell et al., 2005; Walsh et al., 2007). Such emotions when experienced during a shopping confusion can adversely affect the attainment of shopping goals, whether they are utilitarian or hedonic in nature (Garaus et al., 2015), however this shopping confusion may vanish immediately after the state of confusion disappears. As consumers encounter confusion as uncomfortable, just adverse feelings develop. Hence, this study proposed

H1: Perceptions of irritation (emotion) mediates the effects of perceived human crowding on store loyalty

Clore (1992) explicated that cognition encapsulates the thought-related processes along with the mechanisms like reasoning. Shopping confusion necessitates the cognitive processing to a certain degree. While experiencing the shopping confusion in superstores, cognitive processing abilities of customers are tend to maxed (Schweizer, Kotouc, & Wagner, 2006), leading shoppers to become inefficient. Within the limited time available for an extensive evaluation of all-important information, customers experience carelessness during the shopping task (Zeithaml, 1988). Thus, this study proposed

H2: Perceptions of inefficiency (cognition) mediates the effects of perceived human crowding on store loyalty

Fishbein & Ajzen (1975) discussed that conation comprises the intentional dimension of the human mind. Behavioral intentions are different as that of actual behaviors. Irrespective of the shopping goal whether it is about seeking experience or buying a product, retail shopper confusion is a reflection of the wrong interpretation of the stimuli inside store environment and hence can result in an adverse impact. Customers encounter unfavorable conative emotions as a result of the failure in the attainment of their goals during shopping confusion. Shoppers might

feel baffled for the reason that they are incapable of finding the desired product or may feel helplessness because there is a lag between their experience and their expectations (Dogu&Erkip, 2000; Massara et al., 2010).

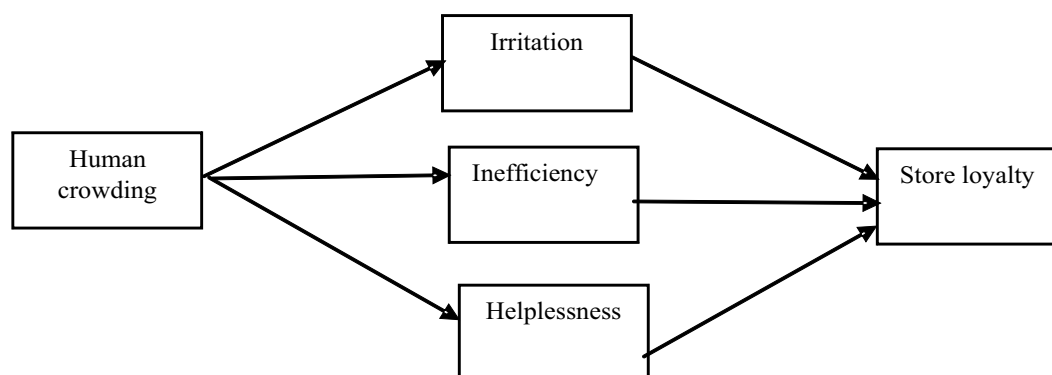
This shopping confusion can occur during a number of stages in any purchase process. For instance, customers might get confused by witnessing a confusing customer flow during the search process or they might feel baffled because of the confusing price tags while opting for the brands as well. They might also face trouble at the check-out if price tags mismatch the check-out rates (Garaus et al., 2015). Thus, depending upon the number and kinds of such confusing reasons existing inside the retail setup, the magnitude of the shopping confusion may differ. Similarly, customers may undergo a greater level of shopping

confusion when wandering in an entirely restructured or reconstructed retail store as compared to a retail store which provides less novelty (e.g., new colors). Thus, it is proposed

H3: Perceptions of helplessness (conation) mediates the effects of perceived human crowding on store loyalty

This particular research employs the S-O-R model (Mehrabian & Russell, 1974) for certain motives. The S-O-R model offers a theoretically warranted way to analyze the superstore environmental cues as stimuli. Earlier scholars have assessed the impact of the retail environment on the affective states and response behaviors (Baker et al., 1992). It allows an investigation of the mediating role of shopping confusion as customer's affective, cognitive and conative states.

