

# COVID-19 pandemic shopping experience in Saudi Arabia: scale development and validation for Muslim customers

COVID-19  
pandemic  
shopping

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## Abstract

**Purpose** – This study aims to, first, propose a valid and reliable scale to document the COVID-19 Pandemic Shopping Experience (CPSE) and, second, determine the impact of its variables on the postpurchase shopping experience (PPSE).

**Design/methodology/approach** – For scale development, published studies were scanned and the variables were shortlisted. These shortlisted variables were validated by 52 faculties from four universities in Saudi Arabia. Data were collected from 318 respondents to purify the CPSE Scale. In Study 2, a path analysis was performed on a sample of 354 respondents to determine the individual impact of each variable on PPSE.

**Findings** – A total of 14 items were found to be aligned under four variables, social distance (SD), shop hygiene, operational time and entertainment venues. SD was found to have the greatest influence on PPSE, followed by operational time and shop hygiene.

**Practical implications** – This research has important implications for retailers to initiate changes in store layout so that they can implement social distancing by physically marking stickers on the floors and by placing barricading on billing counters. Store hygiene can be ensured by making sanitizers and hand gloves available at the entry points, periodically cleaning the floor and sanitizing the premises. Rationing the operating time proved to be an effective tool to minimize the exposure time, thereby limiting consumers' time inside the store.

**Originality/value** – To the best of the authors' knowledge, this is the first study to propose a full-scale measure of the customer shopping experience (SE) during a pandemic. This scale can be generalized to measure SE in similar situations.

**Keywords** Pandemic, Social distancing, Store hygiene, Operating time, Entertainment venues, Shopping experience

**Paper type** Research paper

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## 1. Introduction

The fag-end of 2019 and the beginning of 2020 have witnessed a disease presumed to be spreading by a new virus known as a coronavirus (COVID-19), SARS-CoV-2. COVID-19 was declared a worldwide public health emergency in early 2020 ([World Health Organization, 2020a](#)). Consumers around the world are showing a change in behavior because of the spread of this disease. This changed behavior can be seen in the way shoppers make purchase decisions, the amount and the frequency of purchases in a month, etc. As it was not achievable to live in isolation for a long time, people started going out and socializing with others by adapting suggested safety precautions. Therefore, governments around the world started easing the restrictions for people as well as businesses in late June 2020 onwards. Soon after easing the lockdown conditions, a chaotic situation amongst the consumers was observed. As this disease is still spreading fast, consumers should be cautious while shopping and businesses should be more responsible in providing a safe purchase environment to restrict COVID-19 from spreading further ([He and Harris, 2020](#)).

The COVID-19 Pandemic Shopping Experience (CPSE) is defined as the shopping experience (SE) of consumers during the COVID-19 pandemic. Shopping patterns can differ in terms of gender, occupation and purchase frequency ([Kalia, 2018](#)), which is also observed during the COVID-19 pandemic. To contain this disease, social distance (SD) and sanitization are considered to be the best available precautions ([Andi and Avi, 2020](#)), and therefore, it is being implemented by every country around the world. The spread of this disease is so rapid that the world has never witnessed it in recorded history ([World Health Organization, 2020b](#)). Because of this pandemic, researchers have anticipated that economic and social changes will have an ever-lasting impact on consumers' behavior. Throughout the world, all researchers are predicting that the socioeconomic effect and COVID-19 impact will be far greater than the great depression of 1930 and the recession of 2008 ([Neil, 2020](#); [Sadiq et al., 2021](#)). Therefore, organizations will witness a change in consumers' behavior resulting in a change in shopping patterns ([Zia, 2020](#)). Although there are various scales available to measure shopping or the consumer experience like the shopping value scale ([Babin et al., 1994](#)), customer experience quality scale ([Maklan and Klaus, 2011](#)), customer experience index ([Kim et al., 2011](#)), in-store customer SE scale ([Terblanche, 2018](#)), tourist shopping satisfaction scale ([Wong and Wan, 2013](#)), SE memory scale ([Flacandji and Krey, 2020](#)) and different e-retail service quality scales ([Kalia, 2017a](#)). But, this time, the consumers are behaving differently ([Zia, 2020](#)), their consumption behaviors are also showing a change ([Jaspal et al., 2020](#)), panic buying is a common phenomenon ([Eva et al., 2021](#)) and online buying is the preferred option ([Manju et al., 2021](#)).

All the abovementioned scales are developed and validated to measure scenarios in normal circumstances. Theoretically, researchers believe that the consumers' behavior during the COVID-19 pandemic is different ([Rhee and Lee, 2021](#)), and existing scales are unable to document this behavior. Therefore, this paper attempts to develop a CPSE scale with 14 items to measure the in-store SE during the COVID-19 pandemic. Further, using the path analysis, the impact of these variables on SE was investigated.

The pandemic around the world is not a new phenomenon. The world has witnessed many pandemics like Circa in the prehistoric era of 3000 BC, the plagues of Athens in 430 BC, the plague of 165 AD, the plague of Cyprus in 250 AD, the plague of Justinian 541 AD, the black death disease in Europe in 1346, Cocpliztti epidemic in 1545, American plague in 16 century, great plague in London 1665 and Marseille in 1720, Russian plague in 1770, yellow fever of 1793, Flue 1889, polio 1916, the Spanish flu pandemic of 1918, Swine flu 2009 including HIV, Ebola and Zika in late 2010s and to add in this sequence of diseases, recently in 2019 December is COVID-19 ([Huremović, 2019](#)). This COVID-19 was first identified in

Wuhan city of China. Initially, on 27 December 2019, one of the hospitals in Wuhan city notified a Pneumonia like mysterious virus strain and on January 8, 2020, a new variant of the existing coronavirus was identified as the cause of this disease (Khan, 2020). The world had a new virus strain named COVID-19 because of its first identification in the year 2019.

