

The Role of Spiritual Engagement and Organizational Resilience in Fear Appeals and Panic Buying Behavior in the Context of COVID-19: A Protection-Motivation Theory Approach

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List of Acronyms

FOU	Fear of Unknown
PST	Perceived Severity of Threat
PBB	Panic Buying Behaviour
CYB	Cyberchondria
SE	Spiritual Engagement
OR	Organizational Resilience
PMT	Protection Motivation Theory

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ABSTRACT

Purpose: This study explores the relationship between fear of unknown and panic buying behavior in the context of COVID-19. Building on the protection-motivation theory (PMT), the study extends the model by investigating ‘how’ the severity of threat and cyberchondria facilitates/deters the relationship of fear of unknown and panic buying behavior when spiritual engagement and organizational resilience act as boundary conditions.

Methodology: Data was collected from 306 respondents through online sources. Respondents were selected based on their use of internet and their purchase of grocery items during COVID-19. The analysis was conducted on the responses through confirmatory factor analysis (CFA) and structural equation modeling (SEM) using SmartPLS 4. Testing for direct, moderation effects and moderated-mediation effects was employed.

Results: The relationships from fear of unknown to perceived severity of threat and from fear of unknown to cyberchondria were significant. Perceived severity of threat and cyberchondria also had significant direct relationships with panic buying behaviour, whereas perceived severity of threat was also found to have a positive effect on cyberchondria. Among the moderation effects, the relationship between perceived severity of threat and panic buying behavior was found to be moderated by organizational resilience. Spiritual engagement also emerged as a significant moderating factor between fear of unknown and cyberchondria, and moderated-mediation of perceived severity of threat and cyberchondria was also significant.

Originality: Due to rising interest in panic buying as a consequence of COVID-19, it is important to understand the antecedents of panic buying behavior when disaster strikes and people are unprepared for them. The current study goes beyond identification of factors contributing to panic

buying and also attempts at finding out if there are ways to manage panic buying. Mitigating tools like spiritual engagement and organizational resilience were investigated in this research.

Practical implications: The findings of this study offer noteworthy guidelines for marketers and policymakers. They show that marketers and organizations play a significant role in how people view a threat and how they respond to it. Marketers can use this knowledge to manage their inventory during stressful times so that supply disruptions are avoided.

Keywords: COVID-19; Panic buying behavior; Fear of unknown; Organizational resilience; Cyberchondria; Perceived severity of threat; Spiritual engagement; Developing country; Protection motivation theory; Pakistan

CHAPTER I: Introduction

“If everyone shops like they normally do, we won’t have to face the prospect of empty shelves.” – Julia Klöckner

The year 2019 ended on a note of upheaval and brought with it the novel coronavirus (COVID-19) that led to drastic changes across the globe (Lebrasseur et al., 2021). Soon COVID-19 had exerted an unforeseen impact on every facet of society (Prentice et al., 2020). Various measures and changes were imposed by governments in hopes to combat the spread of the virus and they affected the economy at the macro level as well as the mental health of individuals at a micro level (Ashraf, 2020; McKibbin & Fernando, 2021; Usher et al., 2020). In the midst of this unfavorable situation, companies worldwide experienced disruptions in their supply chains which resulted in contractions in production as well. Slowing down of economic activities and consequent panic in consumers led to unusual consumption patterns and market anomalies (Usher et al., 2020).

Panic buying is one such manifestation of these unusual patterns (Prentice et al., 2020). It is a response to uncertainty and is more pronounced when vulnerable people feel fearful (Singh et al., 2021). It is explained as an act of buying copiously large amounts of products because of an underlying fear that those products will be unavailable in times of crises and disasters (Tsao et al., 2019). During COVID-19, government enforced restrictions on physical interaction gave rise to social media usage which exposed people to fake news and more anxiety (Haleem et al., 2020; Wiederhold & Brenda, 2020; Tan et al., 2021). The foreign nature of this virus and the apparent loss of control over the situation manifested in fear of unknown, which worsened the public’s

perception of severity of the threat and also compelled them to indulge in excessive online health-related searches – henceforth known as cyberchondria – thereby leading to panic buying behaviour (Sharma & Pokharel, 2021; David et al., 2021; Purwanto et al., 2021). Even though panic buying is not a new phenomenon, and research is ongoing in this field, our understanding of factors that can help reduce panic buying behaviour is still limited (He & Harris, 2020). Within this domain, the role of an individual's spiritual engagement and that of an organization's communication to its consumers merits attention because these factors have the ability to guide panic buying behaviour (Islam et al., 2021; Abi-Habib & Rehman, 2020).

From the research point of view, panic buying behaviour is still an underexplored area in consumer behaviour research (Tan et al., 2021). Studies that do make panic buying the focal point of research lack empirical evidence, and focus predominantly on channels available to consumers, retailers' perspectives or qualitative analyses (Prentice et al., 2020; Hall et al., 2020; Zheng et al., 2021; Tsao et al., 2019, Naeem, 2021; Arafat et al., 2020). With regard to COVID-19, it is important to comprehend how its elusive nature escalated people's fear and sparked trouble among consumers and managers (Laato et al., 2020). Fear and anxiety were exacerbated in this situation, and played a significant role in manifestation of stockpiling behavior (Leung et al., 2021). The extent of panic and fear is evident in the cases of panic buying the likes of which, according to scholars, had not been witnessed in any previous disease outbreaks (Sim et al., 2020).

Grounded in the Protection Motivation Theory (PMT), this study outlines responses and behaviours people resort to when they feel the urge to protect themselves from fear, and motivate themselves into action outcomes such as panic buying behaviour (Rogers, 1983). Protection motivation theory is a framework employed in research to outline how individuals react to potential threats, especially health related threats (Sutanto et al., 2021). It has two key dimensions;

threat and coping appraisal, and together, these dimensions define modes of self-protection individuals will rely on in times of distress (Maddux & Rogers, 1983). Threat appraisal occurs when someone feels exposed to a dangerous situation, and the means undertaken as a form of self-protection become the “coping appraisal” (Hodgkins & Orbell, 1998). In the context of this study, consumers’ response to fear of COVID-19 forced them to adopt drastic, even irrational coping mechanisms that translated in panic buying behavior.

1.1 Statement of the Problem

Building on the protection motivation theory, this study explores the relationship of fear of unknown and panic buying behavior, mediated by perceived severity of threat and cyberchondria when spiritual engagement and organizational resilience impact the mediated relationship during COVID-19.

1.2 Significance of the Problem

This study has various implications that can enhance our knowledge of panic buying behavior. First, this study contributes to the understanding of marketing managers in managing collective action of customers to avoid panic buying behavior (Laato et al., 2020). It also provides some direction for policymakers so that they are better able to direct information flows and display resilience in difficult times to manage future crises smoothly (Sherman et al., 2021). COVID-19 has severely disrupted supply chains around the world and people, as well as companies, were not prepared for such a sudden shift in the global health situation and everything came to a sudden halt (Bavel et al., 2020; Mazzoleni et al., 2020). The novelty of the virus did not help matters and

coupled with the strict standard operating procedures, it triggered a series of responses to help cope with the rising hysteria associated with the pandemic (Kang et al., 2020). Moreover, government intervention strategies aimed to control the spread of this virus, and the notion of having to stay at home, made people fearful (Brooks et al., 2020). It also led to the assumption that stock would run out in market and thus, they flocked to buying in bulk thereby leading to an actual scarcity of goods (O'Brien et al., 2020). In this, fear of unknown, perceived severity of threat and cyberchondria are some factors that merit investigation because they pushed people to exhibit behaviours they would not have done otherwise. More importantly, the enormous number of COVID-19 cases worldwide precipitate the need for this study as well.

The present study will help managers cope with the pressure to the supply chain and will help them understand why consumers are behaving in this irrational way, should another event of this kind occur in future. Investigation of this problem will bring them a step closer to addressing it effectively as well. It is also important to explore the use of mitigating factors that can help ameliorate the effects of fear appeals. It is not just enough to understand the reasons behind the panic but also to gauge how these responses can be made better. Thus, the role of spiritual engagement and organizational resilience will also be explored in this study as potential tools to alleviate the fear caused by the elusive coronavirus. In addition to this, consumers will also learn from this study about the way their presence on social media can affect panic in the overall community. Giving undue attention to viral posts and to be caught in the bedlam of this “infodemic” could be the worst mistake consumers can make in these turbulent times (Kumar, 2020; Naeem, 2021). Therefore, they will also gain insights into responses and behaviors that emerge when fear is a factor one must contend with.

Lastly, this study is important in the context of Pakistan because it is a developing country that cannot withstand the pressures associated with panic buying and consequent shortage of goods. Studies have reported COVID-19 related panic buying to be the worst in history (Sim et al., 2020). In Pakistan, panic buying behavior can affect more than 50 percent of the employed labour force because only a few affluent people can afford to buy in bulk, leaving the rest without the same luxury (Naz, 2020). Moreover, a report by the World Bank *Pakistan100 poverty to equity* states that the top 10 percent of Pakistan's population consumes three times as much as the bottom 10 percent. If this segment of the population also starts to hoard food items and other essential goods then the situation seems to be very bleak for those who cannot afford to procure such items in bulk. Besides this, it creates unnecessary problems for vendors who do have adequate supplies but have to be confronted with consumer panic nonetheless that leads to actual shortages (Messner & Payson, 2022). Therefore, it is imperative for Pakistan's public to understand the implications of their actions on rest of the population. For this reason, this study can add significantly to our understanding of panic buying and can help identify ways in which we can counter the effects of fear, anxiety and panic buying.

1.3 Objectives of the Study

The main purpose of the study is to test the impact of fear of unknown on panic buying behavior. The general objectives of the study are as follows:

1. To investigate the direct impact of fear of unknown on panic buying behavior, and to also test the mediating effects of cyberchondria and perceived severity of threat using the Protection Motivation Theory, under the reference frame of COVID-19.

