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Pandemic, Perceived Risk, and Cognitive Dissonance as Antecedents to Need for Cognitive Closure

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ABSTRACT

The purpose of this article is to examine the influence of the pandemic, perceived risk, and cognitive dissonance on the need for cognitive closure. A consumer today wants an aversion towards the ambiguity that is created due to this pandemic. The data is collected using Amazon's Mechanical Turk panel. All of the filled questionnaires are analyzed using stepwise regression. The findings suggest that perceived risk, pandemic, and cognitive dissonance influence the need for cognitive closure, and perceived risk is the major predictor of cognitive closure. These results enrich our understandings with regards to the importance of designing the marketing strategies in a way that will lead to the reduction in the consumer perceived risk and cognitive dissonance created due to the pandemic.

KEYWORDS

CDC, Cognitive Closure, Consumer Behaviour, Consumer Psychology, Dissonance, Marketing, Pandemic, Risk

INTRODUCTION

A large amount of research has studied various dimensions of the need for cognitive closure. In previous theory and research need for closure was defined in terms of a desire for 'an answer on a given topic, any answer, . . . compared to confusion and ambiguity (Kruglanski, 1990, p. 337). This desire may instill a tendency to seize quickly on an available belief, attitude, or decision followed by a subsequent 'freezing' on this obtained structure (Kruglanski & Webster, 1996). Considerable theory has emerged to explain how and why consumers with a high need for closure encourages activities aimed at achieving closure and biases individual choices, preferences in the direction of closure-bound pursuits. Multiple streams of writing have produced insights into a consumer need for closure and concluded that a consumer with a high need for closure are less sensitive to alternative hypotheses (Kruglanski & Mayseless, 1988), avoid the information that is inconsistent with their set beliefs (Shavitt, 1989a, 1989b), is likely to make up the decision based on a few pieces of existing information (Houghton & Grewal, 2000), consider less evidence and focus selectively on belief-consistent information and neglect belief-inconsistent information (Kardes et al., 2004), are willing to pay more for products (Cronley et al., 2005), and are more resistant to change (Kruglanski et al., 2006). Current theory, however, has little to say about the shifting nature of the consumers need for cognitive closure impacted by pandemic. This world of a pandemic is new and there is no prior information, evidence, consistent

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beliefs, experiences or attitudes formed, so a consumer today is involved in information search and is considering the various alternatives for bringing things to closure. The changes in consumers desire for need for cognitive closure and situations under which consumers' need for cognitive closure is increased due to the influence of pandemic, remains unexplained by theory.

This research identifies possible conditions and situations under which consumers' need for cognitive closure is increased. The first situation is the COVID-19 pandemic. The pandemic has been a global health threat since December 2019. This respiratory disease has impacted every country across the globe. COVID-19 has impacted consumer's in numerous ways. A consumer today is tired of the restrictions and listening about the new variants, and thus needs closure to it. Hence, it becomes an important area of research for analyzing its relation with the need for cognitive closure. Secondly, research has extensively investigated that dissonance arises in such situations where a consumer is in a psychological discomfort state and when they are confronted with inconsistent cognitions (Festinger, 1957). Dissonance arises when a consumer experiences logical inconsistency, violation of an expectation, inconsistency with experience from the past, a new unexpected situation that subsequently results in confusion, psychological tension, and mental discomfort. In essence, consumers across the globe lives in this situation today caused due to pandemic. This leads us to the second construct of the study -cognitive dissonance. Thirdly, it is also well documented in the marketing literature that 'consumer behaviour involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty, and some of which at least are likely to be unpleasant (Bauer, 1960, p. 389). This pandemic has made consumers live in this situation of risk and uncertainty. This leads us to the next construct of the study -perceived risk. Lastly, some groups are more vulnerable than others to the psychological effects of a pandemic. These individual personality differences are also dependent on gender, age, education, and income level. The study aims at understanding the influence of various socio-demographic variables on the need for cognitive closure.

The objectives of this research study are to:

1. To study the impact of a pandemic, perceived risk, and cognitive dissonance on the need for cognitive closure.
2. Construct and purify a smaller version of the scale for all the constructs used in the study.
3. To study the effect of various sociodemographic variables on the need for cognitive closure.

The structure of the paper is as follows: The next section provides the literature review and development of hypothesis on need for cognitive closure, pandemic, cognitive dissonance, perceived risk, and sociodemographic variables. This is followed by research methodology, findings and discussion, theoretical and marketing implications. Finally, limitations of the study and directions for future research are provided.

REVIEW OF LITERATURE AND HYPOTHESES

The need for cognitive closure provides a valuable framework for analyzing the information processing of consumers (Houghton & Grewal, 2000). People with high NFCC, regardless of how risk-averse they are, may not assimilate the new information about changes in market uncertainty (Disatnik & Steinhart, 2015). This literature reveals that high NFCC is another possible characteristic preventing people from incorporating into new market conditions. An essential aspect of NFCC is seizing information that is easy to process and freeze or not changing one's mind after forming an opinion. In the seizing stage of decision-making, people with high NFCC may collect and consider information. However, after deciding, they are likely to "freeze" and pay less attention to additional or new relevant information that could make them change

their minds. (Kruglanski & Webster, 1996). NFCC is the desire for a firm answer to a question instead of uncertainty, ambiguity, or confusion (Kruglanski, 1988).

Cognitive closure has been studied with various other constructs in the literature. Earlier studies have highlighted two different perspectives of this research. First, research on cognitive closure suggests that consumers with a high need for cognitive closure avoid the information that is inconsistent with their set beliefs, they don't want their own prior beliefs to be challenged and avoid information that is incongruent with their prior existence of an attitude (Shavitt, 1989a, 1989b). As a result, according to this perspective, consumers reduce the level of information processing (Maysel & Kruglanski, 1987), reduces the level of information search (Kruglanski & Maysel, 1988) and would engage in limited processing in pursuit of a quick closure (Webster & Kruglanski, 1994).