This pandemic gave birth to a new cohort segment to be identified as COVID-19 consumers. Just like the generation X and generation Y consumers of the USA and many other parts of the world (Lissitsa and Kol, 2016), display a particular way of shopping (Pansari and Kumar, 2017), these consumers are also displaying a peculiar type of behavior specific to shopping during the COVID-19 pandemic. Throughout the spread of this pandemic, organizations are striving to retain consumers and gain markets. As attracting new consumers in a pandemic is a herculean task, the existing consumers' are regarded as the asset and many researchers call them pure gold (The Stratabeat Team, 2020). With the aim of measuring the SE of consumers, the hypothesized model is developed.

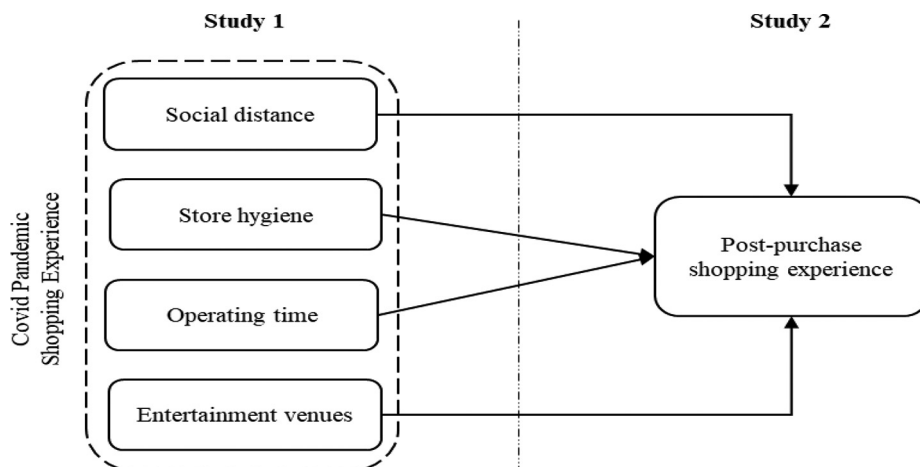
## 2. Literature review

### 2.1 COVID-19 Pandemic Shopping Experience

The world is currently experiencing its worst economic and social crisis in history. As a result, a conceptual model has been presented to analyze the changing SE of customers (Figure 1). The SE is associated with four variables, according to this model. The variables in Figure 1 are not listed in order of relevance; rather, they are shown in random order. The model's variables include SD, store hygiene, operating time and entertainment venue availability.

### 2.2 Postpurchase shopping experience

Observation of the fact related to the past purchase or an event is the experience of that person and all consumers make their choice of the product or service based on their past experiences (Ghobadian *et al.*, 1994). Further, it is the act of liking or disliking a product or service during and after the purchase that is the SE of consumers. The choice of product or service and the basis of this choice may vary from consumer to consumer (Nelson, 1970).



**Figure 1.**  
Conceptual model for  
CPSE

**Source:** The authors

Because of the unavailability of physical shopping and several other reasons consumers are moving to online shopping (Kalia, 2017b, 2019; Kalia *et al.*, 2016). Consumers are restraining themselves from lavish expenditures and restricting their purchases only to necessary products (Fiorini *et al.*, 2020). To contain the spread of this pandemic, governments around the world are making it mandatory to follow safety measures for all organizations. Because of the limited availability of shopping venues, consumers' willingness to shop is diminishing. This pandemic is so unforeseen and unexpected that there was not enough time for anyone to prepare (World Health Organization, 2020c). Throughout the world, businesses and consumers were clueless about the immediate possible strategy to handle such a situation. All around the world, consumers and businesses were unable to understand, adapt and manage such a catastrophic condition. Therefore, postpurchase shopping experience (PPSE) as a factor in the model has been included in this study.

*2.2.1 Social distance.* Throughout the world, all health organizations have approved SD as an effective means of restricting the spread of this pandemic. This was considered to be the best possible precaution rather than any available treatment for this disease (Shereen *et al.*, 2020; Sun *et al.*, 2020; Velavan and Meyer, 2020). The COVID-19 virus travels from human to human if the infected person sneezes, coughs or talks and passes the droplets in the air. These droplets are inhaled by the other person which results in the transmission of the COVID-19 disease. To restrict the community spread of COVID-19, clinical journals have found social distancing as an immediate and effective method (Martensen, 2020). Many studies are highlighting the importance of SD as there are a large number of people without symptoms of COVID-19 who are responsible for the spread of this disease (Pearce, 2020). This virus can survive on the surface for hours; therefore, it can be transmitted to other persons by touching an infected surface (Dehnen *et al.*, 2020). The act of keeping a distance from person to person limits the probability to contact the infected surfaces of an infected person (Bzdok and Dunbar, 2020). To restrict the spread of COVID-19, all governments, including Islamic ones, adopted the preventive step of SD for mosque prayer (Rostiani *et al.*, 2021). Organizations started following precautions for employees as well as for consumers during this difficult time. Only a specific number of persons were allowed to enter a store at a time depending upon the size of the store (HM Government, 2020). People were not allowed to shop for longer hours, therefore providing limited opportunities to mingle and hence limiting the spread of COVID-19. As health and safety organizations around the world have done enough to educate everyone about the spread of the COVID-19 pandemic making consumers reluctant to visit congested places that are not maintaining SD while shopping. Therefore, destinations adopting proper safety measures are the preferred destinations of consumers to shop (Li and Li, 2020), and consumers are said to have a higher level of inhibition when it comes to participating in various outdoor activities (Basu and Swaminathan, 2021), making SD a very important factor for the prediction of SE during the spread of the COVID-19 pandemic. Therefore, the following hypothesis has been formulated to test the impact of SD on PPSE:

*H1. SD positively impacts PPSE.*

*2.2.2 Store hygiene.* Every human being knows unhygienic conditions breed many diseases and infections spread rapidly in such unhygienic conditions (Aiello and Larson, 2002). Several studies have documented a straight link between the virus's contamination of the air and surface hygiene (World Health Organization, 2020c). Shoppers like to visit stores where they perceive the store hygiene conditions such as the availability of hand sanitizer are better (Weijers and de Koning, 2021). Likewise, during the spread of COVID-19, unhygienic conditions play a major role in the contamination and spread from person to

person; therefore, businesses are following all safety precautions provided by the health bodies (Curtis *et al.*, 2020). Even though, complete decontamination is not practically feasible (Wong *et al.*, 2020), organizations can implement the maximum probable measures by implementing the precautions related to store hygiene (SH) (Singh *et al.*, 2020). Therefore, retailers are implementing the maximum possible safety measures to attract consumers during this pandemic by promoting SH as a marketing strategy (Susan, 2020), which includes cleaning of entry, baskets and self-checkouts points. (Chan *et al.*, 2022). The retail stores have observed a change in the consumers' behavior related to their choice of purchase in a retail store. Because Muslims see hygiene as a half-religion, Islamic countries place a great value on it in their daily lives. As a result, in Islamic nations, shopkeepers are accustomed to maintaining cleanliness, and they had no problem maintaining hygiene during the COVID-19 epidemic (Awan *et al.*, 2020). Now, retailers are using the technology and attracting consumers with new cues of mobile coupons, organizations are seriously paying attention to maintaining SH. SH plays a very important role in providing a sanitized shopping environment by making thermal screening face masks and hand hygiene mandatory in the malls, thereby impacting the buying behavior of consumers. Therefore, it has been included as one of the variables to predict SE during this pandemic, and the following hypothesis has been formulated to test the impact of SH on PPSE:

*H2. SH positively impacts PPSE.*

*2.2.3 Operating time (OT).* Keeping in mind the safety of consumers during shopping amidst the COVID-19 pandemic, retail stores around the world are adopting a technique of restricting the store operating time by trimming the working hours (HM Government, 2020). The trimming of working hours provides more in-house time for employees to conduct additional preventive sanitization and restocking of products on the shelves to serve the consumer in a better way (Grashuis *et al.*, 2020; Wu *et al.*, 2020). Some stores dedicated the first few hours to senior shoppers, pregnant women, vulnerable groups and people with special abilities to avoid the congested shopping conditions and close early hours than normal to provide extra time for employees to adjust, clean and sanitized with extra precautions so that the next day shopping premises opens with the pure and sanitized environment (Chan *et al.*, 2022). Consumers are hesitant to interact with the service providers because of the fear of the spread of COVID-19 (Bove and Benoit, 2020). It has been observed that not only consumers are avoiding contact but also the service providers are also unwilling to come in contact with the consumers (HM Government, 2020; Radwan, 2020). Therefore, e-retailing is another obvious choice to reduce personal contact and contact time (Kalia and Paul, 2021); the retail stores are reducing and rationing the operating time of the stores. Therefore, to minimize contact from person to person, limiting the store operating time (OT) is another practical option. The fast clearance at the billing counters during COVID-19 reduces the chances of covid exposure (Sharma *et al.*, 2021); this is possible with the use of electronic money and the adaption of artificial intelligence which is very popular in the insurance sector (Zia and Kalia, 2022), as it does not consume time for exchanging cash and change (Matić *et al.*, 2020). Therefore, during the COVID-19 pandemic, this factor has been included to explain the SE and the following hypothesis has been formulated to test the impact of OT on PPSE:

*H3. OT positively impacts PPSE.*

*2.2.4 Entertainment venues.* As organized retailing is gaining popularity, organizations have started promoting entertainment as the main strategy to attract and retain consumers

(Arnold and Reynolds, 2003). The hedonistic and utilitarian value attached to a shopping trip is entertainment and fun activity (Jones *et al.*, 2006) which is not possible during the COVID-19 pandemic. In general, customers enjoy communicating with salespeople and consider it an important part of their overall pleasure (Ihtiyar, 2019). However, because of COVID-19, customer-salesperson interaction has been limited, affecting consumer satisfaction in a retail setting. Before the COVID-19 pandemic, shopping was considered to be a fun and leisure activity delivering better SE to the consumers (Khatib and Zia, 2016; Zia and Khan, 2019). Malls as a favorite tourist destination is a past phenomenon, and now with the advent of the COVID-19 pandemic, shopping has become a necessary activity. These days eating and drinking inside restaurants and cafes are not normal. All these prevailing issues have made shopping a necessary activity than a fun activity. The closure of restrooms and unavailability of trial rooms are hindering the shopping activity and adding negatively to the SE. The absence of a fun factor has made retail shopping an unfavorable experience (Farrag *et al.*, 2010) as open spaces during COVID-19 in malls provide a good place to spend time with friends and relatives (Matić *et al.*, 2020). Therefore, this factor has been included in the study related to SE during the COVID-19 pandemic and the following hypothesis has been formulated to test the impact of entertainment venues (EV) on PPSE:

*H4. EV positively impacts PPSE.*

### 3. Research method

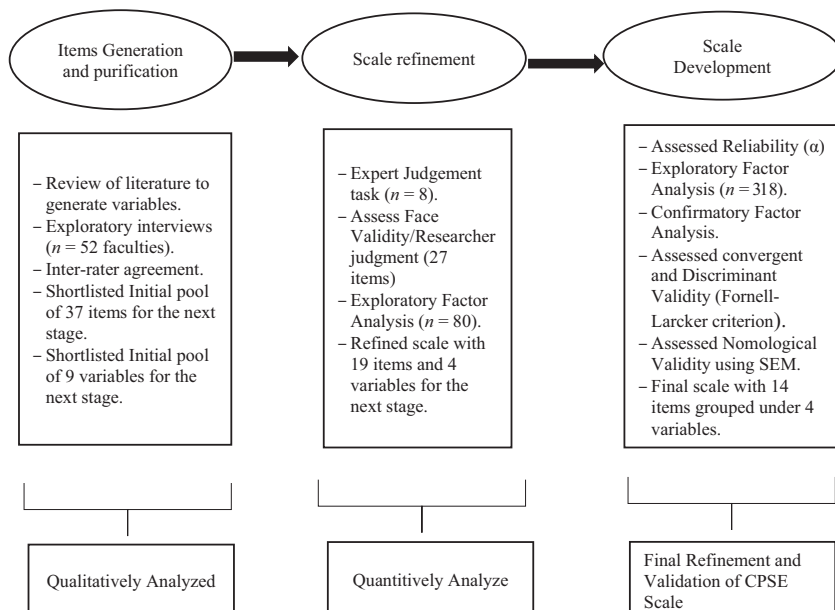
There are two parts to this study, the first part comprises initial development and validation, item purification and establishing reliability and validity of the scale. In the second part of the study, the path analysis was performed to test the impact of these variables on the PPSE. The exploratory factor analysis (EFA) was used in the initial phase to understand the initial structure, followed by the confirmatory factor analysis (CFA) to deduce model fit, convergent and discriminant validity. The items related to PPSE were added in the second part of the study, and a CFA was conducted using four independent variables (SD, SH, OT, EV) and one dependent variable (PPSE), followed by model fit, convergent and discriminant validity assessments.

#### 3.1 Study 1 scale development and validation (Figure 2)

**3.1.1 Item generation.** To generate a pool of probable items for the questionnaire, a detailed review of the literature was performed. The review of literature egged some of the broad themes around which the items of the questionnaire were to be developed. After the variables were shortlisted, these variables were discussed with the 52 faculty members of four universities for content validity. In this process, first, the faculties proposed some variables, and later, these variables were further shortlisted. Initially, there were nine variables and 37 items which were proposed to cover the CPSE. The initial pool of items for the questionnaire was generated consisting of 37 items to be used in the item-reduction process.

**3.1.2 Item purification.** First, the initial pool of data was reduced to 27 based on the researchers' face validity consideration. An initial sample of 80 responses was collected, which were then subjected to factor analysis (principal component analysis). A sample size of 80 with 27 items at the initial part of scale development is considered adequate and consistent with previous scale development studies (Netemeyer *et al.*, 1995). The items that displayed low loading values (below 0.50) in factors analysis were dropped while other items





**Source:** The authors

**Figure 2.**  
Scale development  
process

were considered for further analysis. As a result of this refinement process, 19 items were shortlisted within four variables.

To establish the further face validity of these variables and items, a panel of five expert professors and three PhD research scholars in the domain of SE were contacted. Based on their opinion, a final questionnaire was developed with 14 items grouped under four variables. For this study, only those items and constructs were retained, to which three or more professors and two or more research scholars have agreed. This process eliminated five items, leaving 14 items on the scale (Cardello *et al.*, 2019).

**3.1.3 Descriptive analysis.** The students of four universities in Saudi Arabia were considered as the population for the study. These universities were selected as they attract students from varied geographic regions of the country. We considered collecting data from students as the young consumers are active shoppers during the COVID-19 pandemic (Alaimo *et al.*, 2020; Bayad and Ali, 2020; Li *et al.*, 2020). All the students in varied courses were adults and therefore suitable for such a kind of study. A sample of 318 students was collected using an online survey method in Google Forms from February to April 2021 with a response rate of 21.2%. We received usable information from 207 female and 111 male students (Table 1). The educational qualifications of graduation, postgraduation and higher than postgraduation represent their education level at the time of filling the survey.

### 3.2 Study 2 path analysis

The path analysis was performed in the second part of this study to see how the independent variables (SD, SH, OT, EV) impact the dependent variable (PPSE). After incorporating the PPSE items in the questionnaire, the CFA was used to assess the model fit and validity before proceeding to the path analysis. The influence of the variables on the

**Table 1.**  
Demographic data

Characteristics	Study 1		Study 2	
	<i>N</i>	%	<i>N</i>	%
<i>Education</i>				
Less than graduate	171	54	201	67
Graduate	147	46	153	43
<i>Gender</i>				
Male	111	34	141	40
Female	207	66	213	60
Total	318	100	354	100

**Source:** Authors' calculations

PPSE was tested using a sample of 354 respondents. The data was collected from May to June 2021 from the students of the four universities in Saudi Arabia. The estimations, which contained both standardized and nonstandardized values, were calculated.

**4. Results and discussion**

*4.1 Study 1 scale development and validation*

*4.1.1 Reliability.* The initial consistency of the scale was measured using Cronbach's alpha values. In this study, the Cronbach's alpha values were calculated at two levels, one at the construct level and another at the composite scale reliability level. Table 2 indicates the appropriateness of the available scale related to structure detection. The Kaiser–Meyer–Olkin (KMO) is a measure of sampling adequacy that is used to indicate the proportion of variance in the data set variables which may be because of some latent variables. A value close to 1.0 indicates the appropriateness of the sample for the application of factor analysis. A value of less than 0.50 is an indication of the inappropriateness of factor analysis for the study. The KMO value of 0.820 indicated that factor analysis is an appropriate choice for the given data set.