2. To investigate the moderating effects of spiritual engagement and organizational resilience in helping curb the effects of fear of unknown, perceived severity of threat and cyberchondria, on panic buying behavior.

1.4 Scope of the Study

The proposed research questions for this study are:

Relationship of fear of unknown with psychological responses (perceived severity of threat and cyberchondria), and panic buying behaviour

1. What is the relationship between fear of unknown and perceived severity of threat?
2. What is the relationship between fear of unknown and cyberchondria?
3. What is the relationship between fear of unknown and panic buying behaviour?

Relationship of the two psychological responses with panic buying behavior

4. What is the relationship of perceived severity of threat with panic buying behavior?
5. What is the relationship of cyberchondria with panic buying behavior?

Relationship of perceived severity of threat and cyberchondria

6. What is the relationship between perceived severity of threat and cyberchondria?

Moderation of spiritual engagement

7. Does spiritual engagement moderate the relationship between fear of unknown and perceived severity of threat?
8. Does spiritual engagement moderate the relationship between fear of unknown and cyberchondria?

Moderation of organizational resilience

9. Does organizational resilience moderate the relationship between perceived severity of threat and panic buying behavior?
10. Does organizational resilience moderate the relationship between cyberchondria and panic buying behavior?

Mediation of perceived severity of threat and cyberchondria

11. Does perceived severity of threat mediate the relationship between fear of unknown and panic buying behaviour?
12. Does cyberchondria mediate the relationship between fear of unknown and panic buying behaviour?

Moderation-Mediation of perceived severity of threat and cyberchondria

13. Does perceived severity of threat mediate the relationship between fear of unknown and panic buying behavior when spiritual engagement and organizational resilience moderate the mediated relationship?
14. Does cyberchondria mediate the relationship between fear of unknown and panic buying behavior when spiritual engagement and organizational resilience moderate the mediated relationship?

1.5 Delimitations of the Study

There are several delimitations of this study:

1. This study has been conducted in Pakistan and thus, the results of the study are generalizable to the Pakistani consumers only.

2. Data for this study was collected at one point in time and the period of data collection was set between March 2022 and July 2022.
3. Questionnaires were sent to respondents via online channels like Facebook and WhatsApp because these channels are most popular in Pakistan.

1.6 Assumptions of the Study

It was assumed that the respondents filled the questionnaires to the best of their knowledge and capability, and provided honest, unbiased responses. It was also assumed that they possessed basic knowledge regarding COVID-19, and answered after reading all statements carefully. Lastly, since the questionnaire was administered through online means, it was also assumed that respondents encountered no technical malfunctions (poor internet connection, form format not supported) in filling the form.

1.7 Definitions of Major Terms

Panic buying behavior

Panic buying behavior is defined as the response exhibited by consumers or organizations that can consist of stockpiling or hoarding, when there is no actual scarcity (Bentall et al., 2020).

Perceived severity of threat

It is the “degree of seriousness of possible harm” that is perceived by an individual. In this threat appraisal is important because it has an implicit reward component attached to it too. Thus, benefits arising from avoiding the threat are also present and they can encourage people to engage in behaviors to avoid risks or perceived severity (Adunlin et al., 2020).

Cyberchondria

Cyberchondria means excessive or compulsive online searches for health-related information that are also linked with increase in health-related anxiety. Cyberchondria entails cognitions and emotions that are linked to severe health concerns and can lead to problematic behaviors as well (Bajcar & Babiak, 2020).

Fear of unknown

Fear of unknown is the anxiety people experience when they are faced with universal questions that have no known answers (Harrison & Van Haneghan, 2011).

Spiritual engagement

Spiritual engagement is defined as the “evolutionary, spiritually transforming set of beliefs, behaviors, expectations and emotions that have the potential to affect ethics, values, identity and organizational dynamics” (Roof et al., 2017).

Organizational resilience

The ability of an organization to handle external communication in order to deal with changing external environment is known as organizational resilience (Ruiz-Martin, Lopez-Paredes, & Wainer, 2018).

1.8 Organization of the Study

Chapter I introduces the research topic, its significance and contribution in the current research stream, the statement of the problem, and scope of the present study. It also contains the

basic assumptions of the study as well as the delimitations. Lastly, it outlines the organization of the following chapters and provides definitions of key terms used in this research.

Chapter II comprises of a review of pertinent literature on the topic and will consist of the theoretical background discussing motivation-protection theory, fear of unknown, spiritual engagement, organizational resilience, cyberchondria, and panic buying behavior during COVID-19. Following this, the hypotheses development is presented.

Chapter III outlines the research design and methodology, as well as the methods employed in the present study. The procedures, data collection, analyses, hypotheses, sample criteria and size, pre-testing, and softwares used have also been explained in this chapter.

Chapter IV consists of results of this study and also includes descriptive statistics along with results to hypotheses testing and their conclusions. Moreover, it also contains data checks to test the reliability and validity of the results, and also highlights the significance levels of results obtained from hypotheses testing.

Chapter V further elaborates on the findings from the previous chapter and discusses their importance, theoretical, managerial and practical implications. Lastly, it concludes this research by highlighting future research directions and the limitations of this study, and by providing recommendations to upcoming researchers.

CHAPTER II: Literature Review

A review of related literature has been conducted to understand the theoretical underpinnings of protection motivation theory and panic buying behavior, its development during COVID-19 and the factors that can be responsible for aggravating or mitigating this situation such as spiritual engagement and organizational resilience. This chapter includes a review of the theoretical background for this study, development of the research hypotheses, and theoretical framework.

2.1 Theoretical background

2.1.1 Protection Motivation Theory (PMT)

Protection motivation theory was developed by Rogers in 1975 as a means to explain the impact of fear appeals. Before it was formally developed, Hovland et al. (1953) had pointed out the three main stimuli comprising a fear appeal: (1) severity of the event; (2) probability of the event manifesting if no protective behaviour is adopted; (3) efficacy and availability of a coping mechanism to eliminate the stimulus. In his modification, Rogers (1975) extended the original framework and proposed that each of these stimuli comprise a cognitive mediational process and they have two forms – threat appraisal and coping appraisal. Threat appraisal involves the process of assessing how threatened an individual feels by a source of fear while coping appraisal pertains to an individual's evaluation of the coping response available to deal with the threat (Milne et al., 2000). In the past, protection motivation theory has been applied to understand the effects of environmental disasters (Bockarjova & Steg, 2014), preventive behaviour (Prentice-Dunn & Rogers, 1986), and health risks (Wang et al, 2019). Due to its relevance to health-related behaviours, protection motivation theory is quite useful in explaining certain phenomena that

unfolded during COVID-19. COVID-19 is not just any health-related concern, it is a global pandemic that has affected millions and its consequences spread to multiple dimensions of personal, social, organizational life (Onyeaka et al., 2021; Shapoval et al., 2021). There is also an urgent need to investigate societal level implications of the pandemic and how prepared it was for this risk, along with undertaking a holistic approach to understanding how PMT constructs pertain to certain behavioral changes observed during COVID-19 (Kim et al., 2021).

2.1.2 Protection motivation theory and panic buying behaviour

The coronavirus's rise to pandemic status was coupled with uncoordinated responses from organizations around the world, and not much could be done in the way of assuaging peoples' fear (Kringos et al., 2020; Chua et al., 2021). This paved the way for unexpected behaviours from the general public, and people resorted to purchasing goods in abnormally large amounts (Tariq et al., 2019). The disruptions caused by COVID-19 led to nation-wide stock-outs and shortages, which were exacerbated by incidents of panic buying (Khan et al., 2020). From a protection motivation theory perspective, panic buying behaviour is a protection mechanism that people rely on in times of distress and fear (Chua et al., 2021).

Panic buying is defined as the "action of buying large quantities of a particular product or commodity due to sudden fears of a forthcoming shortage or price increase" (Oxford, 2020). Protection motivation theory postulates that threat and coping appraisals govern protective behaviour and they determine a person's intention to adopt a certain behaviour (Good & Hyman, 2020). During COVID-19, the restrictions enforced by governments made people think that they needed to stockpile groceries to sustain themselves during lockdowns and hence resorted to panic buying (Naeem & Ozuem, 2021). The lockdowns coupled with the threat of contracting the virus led people to assume resources would be scarce in future, thereby giving rise to panic buying

behaviour as a coping tool (Sutanto et al., 2021). For them, the threat posed by COVID-19 and the consequent urge to protect themselves translated into adoption of panic buying.

In Pakistan, people felt motivated to engage in panic buying behaviour because of perceived scarcity of goods and more than one fourth of individuals hoarded food items (Abbas et al., 2020). This hoarding behaviour was influenced by self-interest and a lack of social responsibility as well (Oosterhoff & Palmer, 2020). According to the protection motivation theory, individuals feel compelled to take action against threats (Enemark, 2009). Since Pakistan is embroiled in economic and political turbulence, its people are always anticipating crises and can feel more panic when difficult situations arise (Memon et al., 2019; Ahmad, 2021). From this perspective, PMT can offer valuable insights into the cognitions and behaviours of the Pakistani population during COVID-19 crisis (Milne et al., 2002).

2.1.3 Protection motivation theory and fear appeal: Fear of unknown and severity of threat

The origins of the protection motivation theory lie in fear appeals and their ability to influence behaviour (Seydel, 2005). The study by Hovland et al. (1953) concluded that fear can be a driving force in influencing behavior. Recent studies have also explored fear and have concluded that fear influences how people view a disaster or a pandemic (Hassan & Soliman, 2020; Zheng et al., 2020). In particular, COVID-19 is not only novel, it also poses a significant risk to peoples' lives and health (Reznik et al., 2020) and thus, the virus triggered not just fear of contracting the virus, but fear of the unknown as well (Reznik et al., 2020; Gomez-Corona et al., 2021). Another research posited that intrapersonal and environmental sources of information regarding fear appeals can lead to two independent appraisal processes: (1) threat appraisal; (2) coping appraisal (Rogers, 1983). Within this, threat appraisal focuses on the severity of, and the vulnerability to, the threat and researchers also note that if a fear appeal is properly generated then it can also help

in communicating the severity of the threat (Johnston & Warkentin, 2010). Fear can also go to convey how vulnerable the population may be to that threat (Rogers, 1975). A threat is defined as an external stimulus that exists whether or not it is felt by the person (Witte, 1992). When individuals are faced with threats that are severe and also make them vulnerable to the threat, they are more inclined to reduce the source of the threat, especially when fear also governs the situation (Norman et al., 2015). Thus, threat has two dimensions: (1) the susceptibility to that threat; (2) the severity of that threat (Shi & Smith, 2015; Rogers, 1975). For the purposes of this research, fear of unknown and the perceived severity of threat are taken into consideration.

