

The Gloomy of COVID-19 Shock in Hospitality Industry: Study of Consumer Risk Perception and Adaptive Belief in Dark Cloud of Pandemic

Abstract:

As the novel coronavirus (COVID-19) spreads globally, the hospitality industry as the heart of implementing social distancing, a measure demonstrated to be effective in flattening the epidemic curve. Informed by the perceived risk theory, this research examines how the customer's perception of the shock of coronavirus pandemic impacts on their belief and how their beliefs could influence their anticipated emotion (negative and positive) which could affect their future desire towards visiting restaurants. Structural equation modelling was used to understand the research constructs' associations. This study provides three key implications (i) by categorizing incorporation of the restaurant business's future desire for the hospitality sector and from the generalize key recommendations for future research. (ii) The hospitality industry requires to build on trust with their customers by supporting and resourcing consumer's self-protection behaviour and adoptive belief. (iii) The economic influence and the continuous uncertainty and transformation of the restaurant businesses need the application of advanced localisation strategies, practices and performance.

Keywords: Perception of shock of disaster (Coronavirus pandemic); COVID-19; belief; anticipated emotion; future desire; perceived health risk; lockdown restriction

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Introduction

The very recent major pandemic coronavirus outbreak (COVID-19) and the ensuing global recession has caused extraordinary uncertainty, risks in the hospitality, and tourism sector. The pandemic outbreak spread on a global scale through international tourists who were returning to their homelands after being in the infected areas. The quick spread of COVID-19 has caused substantial damage to the UK hospitality industry in the week prior to the government's caution regarding the increasing threat of COVID-19. The UK Prime Minister 'Boris Johnson' suggested the public on 16 March 2020 to avoid places such as restaurants, and bars, however, no ban was yet obligatory. Restaurant groups experienced a significant reduction in sales (21%) in the previous week of the announcement at 21 per cent, compared to bar dropped sales (14%). Restaurant sales declined 52% on 17 March 2020, and a few days after went down to 82% when the restaurants were forced to close down. However, later on, they allowed for delivery or takeaway (Statista.com, 2020ab).

Following the global health pandemic and its devastating impact on every single industry especially hospitality, there are calls to carry out a theoretically driven, and systematic research into customers' perceived health risk so that hospitality managers can develop and apply health-related risks. COVID-19 pandemic is known as a substantial negative issue in an extraordinarily challenging year for global hospitality and tourism. However, there is a lack of studies on how previous customers and potential new customers behave when they are considering using hospitality services during and after COVID-19 pandemic. Also, it is essential to investigate how the flow of affective meanings from the pandemic narrative is reshaping the consumption landscape and desire with profound and long-lasting implications for both consumers and producers alike. Understanding the customers' beliefs and behaviour would benefit hospitality managers to cope with a crisis more efficiently. According to the importance of the topic, our research aims to explore the influences of COVID-19 on the performance of the hospitality sector through consumers' perception behaviour and resilience, to support policymakers to develop prompt and actionable policies applicable in this harshly affected industry.

How the individual customers' perception of the shock of coronavirus pandemic impacts on their beliefs and how their beliefs could influence their anticipated emotion (negative and positive) which could affect their future desire towards visiting restaurants. Whether this global transformation will be a start of the dark cloud in the hospitality sector or there is close recovery ahead of dark cloud phenomena? There are extensive studies that investigated the impact of

the crisis on tourism in different contexts such as hospitality (Chien and Law, 2003; Israeli and Reichel, 2003; Kim et al., 2019; Morakabati et al., 2017; Rittichainuwat, 2013) or with specific reference to travel agents (Perl and Israeli, 2011). Other researchers have focused on the economic crisis or terrorism as a form of crisis (Corbet et al., 2019; Karl, 2018; Khalid et al., 2019; Papatheodorou and Pappas, 2017; Walters et al., 2019; Zopiatis et al., 2018) in tourism. However, as mentioned earlier limited studies have examined the impact of health-related epidemics in hospitality and tourism, such as the influence of swine flu on tourism and hospitality demand (Page et al., 2012) the influence of SARS on tourism demand in Asia (Kuo et al., 2008), the effect of H1N1 influenza on travel intention (Lee et al., 2012), or bed bug crisis management (Liu et al., 2015). During the past two decades, there have been wide ranges of health-related crises that have posed irreparable damage to the tourism industry (Kuo et al., 2008; Henderson, 2004). As tourists and travelling can easily spread the epidemics and turn it into a total pandemic, different global organizations (e.g., World Health Organization, UN World Tourism Organization) are particularly becoming interested in applying and employing precautionary strategies and actions to sharply decrease the health-related crisis due to hospitality and tourism (Sunstein, 2005) across the globe.

We draw on prior research (e.g., Han and Ryu, 2012; Lee et al., 2012) to theorize customers' desire with a company as a selective and active act anticipated emotional needs. In doing so, this study adopts a consumer-centric viewpoint. It contributes to the rising research on the impact of customers' perception of the shock of coronavirus pandemic, integrated beliefs variables (behavioural, normative, and control), emotions (negative and positive) on consumers' future desires towards the hospitality sector. By employing perceived risk theory, this study provides a comprehensive and coherent model on how the perception of global COVID-19 outbreak impact on consumer's belief, emotion and desire towards the hospitality sector and its long-term implication on this very fragile industry. In addition, in this study, we investigate the non-pharmaceutical intervention, perceived health risk, and lockdown restriction could influence the research relationships. This value enriches the significance of the association and consequences in certain customer-company directed behaviours which is distinct from those characteristically achieved previously.

In the subsequent sections, a review of earlier research on perceived health risk, belief, emotion, and desire is provided in the first section. Then, the research methodology is outlined in the second section. Discussion and findings in the light of prior studies are undertaken in the next section. Lastly, we conclude with theoretical, managerial implications, limitations, and future research.

1. Theoretical Background of COVID-19 pandemic in the hospitality sector

The global shock of COVID-19 disaster and consumer's perception

The recent worldwide coronavirus pandemic shows another global disaster like 1918 'Spanish Flu' disease caused a significant shock in the international economy, especially in the tourism industry. In December 2019 Chinese government stated this to the World Health Organisation as an epidemic of pneumonia of unknown source detected in the city of Wuhan in China (WHO, 2019). Then in February 2020, the WHO acknowledged the virus as a novel coronavirus disease of COVID-19 (WHO, 2020). On a daily basis, the COVID-19 cases swiftly increased internationally (Dong et al., 2020; WHO, 2020). Then by 19 June 2020, the confirmed cases approached 8.55 million with over 4.75K deaths worldwide (ECDC 2020) and that increased global economic anxiety (Fetzer et al. 2020) which could impact the hospitality industry dramatically. In a similar scenario of 2003 SARS outbreak caused \$20 billion declines in GDP in Vietnam, Singapore, Hong Kong and China, and 70% decline in tourism flow in Far East (McKercher and Chon, 2004). The current situation under the new pandemic is unknown and full of challenges and uncertainty. However, there is some evidence that COVID-19 is diverse from the previous outbreak crisis, and it will be followed by the enormous transformation in the tourism sector (Gossling et al., 2020). Hence, the future implication of current disaster could be unavoidable on a consumer's perception.