Figure 1- Proposed framework



Methods and Measures

Because of its explanatory nature, this research utilized quantitative study and self-administered questionnaire to collect data through store intercept methodology consistent with earlier studies (Griffin et al., 2000). Data was collected from all famous grocery stores located in eight metropolitan cities of Pakistan. Participants were approached during different points of time in a day and week to decrease sampling errors and biases. Overall, 1000 customers were reached out of which 523 consented to engage in the research. The overall response rate was 52.3% (n=523). This sample size was enough for data analysis (Hoelter, 1983; Iacobucci, 2010).

Perceived human crowding was gauged by the 7-point Likert scale (where 1= 'strongly disagree' and 7= 'strongly agree') validated by Machleit, Kellaris, and Eroglu (1994). The four adapted items of human crowding included 'The store seemed very crowded to me,' 'The store was a little too busy,' 'There wasn't much traffic in the store during my

shopping trip' (reverse coded), 'There were a lot of shoppers in the store'. The retail shopper confusion scale containing 13 items was measured by 5-point Likert scale (where 1= 'not at all' and 5= 'very much'). Retail shopper confusion included items 'felt annoyed', 'felt irritated', 'felt unnerved' ; 'felt efficient' (reverse coded) , 'felt careful' (reverse coded), 'felt productive'(reverse coded) , 'felt high-productive'(reverse coded) ; 'felt helpless', 'felt lost', 'felt awkward' , 'felt baffled' , 'felt weak' , 'felt overstrained'.

Lastly, five items were adapted to measure store loyalty on 7-point Likert scale (where 1= 'strongly disagree' and 7= 'strongly agree') established on the work of Zeithaml, Berry and Parasuraman (1996). Items included 'to say positive things about store', 'to encourage friends and relatives to shop from similar store', "to make an effort to shop from similar store for all grocery needs", "to possess a strong relationship with store", 'to be very likely to switch to another store in near future' (reverse coded). Data has been analyzed by through SPSS, AMOS and Process Macro.

Results

Factor analysis was performed which showed a KMO and five-variable model describing greater than 68% of variance. The pragmatic given in (Table 1) explained that both validities (convergent & discriminant) are according

to given criteria which was above 0.7 (Fornell&Larcker 1981). Furthermore, correlation matrix regarding factors explained that the correlation among all factors are under benchmark of 0.44 affirming discriminant validity standards.

Table 1: Exploratory Factor Loading

5 Factor-EFA (KMO= .888)					
Scales	1	2	3	4	5
Human Crowding					
HC1	.826				
HC2	.843				
HC3	.872				
HC4	.874				
Emotion(Irritation)					
IRR1		.888			
IRR2		.923			
IRR3		.894			
Cognition(Inefficiency)					
INEFF1			.835		
INEFF2			.840		
INEFF3			.880		
INEFF4			.903		
Conation(Helplessness)					
HELP1				.837	
HELP2				.735	
HELP3				.753	
HELP4				.769	
HELP5				.846	
HELP6				.853	
Store Loyalty					
SLOY1					.721
SLOY2					.761
SLOY3					.749
SLOY4					.702
SLOY5					.708

The CR (Composite Reliability), AVE (Average Variance Extraction) and Cronbach's α are presented in (Table 2). The (α) showed that store loyalty is 0.77 and human crowding is 0.892, these values are higher than benchmark which is 0.70 (Nunnally, 1978). The internal consistency reliability has showed that human crowding is 0.89 and store loyalty is 0.78, these values are as per guidelines (Hair

et. al., 2010). The AVE showed that variables are greater than benchmark value of 0.50 (Hair et. al., 2010). Except for store loyalty that had AVE of 0.41 but it was acceptable since its CR was equal to 0.78 as suggested by (Fornell&Larcker,1981). Irritation presented the highest AVE value of 0.74 followed by human crowding AVE value of 0.67.