2.1.4 Protection motivation theory and cyberchondria

Cyberchondria refers to a phenomenon in which people make repeated internet searches and seek medical information (Fergus, 2015). This search worsens their anxiety for their health (Starcevic & Berle, 2013). Cyberchondria has four core facets: (1) internet searches are excessive; (2) they increase the distress in the person; (3) they are compulsive and they interrupt the daily routine of individuals; (4) they are conducted to seek reassurance. Some researchers believe cyberchondria is a specific sub-set of problematic internet use (PIU; Bajcar & Babiack, 2020). According to Murphy (2019), nearly 7 percent of Google's daily searches are related to health problems. While it is normal to seek information pertaining to one's health, it is not normal to do so to the extent that it interferes with one's daily routine (Kuss et al., 2017; Hardie & Tee, 2007). Cyberchondria, in that sense, is a dysfunctional way of expressing health concerns (Mento et al., 2022). The emotions and cognitions behind this frantic search demonstrate a problematic behavior (Bajcar & Babiak, 2020).

One research discusses the linkages between use of social media, peoples' knowledge about the coronavirus, their anxiety levels and states that there is room for more investigation into

the matter (Jungmann & Witthöft, 2020). During COVID-19, media reports used dramatic language, to the extent that they inflated the seriousness of situation to catch attention (Bao et al., 2020). The lockdowns imposed had the unintentional result of directing people towards more internet usage that escalated their anxiety levels because of rampant misinformation they encountered (Jokic-Begic et al., 2020). This does nothing to assuage the already panic stricken people. This is why use of media is positively associated with higher anxiety levels (Roy et al., 2020).

2.1.5 Protection motivation theory and coping mechanism: Spiritual engagement

As mentioned earlier, protection motivation theory is a *threat-coping appraisal* model. Fear, severity and vulnerability pertain to the threat component, while “coping mechanism” can involve various ways in which people adapt to situations. Adaptive responses are more likely if the person believes they are facing a threat to their health, and if that threat is severe (Norman et al., 2005). COVID-19 has provided the perfect impetus for an investigation using PMT as the overarching model owing to its efficacy in explaining health related behaviours (Kowalski & Black, 2021). As far as coping mechanisms are concerned, research has explored the concept of “resilience” as one way to explain how people adapt to, or cope with, disasters and crises (Cartier & Taylor, 2020; Fountain & Cradock-Henry, 2020). In recent literature, resilience has been explored in relation to spirituality or spiritual engagement (Reis & Menezes, 2017; Walsh, 2008; Ozawa, 2017). In particular, Wang et al. (2020) state that people with positive coping skills exhibit lower levels of anxiety and stress during COVID-19, and that spirituality and resilience affect their healing, coping and their emotional well-being (Roberto et al., 2020). Another Turkish study on resilience and hopelessness also concluded that spirituality has a significant impact on a person’s resilience and their ability to cope with COVID-19 (Gulerce & Maraj, 2021). Spiritual engagement

is also a potent tool in shaping a person's thoughts, emotions and character, it helps manage stress especially in crises and thus, it is a variable of interest in the current study as well (Chandler, 2009; Marques et al., 2009).

2.1.6 Protection motivation theory and persuasive communication:

Organizational resilience

PMT was initially designed to understand fear appeals and how individuals cope with them but was later revised to incorporate the role of persuasive communication as well (Rogers, 1983). This revision elucidates that if individuals encounter a real and potent threat but are also provided with easy recommendations to deal with that threat, then they will undertake a route that will ensure manifestation of the desired behavioral outcome (Perloff & Ray, 1991; Cismaru et al., 2009). In the COVID-19 context, the world witnessed a series of crises that were unpredictable and had vastly negative consequences which also impacted organizations, as most unusual occurrences do (Flores & Swennen, 2020; Fearn-Banks, 2011; Bailey & Breslin, 2021). For the management of such crises, organizations need to be very mindful of how they engage with the customers because if communication is poor then it can prove to be detrimental for the organization (Claeys & Cauberghe, 2015).

In this study, we look at the moderating role of organizational resilience demonstrated through organizations' communication to their customers. Organizational resilience is the ability of an organization's units to recover and bounce back positively from unusual events (Powley, 2009). Research on organizational resilience has mostly been done from a strategic management perspective, flexible systems, disruptions, human resource management or supply chain management (Vogus & Sutcliffe, 2007; Redman & Kinzig, 2003; Weick 1993). Kuntar and Iseri-Say (2015) state that in today's business environment, organizations are faced with a very high

level of external pressure. This pressure is enhanced when the environment changes rapidly as well. The coronavirus escalated that speed manifold and has made businesses realize how temporary their position is in the marketplace. The authors note that resilience is an important construct that has started to become a major concern in the strategic management literature. It is important for the survival and long-term endurance of a business (Kuntar & Iseri-Say, 2015). However, research on this is limited, especially from a marketing perspective where organizational resilience matters a lot in times of distress (Kim, 2016). Hence, in this study organizational resilience is taken into consideration for mitigating panic buying behavior at a macro level.

2.2 Hypotheses Development

2.2.1 Fear of unknown and panic buying behavior

Fear of unknown is an extension of fear and according to Lovecraft (1927), “the oldest and strongest kind of fear is fear of the unknown.” People tend to fear the unknown and in this study the “unknown” is the coronavirus (Graham, 2021). When people experience fear due to uncertainty, they devise ways to combat it which can be adaptive or maladaptive (Lazarus, 1991; Frijda, 1986). The greater the fear, the stronger will be the urge to protect oneself from the source of that fear (So et al., 2016). In distressing situations, people feel a desire for self-preservation that is in stark contrast to the knowledge that death is unavoidable (Harmon-Jones et al., 1997). When individuals are confronted with such a conflict, they resort to multiple behaviours that can restore order, peace, meaning and stability in their lives as a way to cope with the situation (Arndt et al., 2004; Fransen et al., 2019).

In the COVID-19 context, individuals tried to maintain some semblance of control through product acquisition and panic buying (Loxton et al., 2020). Multiple lockdowns and safety

measures triggered an alarm in the consumers and their confidence in organizations' ability to supply was shaken (Ali et al., 2021). Reports, on social media sites, of empty shelves and food items going out of stock exacerbated the situation and people bought things on impulse because they believed someone else would get to them (Fernandes et al., 2020; Gazali, 2020). Studies show that people fight for control in uncertain times through panic buying and that their anxiety outweighs the repercussions associated with engaging in this form of irrational behaviour (Ballantine et al., 2014; Yuen et al., 2020). In fact, it is regarded as a rational survival technique by them and much of the behaviour exhibited during a crisis is perceived to be adaptive (Bentall et al., 2021; Savage, 2019). In their content analysis on the determinants of panic buying behaviour Yuen et al. (2020) identified fear of unknown as a major contributor to panic buying. In another study, Lins and Aquino (2020) stated that elevated levels of fear induce unforeseen reactions by individuals. Panic buying behaviour also seems to be a kind of preparatory behaviour for the future (Hanser & Bereilh, 2020). This feeling added to their fear, and led them to exhibit panic buying behavior. Based on this premise, we hypothesize the following:

H₁: Fear of unknown has a positive relationship with panic buying behavior.

2.2.2 Fear of unknown and perceived severity of threat

Perceived severity of threat has been discussed in relation to panic buying and fear (Laato et al, 2020). When people experience fear of unknown, they will perceive the threat to be more potent and dangerous because of lack of information (Cauberghe et al., 2009; Kassem, 2020). In fact, research has shown that people who are repeatedly exposed to fear appeals tend to perceive the severity of threat to be high (Shi & Smith, 2015). Another study utilizing the Extended Parallel Process Model (EPPM), concluded that messages that evoke fear can also induce respondents to experience a higher level of threat (Witte, 1992;1994). According to Shi and Smith (2015) severity

has to do with the belief or perception that the threat is potent and potentially fatal. It also pertains to the magnitude of the threat (Lennon & Rentfro, 2010; Witte & Allen, 2000).

Perceived severity of threat is not entirely a new concept, though it has surfaced as one during COVID-19. Under the Protection Motivation Theory (PMT) risk perceptions can be responsible for eliciting a motivational response to take precautionary actions to limit the exposure to the risk (Milne et al., 2000; Maddux & Rogers, 1983). COVID-19 has provided the impetus for peoples' fear of unknown to translate into them viewing the threat as severe (Coelho et al., 2020). The disease attained pandemic status and became a global emergency as millions were infected and individuals were uncertain if the person next to them was infected or not thus adding more burden on people (Mertens et al., 2020). News reports of factories pausing their production schedules, disruptions in global supply chains, led to elevated levels of fear (Kabadayi et al., 2020; Mussell et al., 2020). This fear is also a result of a boost in online posts about the same thing, which resulted in lending credibility to the overall hype surrounding COVID-19 (Yam et al., 2021). Thus, this study theorizes that the fear of unknown resulted in higher perceived severity of threat. Hence, the following hypothesis is presented:

H₂: Fear of unknown has a positive relationship with perceived severity of threat.