Consumer perception (of the shock of coronavirus pandemic) represents a person's information and involvements which are receptive to their understanding of matters, behaviours, and procedures (Anderson, 2004; Lee et al., 2012). Pandemic crisis carried wider ambiguity and negative perception for hospitality, tourism and travel destinations. In the case of the Ebola 2014 epidemic, there was evidence of broader ambiguity and adverse insights for travel to those parts of Africa that were not even affected by Ebola disease (Maphanga and Henama, 2019; Novelli et al., 2018). Therefore, when a global disaster requires worldwide quarantine and severe movement restriction, then the consumer perception of the disease and its implication in the New Normal hospitality industry needs further investigation.

2.1. Perception of the shock of coronavirus pandemic and consumers' belief

People's beliefs describe their behavioural intentions (Ajzen and Fishbein, 1980). Therefore, consumer belief is an important factor to help the hospitality industry to recover from the shock of the COVID-19 disaster. Consumers' belief depends on three belief-based measures as behavioural, normative and control belief. Behavioural beliefs discuss the personal possibility of the consequences by engaging in the conduct, and result estimation indicates a

personal valuation of the probable results (Ajzen, 1991; 2011). Normative beliefs can be considered as a perceived behavioural prospect of an individual's belief and incentive to indicate a person's desire to obey with one's wishes of that behaviour (Ajzen, 1991; Ajzen and Fishbein, 1980). Where control beliefs denote an individual's perceived occurrence or absence of aspects that enable or deter the performance, and the perceived control refers to the review of the implication of these issues (Ajzen, 1991; Ajzen and Fishbein, 1980). During the epidemic, outbreak, consumers believe that non-pharmaceutical intervention reduces the risk of contagion when travelling (Lee et al., 2012). They indicated that for forecasting the visitors' intention, some factors such as desire, perceived behavioural control, the regularity of previous behaviour, and non-pharmaceutical intervention play a crucial role. Thus, it is important to hypothesize the influence of the non-pharmaceutical intervention on the association between the shockwave of COVID-19 pandemic and consumers' belief in the hospitality industry.

The risk theory is seen as a strong theory in explaining tourist behaviour during global pandemic (e.g., the outbreak of Ebola) (Cahyanto et al., 2016). According to risk theory tourists are always seeking to maximize their utility and avoid any negative experiences. In other words, high perceived health risk will lead the customers to fewer buying behaviour (Lim, 2003). Previous studies significantly support that the travel intention is directly influenced by the traveller perceived risk (Al-Ansi and Olya, 2019; Olya and Al-ansi, 2018; Reisinger and Mavondo, 2005; Yüksel and Yüksel, 2007). Risk initially introduced by Bauer (1960) in marketing by indicating that consumers' behaviour encompasses risk and uncertainty since the consequences of their actions are inevitable, and some are unpleasant. In this regard, the notion of uncertainty and risk resulted in two distinctive streams of study for future researchers. The first body of stream studied the risk and uncertainty as two identical research constructs (Shimp and Bearden, 1982), in which risk is identified as a personal customer feeling of ambiguity which the outcome of a potential decision can be positive and favourable. This research stream is still present in the recent marketing and tourism-related studies (Béjaoui and Karaa, 2020; Mohseni et al., 2018; Tseng and Chang, 2016; Wu and Cheng, 2018). The second part of the study argues for a discrepancy between uncertainty and risk. In this research stream, the risk is seen as a measure of probability by indicating the ratio of occurrence to the total possible outcome (Stone and Gronhaug, 1993), while uncertainty specifies the circumstances in which the outcome could be anything where there is not any hint about it. (Hofstede, 2001). Here, it is important to justify whether the uncertainty or perceived health risk would better the impact of disaster sock on consumers' belief due to the current pandemic outbreak, where the future is very ambiguous.

Researchers (e.g., Stone and Winter, 1987) have defined the perceived risk in terms of a probable future loss that occurs when a decision has been made (Adam, 2015). Based on the definition of perceived risk, it seems that there is a distinction between uncertainty and perceived risk in marketing and tourism literature. Perceived risk is often shown as the anticipation of a possible loss in which profitability is attached to the possible consequences (Dowling and Stealin, 1994). Consequently, people perceive different types of risks which are associated with the outcome. However, according to Backer and Knudsen (2005), uncertainty is referred to the expiration of a potential loss which can be attached to a possible outcome. Furthermore, as perceived risk is viewed as a kind of possible loss, researchers (e.g., Dholakia, 2001) suggested that there are diverse forms of potential risk in terms of performance, financial, psychological, social, health, and finally time risk (loss) aspects.

Performance risk is linked to the purchase that does not deliver the expected or desired outcome (Horton, 1976; Huang et al., 2020; Kim et al., 2020; Marder et al., 2019; Olya and Al-ansi, 2018; Park and Tussyadiah, 2017). Financial risk is seen as the possible financial loss including the probability that service or good needs to be replaced, fixed or compensated altogether (DeFranco and Morosan, 2017; Laroche et al., 2004; Matzler et al., 2019; Park and Tussyadiah, 2017). Psychological risk shows the individual's psychological discomfort resulted from post-purchase emotional reaction (e.g., regret, worry) (Björk and Kauppinen-Räsänen, 2012; Chew and Jahari, 2014; Fuchs and Reichel, 2011; Roehl and Fesenmaier, 1992). Social risk reflects the likelihood of an individual's buying behaviour that can effect on other buyer's opinion (Choi et al., 2018; Dayour et al., 2019; Lee and Oh, 2017; Murray and Schlacter, 1990; Sarman et al., 2019). The health risk is associated with this that the purchase can pose an unprecedented hazard to the individual's health (Huang et al., 2020; Mitchell, 1998; Sarman et al., 2016; Sheng-Hshiang et al., 1997; Wang et al., 2010; Weber, 2001). Ultimately, time risk shows the likelihood that a purchase time will be too lengthy or waste the individual time (Fennell, 2017; Michaelidou and Micevski, 2019; Roselius, 1971; Solanki, 2011; Thapa et al., 2013). However, there may be a serious problem when separating the definitions of risk in the travel and tourism sector (Wolff et al., 2019).