Table 2 : CR, AVE & Cronbach's α

Variables	Cronbach's α	CR	AVE
Human crowding	0.892	0.89	0.67
Irritation	0.893	0.89	0.74
Inefficiency	0.892	0.89	0.67
Helplessness	0.886	0.89	0.57
Store loyalty	0.779	0.78	0.41

The table-3 presented that mean values, standard deviation (SD) and correlation among variables for confirming discriminant validity given by Fornell and Larcker (1981). The AVE is reported as diagonal with correlation which

presented that variable's AVE is higher as compared with other in that column which establish validity. Based on our hypothesis, correlation among variables is significant that provide foundation support for regression analysis.

Table 3 : Mean, SD and Correlations

Variables	Mean	SD	1	2	3	4	5
Human Crowding	5.68	1.16	0.82				
Irritation	3.86	1.03	.439**	0.86			
Inefficiency	4.21	0.67	.464**	.299**	0.82		
Helplessness	4.25	0.74	.369**	.325**	.336**	0.75	
Store Loyalty	2.40	1.00	-.246**	-.148**	-.269**	-.267**	0.64

* $p < 0.05$. ** $p < 0.01$.

Diagonal represents the square root of (AVE); while below the diagonal the estimated correlations are represented.

The Exploratory Factor Analysis (EFA) measurement model showed a good fit to the data ($\chi^2 = 360.31$, $df = 199$, $\chi^2/df = 1.81$, NFI = .94, CFI = .97, TLI=.96, GFI=.94, RMSEA = .03, SRMR = .03). The parameters explained exceptional results than cut-off points (RMSEA < .06, SRMR < .08, CFI > .95) as suggested by Hu and Bentler (1999), ($1 < \chi^2/df < 3$) by Wheaton et al. (1977), and (NFI > .90) by Kline (2015). After validating the measurement model, structural model showed an acceptable fit ($\chi^2 = 4.639$, $df = 1$, $\chi^2/df = 4.63$, RMSEA = .08, SRMR = .01, NFI = .98, CFI = .99, TLI=.91, GFI=.99) with all the fit-indices higher than the recommended cut-off values (SRMR < .08, CFI > .95) except RMSEA which is not < .06. Path analysis in table 4 revealed that perceived human crowding has positive effect on irritation ($\beta = .38$, $p < .01$), cognition (inefficiency) ($\beta = .26$, $p < .01$) and conation (helplessness) dimension of shopping confusion ($\beta = .23$, $p < .01$). Furthermore, inefficiency ($\beta = -0.24$, $p < .01$) and helplessness ($\beta = -0.23$, $p < .01$) has negative relationship with store loyalty except irritation ($\beta = 0.00$, ns).

Table 4: Hypotheses test results

Path	Path coefficient	SE	BC 95% CI ¹	
			Lower	Upper
Human crowding --> Irritation	0.38**	0.03	0.32	0.45
Human crowding --> Inefficiency	0.26**	0.02	0.22	0.31
Human crowding --> Helplessness	0.23**	0.02	0.18	0.28
Irritation --> Loyalty	0.00	0.04	-0.08	0.09
Inefficiency --> Loyalty	-0.24**	0.07	-0.38	-0.10
Helplessness --> Loyalty	-0.23**	0.06	-0.35	-0.11

To determine if the relationship between human crowding and store loyalty is mediated by shopping confusion, we employed Process model 4 (Hayes, 2013) with 5000 bootstrap resamples (Table 5). The results of hypothesized indirect path (Table 5) revealed that H₂ and H₃ are supported which proposed that cognition (inefficiency) mediate the relationship between human crowding and store loyalty ($b = -0.06$, 95% CI = [-0.10, -0.03]) and cognition (helplessness) dimension of shopping confusion mediates the relationship between human crowding and store loyalty ($b = -0.05$, 95% CI = [-0.09, -0.02]). However, H₁ showed adverse results that emotion (irritation) mediates the relationship between perceived human crowding and loyalty and the results revealed the opposite ($b = 0.00$, 95% CI = [-0.02, 0.03]).