2.2.3 Fear of unknown and cyberchondria

Cyberchondria is a state in which an individual demonstrates an excessive desire to seek medical information on a certain topic, and this compulsion is driven by their concern for their health (Starcevic & Berle, 2013; Muse et al., 2012; Aiken & Kirwan, 2012). Cyberchondria has been linked to psychological vulnerability and has been discussed in relation to fear, anxiety and an element of compulsiveness (McElroy & Shevlin, 2014; Laato et al, 2020). It is, therefore, a multidimensional construct. In particular, it has been linked to increased anxiety and intolerance

towards uncertainty (Bajcar & Babiak, 2020). Individuals who feel fear of uncertainty more potently than others may perceive the risk of COVID-19 to be higher and their response to fear may transform from being adaptive to maladaptive when they feel they do not have enough information at their disposal (Wu et al., 2021). During COVID-19, this scenario unfolded and caused excessive internet consumption by people fearing the unknown (Nguyen et al., 2020)

An existing fear of COVID-19 (here conceptualized as fear of unknown, owing to the elusive nature of the virus) is only going to propel individuals to experience higher levels of anxiety and they will exhibit a higher propensity towards problematic internet use to combat that fear of COVID-19 (Wu et al., 2021; Bajcar & Babiak., 2020; Swee et al., 2019). Recent statistics on internet use for seeking medical information show that as many as 60-80% of people search WebMD and the Mayo Clinic for health related information. Moreover, a 2013 survey showed that 35% of the people search specifically so that they can identify, or self-diagnose themselves with, a medical condition.¹ Studies have shown that such people tend to jump to (often erroneous) conclusions (Halter, 2018). When fear is high, people tend to react emotionally to the threat which can be irrational and excessive (Jarymowicz & Bar-Tal, 2006). Based on this, Hypothesis 4 is presented:

H₃: Fear of unknown has a positive relationship with cyberchondria.

2.2.4 Perceived severity of threat and panic buying behavior

Perceived severity of threat is particularly pertinent to the COVID-19 scenario because individuals did not just fear for their health and life, they also feared possible production and supply halts in their daily lives (Laato et al., 2020). Amidst this commotion, individuals were also

¹ See <https://www.cancerhealth.com/article/stressing-health-online-docs-say-cyberchondria-now-thing#:~:text=To%20describe%20the%20unique%20connection,Mayo%20Clinic%20for%20health%20information.>

quarantined and were instructed to maintain social distance which made them feel the threat to their life was more severe than they had realized (Wen et al., 2005; Brug et al., 2009; Laato et al., 2020). This perceived severity of threat was also viewed in conjunction with possible scarcity of essential items should the situation get worse (Yoon et al., 2018). According to Cannon et al. (2019) consumers also rush to safety by seeking cues from their environment regarding what they should do if there is a surge in demand for essential products. If their assessment does not provide them with a sense of security then certain maladaptive behaviours can manifest in the form of panic buying or stockpiling behaviours (Sharma & Pokharel, 2021). Research also suggests that such behaviours indicate psychological weakness in the individual (Drury et al., 2013; Prentice, Quach, & Thaichon, 2020).

Another study by (Kim et al., 2020) states that uncertain situations propel individuals to make judgements based on how they perceive the threat, and not the actual disaster itself (Slovic et al., 1980). This judgement is even more flawed when the individual does not have enough information to make a correct assessment of the threat. Together, these emotions and cognitions are enough to create a feeling of loss of control which lead to stronger behavioral reactions to the threat (e.g. panic buying) than would otherwise be observed (Hogg & Mullin, 1999; Kim et al., 2020). Therefore, there are reasonable grounds to hypothesize that a higher perceived severity of threat can lead to panic buying behavior, and that consumers will flock to safety in the form of this behavior during a crisis situation. Based on this premise, the following hypothesis is presented:

H4: Perceived severity of threat has a positive relationship with panic buying behaviour.

2.2.5 Cyberchondria and panic buying behavior

Cyberchondria has often been associated with health anxiety, especially during COVID-19 (Jokić-Begić et al., 2019; Laato et al., 2020). It refers to a situation where the individual is

extremely distressed and anxious about their health and that anxiety manifests in their excessive and compulsive health-related internet searches (Starcevic & Berle, 2013). Since there is a lot of variety in the search engines, and the information sources, it is possible for individuals to get lost in the information overload (Hargittai et al., 2012). Not all information is accurate or clear, and any ambiguity in the information can lead to elevated anxiety levels thereby causing more cyberchondria in the individual (Jokić-Begić et al., 2019; Vismara et al., 2020). The flurry of media reports that individuals encountered during COVID-19 were not positive, nor always comprehensible, and this also escalated levels of cyberchondria (Laato et al., 2020).

During the time when COVID-19 was still in its nascent stage and nobody knew what would happen, cyberchondriacs might have felt consumed by their anxiety to act in advance and prepare for the future should they be indisposed later, thereby causing them to adopt self-isolation followed by panic buying behaviour (Arafat et al., 2020). Depending on their ability to understand and process the impact of COVID-19 they could have exhibited adaptive or maladaptive behaviours to cope with the pressure to survive (Laato et al., 2020). COVID-19 related SOPs (social distancing, self-isolation) also played a role in determining what kind of actions would be taken (Farooq et al., 2020). Therefore, people who suffer from cyberchondria may have felt the need to protect themselves by preparing for the inevitable (contracting COVID-19) and thus, they made unusual purchases and maybe over-purchased items they would not have purchased in a normal situation. Hence, the following hypothesis is presented:

H₅: Cyberchondria has a positive relationship with panic buying behavior.

2.2.6 Perceived severity of threat and cyberchondria

Cyberchondria is essentially a form of health anxiety that motivates and encourages people to seek a host of medical information online (Zheng et al., 2021). During COVID-19, this

manifestation of health anxiety was also coupled with individuals' desire to understand more about the pandemic (Sulyok et al., 2021). In fact, COVID-19 directly affected people's negative perception of the virus, and also influenced their perceptions of the threat (Bratić et al., 2021; Paredes et al., 2021). Perceived severity of threat has been cited as being a significant contributor to health anxiety, and also being the primary driving force behind initiation of a person's protection motivation mechanism (Laato et al., 2020b). Research has also suggested that individuals who rank the perceived severity of a threat to be high also show marked increase in their intention to self-isolate, and this phenomenon was particularly relevant in the COVID-19 context (Farooq et al., 2020). The wide variety of (mis)information disseminated during the outbreak of the virus communicated the extent of its severity to the people, and individuals' appraisal of the situation was affected by their ability to cope with the virus, and the level of personal threat it posed (Laato et al., 2020b).

During this pandemic, the restrictive measures introduced by the governments and other policymakers reduced people's in-person interaction as they were advised to maintain social distance or quarantine themselves if they contracted the virus (Benke et al., 2020). This led people to resort to online or social media websites to connect with people, and also, to gather information about the unique virus through such media ((Husnayain et al., 2020; Rovetta & Bhagavathula, 2020). This outcome is also in line with the proposition of the protection motivation theory that states that individuals will feel a stronger urge to search for more information about their health if they feel the threat to be severe and studies show that COVID-19 related internet searches escalated as the virus spread, causing people to perceive the threat to be very severe (Husnayain et al., 2020; Farooq et al., 2020). Thus, we hypothesize the following:

H₆: Perceived severity of threat has a positive relationship with cyberchondria.

2.2.7 Moderation of spiritual engagement

Spiritual engagement has been known to have an effect on core beliefs (Issler, 2009) and can also mold emotions, thoughts and character (Eck, 2002). Research has suggested that behaviors are not just shaped by will-power but also by our core beliefs (Roof et al., 2017). These core beliefs are also linked to spiritual engagement and there is agreement in literature that human beings are spiritual and that they tend to rely on it in times of trouble and uncertainty (Wright, 2002). Health anxieties, particularly those highlighted by COVID-19, can heighten the impact of thoughts and feelings making them seem more real than they actually are (Haverkamp, 2012; Haverkamp, 2018). In another study, fear of unknown is a major contributing factor to stress that is also affected by spiritual well-being, emotional intelligence, psychological empowerment and resilience (Bahadir-Yilmaz, 2016). Research has stressed on the role of spiritual engagement in helping people overcome the effects of trauma, stressful events and even disease (Koenig et al., 2001; Peres et al., 2007). In fact, many individuals turn to prayer, religious discussions, or spiritual feelings to alleviate the burden of stress-causing events (Schuster et al., 2001).

Although, the role of spiritual engagement vis-à-vis fear of unknown has been largely unexplored in literature, there is still support for the notion that spirituality can help alleviate the impact of fear of death and existential crises (Hoge, 1972; Powell & Thorson, 1991). Individuals who hold positive self-beliefs are able to exercise control over negative emotions, and “spiritual health efficacy” can significantly impact a person’s fear (Fry, 2003; Tomer & Eliason, 2000; Daaleman & Dobbs, 2010). Even though, these studies do not make an outright connection to fear of unknown, they do show that there are factors that can help mitigate the impact of fear of unknown (Hamouche, 2020). Individuals who have a strong faith system and who feel a connection to God (or a higher power) might exhibit lower levels of fear because their spiritual

engagement moderates the impact of fear (Roof et al., 2017; Peng et al., 2022). The outcomes of their spirituality are also motivated by their faith and expectations (Whitney, 2014).

In Pakistan, COVID-19 increased people's spiritual engagement because a significant portion of the population believed the pandemic was a test from God and only He could alleviate the sufferings associated with the virus (Ali & Minxing, 2021). For them, spirituality became a coping mechanism to relieve their fear, anxiety and perceptions of the threat (Zakar et al., 2021). Another study revealed that presence of spiritual engagement was negatively linked to hopelessness during COVID-19, among Pakistani individuals (Maraj et al., 2020). Therefore, a high spiritual engagement has the potential to arm the individual with the strength that they are in God's protection, and their faith practices will lend them peace so that they are better able to cope with COVID-19. In light of this, the following hypotheses are presented:

H_{7a}: Spiritual engagement will moderate the relationship between fear of unknown and perceived severity of threat, such that high spiritual engagement will weaken the relationship.

H_{7b}: Spiritual engagement will moderate the relationship between fear of unknown and cyberchondria such that high spiritual engagement will weaken the relationship.