Moreover, in a case of global pandemic consumer behaviour in the tourism industry is impacted by some key factors including household income, perceived health risk, reformed measurements of consumption due to epidemic constraint (Lee and Chen, 2011). All indicated factors are important in driving the consumers' belief in the tourism sector. Therefore, the shock of the COVID-19 disaster reflects significantly on a range of risks explicitly on perceived risk

and as a result in the relationship between perception of the shock of pandemic and consumer's belief, leading us to the following hypothesis: Although the previous behaviour is a decent tool to estimate the behavioural purpose in the future (Lam and Hsu, 2006). But this may not be an appropriate tool after a pandemic outbreak since the consumer's belief is strongly influenced by the sock of the epidemic disaster. Accordingly, when consumers' belief is inclined by the pandemic outbreak, then their behaviour could be biased. Therefore, the next hypothesis is projected:

Hypothesis 1: Attributes of perception of the shock of coronavirus pandemic impact on consumers' belief which depends on behavioural belief, normative belief, and control belief in the hospitality industry.

Hypothesis 1a: Non-pharmaceutical intervention strengthens the relationship between the shock of disaster and consumers' belief which depends on behavioural belief, normative belief, and control belief in the hospitality industry.

Hypothesis 1b: Perceived health risk strength the relationship between the shock of disaster and consumers' belief which depends on behavioural belief, normative belief, and control belief in the hospitality industry.

2.2. Consumer's belief and anticipated emotion

COVID-19 has significantly impacted consumer's physiological perspectives, such as emotion. Emotion refers to the mental state of an individual which has consequences on one's happiness and achievement. (Johnson and Stewart, 2005). People in their decision-making process regularly anticipate their feelings about upcoming results and as a consequence, in their choice (Mellers and McGraw, 2001). There are two types of anticipated emotions as positive anticipated emotion, and negative anticipated emotion, where positive anticipated emotion refers to success in achieving a goal (Perugini, and Bagozzi, 2001), and negative anticipated emotions refer to failures in achieving a target (Perugini, and Bagozzi, 2001). Under current pandemic circumstances, there is a significant rise in people's negative emotion and relatively decline in their positive emotion (Li et al., 2020). They urged that people are not interested in their vacations and relaxation to any further extent where their main worry and attention is about their and their family's health. People's negative emotion rises when they try to protect themselves (Mortensen et al., 2010). The long-term rise in negative emotion impacts

destructively in people's immune systems (Kiecolt-Glaser et al., 2002) and is damaging to societies and economies. Recent research by Li et al. (2020) indicated that due to the COVID-19 pandemic outbreak people's negative emotion such as anxiety and depression amplified noticeably and comparatively their positive emotion diminished. On top of the escalation of negative emotion, the movement restriction could have a very harsh implication in consumers' behaviour and consequently, in the global economy, especially the hospitality industry. This led us to hypothesis 2a and 2b.

Hypothesis 2: Attributes of perception of customers' belief impact on anticipated negative emotion (H2a) and anticipated positive emotion (H2b)

Hypothesis 2cd: Perceived health risk strength the relationship between consumers' belief and negative anticipate emotion (H2c) and positive anticipate emotion (H2d).

2.3. Anticipated emotion and future desire

The anticipated emotional response is an influential factor in an efficient decision-making procedure (Van der Pligt and De Vries, 1998; Triandis, 1977). A later study specifies that the positive and negative anticipated emotions effect on consumer's desire (Perugini and Bagozzi, 2001). The ongoing COVID-19 implication on peoples' emotion and cognition are observable (Li et al., 2020). It is very likely that people progress to negative emotion to protect themselves (Mortensen et al., 2010) in this very uncertain time. This long-term negative emotion could cause serious damage to the immune system (Kiecolt-Glaser, 2002). Desire is a crucial explanatory aspect to forecast tourist behavioural intention for their visit (Lee et al., 2012). Hence, this is very vital to investigate how the anticipated emotion could impact on consumers' desire in the hospitality sector.

Moreover, some on-pharmaceutical intervention plays a crucial role in developing anticipated emotion and form consumer future desire during this pandemic outbreak (See Figure 1). With the lack of medical intervention due to the nature of the disease, it becomes very challenging to stop the pandemic spread. Most countries followed a range of non-pharmaceutical intervention, predominantly lockdown and social distancing. This immediately impacted the global economy, specifically the hospitality sector such as events, accommodations, catering and restaurants significantly where the come-back to normal life is very uncertain and unpredictable (Gössling et al., 2020). Many customers are struggling to

figure out what the hospitality sector will be like after the lockdown is released. The COVID-19 caused a global downturn in the tourism sector, and it will transform the industry consequently (Gössling et al., 2020). It is essential to examine how the lockdown policy could provide some assurance for consumer's self-protection and more desire, or would impact negatively on consumers anticipate emotion and lead them to desire. Thus,

Hypothesis 3: Attributes of negative anticipated emotion (H3a) and positive anticipated emotion (H3b) impact on future desire.

Hypothesis 3cd: Lockdown restriction strength the relationship between negative anticipated emotion (H3c) positive anticipated emotion (H3d) and future desire.

Insert Figure 1 Here

2.4. Method

2.4.1. Data collection and sample characteristics

To understand how the individual's perception of the shock of coronavirus pandemic impacts on their beliefs and how their beliefs could influence on their anticipated emotion (negative and positive) which could affect their future desire towards visiting restaurants, the survey (instrument) was distributed via social media and web-link. The survey was supplemented by the aim of the research and guaranteeing the confidentiality of data. In addition, to decrease the likelihood of the respondent guessing, the items were counterbalanced based on a suggestion by Malhotra et al. (2006). Also, the items were examined by five scholars and two restaurant managers. Based on their advice, the language of the items was kept clear, specific, and simple.

A total of 521 usable surveys were collected from those individual who were a regular customers of the various restaurants in London (UK) before pandemic for additional analyses. As illustrated in Table 1, the participant's profile demonstrated that the most of the contributors were male (57.1%), aged between 45 and 54 (29.6%), and highly educated with postgraduate degrees (54%) were used to visit restaurants more than ten times per month. However, they prefer not to visit any restaurant in the next three months (52%).

Insert Table 1 Here

To diminish the possible risk of common-method-bias, in the data collection procedure, we followed the statistical and procedural remedies suggested by Podsakoff et al. (2003). In addition, we employed Harman's single-factor assessment to inspect if the data were biased by common-method-variance (Podsakoff and Organ 1986). All latent constructs were inserted into an un-rotated factor solution to control the number of factors which are essential to account for the variance in the constructs. However, no factors emerged from the factor analysis. Therefore, the amount of common-method-variance was not considered to present in this research.