Table 5: Bootstrap Estimates of the Mediation

Coefficients		BC 95% CI ¹		
Path: IV --> MV --> DV	Indirect effect	Bootstrap SE	Lower	Upper
H ₁ Human crowding --> Irritation --> Loyalty	0.00	.01	-.02	.03
H ₂ Human crowding --> Inefficiency --> Loyalty	-0.06	.01	-.10	-.03
H ₃ Human crowding --> Helplessness --> Loyalty	-0.05	.01	-.09	-.02

Note: IV = Independent variable; MV = Mediating variable; DV = Dependent variable; SE = Standard error; BC = Bias corrected; CI = Confidence interval

¹ This 95% confidence interval does not include zero; therefore, the mediating effect is significant at $p < .05$

Discussion and Conclusion

The current study has addressed gap of how perceived retail human crowding elicit shopping confusion (cognition, emotion and conation) and store loyalty that in Pakistani grocery supermarkets. Therefore, employing the theoretical notions, this study hypothesized that perceived human crowding which is both considered as an environmental stressor and shopping irritant might result in irritation, inefficiency and helplessness the decrease store loyalty. Our results succeed to support the findings that revealed that perceived human crowding inclines to generate an unpleasant shopping experience.

Consequently, shoppers will not only negatively evaluate the superstore but also refrain themselves from revisiting similar store. The current research revealed that not just PAD but even shopping confusion mediate perceived human crowding and store loyalty relationship. The prevailing research relied on SOR theory that provided a rationale for customer's responses when they are exposed to specific stimuli. The work of Laros & Steenkamp (2005) identified that the evaluation of specific emotions is of vital importance due to the fact that dissimilar emotions may possibly contribute to a variety of reactions. For instance, Bougie, Pieters, & Zeelenberg (2003) argued that

aggravated shoppers react with an accusative behavior whereas discontented shoppers' shows more keenness in acquiring information.

The study of Walsh & Mitchell (2010) and Walsh et al., (2007) concluded that prior studies have primarily aimed concerning merchandize-related confusion, hence proffering guidance preponderantly for respective manufacturers. In comparison, this study provided a measurement tool for evaluating confusion evoked by in-store environments. Since, grocery shopping arouses adverse emotional state Machleit & Eroglu (2000) which prevailed over positive ones (Babin & Darden, 1996), the results which affirmed the increment of shopping confusion decrease customer loyalty is of great relevance. Moreover, the generation of uplifting emotions and prevention of adverse feelings are of great interest because both emotional processes depict transient and lasting repercussions.

An exciting store environment could generate positive responses from shoppers and can attain profitability (Newman & Patel, 2004). From managerial perspective, store managers should encourage shoppers to make an unequivocal evaluation of stores they tend visit. Thus, impact on store loyalty is stronger if this evaluation clearly comes out as explicit satisfaction. Therefore, explicitly satisfied shoppers are the faithful and loyal shoppers, whereas latently satisfied are prospective switchers among retail store choices. Retailers could utilize the amalgamation of various in-store elements to affect customer excitement levels (e.g., music, hues, simplicity of the store layout and the merchandise placement) as an equilibrating step towards subsiding the perception elicited by crowding. This research showed that prevalence of an 'optimal' crowd level increases the re-patronage intention of customers. Comparatively stores with less crowding might possibly be as damaging to a retail store's perceptions and shoppers' experience of a congested one. Thereby retailers must ascertain the threshold level of the crowd and then aspire to cope up with it. By adjusting the discount levels provided by stores and timings of promotions, managers can enable themselves to smooth out the variableness in crowd level.

This investigation assesses environmental variables and inspects how they influence other variables like shopping confusion and loyalty. Alternatively, retail managers should come to decisions regarding store environment holistically instead of concentrating on single parameter. The scope of this research was bounded to loyalty as a proclamation of customer preference. Future research should stress on other attitudinal and behavioral consequences of satisfaction i.e. WoM (positive or

negative), inclination towards information search behavior and whether or which type of satisfaction also has an intervening effect on these consequences. The findings might undergo self-selection bias, as participants were haphazardly chosen by store intercept methodology. Therefore, future research in a laboratory setting would demonstrate more incisively the "psychological mechanism" through which customers process the human crowding in grocery stores.

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