2.2.8 Moderation of organizational resilience

While panic buying behavior has been experienced in all regions of the world, it should be noted that certain intervention strategies may play a role in mitigating the effects of peoples' anxiety and fear (perceived severity of threat and cyberchondria; Ho et al., 2020; Giorgi et al., 2020). The role of social influence could be a potential mitigating factor because humans can change their behavior according to what peers in their social group say (Kelman, 1958; Laato et al., 2020). For instance, if people in an individual's social group buy unusual amounts of items,

the individual might feel obligated to demonstrate the same behavior. However, if nobody does anything out of the ordinary, then this can weaken the relationship between severity and unusual buying (Laato et al., 2020).

The protection motivation theory has stressed on the importance of persuasive communication in helping individuals overcome propensity to exhibiting maladaptive behaviours like panic buying (Reynolds & Quinn, 2008). In particular, an organization's resilience to the COVID-19 crisis has been brought to the forefront (Boiral et al., 2021). Research suggests there is a dearth in our understanding of organizations' role in managing panic at a macro level (Bryce et al., 2020; Wong et al., 2020). Organizations have a moral obligation to their external stakeholders in times of distress, which puts their legitimacy in jeopardy if they fail to respond effectively to risks (He & Harris, 2020; Corbera et al., 2020). On another tangent, Anderson and Anderson (2020) discussed the positive role of effective marketing communication in encouraging customers to opt for responsible consumption, especially during COVID-19. Lastly, COVID-19 has led people to expect more proactive involvement during crises especially if their actions, or lack thereof, will affect supply of essential items (Boiral et al., 2021). More importantly, the concept of "resilience-oriented crisis communication" has also been highlighted in research for critical situations (Kim, 2016). Thus, this study theorizes that businesses who demonstrate high levels of resilience in their marketing communication will cause consumers to reduce their panic buying behavior, even if their fear is high. Hence, the following hypotheses 7a and 7b are presented:

H_{8a}: Organizational resilience will moderate the relationship between perceived severity of threat and panic buying behavior, such that high organizational resilience will weaken the relationship.

H_{8b}: Organizational resilience will moderate the relationship between cyberchondria and panic buying behavior such that high organizational resilience will weaken the relationship.

2.2.9 Mediation of perceived severity of threat and cyberchondria

Although, fear of unknown is posited to have a direct impact on panic buying behaviour, it should be noted that there are mechanisms that can intervene in this relationship and can influence individuals' propensity towards panic buying behaviour (Shoib & Arafat, 2021; Arafat et al., 2020; Yuen et al., 2022). Research indicates that perceived severity of threat and cyberchondria gained prominence during the COVID-19 outbreak and consequent discussion (Chua et al., 2021; Laato et al., 2020). The role of perceived severity of threat in communicating the dangers of contracting COVID-19 is also established in current literature (Omar et al., 2021; Chua et al., 2021). It attributes a significant proportion of panic-stricken behaviours to the way people perceived the threat associated with the pandemic (Omar et al., 2021). Fear, alone, was not the main contributing factor at play, and this point is further elucidated by the fact that people were under a constant deluge of information communicated by various sources that claimed COVID-19 was fatal, dangerous, and extremely contagious (Singh et al., 2020; Abdelhafiz et al., 2020; Abdel Wahed et al., 2020). This interplay between the growing fear associated with this unknown virus and the consequent perceptions of high severity of the disease made people feel that they needed to take precautionary measures that could sustain them if, or when, they contracted the virus as well (Omar et al., 2021). These precautions manifested in panic buying behaviour because it enabled individuals to purchase all essential items, and hence provided the reassurance that they would not face any deprivation or shortages if the situation got worse for them (Taylor, 2021; Yoshizaki et al., 2020).

On another tangent, cyberchondria was also observed during the pandemic as people flocked to the internet to seek information about their health (Varma et al., 2021). Fear of unknown reigned high during these times and a mass majority of people had unanswered questions about the unique disease (Kurcer et al., 2022). Since, the lockdowns and other macro-level restrictions discouraged in-person interactions, individuals had to resort to online media for more information that wasn't always accurate, and in fact, escalated their fear levels (Bhaumik & Nayok, 2021; Vysakh & Babu, 2022). Fear of COVID-19, in itself, could have been benign if individuals had not tried self-diagnosing themselves with health problems they most likely did not have (Varma et al., 2021). When the two were combined, it is possible that high fear levels and cyberchondria propelled people to take prompt action for their health by stockpiling items in advance (Durmus et al., 2022; Arafat et al., 2020). This paved the way for them to engage in acts of panic buying as a means of assuaging their fear and anxiety levels (Aydınlıoğlu et al., 2020). Based on these arguments, the following hypotheses are presented:

H_{9a}: Perceived severity of threat will mediate the relationship between fear of unknown and panic buying behaviour.

H_{9b}: Cyberchondria will mediate the relationship between fear of unknown and panic buying behaviour.

2.2.10 Moderated-mediation of perceived severity of threat and cyberchondria

Fear of unknown has been known to create anxiety in individuals and leads to stress over not knowing outcomes (Dholakia, 2020; Arafat et al., 2020). This makes people feel insecure and they perceive the threat to be higher than it actually might be, causing them to expect the worse from the situation (Mehra et al., 2020). Individuals are motivated to take preventive measures against the threat (Cannon et al., 2019). When this defense mechanism kicks in, individuals resort

to behaviours that might make sense to them but are actually a manifestation of their heightened fear levels (Roy & Sinha, 2020). This leads to behaviours like panic buying, hoarding or stockpiling by the customers (Roy & Chakraborty, 2021). In these situations, spiritual engagement may prove to be a saving grace for these individuals because it has been known to mold thoughts, behaviours and feelings and hence, can be a potential tool to mitigate the impact of fear on perceived severity of threat (Eck, 2002). In addition to this, there are certain persuasive communication strategies undertaken by organizations that show their resilience, which can also help curb panic buying behaviour by reassuring individuals that the products they need will not go out of stock (DiFonzo & Bordia, 1998; Naeem & Ozuem, 2021; Riediger et al., 2022).

Fear of unknown has also been linked to elevated levels of health-related anxiety because it highlights the uncertain in the environment (Starcevic et al., 2020). Individuals who show a marked tendency towards distrust of medical practitioners conduct more self-diagnoses and are also more susceptible to cyberchondria (Akhtar & Fatima, 2019). Since the advent of Internet information, many individuals tend to rely on “Dr. Google” and it has become a go-to platform for people seeking information regarding their health (Lee et al., 2015). During COVID-19, people who have anxiety induced health-related searches, feel that they are at greater risk of contracting the virus (Jungmann & Witthoft, 2020). Therefore, such individuals rushed to the markets to procure supplies that they might not if the situation got worse thereby exhibiting unusual buying behaviour. As a coping strategy at an individual level, spiritual engagement can facilitate the individual in curbing fear of unknown and cyberchondria (Yang et al., 2010; Kasapoglu, 2022). At an organizational level, the way organizations portray their strength (or lack thereof) during trying times can help in mitigating the impact of cyberchondria by lowering panic buying. Based on these assumptions, Hypotheses 8a and 8b are presented:

H_{10a}: Perceived severity of threat will mediate the relationship between fear of unknown and panic buying behavior when spiritual engagement and organizational resilience moderate the mediated relationship.

H_{10b}: Cyberchondria will mediate the relationship between fear of unknown and panic buying behavior when spiritual engagement and organizational resilience moderate the mediated relationship.

Table 2.1 shows a summary of all the research gaps identified in relation to all constructs used in this study.

2.3 Theoretical framework

Figure 1 shows the theoretical framework for this research study. Grounded in the protection-motivation theory (PMT), this framework explores the moderated-mediation of the direct relationship of fear of unknown and panics buying behavior facilitated by perceived severity of threat and cyberchondria when spiritual engagement and organizational resilience act as boundary condition mechanisms.