Insert Table 2 Here

2.4.2. Measurement and analysis

This research used measurement items and validated scales adopted from the reviewed literature. As illustrated in Table 2, the perception of the shock of the disaster was examined using 5 items adapted from Lee et al. (2012). The belief was assessed using three components (i) behavioural belief (e.g., Han and Ryu, 2012; Han et al., 2010; Lam and Hsu, 2004), normative belief (e.g., Han and Kim, 2010; Han and Ryu, 2012), and (iii) control belief (e.g., Han and Kim, 2010; Han and Ryu, 2012). To assess anticipated emotion, we employed positive anticipated emotion (e.g., Han and Ryu, 2012) and negative anticipated emotion (Lee et al., 2012). Perceived health risk (Hwang and Choe, 2020), future desire, and non-pharmaceutical intervention (Lee et al., 2012) were employed grounded on the validated scales from the previous studies. Finally, lockdown restriction was tested by borrowing items from Lee et al. (2012). All items were answered on a 7-point Likert scale (1 = "strongly disagree," and 7 = "strongly agree"). To evaluate the causal hypothesized associations and model fit, we employed structural equation modelling in AMOS25.

Insert Table 3 Here

2.5. Results

2.5.1. Reliability and validity analysis

To examine the factorial validity, we used maximum likelihood estimation and the original model displayed a good fit to the data (comparative fit index=.955; Tucker–Lewis index =.948; Incremental Fit Index=.922; The Normed Fit Index=.933; root mean squared error

approximation=.066; Chi-square=849.110; and Degrees of freedom=303). Due to poor factor loadings for some constructs, some items were removed (Table 2). Table 3 shows that the factor loading is greater than the suggested threshold ranging from .808 to .942>.50. As Table 3 shows that the composite reliability (CR) values for the research constructs are ranging from .922 and .959>.70 and the average variance extracted (AVE) constructs ranging from .715 and .853>.70 which are higher than thresholds of .70 and sufficient discriminant and convergent validity (Fornell and Larcker, 1981; Hair et al., 2006).

2.5.2. Hypothesis analysis results

The proposed framework was designed to scrutinize the relationship between the proposed variables. The structural model presented a good fit to the data (RMSEA=.073; CFI=.943; TLI=.937; IFI=.943; RFI=.910; NFI=.919; Chi-square=1017.338; Degrees of freedom=316). Thus, this model was used to examine the proposed propositions. Table 4 illustrates a schematic representation of the results of the structural research model. The results exhibited that perception of the shock of coronavirus pandemic (H1: $\beta=.363$, $t=8.577$) had a positive impact on consumers' belief. Furthermore, belief had a significant impact on both negative anticipated emotion (H2a: $\beta=.818$, $t=7.432$) and positive anticipated emotion (H2b: $\beta=1.201$, $t=9.683$). Therefore, both hypotheses of H1 and H2 were supported. By contrast, the negative anticipated emotion had a non-significant effect on future desire (H3a: $\beta=.058$, $t=1.418$, $p.156$). Thus, hypothesis 3a was rejected. Further, the association between positive anticipated emotion and future desire was found substantial (H3b: $\beta=.604$, $t=11.181$).

Insert Table 4 Here

We employed interaction effect analysis to further investigate the role of different moderators such as non-pharmaceutical intervention, perceived health risk, lockdown and social distancing on the implication of the COVID-19 pandemic disruption in the hospitality sector. The pattern of the moderating effects shown in Figure 2. We studied the moderation effect of the non-pharmaceutical intervention on the associations between the perception of the shock of coronavirus pandemic and belief, and the results illustrated that the non-pharmaceutical intervention strengthens the positive relationship between perception of the shock of coronavirus pandemic and belief (H1a: $\beta=-.052$, $t=-14.068$).

Next, we inspected the moderation effect of the perceived health risk on the relationships between the shock of disaster and belief, and the results display perceived health risk dampens the positive relationship between perception of the shock of coronavirus pandemic and belief (H1b: $\beta=.027$, $t=8.566$). Perceived health risk strengthens the positive relationship between belief and positive anticipated emotion (H2c: $\beta=-.031$, $t=-7.644$). Surprisingly, perceived health risk dampens the positive relationship between belief and negative anticipated emotion (H2d: $\beta=.063$, $t=11.000$). Finally, we considered the moderation effect of the lockdown restriction on the relation among anticipate demotion and future desire, and the outcome demonstrate that the lockdown restriction implication reduces the positive relationship between negative anticipated emotion and future desire (H3c: $\beta=-.038$, $t=-8.742$), and strengthens/dampens the affiliation between positive anticipated emotion and future desire (H3d: $\beta=-.060$, $t=-12.943$).

Insert Figure 2 Here

2. Discussion

The ongoing COVID-19 pandemic disruption and global economic decline, especially in the tourism and hospitality sector require the fast-moving transition and adoption strategy to New Normal. The consumers' perception and future expectation and spending are seriously threatened by a high level of uncertainty. This study progresses a better understanding of perceived health risk and non-pharmaceutical intervention associated with the future desire of consumers in the hospitality sector. Furthermore, it established a framework that links the perception of the shock of coronavirus pandemic and consumers belief, anticipated emotion with future desire. This study collected data in relation to consumer's behaviour and responded in the hospitality sector, and conducted structural equation modelling analysis to analyse the consumer's performance and the dramatic damage of COVID-19 pandemic in the hospitality industry over time.

The findings reveal that the perception of the shock of coronavirus pandemic positively influenced consumer's belief, supporting previous studies that designated the association between perception of disease, attitude and intention (Reisinger and Mavondo, 2005; Sonmez and Graefe, 1998). Although inconsistent with Lee et al. (2012) which indicated that there was an insignificant relationship between perception of 2009 H1N1 influenza pandemic and desire. It is notable that the consumer's belief positively impacts anticipated emotion and as a result

of future desire. Where the study indicates that there is significant interaction between perception of the shock of coronavirus pandemic and consequently, consumer's belief through perceived health risk and also non-pharmaceutical intervention, this is consistent with Lee et al. (2012) which proposed that the perception of 2009 H1N1 pandemic significantly affect the international travel intention through non-pharmaceutical intervention. Finally, the lockdown and social distancing restriction requested by WHO and governments had the most dominant effect on anticipated emotion, future desire and consequently on consumers demand of hospitality-related services and products. This agrees with the results of Lee et al. (2012) and Raude and Setbon (2009) that the personal non-pharmaceutical intervention is an adoptive belief which reduces the infection risk and emphasizes the desire.