The need for cognitive closure also has a second perspective. According to Kruglanski and Webster (1996) motivation toward closure may be induced (a) by exogenous variables (e.g., noise) that make information processing difficult, (b) by endogenous variables (e.g., dullness of task), or by an organismic state (e.g., fatigue). The noise, dullness of task or fatigue today is caused due to the pandemic. Consumers today have a lot of uncertainty about the situation as a surge in one country can impact the rise of cases in the other country. Nobody across the globe is protected until all are protected. Houghton and Grewal (2000) state that an individual with a high need for cognitive closure (NFCC) should be less likely than an individual with a low NFCC to seek out information before a purchase, but this should depend on the individual's prior attitude experience about the brand or product category. If the individual has no prior attitude or experience about the product under consideration, a high need for closure could cause an information search because the person needs some information to decide and reach to closure. Likewise, this situation of a pandemic requires information search as consumers have no prior experience regarding this present situation. The present research follows this second perspective of the need for cognitive closure.

Influence of Pandemic on Cognitive Closure

Pandemic has resulted into a strong relation with the cognitive closure. Need for closure may arise where predictability or action seem important (Webster & Kruglanski, 1994) and the absence of closure may seem costly in various circumstances. Consumer's desire for a high need for cognitive closure (HNFC) is an outcome of the pandemic. The pandemic has changed the world and has inflicted serious changes in the psychology of global consumers. This pandemic has introduced every individual to a new world of restrictions, which have consequently influenced a change in their personality and lifestyle behaviour. A consumer today is tired of such restrictions and wants closure for them.

In this situation of pandemic, the motivation of a consumer is to get a definite answer as against the ambiguity, confusion created due to pandemic and hence it is proposed that a consumer will be in a state of high need for cognitive closure. This research proposes that a consumer with no prior knowledge and experience of this pandemic situation is going to engage in more information processing and search to gather the evidence for taking a final decision and hence will result into high need for cognitive closure. As is mentioned previously, people with high NFCC prefer information that can be easily used based on their prior set beliefs and avoid new information for a fast closure but the theory also states that when there is no prior attitude formed and the product or the situation is altogether new it requires a new information search for the closure to happen. Likewise, in this study it is posit that the present situation has led to more need for cognitive closure during this pandemic.

H₁: Pandemic is positively related to high need for cognitive closure.

Influence of Perceived Risk on Cognitive Closure

In 1967, the concept of perceived risk was developed by Cunningham, stating that the two primary dimensions of perceived risk are the buyer's experience of 'uncertainty' and 'consequence'. Perceived

risk is also defined as the subjective expectation of a loss (Sweeney et al.,1999). Hence, risk is inscribed in people's life and it results from the fact of making decisions concerning future (Maciejewsk, 2011).

Thus, perceived risk is characterized by uncertainty, unpleasantness, expectation of loss, concern about future. Perceived risk is a consistent attribute highlighted in consumers decision making. Today's consumer decisions are under conditions of information overload, so marketers should make the most creative and competitive use of information, combined with effective communication strategies (Sachdeva, 2020) to reduce risk. An examination of the literature on perceived risk further suggests that perceived exposure to life-threatening hazards, missing information, information seen to be subjective and unverifiable, and that which ignores the prevailing knowledge base, are likely to increase risk perception (Lofstedt & Renn, 1997). A motivational process model developed by Dholakia (2001) between involvement and perceived risk also suggests that situational involvement acts as an antecedent to various forms of pre-purchase risks. Consequently, public health emergencies created due to pandemic has aroused a situational risk and uncertainty that has impacted a consumer, individual, and community at large. This feeling of risk is affecting the social, emotional, physical, mental well-being of a consumer and has resulted in a lot of economic disruptions across the globe. Likewise, in this study, it is posited that consumers are involved in the present situation of the pandemic which acts as an antecedent to their perceived risk and they need a closure of it.

H₂: Perceived risk caused due to pandemic is positively related to high need for cognitive closure.

Influence of Cognitive Dissonance on Need for Cognitive Closure

Cognitive dissonance theory is one of the most popular, most influential and widely supported theories in the field of psychology. People sometimes find a mismatch between their actions and knowledge that consequently results into cognitive dissonance. Cognitive Dissonance Theory (Festinger, 1957) proposes that individuals experience psychological discomfort when they are confronted with inconsistent cognitions. A person is said to have cognitive dissonance if there is a difference in his cognition elements, i.e., between his knowledge of himself, his thoughts and beliefs and his knowledge of the world (Festinger, 1962).

Cognitive dissonance influences intention to purchase to a great extent. Today, dissonance occurs in the everyday life of a consumer. As mentioned above cognitive dissonance refers to a mental state in which contradictory cognitions or behaviours cause psychological discomfort. Each day we are faced with diverse situations and have to make multiple decisions. The situation of the pandemic has made it even more challenging and our decisions are conflicting with our attitudes, values, and behaviour. What should I eat during this pandemic? Will it be safe to take public transport to work? Should I travel for a vacation to a different country? Should I go to a crowded place? Which is the safe store/place to do shopping? In each of these examples, today's consumer across the globe is confronted with conflicting situations and hence resulting into cognitive dissonance. McGrath (2017) states 'cognitive dissonance is fascinating, in part, because it acts as a motivating force in people's lives' (p. 2). The motivating force in this pandemic is to have a closure over this dissonance for their purchasing decisions. As in this state of the pandemic, we are fighting against the unknown enemy which is the greatest challenge. Likewise, in this study it is posit that the present situation has led to more cognitive dissonance among the consumers and they need a closure of it.