To test the correlation matrix if it is an identity matrix, Bartlett's test of sphericity was performed. For factor analysis to be useful, a value of less than 0.05 is acceptable. The values for KMO and Bartlett's Test of Sphericity were acceptable to perform factor analysis. An EFA was performed for the remaining items using principal component factor analysis and varimax rotation (Table 3). All the items were eliminated with factor loadings below 0.6 (Cleff, 2014; Flury *et al.*, 1988). Finally, only 14 items were obtained with factor loading ranging from 0.778 to 0.975. In this study, the four components were capable to explain the 87.08% variance in the scale. The overall Cronbach's alpha value for the four dimensions obtained was 0.820 and for individual factors, it ranged from 0.856 to 0.984 (Table 4). It was

**Table 2.**  
Reliability (Study 1)

KMO and Bartlett's Test	
Kaiser–Meyer–Olkin measure of sampling adequacy	0.820
<i>Bartlett's Test of Sphericity</i>	
Approx. Chi-Square	11,181.226
df	91
Sig.	0

**Source:** Authors' calculations



Component	Total	Initial Eigenvalues		Rotation sums of squared loadings		
		% of variance	Cumulative (%)	Total	% of variance	Cumulative (%)
1	5.18	37.028	37.028	3.92	28.027	28.027
2	4.31	30.764	67.792	3.08	22.025	50.052
3	1.62	11.533	79.325	2.61	18.669	68.722
4	1.09	7.761	87.086	2.57	18.365	87.086
5	0.44	3.127	90.213			
6	0.38	2.696	92.909			
7	0.3	2.106	95.016			
8	0.22	1.555	96.57			
9	0.14	0.995	97.565			
10	0.12	0.885	98.45			
11	0.09	0.629	99.079			
12	0.07	0.505	99.584			
13	0.03	0.236	99.82			
14	0.03	0.18	100			

**Note:** Extraction method used: PCA

**Source:** Authors' calculations

**Table 3.**  
Total variance  
explained (study 1)

Variables/Statements		Loadings	Cronbach's alpha
SD	Social distance		0.984
SD1	This store allows only limited number of people to shop at a particular time	0.975	
SD2	This store marks proper safety distance on the floor	0.966	
SD3	This store maintains safety distance while waiting for billing	0.965	
SD4	This store maintains safety distance while someone else is choosing the product	0.943	0.856
SH	Store hygiene		
SH1	Sanitizers are available at the entry point of the store	0.822	
SH2	The store sanitizes all shopping baskets after each use	0.851	
SH3	Store ensures sanitization of all employees contact points	0.837	0.971
OT	Operating time		
OT1	The time to shop provided by the retailer is sufficient for me	0.891	
OT2	The store opening times are comfortable for me	0.887	
OT3	The closing times are comfortable for me	0.822	0.921
OT4	Store provides sufficient facilities to complete shopping quickly	0.778	
EV	Entertainment avenues		
EV1	Store provides play area for the kids	0.778	
EV2	The store provides resting area for shoppers to relax while shopping	0.923	0.856
EV3	Store provides open areas to spend time with friends and family members	0.856	

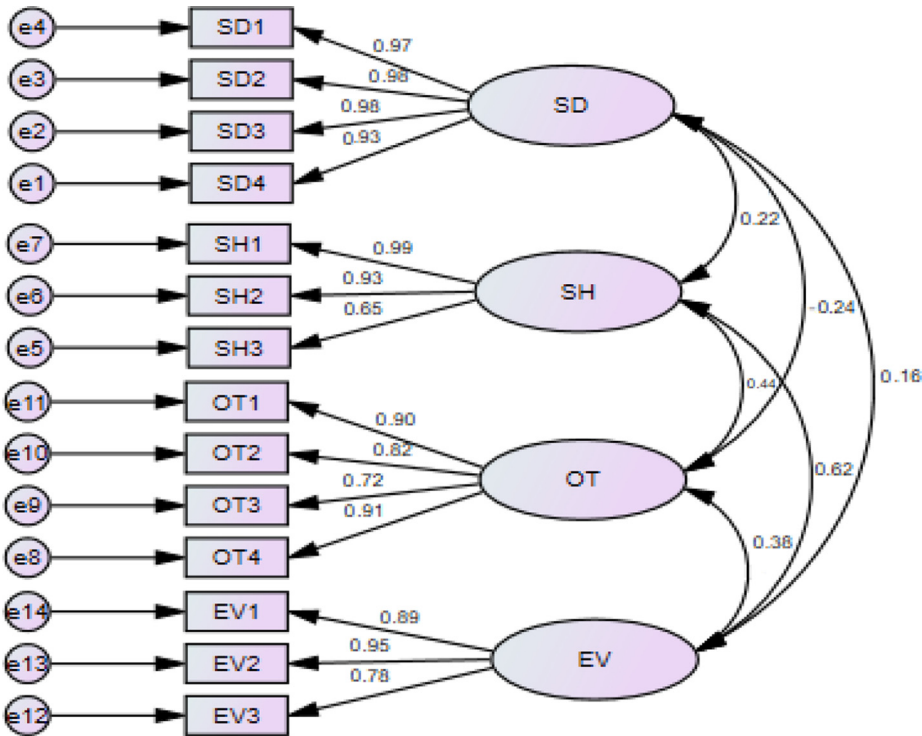
**Source:** Authors' calculations

**Table 4.**  
Scale items and  
factor loadings  
(Study 1)

observed that all the values were more than the recommended value of 0.70 (Taber, 2018; Ursachi *et al.*, 2015; Yusof *et al.*, 2012).

4.1.2 *Dimensionality.* To assess the dimensionality of the constructs, CFA was performed using SPSS AMOS 23 software (Figure 3). The results confirm the dimensionality of the 14 items and four variables of the scale. The detailed values of various fit indices are mentioned in Table 5.

4.1.3 *Convergent and discriminant validity.* While performing CFA, the convergent and discriminant validity was checked for the variables. For this study, the composite reliability



**Figure 3.** Results of confirmatory factor analysis (CFA-1) for CPSE scale (Study 1)

**Source:** The authors

**Table 5.** Model fit indices (study 1)

Measures	Estimates	Threshold	Interpretation
CMIN	158	–	–
DF	71	–	–
CMIN/DF	2.22	Between 1 and 3	Acceptable
CFI	0.937	<0.95	Acceptable
SRMR	0.071	<0.08	Excellent
RMSEA	0.041	<0.06	Excellent
PClose	0.031	<0.05	Acceptable

**Source:** Authors' calculations

(CR), average variance extracted (AVE), maximum shared variance (MSV) and average shared variance (ASV) were checked. The CR value should be greater than 0.7, the value of AVE should be greater than 0.5 for convergent validity, and for this study, all the values were at acceptable levels. For discriminant validity, MSV should be less than AVE and the Square root of AVE should be greater than intervariable correlations which were achieved in this study (Table 6).