3.1. Theoretical implications

Due to the outbreak of COVID-19 disease which resulted in many psychological, economic, and socio-cultural influences on numerous hospitably internal and external stakeholders which some of the impacts will remain for many years, individual action is impacted by their belief and perceptions patterns. Humans behave differently based on their socio-demographic individualities which play an essential role in dealing and responding to their daily behaviours and health threat. Occasionally, individual beliefs and perceptions could yield responses related to the epidemics, which is crucial to study. Though to date, only a few researchers have investigated the individual perception towards coronavirus which is the global shock of disaster for the world (Carnevale and Hatak, 2020; Sharma, 2020; Sheth, 2020ab; Sigala, 2020; Woodside, 2020). However, there is no published article to examine the effect of the pandemic on the hospitality sector (based on the authors' knowledge).

Based on the outcome of COVID-19 pandemic as a *transformational* evaluation for global crises, our study was aimed to scrutinize how the individual customers' perception of the shock of coronavirus pandemic impacts on their beliefs and how their beliefs could influence on their anticipated emotion (negative and positive) which could affect their future desire towards visiting restaurants. Whether this global transformation will be a start of the dark cloud in the hospitality sector or there is close recovery ahead of dark cloud phenomena. The result of this study has significant implications for hospitality, tourism, and marketing literature.

Prior studies have investigated the effect of pandemic after the crisis was over. For example, Lee et al. (2012) study was related to the concept of non-pharmaceutical intervention for influenza, which happened in 2009, and its relation to post behavioural intention for

international tourists'. In this study, we look at the concepts during the pandemic. Therefore, it is clear that the concept of customers' belief and perception are related to the specific context hence advances present knowledge. Precisely, our study is the first research to consider the relationships between the perception of shock disaster, belief (behavioural, normative, and control), anticipated emotion, and future desire with moderating effect of the non-pharmaceutical intervention, perceived health risk and lockdown restriction. So, our analysis offers a more comprehensive understanding rather than preceding research, and also advances the literature in the field.

Our study has conducted a reality assessment of the impacts, and forecasting hospitality demand, and bench-marking worthy practices which are contextually motivating to measure the pandemic influences on many geographies' segments and stakeholders. By linking the customers' perception of the shock of coronavirus pandemic towards the hospitality industry and their future desire, our study provides original visions and theoretical contributions by proposing an updated measurement and a conceptual framework. Our results offer a scope to progress our understating on the perception of crisis management, in addition, based on the increase of power the pandemic's affordance, our study explains how the hospitality literature is changing, and scholars should reset their agenda frontiers. The results of our study add knowledge to the literature in hospitality, marketing, and tourism.

3.2. Managerial implications

This study's framework indicates that the hospitality sector's future in this unprecedented time depends on the perception of the shock of the disaster, consumer's belief, anticipated emotion and future desire. Consumer's behaviour has been reformed to adapt to the new lifestyle very quickly in a short time. The high level of social uncertainty caused by COVID-19 outbreak leads customers to higher risk judgment and develop a high level of negative emotion. The vast level of guidelines available by WHO and governments such as hygiene advice, lockdown, social distancing has an enormous impact on consumer's behaviour, perception, quality of life and reaction towards their interaction and spending particularly in the hospitality industry. The hospitality sector, such as restaurants needs to be innovative to reassure their customers that they will do everything to provide safe products and services for them. The sectors need to pass the message to their customers that they will support customer's self-protection by providing easily accessible hygiene products to their customers. They need to assure customers that the destination or place of visit is safe, which could help the sector to build on trust and relationship with their customers. By the other hand, the local businesses

such as restaurants, accommodation providers and local attractions need to come together and promote their product and services through discounted packages to residents and communities to attract more visits to local businesses.

For policymakers taking the right action at the right time plays a crucial role in society and the economy. There is a connection between consumer risk perception and economic stimulus policy by the government. Consumer risk perception will decrease when the government implements the economic policy to stimulate tourism. Accordingly, this article explored the influence of economic stimulus policy on consumer risk perception and adaptive belief. In addition, the consumer's belief connects to economic factors, such as a decrease in household income. The decreased household income caused by the increased consumer risk perception may derive from the economic factor. This may be different from the epidemic fear. The article explained that consumers' perceived risk derived from epidemic fear and economic factors separately.

Transparent information plays a vital role in consumer's behaviour, whereas the limitation and restrictions guidelines are more adaptable for people if they understand clearly the information provided by the authority. Furthermore, if the government enforced the local lockdown with restricted hygiene regulation could assist consumers in their emotion control and risk management more efficiently. The local lockdown offers virtuous confidence to customers and business holders to perform and manage the crisis more effectively locally. The result of this study has significant implications for tourism and hospitality marketer, hospitality services, government agencies, which increase chances for practical recommendations.

1. Limitations and directions for future research

Our study is subject to some limitations and, therefore, delivers some opportunities for further research. The research constructs relationships were apprehended at a single point in time; further study could include longitudinal studies and strengthen the research approach to examine the global pandemics on customers' desire and their approach to their perception of the worldwide shock of disaster levels in different time periods. In addition, we focused on UK consumers, and a new study could concentrate on different countries and compare the results with our study to understand customers' belief globally, in order to generate greater generalization. In addition, **the culture in different countries may cause different levels of perceived risk. This could be investigated by future researchers to employ a cross cultural data for further generalizability.**

Due to the importance of the topic and time limitations, we collected data by employing a convenience sample and different collection points. Nevertheless, future researchers are invited to assess the proposed model by using different methodologies, such as interviews and focus groups in which the results will be triangulated. An additional suggestion would be collecting data from developing countries which had fewer restrictions and non-pharmaceutical interventions. It might influence more comprehension into the validated model by comparing the developed countries vs developing countries. In addition, based on individual behaviour and belief, future studies might add some more compounds to belief construct or add more items which reflect their samples attitude and beliefs. In addition, due to lockdown and social distancing, it is essential to recognize whether the consumers permanently modified their consumption habits or will return to their old behaviours once the international catastrophe is ended?

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Figure 1: The research conceptual model