H₃: Cognitive dissonance caused due to pandemic is positively related to high need for cognitive closure.

Influence of Socio Demographic Variables on Need for Closure

Several studies have emphasized the role of demographic variables on cognitive closure. Need for closure is the individual need to find a clear answer and avoid ambiguity and is associated with pressures to uniformity and resistance to change (Kruglanski et al., 2006). The individual characteristic

need can be identified by various demographic variables like age, gender, race, education and income. Brizi and Biraglia (2021) investigated the moderating role of gender on the relationship between the need for closure and the perception of lacking food in the household during the COVID-19 pandemic. The authors concluded, Indian women was perceived to waste more food compared to American women and American and Indian men. Tesi et al. (2021) examined, how in different work organizations, subordinates high in social dominance orientation and in need for cognitive closure comply with harsh power tactics as means to sustain asymmetrical intergroup relationships. The study was based on the controlling variables such as gender, age, and educational level. Wu and Zhou (2021) studied the influencing mechanism of the NFCC on farmers' adoption of green prevention and control technology. The individual characteristic variables of the farmers were studied by the gender and education level of the interviewed farmers and was concluded that male farmers adopt green prevention and control technology to a higher degree.

In an interesting study on veterans, Lillie et al. (2020) examined the association of NCC with lung cancer screening completion and was controlled with the individual-level sociodemographic (age, race, gender, smoking status, and level of education). Results suggested that NCC groups did not differ by sociodemographic factors, low and high NCC groups had statistically similar levels of education, age, and race/ethnicity.

Authors Morgenroth et al. (2021) analyzed that the both gender identification and need for closure were associated with binary views of gender and sex. The research highlighted the association of need for closure with gender essentialism. Based on the extant literature, the following hypothesis is proposed.

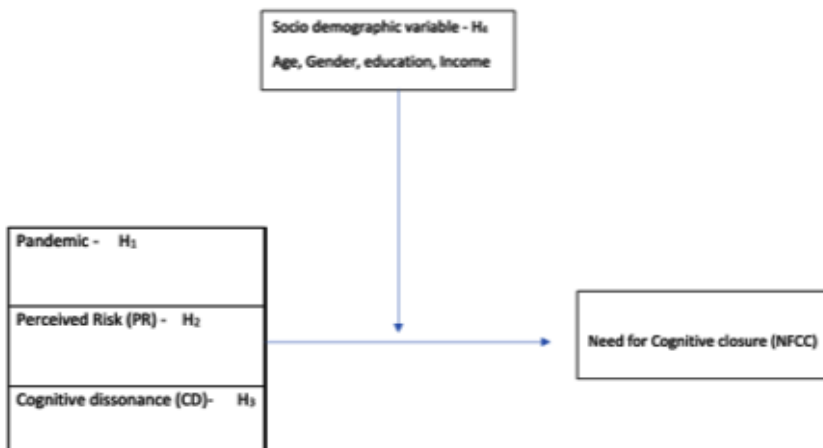
H₄: Demographic factors like age, gender, income and education would moderate relationship between perceived risk, cognitive dissonance, pandemic situation and need for cognitive closure.

RESEARCH METHODOLOGY

Generate Sample of Items for the Scales Used in the Study

After an extensive review of literature on all the constructs of the study the items are generated from the existing scales, from the feedback of the focus group and items are added that appeared to fit the present constructs in the light of the pandemic. All the study constructs were selected based on

Figure 1. The hypothesized relationship of the variables being examined



the feedback from the focus group. The frequency of the choices mentioned by the focus group for the need for cognitive closure was considered an essential input for developing the constructs of the study. In this study the items of the scale are generated for the four constructs used in the study - need for cognitive closure, COVID-19 pandemic, perceived risk, and cognitive dissonance. After reading various related articles the content validity of the items is assessed by a small focus group. The group helped in screening and identifying the duplicate and irrelevant items. Based on the feedback certain items are modified, dropped and added. A five-point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree) is used to measure the following constructs.

Need for cognitive closure scale: In this study the need for cognitive closure is measured through items adapted from works of Neuberg et al., 1997; Roets & Hiel, 2007; Webster & Kruglanski, 1994 and focus groups. The items are modified based on the analysis of the focus group which highlighted a great impact of pandemic on need for cognitive closure. As a result, an eleven- item scale is generated for measuring the need for cognitive closure.

COVID-19 Pandemic Scale: The COVID-19 pandemic scale items are generated through items adapted from works of Ahorsu et al., 2020; Bitan et al., 2020; Mohammadi et al., 2020; Taylor et al., 2020 and focus group. The items are modified based on the analysis of the focus group which highlighted the impact of fear, stress and risks related to COVID -19. As a result, a nine - item scale is generated for measuring impact of COVID-19 pandemic.

Perceived risk Scale: The perceived risk scale items are generated through items adapted from works of Bauer 1960; Forsythe et al., 2006; Grønhaug, 1972; Guru et al., 2020; Maciejewsk, 2011 and focus group. The group highlighted the impact of risk created due to pandemic on their shopping and purchase behaviour. As a result, a ten-item scale is generated for measuring perceived risk related to pandemic.

Cognitive dissonance Scale: The cognitive dissonance scale items are generated through items adapted from work of Sweeney et al. (2000) and focus group. The group highlighted the psychological discomfort, stress and confusion consumers experienced during pandemic. As a result, a sixteen-item scale is generated for measuring cognitive dissonance related to pandemic.