*4.1.4 Nomological validity.* Researchers use nomological validity to test the behavior of an instrument being developed. This analysis determines if the developed scale behavior is as expected in response to the other variables to which it has been conceptually related. The relationship between the four variables is shown in Table 6. The fitness indices suggest that the model's fit is acceptable for three parameters and excellent for two parameters (Table 5). The 87.08% of SE during COVID-19 has been explained by these four identified variables.

#### 4.2 Study 2 path analysis

After incorporating the PPSE items in the questionnaire, the CFA was used to assess the model fit and validity before proceeding to the path analysis (Figure 4, Table 7 and Appendix). In the path analysis the regression weights of the standardized estimate were significant for SD, SH and OT. When SD increases by one, the PPSE increases by 0.371, showing that during the covid-19 outbreak, SD contributes favorably to the PPSE. Similarly, SH and OT also had a positive impact on the PPSE. The existence of the SD, SH and OT had a positive impact on the PPSE, as they are the essential preventative safety practices recommended by several health agencies throughout the world. The only variable that had no impact on the PPSE was EV, suggesting that consumers were not looking for EVs during the spread of COVID-19 and saw shopping as a necessary task, rendering EVs insignificant in this study.

*4.2.1 Convergent and discriminant validity.* The CFA was used in the second part of the analysis for the four independent and one dependent variable. All the variables' convergent and discerning validity were tested a second time. Study 2 included checks for CR, AVE, MSV and ASV. All the results were found to be within acceptable limits. MSV should be smaller than AVE and the square root of AVE should be bigger than interconcept correlations for discriminant validity, which was achieved in this study (Table 8).

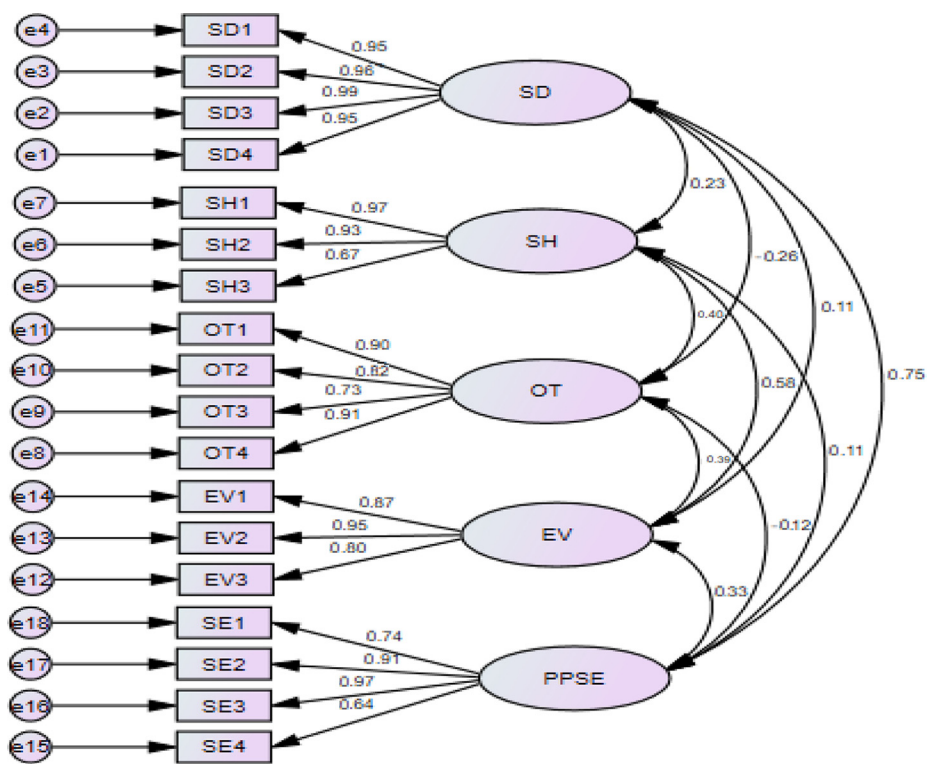
*4.2.2 Structural model.* For path analysis, the SPSS AMOS was used to examine the influence of variables on the PPSE (Figure 5). It was found that SD ( $\beta = 0.280, p < 0.000$ ), SH ( $\beta = 0.170, p < 0.000$ ) and OT ( $\beta = 0.270, p < 0.000$ ) have positive significant impact, whereas EV ( $\beta = 0.070, p < 0.151$ ) has insignificant impact on SE. The path coefficient values also illustrate the level of impact, with SD and OT having the highest impact on PPSE and one variable, EV, having no impact on the PPSE. The AMOS output gives *R*-square values as squared multiple correlations, and in this model, the result is 0.561, indicating that the four variables explained 56.10% of the variation in PPSE.

Variables	CR	AVE	MSV	MaxR(H)	SD	SH	OT	EV
SD	0.97	0.88	0.66	0.992	0.938			
SH	0.95	0.85	0.6	0.979	-0.202	0.923		
OT	0.97	0.89	0.6	0.99	0.020	0.776	0.943	
EV	0.96	0.89	0.66	0.992	0.813	-0.156	0.203	0.950

Source: Authors' calculations

**Table 6.**  
Convergent and  
discriminant validity  
(Study 1)

**Figure 4.**  
Results of  
confirmatory factor  
analysis (CFA-2) for  
Study 2



**Table 7.**  
Model fit indices  
(Study 2)

Measures	Estimate	Threshold	Interpretation
CMIN	346.203	–	–
DF	220	–	–
CMIN/DF	1.574	Between 1 and 3	Excellent
CFI	0.975	>0.95	Excellent
SRMR	0.045	<0.08	Excellent
RMSEA	0.039	<0.06	Excellent
PClose	0.992	>0.05	Excellent

**Source:** Authors' calculations

### 4.3 Discussion

Consumer behavior is predicted to be impacted by some of the safety precautions advised by various health authorities across the world as the COVID-19 epidemic spreads. This study has established a link between four variables (SD, SH, OT and EV) and the PPSE to achieve this goal. This study has made some theoretical and practical contributions to the PPSE concept. The CPSE scale was constructed through a series of qualitative and quantitative procedures, and then, the impact of these variables on the PPSE was investigated.