Figure 1

Theoretical framework

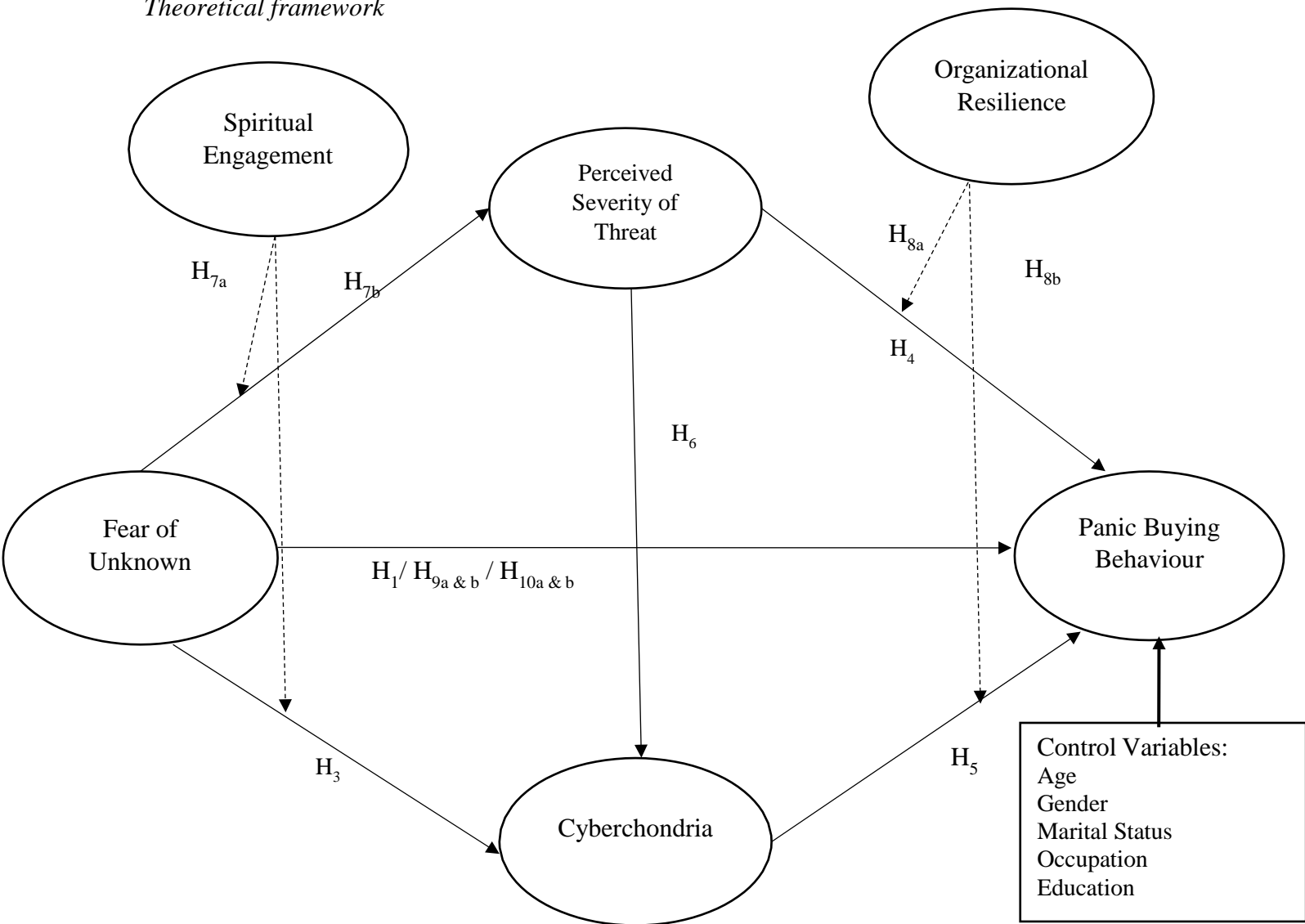


Table 2.1*Summary of research gaps*

Construct	Reference	Study Type	Methodology and/or Relationships Tested	Results	Research Gaps
Panic buying	He & Harris (2020)	Conceptual	Commentary on the role of COVID-19 in shaping organizations' marketing and CSR efforts during turbulent times.	Not Applicable	Scant research on factors that can reduce panic buying behavior.
	Tan et al. (2021)	Empirical	Effect of COVID-19 on public sentiment expressed on social media.	COVID-19 affected public sentiment negatively in the initial phase and in the recovery phase as well.	Panic buying is an underexplored area in the consumer behaviour domain.
	Billore & Anisimova (2021)	Empirical	Systematic literature review on panic buying behaviour to identify gaps in scholarly research.	Existing research on panic buying phenomenon is scattered across multiple disciplines and needs to be consolidated so that it can help policymakers and marketing managers.	Future focus should be directed towards research on factors that (i) mitigate panic buying behaviour and (ii) encourage responsible consumption.

	Prentice et al. (2022)	Empirical	Employed an online survey to investigate the antecedents (government measures, peer influence, media influence, FOMO) and consequences of panic buying. The impact of panic buying on purchaser's guilt was also tested along with the moderating role of retailer's intervention.	Results confirmed that preventive measures and social media influence were significantly related to panic buying. Retailer intervention was only successful in the presence of government measures.	Studies on panic buying lack empirical evidence, focus almost exclusively on qualitative analyses and retailers' perspective only.
	Naeem & Ozuem (2021)	Empirical	To understand the relationship between misinformation and rumours and their impact on panic buying behaviour.	Individuals believed social media accounts more than they believed politicians and policymakers. Hence, the misinformation propagated on social media increased perceptions of threat and led them to panic buy.	Little understanding about socially shared misinformation and rumours and their impact on people's motivation to protect personal interests by engaging in acts of panic buying.
Spiritual Engagement	Ribeiro et al. (2020)	Conceptual	Commentary on the need for spiritual avenues to help people deal with stressful events, such as the pandemic.	Not Applicable	Identified a need for spiritual and religious avenues as a means to encourage coping in people during distressing situations
	Castillo (2020)	Conceptual	Commentary on the role of spirituality in helping people achieve better well-being in times of great distress.	Not Applicable	Outlined that empirical evidence shows that spirituality has a positive influence on a person's well-being but research on it is limited to the role of physical and mental well-being only.

Cyberchondria	Jungmann & Witthöft (2020)	Empirical	Investigated the relationship of trait health anxiety, cyberchondria, and coping with the COVID-19 virus anxiety.	Health anxiety and cyberchondria are positively related to virus anxiety. This relationship is weakened when individuals undertake adaptive emotion regulation methods.	More understanding needed about cyberchondria's relation to COVID-19, people's anxiety and social media usage.
Organizational resilience	Vogus & Sutcliffe (2007)	Conceptual	Commented on the increasing importance of organizational resilience as a research agenda and how it can be investigated in upcoming research.	Not Applicable	Identified that organizational resilience lacks support from organization theory and needs to be studied in detail in future.
	Kantur & Iseri-Say (2015)	Empirical	The study has developed a scale to measure organizational resilience.	A ten-item scale for measuring organizational resilience is developed and validated.	Research done mostly from the strategic management perspective, flexible systems, supply chain management and human resource planning. This research is mostly limited to qualitative analyses and needs to progress further using a quantitative approach.
Perceived severity of threat	Laato et al. (2020)	Empirical	Tests relationships between unverified information and information overload and their impact on perceptions of perceived severity of threat and cyberchondria.	Females are more likely to suffer from cyberchondria while males tend to share unverified information more often. A person's trust in information derived from social media leads to information sharing.	There is a dearth of information regarding people's behaviour in the midst of a pandemic and we need to know more about how people behave when their decision-making processes are guided by fear and anxiety.

	<p>Li et al. (2020)</p>	<p>Empirical</p>	<p>Tests the link between perceived severity of threat and mental health problems, while self-control moderates this relationship.</p>	<p>Perceived severity and self-control were positively and negatively correlated with mental health problems, respectively. Self-control moderates the relationship between perceived severity of threat and mental health problems.</p>	<p>There is little information about factors that can buffer the negative effects of perceived severity.</p>
<p>Fear of unknown</p>	<p>Gomez-Corona et al. (2021)</p>	<p>Empirical</p>	<p>This study tests the relationship between consumer fears (linked to food, confinement, and COVID-19).</p>	<p>Results show that fear can be segmented into nine dimensions and that confinement type also governs food choices among consumers.</p>	<p>Studies lack a cultural and consumer-level context. Most studies on fear do not investigate its relation to food shortages or food consumption. Research also predominantly focuses on the shorter fear experiences in which fear responses are not mediated by any other mechanism. However, there is a need to investigate the longer routes in which fear elicits a response through various routes.</p>

CHAPTER III: Methodology

3.1 Research design

This study is a cross-sectional survey meaning that data has been collected at one point in time. The study uses the purposive sampling method, which is a type of non-probability sampling. It is also known as judgement sampling (Etikan, Musa, & Alkassim, 2016). Purposive sampling is used when the researcher is specifically looking for certain attributes in the respondent base, and they decide what needs to be known further (Bernard, 2002). For this research, purposive sampling technique is suitable because there are certain characteristics that the respondents must possess.

3.2 Respondent characteristics

The sample has been drawn from the overall population of social media users. The study comprises factors that look into the social media usage, and certain behavioral responses to COVID-19. In light of this, an eligible respondent for this research has the following profile: (1) they are avid social media users (that is, they are active on at least one social media platform like Facebook, Instagram, Twitter, LinkedIn); (2) they are a part of community groups (this qualifier ensures that those respondents are taken who have more exposure to posts by people, and thus, more chances of being exposed to information or news about COVID-19); and (3) are actively engaged in COVID-19 related topics such as stock running out, spreading information about COVID-19, posting warnings about COVID-19.

3.3 Sample Size

Current research published on COVID-19 utilized 200- 400 responses (Rather, 2021; Lins & Aquino, 2020). In order to have confidence in results the target sample should be at least 300 respondents (Kudeshia & Kumar, 2017). It is recommended when employing Structural Equation Modeling (SEM) to use an adequate sample size to obtain credible results (Molwus et al., 2013). A suggested large sample size for SEM is 300 (Comrey & Lee, 2013; Tabachnick & Fidell, 2013). On another note, studies recommend using 15 respondents for every variable (Stevens, 1996), 10 respondents to 1 variable (Schreiber et al., 2006) and 5 to 1 (Bentler & Chou, 1987). Literature also suggests that models with 10 to 15 variables can employ a sample size between 200 and 400. Following this criteria, the current study has a sample size of 306.

3.4 Data collection process

The data collection was conducted primarily through Facebook and WhatsApp. Facebook is the most popular social media platforms in Pakistan. According to GlobalStats, Facebook is popular among 90.58% of social media users in Pakistan, followed by Twitter, Pinterest and YouTube. Social media sites can also make it possible for the researcher to access “hard to reach” respondents (Baltar & Brunet, 2012). The data collection process began by generating a link for the Google Form and sending it to contacts via WhatsApp. Following this, the link was also shared on various groups on WhatsApp and Facebook which allowed greater geographical breadth as well and data was gathered from a variety of respondents. In order to be a suitable respondent for this study, the individual was required to answer positively to the following qualifier questions:

1. Respondent’s social media usage (time of use, frequency, their degree of activity e.g. posting, commenting, sharing), and

2. The items purchased during in COVID-19 (hand sanitizers, masks, grocery items like wheat, sugar, oil)

3.5 Questionnaire: Development and description

The questionnaire consists of three sections; section I includes filter questions, section II includes items related to the variables under study, and section III contains demographic information. Table 1 contains the constitutive and operational definitions for all variables relevant in the study.

Table 3.1

Constitutive and operational definition

Construct	Constitutive Definition	Operational Definition
Fear of unknown	It is the anxiety people experience when they are faced with universal questions that have no known answers.	The mean of items 1-10 in section II, measured on a 5-point Likert Scale where 1= Strongly Disagree and 5= Strongly Agree.
Perceived Severity of Threat	It is defined as the “degree of seriousness of possible harm” that is perceived by an individual.	The mean of items 11-15 in section II, measured on a 5-point Likert Scale where 1= Strongly Disagree and 5= Strongly Agree.
Cyberchondria	The excessive or compulsive online searches for health-related information that are also linked with increase in health-related anxiety	The mean of items 16-20 in section II, measured on a 5-point Likert Scale where 1= Strongly Disagree and 5= Strongly Agree.