Data Collection and Sample Characteristics

The questionnaire was prepared in English on Qualtrics. It was a structured questionnaire based on a five-point Likert scale (where 1 is strongly disagree and 5 is strongly agree) for evaluating all the items of the four constructs used in the study. The data was collected using Amazon's Mechanical Turk panel. The questionnaire was sent to the entire panel. The participants in the Amazon's Mechanical Turk panel were self-registered adults above 18 years of age, and the participation was voluntary. The participants had volunteered and registered into Amazon's Mechanical Turk panel.

A total of 195 MTurk participants took the survey. Participants were given a brief overview of the study and were asked for their consent. Once participants agreed to the terms, they were then given instructions regarding the survey. Data was collected in June 2021. A total of 195 completed questionnaire is used for the data analysis. Profile of Sample can be seen in Table 1.

Psychometric Quality of Constructs

The scale refinement and purification included series of steps as suggested by many authors (Churchill, 1979; Peter, 1981; Netemeyer et al., 1991; Malhotra, 2005; Forsythe et al., 2006; Sachdeva & Bawa, 2008; Garg et al., 2014). At this stage to purify the measure and scale development the various analytical tools like Cronbach's alpha, item to total correlation, and factor analysis was conducted. In line with the various researchers stated above multiple criteria were used for checking the various psychometrics of the scale. For Cronbach's alpha a value of less than .6 indicated unsatisfactory internal consistency reliability, all correlations above .6 were considered desirable. For exploratory factor analysis (EFA), Kaiser Meyer-Olkin (KMO) was determined which is a measure of sampling adequacy and is an index used to examine the appropriateness of factor analysis. High values between

Table 1. Profile of the total sample for the study

	Frequency	%
Gender		
Male	102	52.3
Female	90	46.2
Prefer not to say	3	1.5
Age (In Years)		
18-24	29	14.9
25-34	93	47.7
35-44	40	20.5
45-54	16	8.2
55-64	11	5.6
65-74	4	2.1
75-84	1	.5
85 - older	1	.5
Education		
Less than high school degree	2	1.0
High school graduate (high school diploma or equivalent including GED)	9	4.6
Some college but no degree	24	12.3
Associate degree in college (2-year)	15	7.7
Bachelor's degree in college (4-year)	108	55.3
Master's degree	31	15.9
Doctoral degree	3	1.5
Professional degree	3	1.5
Household Income		
Less than \$10,000	16	8.2
\$10,000 to \$19,999	11	5.6
\$20,000 to \$29,999	29	14.9
\$30,000 to \$39,999	21	10.8
\$40,000 to \$49,999	17	8.7
\$50,000 to \$59,999	24	12.3
\$60,000 to \$69,999	12	6.2
\$70,000 to \$79,999	14	7.2
\$80,000 to \$89,999	22	11.3
\$90,000 to \$99,999	15	7.7
\$100,000 to \$109,999	13	6.7
\$150,000 or more	1	.5
Total	195	

Table 2. Scale Validation of scale on Pandemic

Item Code	Scale Items	Cronbach alpha- if item is deleted	Item to total correlation	Factor analysis results Eigenvalues > 1		
				Factor loadings	Communalities	Other results
Cronbach Alpha=.907						
<i>During this COVID-19 pandemic, I can honestly say that...</i>						
P1	<i>I felt many things I wanted were in short supply.</i>	.897	.751	.763	.583	No. of factors =1 KMO test value = .877 Sig. of Barlett's test of sphericity=.000 Total % of variance explained = 57.61%
P2	<i>The prices of things I wanted to buy had skyrocketed as a result of the pandemic.</i>	.900	.710	.714	.509	
P3	<i>I shopped less as a result of the pandemic, I bought only what I absolutely needed.</i>	.899	.730	.728	.530	
P4	<i>I got most of the things online and had them delivered</i>	.901	.708	.706	.498	
P5	<i>I was scared of going to shops because I feared they were crowded</i>	.893	.807	.800	.640	
P6	<i>I was scared of going to shops because I feared I will catch the virus</i>	.893	.806	.797	.636	
P7	<i>I stayed away from other people who were not my immediate family</i>	.893	.802	.803	.644	
P8	<i>I don't want to experience the same emotion again</i>	.899	.729	.730	.533	
P9	<i>I am scared that the pandemic might impact again.</i>	.895	.777	.782	.611	

0.5 and 1.0 were considered as indicative for the factor analysis to be an appropriate analysis technique. Items with low factor loadings of .40, or low communalities of .30 were considered as items for deletion. The maximum acceptable p value for Bartlett's test was taken as 0.05. Based on the above stated criteria the psychometrics of the various scales used in this study are examined.

Table 2 titled 'Scale Validation of scale on Pandemic' contains the results obtained on testing the psychometrics of the scales on all nine items comprising the pandemic scale. As seen in the table 2, the results obtained in the present study are excellent, Cronbach alpha is .907, all the item to total correlations are significant and range between .708-.807. The exploratory factor analysis (EFA) is conducted using principal component analysis as an extraction method and varimax as the rotation method. EFA for the pandemic scale revealed one factor. All the results are well within acceptable limits. K.M.O is .877, Bartlett test of sphericity is significant, the percentage of variance explained is 57.61%, all the factor loadings are also high for all the items and all the communalities are above the minimum acceptable level. Thus, no items are deleted and a nine-item scale is used for testing the hypothesis.