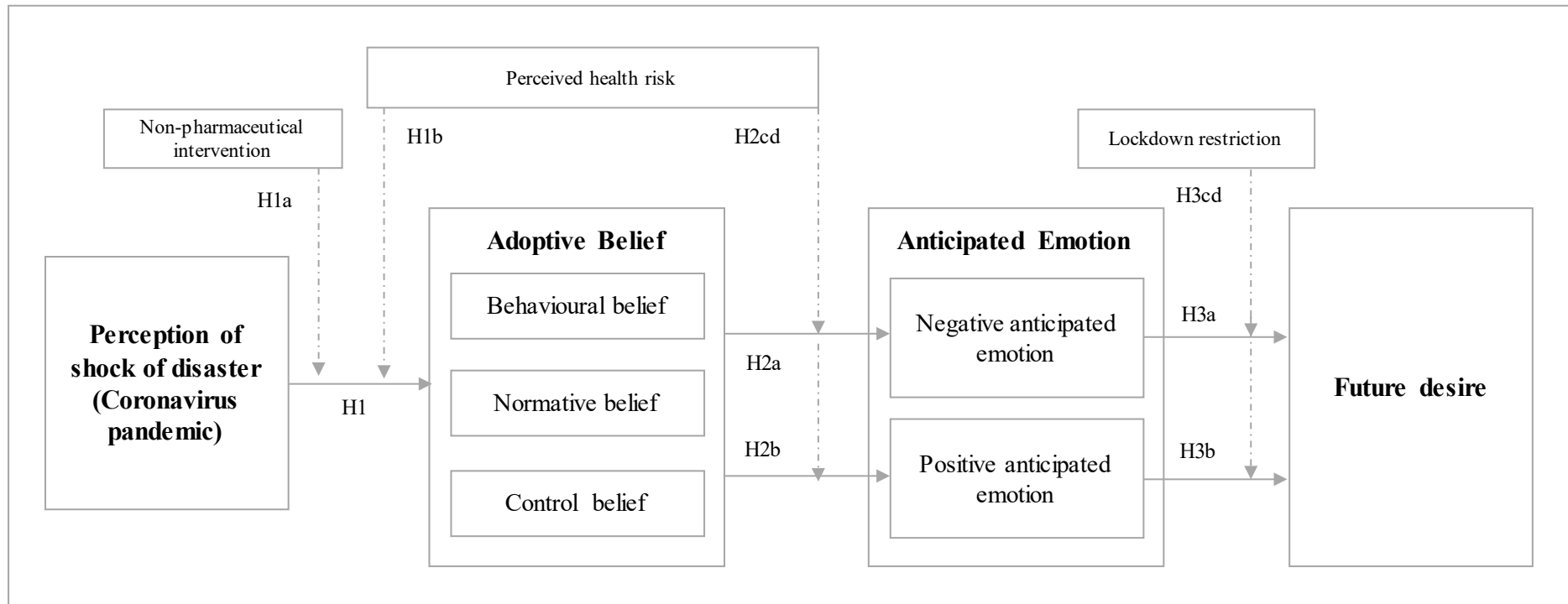


Table 1: Demographic profile (N=415)

	Frequency	Percent		Frequency	Percent
Gender			Used to visit restaurant		
Male	237	57.1	Once per month	35	8.4
Female	178	42.9	Twice per month	53	12.8
Age			Three times per month	81	19.5
Under 25	38	9.2	Between three to six times per month	52	12.5
25-34	58	14.0	Between six to ten times per month	90	21.7
35-44	116	28.0	More than ten times per month	104	25.1
45-54	123	29.6	Are you planning to visit restaurant within the next three months		
55 and over	80	19.3	No	216	52.0
Education			Yes	161	38.8
PhD	24	5.8	Maybe	38	9.2
Postgraduate	224	54.0			
Undergraduate	167	40.2			

Table 2: The domain and items of the construct in the extant literature, factor loadings, descriptive statistics and reliabilities

Construct and item measurement	Factor loading	Mean	Std. Deviation	Cronbach @	
Perception of shock of disaster (Coronavirus pandemic)					@.957
Coronavirus is a very frightening disease.	.818	5.6265	1.43381		Lee et al., 2012; Reisinger and Mavondo, 2005; Sonmez and Graefe, 1998
Compared to SARS, avian flu, or Influenza, Coronavirus is more dangerous.	.880	5.7301	1.43269		Removed: I have much information about coronavirus.
I am afraid of coronavirus.	.840	5.7807	1.40483		
People around me seem to refrain from visiting any restaurants due to coronavirus.	.875	5.6940	1.49567		
Behavioural belief					@.958
Due to the outbreak of coronavirus, going to any restaurants would not enable me to enjoy my meal	.899	5.5060	1.35109		Han and Ryu, 2012; Han et al., 2010; Han and Kim, 2010; Lam and Hsu, 2004; Oh, 2000
Due to the outbreak of coronavirus, going to any restaurants would not enable me to enjoy the high-quality atmosphere of the restaurant.	.888	5.5036	1.40199		Removed: Due to the outbreak of coronavirus, going to any restaurants would not enable me to enjoy such benefits as special treatment and attention from employees.
Due to the outbreak of coronavirus, going to any restaurants would not enable me to enjoy good value for the price.	.845	5.4795	1.43925		
Due to the outbreak of coronavirus, going to any restaurants would not enable me to have comfortable interactions with others.	.882	5.5422	1.33244		
Normative belief					@.937
Due to the outbreak of coronavirus, my family (or relatives) think I should not go to any restaurants.	.951	5.6145	1.35696		Han and Kim, 2010; Han and Ryu, 2012; Lam and Hsu, 2004
Due to the outbreak of coronavirus, my friends think I should not go to any restaurants.	.942	5.6819	1.36733		
Due to the outbreak of coronavirus, my co-workers (or colleagues) think I should not go to any restaurants.	.909	5.7470	1.28390		
Control belief					@.921
Due to the outbreak of coronavirus, going to any restaurants would not be expensive.	.824	5.5759	1.39820		Han and Kim, 2010; Han and Ryu, 2012; Lam and Hsu, 2004
Due to the outbreak of coronavirus, any restaurants would be inconvenient.	.886	5.5711	1.44434		
Due to the outbreak of coronavirus, Family/friends/co-workers/others who frequently accompany with me when going to restaurants do not encourage me to go to the restaurant.	.885	5.4675	1.53801		
Positive anticipated emotion					@.935

Due to the outbreak of coronavirus, If I succeed in achieving my goal of (going to any restaurants) over the next 3 months, I will feel positive.	Removed				Carrus et al., 2008; Han and Ryu, 2012; Lee et al., 2012; Perugini and Bagozzi, 2001; Perugini and Bagozzi, 2001; Prestwich et al., 2008
Due to the outbreak of coronavirus, If I succeed in achieving my goal of (going to any restaurants) over the next 3 months, I will feel Delighted	.788	5.6434	1.44398		
Due to the outbreak of coronavirus, If I succeed in achieving my goal of (going to any restaurants) over the next 3 months, I will feel glad	.799	5.6940	1.43636		
Due to the outbreak of coronavirus, If I succeed in achieving my goal of (going to any restaurants) over the next 3 months, I will feel comfortable	.780	5.6675	1.39366		
Negative anticipated emotion					@.957
Due to the outbreak of coronavirus, If I succeed in achieving my goal of (going to any restaurants) over the next 3 months, I will feel angry	.874	5.1639	1.55173		Carrus et al., 2008; Lee et al., 2012; Perugini and Bagozzi, 2001; Prestwich et al., 2008
Due to the outbreak of coronavirus, If I succeed in achieving my goal of (going to any restaurants) over the next 3 months, I will feel frustrated	.908	5.1325	1.62090		
If I succeed in achieving my goal of (going to any restaurants) over the next 3 months, I will feel – Not at all (1)/Very Much (7) Disappointed	.873	5.1614	1.54340		
Due to the outbreak of coronavirus, If I succeed in achieving my goal of (going to any restaurants) over the next 3 months, I will feel depressed	.906	5.2193	1.55964		
Due to the outbreak of coronavirus, If I succeed in achieving my goal of (going to any restaurants) over the next 3 months, I will feel Uncomfortable	.861	5.1494	1.57481		
Future desire					
Despite the outbreak of coronavirus, I want to go to any restaurants in the near future.	.762	5.5663	1.41756		Carrus et al., 2008; Lee et al., 2012; Perugini and Bagozzi, 2001
Despite the outbreak of coronavirus, I wish to go to any restaurants in the near future.	.800	5.7687	1.42933		
Despite the outbreak of coronavirus, I am eager to go to any restaurants in the near future.	.786	5.5518	1.48148		
Despite the outbreak of coronavirus, My desire for going to any restaurants in the next 3 months is very strong.	.824	5.6771	1.42335		
Non-pharmaceutical intervention					@.945
I will cover my mouth and nose with a tissue when sneezing while going to any restaurants.	.840	5.3181	1.46951		Lee et al., 2012