Spiritual engagement	It is defined as the “evolutionary, spiritually transforming set of beliefs, behaviors, expectations and emotions that have the potential to affect ethic, values, identity and organizational dynamics”	The mean of items 21-45 in section II measured on a 7-point Likert Scale where 1= Very Strongly Disagree and 7= Very Strongly Agree.
Panic Buying Behavior	It is the buying behavior exhibited by consumers or organizations that can consist of stockpiling or hoarding, when there is no actual scarcity	The mean of items 46-56 in section II, measured on a 7-point Likert Scale where 1= Very Strongly Disagree and 7= Very Strongly Agree.
Organizational Resilience	The ability of an organization to deal with internal and external changes, risks or jolts.	The mean of items 57-66 in section II, measured on a 7-point Likert Scale where 1= Very Strongly Disagree and 7= Very Strongly Agree.
<i>Socio-demographic variables</i>		
Gender	Gender of the individual (male or female)	Response to item number 1, section III of the questionnaire measured by 1= male, 0 if female
Age	The respondent’s age in years, as of their last birthday	Response to item number 2, section III of the questionnaire.
Marital Status	If the employee is married or single	Response to item number 3, section III of the questionnaire measured by 1 = married, 0 = not married
Education	The number of years of formal education received by the respondent	Response to item number 4, section III of the questionnaire.
Occupation	The respondent’s job or profession	Response to item number 5, section III of the questionnaire.

Section I contains a combination of the instruments deemed relevant for each of the variables under study. The first instrument pertains to fear of unknown and was measured through the scale used in the study by Harrison and Van Haneghan (2011). This scale has been adopted

from their study and it consists of ten items that are measured on a 5-point Likert scale, where 1 = Strongly Disagree, and 5 = Strongly Agree. Perceived severity of threat, and cyberchondria were both measured using five items, each were adopted from Laato et al. (2020). The scales are measured using a 5-point Likert scale where 1 = Strongly Disagree and 5 = Strongly Agree.

Spiritual engagement was measured through the scales developed and validated by Roof, Bocarnea and Winston (2017), Rushton et al., (1981), and Puriwat and Triposakul (2021). Various dimensions of spiritual engagement scale such as worship, fasting and charity giving are included in this study. Multiple scales were adapted to the COVID 19 context. Charity giving construct was adapted from Rushton, Chrisjohn and Fekken's (1981) study. For online spiritual engagement construct have been adapted from Puriwat and Tripopsakul's (2021) study. All items have been measured using a 7-point Likert scale, where 1 = Very Strongly Disagree and 5 = Very Strongly Agree. Organizational resilience was measured through an adaptation of the scale developed by Kuntar and Iseri-Say (2015). The scale was adapted to apply the items to a marketing perspective, that is, customers. All items were measured on a 7-point Likert scale where 1 = Very Strongly Disagree, and 7 = Very Strongly Agree. Panic buying behavior was measured through a combination of two scales (Ridgway, Kukar-Kinney, & Monroe, 2008; Lins & Aquino, 2020). This variable was also measured using a 7-point Likert scale. Control variables were also investigated such as age, gender, occupation and education (Lehberger et al., 2021). A summary of all instruments used in this study is presented in the Table 3.2.

Table 3.2*Instrument Description*

Instrument	Author(s)	Year	No. of items
Fear of unknown	Harrison and Van Haneghan	2011	10
	Roof, Bocarnea, and Winston	2017	10
Spiritual Engagement	Puriwat and Tripopsakul	2021	9
	Rushton, Chrisjohn and Fekken	1981	5
Perceived severity of threat	Laato, Islam, Farooq, and Dhir	2020	3
	Lou, Cheng, and Sui	2021	2
Cyberchondria	Laato, Islam, Farooq, and Dhir	2020	5
Organizational resilience	Kuntar and Iseri-Say	2015	8
	Zheng, Luo, and Ritchie	2021	2
	Ridgway, Kukar-Kinney and Monroe	2008	5
Panic buying behavior	Monroe		
	Lins and Aquino	2020	7

3.6 Pretest

After the questionnaire was constructed, a pretest was also conducted with a sample of 50 respondents in order to gauge how well the questionnaire was understood by the respondents. Respondents who possessed similar characteristics to the target sample were chosen to conduct the pretest. The aim of the pretest was to refine the questionnaire further, by remediating any problems in the design. Errors pertaining to the items, their sequencing, scale, and proofreading were addressed. It was also important that the respondents understand the meaning of the items in the questionnaire. Owing to language differences, it is possible that some respondents may not comprehend certain terms. They were asked to mention if items were clear, ambiguous, vague, or in need of rephrasing. The respondents were familiar with the terms used in the questionnaire

(COVID-19, social media sites, face masks) and had no trouble understanding the items. However, there were concerns regarding the overall theme of the questionnaire. Confusion arose on the lack of link between each successive item and its theme, and respondents could not gauge what the question asked of them because there was no variable name. This was done purposely to ensure participants could not guess the aim of the study, and their responses were given to the best of their knowledge, so no action was taken for this. The link between questions was also deliberately not present because all questions were shuffled to avoid and common method bias.

3.7 Analysis of data

The analysis began with a description of the socio-demographic variables – gender, age, occupation and then it proceeded to the filter questions that were added to ascertain the respondent's social media usage during COVID 19. This study uses Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM approach was deemed suitable for this study because it can accommodate multiple predictor and criterion variables, simultaneously and thus, it was a more robust tool for this analysis (Upadhyaya et al., 2018). This research relied on SmartPLS4 Software to estimate the measurement and structural model.

Data checks such as common method bias (CMB) and multicollinearity were conducted. Checking for common method variance (CMV) is essential in cross-sectional research because all data is gathered at a single point in time, and the survey relies on the same respondents for the data (Podsakoff et al., 2003). CMV is checked using Harman's single-factor test. This is done to ensure that no single factor explains a sizeable portion of the total variance observed in the data. Following this, multicollinearity is checked to ensure the independent variables are not highly correlated with each other. This is done by calculating the Value Inflation Factors (VIF) of all independent constructs. Lastly, the correlations of all constructs are also calculated.

After checking and controlling for potential biases, *confirmatory factor analysis* (CFA) is conducted to validate the instrument, followed by path analysis to test for indirect effects (mediation), and then Structural Equation Modeling (SEM). For CFA, according to the Fornell and Larcker (1981) criteria, the following components have been evaluated: (a) the individual loadings of all items; (b) the composite reliabilities of every construct; (c) the average variance extracted (AVE) of each construct. The factor loadings of all items have to be above 0.708 for them to be included in the analysis (Hair et al., 2019). The composite reliability should be greater than 0.7 for internal consistency to be deemed appropriate (Sorra & Dyer, 2010). In addition to this, Cronbach's alpha will also be calculated and the cut-off for that is 0.7. The AVE should be >0.5 in order for convergent validity to hold. Discriminant validity has also been determined. It is a measure of how different one latent construct is from another in the dataset. For discriminant validity, the Fornell-Larcker criterion will be used. In addition to this, the Heterotrait-Monotrait matrix values will also be calculated. The *structural analysis* first evaluates the direct link of fear of unknown (FOU) and panic buying behavior (PBB) along with control variables. This study tests for two mediations: First, mediation of severity of threat (PST) between fear of unknown (FOU) and panic buying behavior (FOU \rightarrow PST \rightarrow PBB). The second mediation tests the mediation of cyberchondria (CYB) between the relationship of fear of unknown (FOU) and panic buying behavior (FOU \rightarrow CYB \rightarrow PBB). The moderators, spiritual engagement and organizational resilience, are evaluated using Fassott et al's (2016) PLS approach. For all the direct, indirect and moderator hypotheses the path coefficients as well as their significance levels using both t values and p values are examined.

As a final step, *model fit* is assessed using the standardized root mean square residual (SRMR) and power test. According to Henseler et al. (2016), the SRMR value should be <0.10 in

order to be a good model fit. The predictive power of the model is also tested using R^2 , f^2 and Q^2 values of the predicted variables. The criteria for these is that the R^2 values should be higher than 0.10 (Falk & Miller, 1992; Rather, 2021) and Q^2 should be positive for all endogenous constructs (Hair et al., 2017).

CHAPTER IV: Results and Analysis

This study aims to investigate panic buying behaviour during COVID-19 and examines the relationships between fear of unknown, cyberchondria, perceived severity of threat when spiritual engagement and organizational resilience act as micro and macro level coping mechanisms, respectively. This study uses the moderated-mediation analysis using SmartPLS 4 where cyberchondria and perceived severity of threat act as mediators and spiritual engagement and organizational resilience moderate the mediated relationship. The study uses 306 responses from online sources, mostly Facebook and WhatsApp. The current chapter elaborates on the analysis conducted to test the hypothesized relationships.

4.1 Data and Sample Statistics

Eligible respondents for this study included individuals who were active on social media websites and had responded positively to having purchased greater quantities than usual of products during COVID-19. Respondents were active on at least one of the following social media websites: Facebook, WhatsApp, Instagram, YouTube, and LinkedIn. Through this method, a total of 306 responses were collected. The respondents' profile is represented in Table 4.1. The table indicates that 49.3% of the respondents were male while 50.7% were female. A significant percentage of the respondent base fell in the 18 – 28 age group (58.5%) while 52.9% of the respondents held a Master's degree.