Table 3 titled 'Scale Validation of scale on Cognitive Dissonance' contains the results obtained on testing the psychometrics of the scales on all sixteen items comprising the cognitive dissonance scale. As seen in Table 3, the results obtained in the present study are very satisfactory, Cronbach alpha is

Table 3. Scale validation of scale on cognitive dissonance

Item Code	Scale Items	Cronbach alpha – if item is deleted	Item to total correlation	Factor analysis results Eigenvalues > 1		
				Factor loadings	Communalities	Other results
Cronbach Alpha= .958						
<i>After experiencing the shopping during this pandemic, I can honestly say that ...</i>						
CD1	<i>I felt a great deal of confusion about buying anything at all.</i>	.954	.825	.829	.687	No. of factors -1 KMO = .958 Sig. of Bartlett's test of sphericity-.000 Total % of variance explained- 64.04%
CD2	<i>I felt a great deal of anxiety right after clicking on the 'buy' button while shopping online</i>	.954	.838	.848	.719	
CD3	<i>Very often, as soon as I clicked the buy button online, I felt like I made a mistake</i>	.953	.856	.863	.745	
CD4	<i>I felt a lot of anxiety about buying online because I couldn't touch or feel the product.</i>	.955	.793	.799	.638	
CD5	<i>I felt as if I bought a lot of things out of fear that they will run out of stock when I needed them</i>	.956	.723	.710	.504	
CD6	<i>I think I did a lot of impulse purchases at that time</i>	.955	.780	.774	.600	
CD7	<i>I was often concerned that what I purchased would not perform as I expected it to perform</i>	.955	.802	.804	.646	
CD8	<i>I experienced a great deal of confusion about deciding what to buy</i>	.954	.836	.838	.702	
CD9	<i>I experienced a lot of stress while purchasing something I thought is expensive</i>	.956	.749	.748	.559	
CD10	<i>After I made the purchase and awaited delivery, I often thought about returning what I purchased</i>	.953	.866	.870	.758	
CD11	<i>After hitting the 'buy' button, I was often very concerned about the return policies of the seller</i>	.954	.841	.849	.721	
CD12	<i>I substituted the products I ordinarily purchased with cheaper or generic alternatives</i>	.956	.722	.716	.512	
CD13	<i>I have avoided shopping because shopping online made me feel anxious and uneasy</i>	.955	.776	.784	.615	
CD14	<i>I avoided shopping because I found it overwhelming</i>	.954	.802	.805	.648	
CD15	<i>I was choosing to shop more online because I feared that I couldn't maintain social distance in brick and mortar stores.</i>	.960	.523*	----	----	
CD16	<i>I planned to buy only well-known, premium-priced brands instead of the cheaper generic versions.</i>	.956	.746	.743	.552	

*Item dropped from subsequent analysis

.958, all the item to total correlations are significant except for one item CD15 which has a correlation less than .6 and hence is deleted for subsequent analysis. Rest of the item to total correlation range between .722-.866. The exploratory factor analysis (EFA) is conducted using principal component analysis as an extraction method and varimax as the rotation method. EFA for the cognitive dissonance scale revealed one factor. All the results are well within acceptable limits. K.M.O is .958, Bartlett test of sphericity is significant, the percentage of variance explained is 64.04%, all the factor loadings are high for all the items and all the communalities are above the minimum acceptable level. Thus, one item (CD15) is deleted and a fifteen -item scale is used for final analysis.

Table 4 titled 'Scale Validation of scale on Perceived Risk' contains the results obtained on testing the psychometrics of the scales on all ten items comprising the perceived risk scale. As seen in Table 4, the results obtained in the present study are excellent, Cronbach alpha is .924, all the item to total correlations are significant and range between .693-.825. The exploratory factor analysis (EFA) is conducted using principal component analysis as an extraction method and varimax as the rotation method. EFA for the perceived risk scale revealed one factor. All the results are well within acceptable

Table 4. Scale validation of scale on perceived risk

Item Code	Scale Items	Cronbach alpha – if item is deleted	Item to total correlation	Factor analysis results Eigenvalues > 1		
				Factor loadings	Communalities	Other results
Cronbach Alpha=.924						
<i>Due to the COVID 19 pandemic, I honestly say that ...</i>						
PR1	<i>I felt everything around me had a virus.</i>	.912	.825	.828	.685	No. of factors =1 KMO test value = .911 Sig. of Barlett's test of sphericity=.000 Total % of variance explained= 59.50%
PR2	<i>I thought I will not get what I wanted at a reasonable price.</i>	.920	.693	.690	.476	
PR3	<i>I felt that how hard I try; the virus will catch me</i>	.913	.808	.809	.654	
PR4	<i>I felt risky to shop in-store</i>	.919	.723	.725	.525	
PR5	<i>I felt risky that my financial records might not be adequately protected, if I shop online</i>	.913	.810	.813	.661	
PR6	<i>I felt risky that the products I bought will not perform as expected.</i>	.914	.790	.794	.630	
PR7	<i>I felt a great deal of risk that I will lose my job</i>	.918	.740	.732	.536	
PR8	<i>I felt the virus can come to me even if the products were home delivered.</i>	.913	.814	.820	.672	
PR9	<i>I felt there was a great time lost between ordering and receiving the products.</i>	.918	.733	.733	.538	
PR10	<i>I felt that this social isolation will result in a mental breakdown for me.</i>	.917	.765	.758	.575	

limits. K.M.O is .911, Bartlett test of sphericity is significant, the percentage of variance explained is 59.50%, all the factor loadings are high for all the items and all the communalities are above the minimum acceptable level. Thus, no items are deleted and a ten-item scale is used for final analysis.