I will frequently wash my hands while travelling internal going to any restaurants.	.845	5.2675	1.47385	Removed: I will check the information of on coronavirus by visiting the government website before going to any restaurants; I will read and check precautions about coronavirus through doctors or health centres before going to any restaurants; I will get the information about local medical facilities for preparing for an emergency because of coronavirus before going to any restaurants; I will restrain from meeting people for a while after going to any restaurants; I will carefully keep an eye on my health condition after going to any restaurants.
I will restrain from touching my eyes, nose, and mouth while going to any restaurants.	.867	5.2217	1.52087	
I will keep away from those who have symptoms of coronavirus while going to any restaurants.	.879	5.3133	1.47710	
Perceived health risk				@.939
Due to the outbreak of coronavirus, I worry that going to and restaurants are harmful.	.822	5.5398	1.48185	Hwang and Choe, 2020
Due to the outbreak of coronavirus, I worry about my health after going to any restaurants.	.844	5.5325	1.49824	
Due to the outbreak of coronavirus, I worry that going to any restaurants is unhealthy.	.836	5.4819	1.52564	
Lockdown restriction				@.906
Despite government restriction and lockdown, I wish to go to any restaurants in the near future.	.877	5.3422	1.45580	Lee et al., 2012
Despite the government restriction and lockdown, my desire for going to any restaurants in the next 3 months is very strong.	.910	5.3494	1.49099	
It is dangerous to go to any restaurants because of Coronavirus pandemic and government lockdown policy.	.808	5.1060	1.50950	

Table 3: Discriminant validity

	CR	AVE	MSV	MaxR(H)	Negative anticipated emotion	Perception of shock of disaster	Behavioural	Normative	Control	Positive anticipated emotion	Future desire
Negative anticipated emotion	0.957	0.817	0.250	0.962	0.904						
Perception of shock of disaster	0.922	0.715	0.265	0.962	0.500	0.845					
Behavioural belief	0.959	0.853	0.255	0.962	0.235	0.355	0.923				
Normative belief	0.938	0.834	0.092	0.954	0.014	0.019	0.080	0.913			
Control belief	0.924	0.802	0.199	0.946	0.214	0.208	0.425	0.066	0.895		
Positive anticipated emotion	0.936	0.831	0.349	0.951	0.357	0.446	0.505	0.303	0.437	0.912	
Future desire	0.951	0.828	0.349	0.957	0.273	0.515	0.481	0.100	0.446	0.591	0.910

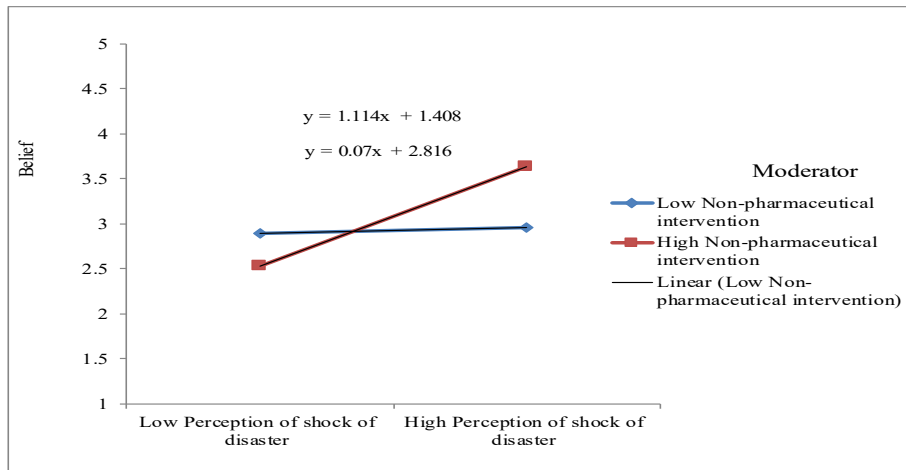
Note: Average variance was extracted from the square roots of average variance extracted.

Table 4: Results of Hypothesis Testing

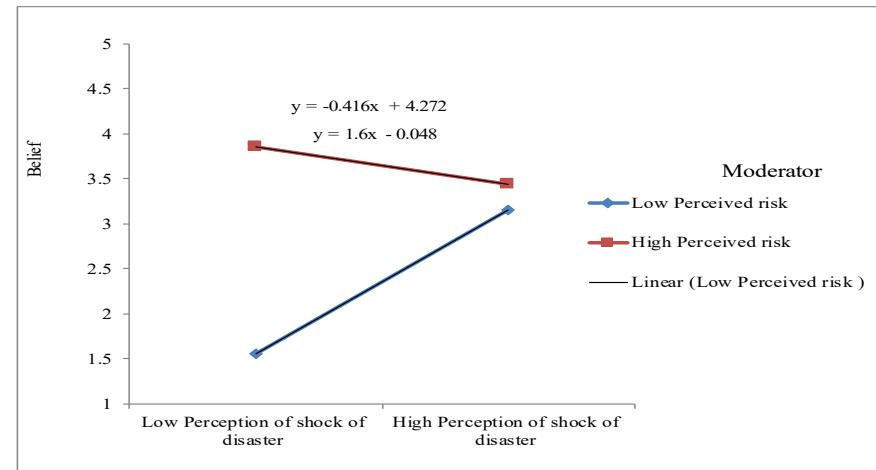
Standardized Regression Path				Estimated β	SE.	CR.	P
H1	Perception of shock of disaster		Belief	.363	.042	8.577	jgtt ***
H2a		->	Negative anticipated emotion	.818	.110	7.432	***
H2b	Belief	->	Positive anticipated emotion	1.201	.124	9.683	***
H3a	Negative anticipated emotion	->	Future desire	.058	.041	1.418	.156
H3b	Positive anticipated emotion	->	Future desire	.604	.054	11.181	***

Notes: Path = Relationship between independent variable on dependent variable; β = Standardised regression coefficient; S.E. = Standard error; p = Level of significance. *** represents the $p < 0.05$.