There are 14 items on the newly designed scale, with four variables. It was expected that these four variables have a significant impact on the PPSE based on the conceptual analysis. It was discovered in the first part of the study that four variables can explain 87.08% of the scale, which is a very significant finding. Even during the COVID-19 pandemic, retailers can enhance the PPSE by managing these four variables. The proposed scale is both theoretically and psychometrically valid.

In the second part of the study, it was hypothesized that all the variables derived from the first study have a significant positive effect on the PPSE. First, we postulated that SD positively impacts PPSE (*H1*), and the results of our study confirmed the positive significant impact of SD on PPSE. This result is in congruence with past studies where the researchers have found a significant impact of SD to restrict the community spread (Martensen, 2020) or found that the distance between people also reduces the risk of contracting an infection from surfaces contaminated by other people (Bzdok and Dunbar, 2020). The result of *H1* is also consistent with several prior studies that have highlighted the significance of SD (Li and Li, 2020; Martensen, 2020; Shereen *et al.*, 2020; Sun *et al.*, 2020; Velavan and Meyer, 2020).

Further, we proposed that SH has a positive impact on PPSE (*H2*) and observed a positive and significant impact of SH on PPSE, hence this hypothesis was accepted. We found sufficient evidence from the previous studies confirming the strong effect of SH on PPSE (Singh *et al.*, 2020; Susan, 2020). For example, Aiello and Larson (2002) observed a significant relationship between hygienic variables and the propagation of the virus. Further, our findings corroborate the concept of hygiene, which includes cleaning entrances, baskets and self-checkout stations (Chan *et al.*, 2022).

Under *H3*, we proposed that OT has a significant effect on PPSE. The findings of this study confirms that OT has a positive and significant effect on PPSE, hence this hypothesis was accepted. This result is consistent with prior studies where researchers observed a relationship between store hours and viral exposure (Grashuis *et al.*, 2020; Wu *et al.*, 2020). Consequently, reducing the store's OT is a viable alternative for minimizing contact between individuals. The fast clearance at the billing counters during COVID-19 reduces the likelihood of covid exposure (Sharma *et al.*, 2021); this is possible with the use of electronic money and the adaption of artificial intelligence which is very popular in the insurance sector (Zia and Kalia, 2022), as it does not consume time for exchanging cash (Matić *et al.*, 2020).

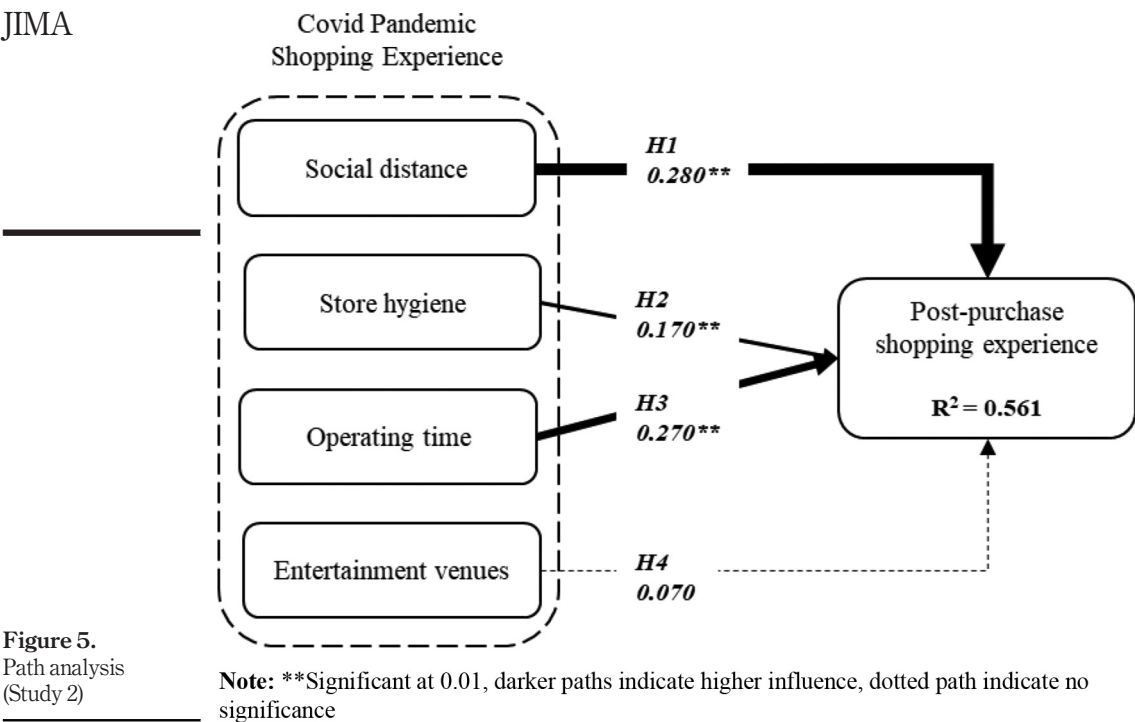
In conclusion, *H1–H3* were accepted, though *H4* was rejected (Table 9). Previous literature favored the notion of associating a hedonic value with a shopping trip (Farrag *et al.*, 2010; Jones *et al.*, 2006). However, our results confirm that customers no longer seek enjoyment and fun while shopping in a pandemic-like environment.