Table 5 titled 'Scale validation of scale on cognitive closure' contains the results obtained on testing the psychometrics of the scales on all eleven items comprising the cognitive closure scale. As seen in the table 5, the results obtained in the present study are very satisfactory, Cronbach alpha is .894, all the item to total correlations are significant and range between .663-.738. The exploratory factor analysis (EFA) is conducted using principal component analysis as an extraction method and varimax as the rotation method. EFA for the cognitive closure scale revealed two factors (a, b). The factor 'a' is named as 'Virus uncertainty closure' and contains seven items. The factor 'b' is named as 'Shopping uncertainty closure' and contains four items. Closure regarding virus uncertainty factor included items related to the consumer's high need for cognitive closure regarding the spread of the virus, and consumers want this ambiguity surrounding the world to go away fast so that they can socialize with their loved ones without any stress. The second factor 'shopping uncertainty closure' included items related to the consumers desire to be a free consumer to shop around without any stress or fear and free from the burden and pressure to shop in bulk or have a fear of shortage of supply of

Table 5. Scale validation of scale on cognitive closure

Item Code	Scale Items	Cronbach alpha – if item is deleted	Item to total correlation	Factor analysis results Eigenvalues > 1		
				Factor loadings	Communalities	Other results
Cronbach Alpha=.894						
<i>This pandemic has taken away my patience and now I honestly say that ... a b</i>						
CC1	<i>I feel the pandemic should go away fast so that I can be a free consumer.</i>	.883	.716	.565	.499	No. of factors =2(a,b) KMO test value = .897 Sig. of Barlett's test of sphericity=.000 Total % of variance explained= 59.99%
CC2	<i>I want the products that I am buying online to reach fast.</i>	.882	.733	.696	.594	
CC3	<i>I dislike the situation of uncertainty that is created due to pandemics</i>	.883	.723	.777	.646	
CC4	<i>I want this unpredictability engendered by the COVID pandemic to end soon</i>	.883	.709	.826	.695	
CC5	<i>I don't want to limit my socialization with people due to the pandemic.</i>	.888	.663	.496	.427	
CC6	<i>I don't like when the manufacturers are not able to provide the essential items in the market.</i>	.880	.760	.723	.633	
CC7	<i>I don't want to have a fear that I am paying a higher price for everything due to pandemic.</i>	.885	.686	.742	.581	
CC8	<i>I don't want the online reviews and shopping experiences of others to impact my shopping behaviour</i>	.881	.738	.681	.629	
CC9	<i>I dislike procrastinating my shopping because of the pandemic.</i>	.879	.766	.574	.616	
CC10	<i>I feel a need for a surety that the product that I am buying is free from the virus.</i>	.895	.695	.741	.567	
CC11	<i>I don't like to buy in bulk with a fear in mind that the product might be in short supply soon</i>	.888	.655	.829	.711	

products. All the results are well within acceptable limits. K.M.O is .894, Bartlett test of sphericity is significant, the percentage of variance explained is 59.99%, all the factor loadings for both the factors (a, b) are high for all the items and all the communalities are above the minimum acceptable level. Thus, no items were deleted and an eleven-item scale was used for testing the hypothesis.

Multiple regression with the step-wise method is conducted for the analysis. All the regression assumptions were evaluated before performing the step-wise regression. The sample size was adequate for conducting the analysis. The correlation table in the SPSS depicted two important criteria for

checking the assumptions. First, to check the multicollinearity, the relationship of the independent variables to each other was evaluated. The potential problem of multicollinearity was examined according to a suggestion from Hair et al. (1998). The correlation between the independent variables was less than .7. Further, all variance inflationary factor (VIF) values of independent variables were less than 3; therefore, no significant multicollinearity problem existed. Second, the predictor variable relationship to the dependent variable was evaluated. All the correlations were more than .3; hence the conditions were fulfilled to conduct the analysis.

FINDINGS AND DISCUSSION

The objective of this research is to identify predictors for the need for cognitive closure behaviour. Step wise regression analysis is run to understand moderating influence of demographic variables of gender, age, income, and education on pandemic environment, perceived risk and cognitive dissonance in predicting the need for cognitive closure behaviour.

For the first model, perceived risk emerged as the predictor for the need for cognitive closure ($R^2 = .548$). Perceived risk accounted for 54.8% of the need for cognitive closure. H_2 gets accepted. The findings support earlier studies that highlighted the influence of perceived risk on the need for cognitive closure. This result reveals an interesting insight into the psychology of a consumer today. The virus and pandemic have left a deep impact on consumer mindset and today's consumer is uncertain, feels risky which is subsequently impacting their purchase behaviour. As stated by authors (Slovic & Lichtenstein, 1968; Horton, 1976) risk assessment is done by combining the probability of occurrence of a particular hazard and the consequences of that hazard. Consumers focus more on the severity of the consequences rather than the probability of occurrences. The severity of the pandemic has been seen by the consumers and they need a closure to this risk-filled environment. A consumer today is very involved in the present situation and needs a definitive answer against this uncertainty. As most of the literature suggests that the concept of perceived risk is composed of the consumer's perceptions of the uncertainty and adverse consequence of buying a product or service (Dowling & Staelin, 1994). This feeling of uncertainty arises as the consumer is not sure whether the present situation, precautions, new variants will lead to the ultimate accomplishment of having a safe, healthy, virus-free environment for individuals and communities at large.

In the second model, the pandemic environment is introduced. Perceived risk and pandemic environment accounted for 57.9 per cent of the need for cognitive closure ($R^2 = .579$). Yes, the change can be evaluated by adding the pandemic environment, as perceived risk and pandemic environment total now contribute to 57.9 percent of the need for cognitive closure. Hence, the 57.9 percent of the variance in the dependent variable (need for cognitive closure) is explained by the movement in the independent variables. The results support studies that suggest pandemic has impacted every walk of life of a consumer. It has resulted in severe economic, social, mental, psychological, physical, mental disruptions of people across the globe. The COVID-19 pandemic has alarming implications for individual and collective health and emotional and social functioning (Pfefferbaum & North, 2020). The developed countries are rigorously implementing the vaccination program and subsequently resulting in bringing life back to normal. But as new variants emerge in one part of the globe (CDC, 2021) it is threatening to the entire world as viruses don't respect borders. And a consumer today is tired of these restrictions and risky environment. A consumer needs closure against this ambiguity and confusion.