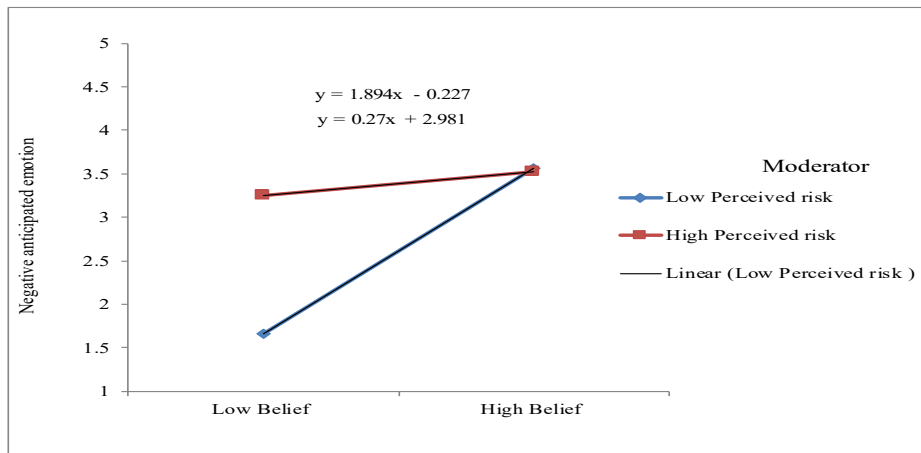
Figure 2: The pattern of the moderating effects



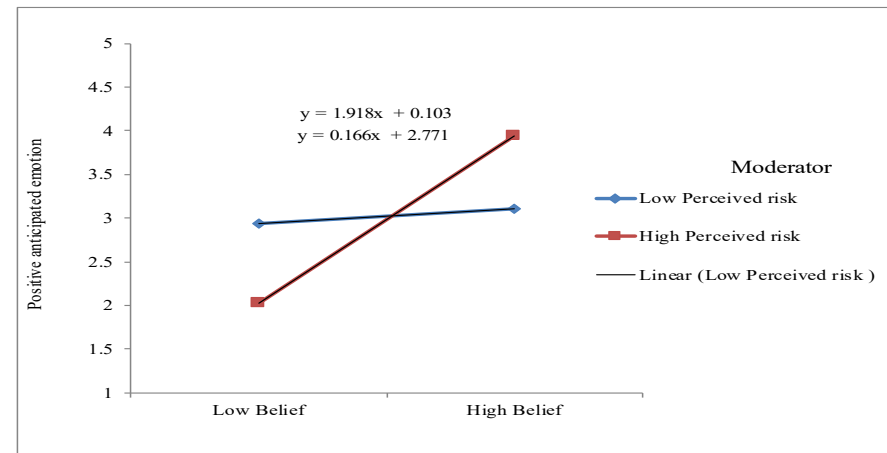
Non-pharmaceutical intervention strengthens the positive relationship between perception of the shock of coronavirus pandemic and belief.



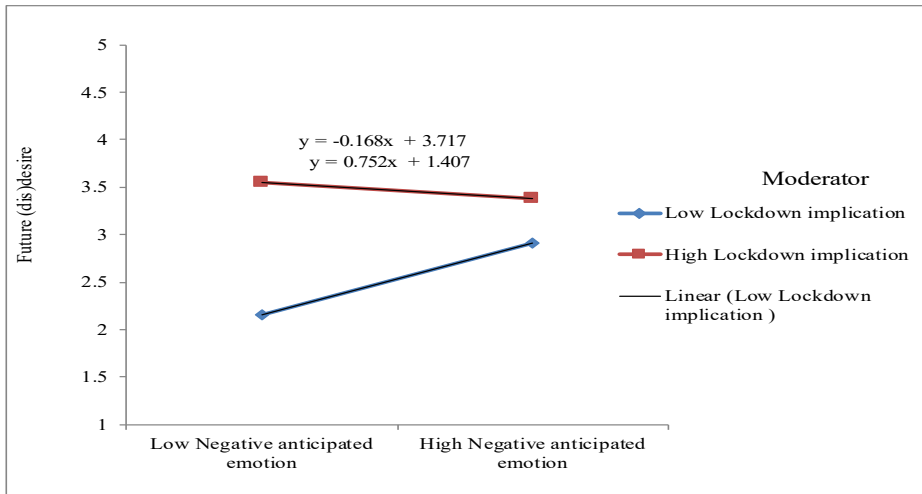
Perceived health risk dampens the positive relationship between perception of the shock of coronavirus pandemic and belief.



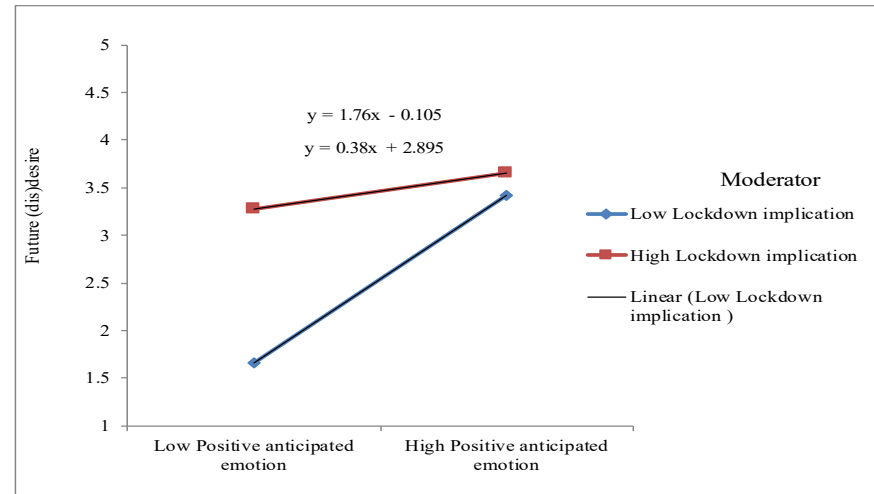
Perceived health risk dampens the positive relationship between belief and negative anticipated emotion.



Perceived health risk strengthens the positive relationship between belief and positive anticipated emotion.



Lockdown restriction dampens the positive relationship between negative anticipated emotion and future desire.



Lockdown restriction dampens the positive relationship between positive anticipated emotion and future desire.