**4.3.1 Theoretical contributions.** This work makes some important contributions; first, it identified four factors, namely, SD, SH, OT and EV which can explain 87.08% of SE during the pandemic. Hence, this study proposed a valid and reliable scale to document the COVIDCPSE. To the best of our knowledge, no previous study has offered such an extensive

Variables	CR	AVE	MSV	MaxR(H)	SD	SH	OT	EV	SE
SD	0.849	0.587	0.255	0.866	0.765				
SH	0.818	0.532	0.219	0.822	0.347	0.729			
OT	0.933	0.741	0.225	0.937	0.179	0.425	0.860		
EV	0.929	0.681	0.254	0.933	0.506	0.307	0.234	0.826	
PPSE	0.742	0.419	0.253	0.744	0.503	0.470	0.476	0.371	0.646

**Source:** Authors' calculations

**Table 8.**  
Convergent and  
discriminant validity  
(study 2)



**Figure 5.**  
Path analysis  
(Study 2)

**Table 9.**  
Results of the  
structural model and  
hypothesis testing

Hyp.	Variables	Estimate	S.E.	C.R.	p-value	Results
H1	PPSE ← <i>Social_Distance</i>	0.280	0.064	5.782	0.000	Accepted
H2	PPSE ← <i>Store_Hygiene</i>	0.170	0.043	3.442	0.000	Accepted
H3	PPSE ← <i>Operating_Time</i>	0.270	0.033	5.839	0.000	Accepted
H4	PPSE ← <i>Ent_Venues</i>	0.070	0.031	1.435	0.151	Rejected

**Source:** Authors' calculations

CPSE scale. For example, a study by [Lins and Aquino \(2020\)](#), presented only a single variable panic buying scale during the COVID-19 pandemic comprising seven items. Further, some studies presented the fear of COVID-19 scale based on samples from countries like Israel ([Tzur Bitan et al., 2020](#)), Spain ([Martinez-Lorca et al., 2020](#)), the USA ([Arpaci et al., 2022](#)), Russia and Belarus ([Reznik et al., 2021](#)). However, none of the studies offered the CPSE scale based on data from Islamic customers. Second, the study examined the direct effect of identified factors on the overall SE and discovered that only SD, SH and OT have a significant positive influence on PPSE. Some previous studies have deduced factors like social distancing and hygiene ([Awan et al., 2020](#)). However, they are not comprehensive or they have not checked the impact of these factors on PPSE. Third, the study hashed out that SD ( $\beta = 0.280, p < 0.000$ ) has the highest positive impact on PPSE followed by OT



( $\beta = 0.270$ ,  $p < 0.000$ ) and SH ( $\beta = 0.170$ ,  $p < 0.000$ ). As the current study focused on SE, here, it is worth mentioning that the majority of previous studies concentrated on panic buying only (Sherman *et al.*, 2021).

**4.3.2 Implications.** The study's key contribution is the development of a CPSE scale to measure consumers' SE during the COVID-19 pandemic. By understanding the SE of customers, marketers can devise and implement consumer-friendly strategies to meet their needs. Moreover, the study confirms the relative importance of each factor of CPSE on PPSE. It identifies SD as the most important factor having a significant positive impact on PPSE. Based on this finding, we advise merchants to adjust their store layouts for proper SD, for example, installing barricades on billing counters and physically marking stickers on the floors. The second important factor that impacts PPSE is OT; hence, the stores should adjust their opening and closing timings and facilities in a way to allow comfortable and smooth PPSE. The store layout should be efficient enough to reduce the amount of time a customer spends inside the store. Stores can offer a hybrid SE where customers can buy and make payments online and pick up their orders offline for minimum contact. For high-risk customers like senior citizens, home deliveries can be offered for extra charges. The third important factor contributing to a good PPSE during the pandemic is SH which can be achieved in several ways. For example, store managers can provide sanitizers and hand gloves at entry points and sanitize the store surfaces (floor, counters, etc.) frequently.

## 5. Limitations and future research directions

One of the limitations of this article is that it offers only four variables that have an impact on the PPSE. There may be more variables that have an impact on the PPSE that have yet to be discovered. Because the COVID-19 pandemic is new and the infectious behavior of the disease is unknown, consumers have a fear of the unknown, which causes them to behave in unusual ways that cannot be predicted instantly. Furthermore, the sample consists of university students, which may provide additional drawbacks. We recommend a demographically diversified sample for a more precise picture of the PPSE during COVID-19. This paper provides a snapshot of consumer behavior during the COVID-19 pandemic. These behaviors are important to document because consumers acted uniquely during this period. The study of these behaviors will assist organizations in understanding consumer behavior in the event of a similar pandemic or disaster situation in the future. This will give them a reference point to compare and manage these situations more efficiently.

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Factor	Items	Source
Social distance	This store allows only a limited number of people to shop at a particular time	(Szymkowiak <i>et al.</i> , 2021)
	This store marks proper safety distance on the floor	New
	This store maintains a safe distance while waiting for billing	(Szymkowiak <i>et al.</i> , 2021)
	This store maintains a safe distance while someone else is choosing the product	(Szymkowiak <i>et al.</i> , 2021)
Store hygiene	Sanitizers are available at the entry point of the store	New
	The store sanitizes all shopping baskets after each use	New
	The store ensures the sanitization of all employees' contact points	New
Operating time	The time to shop provided by the retailer is sufficient for me	New
	The store opening times are comfortable for me	New
	The closing times are comfortable for me	New
	The store provides sufficient facilities to complete shopping quickly	(Szymkowiak <i>et al.</i> , 2020)
Entertainment venues	The store provides a play area for the kids	New
	The store provides a resting area for shoppers to relax while shopping	New
	The store provides open areas to spend time with friends and family members	New
Postpurchase shopping experience	The store provided a contactless shopping experience	New
	The facilities provided during this COVID-19 pandemic are adequate for me	New
	The store took proper precautions to contain the spread of the COVID-19 pandemic	New
	Store ensured proper safety of the shoppers	New

**Table A1.**  
COVID-19 Pandemic  
Shopping Experience  
(CPSE) scale

### About the authors

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