In the third model, cognitive dissonance is introduced. Perceived risk, pandemic environment, and cognitive dissonance accounted for 59.0 per cent of the need for cognitive closure ($R^2 = .590$). The results support earlier studies (McGarth, 2017; Martinez, 2018; Montecinos et al., 2018) where when a consumer has a high dissonance it results in a high need for cognitive closure and consumers try to reduce this mental discomfort as much as possible. Dissonance impacts every stage of a consumer decision-making process and this psychological tension acts as a motivational force for resolving

Table 6. Predictors of need for Cognitive closure

Model	Variable	β	R ²	Adjusted R ²	Significance
1.	First regression (dependent variable: need for cognitive closure) Perceived Risk <i>F</i> =231.697	.740**	.548	.546	.000**
2	Second regression (dependent variable: need for cognitive closure) Perceived Risk Pandemic <i>F</i> =130.901	.512** .289**	.579	.575	.000** .000**
3	Third regression (dependent variable: need for cognitive closure) Perceived Risk Pandemic Cognitive Dissonance <i>F</i> =90.687	.319 ** .334** .190**	.590	.584	.005** .000** .028**

Significant at **p > 0 .001 level

the dissonance by changing one's behaviour, one's attitude, or in engaging in cognitive strategies to minimize the perceived discordance (Martinez, 2018). Undoubtedly a consumer today is in a stage of cognitive dissonance with so many uncertainties created in the environment due to the pandemic. This cognitive dissonance created due to pandemic is closely associated with consumers buying behaviour. In this situation, companies and firms should wisely spend their time, efforts and resources to gain the confidence of the consumer and try to reduce this dissonance created due to the pandemic.

THEORETICAL IMPLICATIONS

This research highlights that perceived risk is the most important construct for predicting cognitive closure. It is well documented in the literature that risk perceptions influence the consumer's behaviour and thinking. Perceived risk has been studied in a variety of contexts and is closely associated with uncertainty, dimension of loss and unpleasant consequences. The consumer is associating this present situation of pandemic with all these constructs of the perceived risk, that is sequentially impacting their freedom as a consumer. Today, consumers are exhausted of such uncertainties and fear of expectation of a loss and want closure for it. This study further highlights the role of pandemic and cognitive dissonance for predicting cognitive closure. The fear of pandemic has made infectious disease one of the significant public health problems today (Mishra et al., 2022) and has resulted in more dissonance among consumers. Because of the lockdown restrictions, digital communication has grown exponentially high during this period. Trust and identity remain the fundamental issues to both the social and digital environments (Kumar & Pradhan, 2020). The research highlights that during this pandemic, companies need to do continual innovation to delight their customers, grow, and remain ahead of the competition (Mandal, 2022), which will subsequently reduce the consumers' cognitive dissonance. The dissonance of a consumer is also increased because of some group's irresponsible social behaviour, lack of vaccination, restrictions to international travel, and not following the hygiene protocols related to pandemic. There are many new variants surging across the globe and the Our World Data (2021) states that only 22.0% of the world population is fully vaccinated across the globe. These groups of unvaccinated people could threaten to prolong and spread the pandemic across the globe which attributes to perceived risk and cognitive dissonance for every consumer. Specifically, this research highlights that pandemic has resulted into high cognitive dissonance and perceived risk that has led consumers with high need for cognitive closure.

The study further explores how various socio- demographic variables moderate the relationship between pandemic, cognitive dissonance and perceived risk. The results highlight that there is no moderating influence of demographic variables on any of the factors in predicting consumers cognitive closure. Hence, H_4 gets rejected. The findings differ from latest studies which suggest that demographics are important in cognitive closure (Brizi & Biraglia, 2021; Morgenroth et al., 2021; Tesi et al., 2021; Wu & Zhou, 2021). Current research findings contradict these studies as demographics do not influence the consumers cognitive closure. The other studies highlighted the impact of gender, education, race, age on the cognitive closure. However, in the current study there is no difference among consumer segments. This could be because in this situation of pandemic all the consumers are equally impacted irrespective of any age, gender, education and income level, in their own way. Further there is not any specific product category for which the perceived risk, impact of pandemic or cognitive dissonance was measured; therefore, a specific preference or impact could not be ascertained.

MARKETING IMPLICATIONS

This pandemic has not only posted serious challenge for the medical communities and health professionals across the globe but also for the marketing professionals. Since December 2019, a consumer is confined to home and is scared to come back to the normal routine of shopping and this is going to persist in the society for long. As a result, this is an implication for the marketers to design the marketing strategies in a way to gain the confidence of the consumers. The biggest element today of the marketing strategies should be to highlight and demonstrate the firm's process of following all the hygiene recommended pandemic protocols for making the product virus free and safe for the consumers. Effective and continuous communication regarding their safety protocols related to pandemic, should be demonstrated through social media and other platforms with consumers (Sachdeva, 2022). This will result into the cognitive closure as it is well documented in the literature that risk perceptions, stress and anxiety influence the consumer's shopping behaviour and thinking.

It is also very important for marketers to understand a consumer's decision-making process and design their strategies in a way which will subsequently lead to cognitive closure for the risk and anxiety associated with the pandemic. During the pandemic there was a great imbalance between the actual and the desired state of a consumer and firms can focus on identifying precisely this want-got gap, to gain the confidence of the consumers. Marketers should design an easy process for the information search and evaluation stage of a consumer by implementing new technologies like automation, proactive personalization, and contextual interaction. Consumers anxiety and perceived risk to a great extent can be handled by designing these technologies effectively as they exert greater influence over the decision-making journey of a consumer. Cognitive closure can also be achieved when marketing managers can try and help to reduce the dissonance of a consumer at the post purchase evaluation stage as the post-purchase perceived risk for insurance is relatively high and is a significant determinant of consumer buying behaviour. This could be handled by not leaving a consumer during the post purchase stage and having an effective communication with the consumer.

Marketers have to understand that the pandemic has given rise to many businesses, like the emergence of travel apps. Consumers have shown the intention to use travel apps before planning their journey because they have become cautious of the risk associated with the pandemic (Gharaibeh & Gharaibeh, 2022). Further pandemic has also impacted the supply chain. Marketers have to focus on this aspect as a shorter supply chain considers better to add value to the customer and improve supply dependability (Alzoubi et al., 2022). Further, marketers have to take utmost steps in protecting the online users' privacy rights related to e-commerce (Albakjaji et al., 2020) as online shopping has increased exponentially during this pandemic.

Another very important area that marketers can focus on to provide a definite answer against ambiguity (Kruglanski & Webster, 1996) is through an effective content marketing approach.

Companies content marketing should aim to create and distribute relevant, valuable, insightful, important content through videos, podcasts, webinars, and websites. All the measures adopted by the companies to handle the pandemic and reduce the consumer's anxiety and perceived risk should be exhibited through content marketing. This can also help a company become a thought leader by showing empathy towards the consumer during this time of uncertainty and stress. As content marketing is a crucial part of promotion and it also results in consumer empowerment by connecting consumers directly with other consumers, web communities and the company, the greater measure adopted by the companies to end the cognitive closure should be emphasized on content marketing.

Government, social organizations, and companies should develop promotional, educational campaigns that focus on the importance, safety and benefits of the COVID-19 vaccines and highlight the contribution of individual vaccination to herd immunity. Transparency about vaccine effectiveness will likely improve trust in a COVID-19 vaccine. For this companies should collaborate with other organizations for gaining confidence in vaccines and eliminating the vaccine hesitations, as vaccine hesitancy is a major barrier to vaccine uptake and the achievement of herd immunity. These measures will only help to bring life back to normal and reduce the anxiety and risk associated with the pandemic. Companies can also develop effective advertising campaigns depicting the safety and benefits of the vaccine which will result in bringing back the consumer to a normal shopping pattern, reduce the fear of catching the virus, and the contradiction, inconsistency among the shopping behaviour will be eliminated.

Thus, anxiety-reducing behaviours during this time of pandemic should be the aim for marketers. Marketers should aim for creating brand loyalty among the consumers at this stage through the medium of advertising, and social media. They should also develop strategies to gain trust and confidence for online shoppers and have liberal return policies. At this time marketing managers should understand and be aware of the important role that the employees and staff can play during this time of pandemic for reducing the dissonance and perceived risk associated with the present situation. All the large number of the well-performing organizations in the world aim to create environments that can produce highly motivated employees to attain their goals (Galli, 2020) during the pandemic. Employees and staff can result into building brand loyalties, enhance customer satisfaction, retention, and repeat purchase.

CONCLUSION

The current study aims at understanding how this pandemic impact consumer with a high (low) need for cognitive closure. The findings add to the existing literature on the need for cognitive closure during this pandemic. This study analyzed the influence of the COVID-19 pandemic, perceived risk, cognitive dissonance, and moderating role of demographic factors on cognitive closure. It is concluded that the first three factors are relevant in predicting consumers' need for cognitive closure level. They are related to perceived risk, pandemic environment, and cognitive dissonance. Hence hypotheses H_1 , H_2 , and H_3 are accepted. The research highlight as the world is still surrounded by the pandemic and the virus is spreading in each country in variable proportions, many new variants emerge across the globe, which has led consumers to be perplexed and has aroused a greater need for cognitive closure. Hence, this study concluded the three factors for explaining the consumer's cognitive closure behaviour.

This study developed shorter versions of the scales of the various constructs (pandemic, perceived risk, cognitive dissonance, and need for cognitive closure) used. Many authors (Childers et al., 1980; Kanuk & Berenson, 1975) have highlighted that using small scales in research minimizes respondent fatigue, improves data quality, and increases the response rate. After checking the various psychometrics of the scales, the scales developed in this research have desirable, reliable, and valid properties and thus could be used by aspiring researchers.

Directions for Future Research and Limitations

Although this study presents useful and important contributions to the literature some caveats must be addressed. First, future studies can examine the relevance of the need for cognitive closure related to a specific product category. As in this time of the pandemic, essential items would have been more in demand in comparison to other products. Second, researchers can study the moderating role of demographic factors over the larger sample. As some groups may be more vulnerable than others to the psychological effects of a pandemic like the health care providers or front-line workers as they would have gone through more emotional distress during this time. So, a study to analyze the factors for their need for cognitive closure will be an interesting study. Third, future quantitative research should be conducted to determine whether the predictors demonstrated in this study over the need for cognitive closure are present in a more diverse larger population. Fourth, in-depth qualitative surveys should be conducted for exploring the predictors for the need for cognitive closure during this time of the pandemic. Fifth, the research model of this study should be extended to a new cultural context. Sixth, only an exploratory factor analysis was done for purifying the scale, it is highly recommended to conduct the confirmatory analysis with a second similar sample. Finally, future researchers should employ longitudinal data to confirm the theoretical model of this study.

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