Table 4.1*Respondent Profile*

Demographics	Categories	Frequency	Percentage
Gender	Male	151	49.3
	Female	155	50.7
Age	18 - 28	179	58.5
	29 - 39	83	27.1
	40 - 50	32	10.5
	Above 51	12	3.9
Education	High School/A Levels	11	3.6
	Undergraduate	111	36.3
	Master's	162	52.9
	PhD	10	3.3
	Other	12	3.9
Occupation	Self-employed	44	14.4
	Student	67	21.9
	Public Employee	26	8.5
	Private Employee	143	46.7
	Retired	1	0.3
	Unemployed	25	8.2
Marital Status	Married	144	47.1
	Not Married (divorced/single/widow(er))	162	52.9

4.2 Multicollinearity, common method bias, and correlations

Common method bias and multicollinearity was assessed for each factor using SPSS, at a construct level through Harman's single factor test and variance inflation factor (VIF), respectively. For common method bias, the Harman's single factor test yielded a variance of 31.082%. Since this value is within the acceptability range, that is, a single factor should explain less than 50% of the variance, we concluded that common method bias was not present in this

study (Kock, 2020). Additionally, multicollinearity was also not a problem as all independent variables had VIF values of less than 3.3 (Kock, 2015) as illustrated in Table 4.2.

Table 4.2

VIF values of all constructs

Constructs	VIF <3.3	Multicollinearity	Common Method Bias
Fear of Unknown	1.341	No	No
Perceived Severity of Threat	1.197	No	No
Cyberchondria	1.316	No	No
Spiritual Engagement	1.202	No	No
Organizational Resilience	1.226	No	No

The correlations of all constructs along with their significance levels are shown in Table 4.3. The results show that there is significant association among all variables.

Table 4.3*Correlations Matrix*

	FOU	CYB	PST	SE	PBB	OR
FOU	1					
CYB	.466**	1				
PST	.245**	.244**	1			
SE	.221**	.201**	.266**	1		
PBB	.536**	.559**	.223**	.254**	1	
OR	.220**	.147*	.313**	.348**	.310**	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.3 Confirmatory Factor Analysis (CFA)

Factor loadings represent the degree of association between each construct and the underlying items (Maike, 2016). Factor loadings of all items were calculated using SmartPLS 4 and they were found to be higher than 0.4. However, recent literature recommends using factor loadings above 0.708, hence all items that had lower factor loadings were removed from the analysis (Hair et al., 2019). Cronbach's alpha and composite reliability of all variables was deemed satisfactory as it was above 0.7 for all constructs. The average variance extracted (AVE) is used to examine the convergent validity of the research instrument which is one way to determine if the instrument measures what it is intended to measure (Ellen & Drost, 2011). The AVE of all constructs was above the recommended cut-off 0.5 thus, providing sufficient evidence to confirm the convergent validity of all constructs. The results of the measurement model are depicted in Table 4.4.

Discriminant validity is considered satisfactory when there is dissimilarity between all constructs and each variable is distinct from all other variables that are used to measure the conceptual variable in question (Anderson & Gerbring, 1988). To assess the discriminant validity in this study, the Fornell and Larcker (1981) criterion was used. Discriminant validity is established if the square root of AVE for a construct is higher than its correlation with all other constructs (Henseler et al., 2015). The results in Table 4.5 show the square root of AVE in the diagonal and it is evident that they are all greater than the correlations, hence discriminant validity is established. The Heterotrait-Monotrait (HTMT) ratios were also calculated between all constructs. Discriminant validity is satisfactory if each ratio is less than 1 (Lowry & Gaskin, 2014). Recent studies recommend using values less than 0.85 (Voorhees et al., 2016). Table 4.6 shows the HTMT ratios between all constructs and as illustrated, all constructs are distinct from one another since the values are well below the benchmark of 0.85.

Table 4.4*Measurement Model Results*

Construct	Factor Loadings	Cronbach's alpha	CR	AVE	
Fear of Unknown (FOU)	FOU2	0.725	0.894	0.915	0.573
	FOU3	0.732			
	FOU4	0.769			
	FOU5	0.780			
	FOU7	0.742			
	FOU8	0.783			
	FOU9	0.751			
	FOU10	0.773			
Perceived Severity of Threat (PST)	PST1	0.799	0.886	0.921	0.746
	PST2	0.886			
	PST4	0.878			
	PST5	0.889			
Cyberchondria (CYB)	CYB1	0.826	0.861	0.9	0.644

	CYB2	0.793			
	CYB3	0.804			
	CYB4	0.845			
	CYB5	0.741			
	SE1	0.863			
	SE2	0.840			
	SE3	0.853			
	SE4	0.854			
	SE5	0.873			
	SE6	0.767			
	SE7	0.757			
	SE11	0.811			
	SE12	0.850			
Spiritual Engagement (SE)			0.973	0.975	0.685
	SE13	0.847			
	SE14	0.893			
	SE15	0.881			
	SE16	0.822			
	SE17	0.781			
	SE18	0.850			
	SE19	0.798			
	SE21	0.779			
	SE22	0.752			
	PB1	0.727			
	PB2	0.763			
	PB3	0.825			
	PB4	0.815			
Panic Buying Behaviour (PBB)	PB6	0.885	0.958	0.964	0.729
	PB7	0.911			
	PB8	0.882			
	PB9	0.923			
	PB10	0.887			
	PB11	0.897			
	OR1	0.874			
	OR2	0.844			
	OR3	0.793			
Organizational Resilience (OR)	OR4	0.824	0.941	0.951	0.682
	OR5	0.828			
	OR6	0.754			
	OR7	0.855			

OR8	0.868
OR10	0.785

Table 4.5*Fornell-Larcker criterion of discriminant validity*

	CYB	FOU	OR	PBB	PST	SE
CYB	0.803					
FOU	0.476	0.757				
OR	0.148	0.226	0.826			
PBB	0.56	0.547	0.313	0.854		
PST	0.249	0.245	0.316	0.223	0.864	
SE	0.199	0.219	0.354	0.251	0.273	0.828

Table 4.6*Heterotrait-Monotrait (HTMT) Matrix*

Constructs	CYB	FOU	OR	PBB	PST	SE
CYB						
FOU	0.532					
OR	0.159	0.24				
PBB	0.615	0.58	0.326			
PST	0.285	0.277	0.342	0.243		
SE	0.217	0.236	0.368	0.26	0.289	

4.4 Structural Model Results

The hypothesized relationships explore both direct relationships between constructs, and indirect effects through moderation and moderated-mediation. The following is a summary of the tested hypotheses and their results.

4.4.1 Direct effects

Direct effect of fear of unknown on panic buying behaviour, perceived severity of threat, and cyberchondria

The direct effect of fear of unknown on panic buying was tested. Path coefficients were computed along with their significance levels using bootstrapping technique with 5000 subsamples. The results showed a path coefficient of 0.277 which was significant at the 1% significance level with a t -value of 5.009. This path coefficient also fell within the 95% confidence interval (0.167-0.384) indicating the non-presence of zero. Hence, Hypothesis 1 was supported. The path coefficient for the relationship between fear of unknown and perceived severity of threat was 0.195 and this was significant at the 1% level (p -value of 0.001). The t -value was computed to be 3.018 and the confidence interval ranged from 0.029 to 0.280. Since all values indicated a significant relationship, support for Hypothesis 2 was also found. For the relationship between fear of unknown and cyberchondria, results indicated a path coefficient of 0.424 that was highly significant (p -value computed to be 0.000). Consequently, the t -statistic was found to be 8.516 which is far beyond the 1.96 benchmark and the confidence interval also showed the non-presence of zero in the range, thereby lending support for Hypothesis 3.

For out of sample predictive relevance, the PLSPredict function was used as suggested by Hair et al., (2019). The Q-square values are computed for key endogenous constructs and values

above zero are deemed satisfactory. Table 4.7 shows that Q square values for PBB, PST and CYB are above 0, hence establishing the predictive relevance of the model. The R- square and the f^2 effect sizes are also shown.

Direct effect of perceived severity of threat on panic buying behaviour and cyberchondria

The direct effect of perceived severity of threat on panic buying behaviour was tested and the computed results yielded a path coefficient of 0.236 which was highly significant (p-value was 0.000). The t -value was greater than 1.96 (4.112) and the bootstrapped confidence interval indicated the absence of zero as well thereby lending support for Hypothesis 4. The direct effect of perceived severity of threat on cyberchondria also yielded significantly positive results with a path coefficient of 0.148 which was significant at the 1% level. The t -statistic was also greater than 1.96 (2.347) and the confidence interval ranged from 0.066 to 0.228, indicating the non-presence of zero. Hence, Hypothesis 6 was also supported.

Direct effect of cyberchondria on panic buying behaviour

The direct relationship between cyberchondria and panic buying behaviour was tested. Results showed a path coefficient of 0.337 which was significant at the 0.05 significance level while the t -statistic was 5.803 which is greater than 1.96. The confidence interval for this relationship came out to be 0.224 – 0.451 and it did not have the presence of zero in the range which also suggests a significant relationship. Thus, Hypothesis 5 was supported and we conclude that cyberchondria does have a significant, and positive effect on panic buying behaviour.

4.4.2 Indirect effects

Moderation of spiritual engagement and organizational resilience

The model was regressed using SmartPLS 4 to test multiple moderation paths because all calculations can be conducted simultaneously in it. The hypotheses proposed a change in the

strength of the relationships, that is, both moderators were expected to significantly weaken the relationship between fear sources and panic buying behaviour. The path from fear of unknown to perceived severity of threat and from fear of unknown to cyberchondria was moderated using spiritual engagement. The results showed path coefficients of 0.038 (p -value of 0.588) and 0.087 (p -value of 0.056), respectively. Thus, Hypothesis 7a was supported but Hypothesis 7b was not since the p -value was not significant and the confidence interval also indicated the presence of zero.

The path from perceived severity of threat to panic buying behaviour and that from cyberchondria to panic buying behaviour was hypothesized to be moderated by organizational resilience. Results showed that the path coefficient for Hypothesis 8a was 0.115 which was significant at the 1% significance level and the t -value also exceeded the 1.96 benchmark (2.391). The confidence interval ranged from 0.051 to 0.178, thus lending support for Hypothesis 8a. No support was found for Hypothesis 8b because the path coefficient for this relationship was -0.045 and it was not significant at the 0.05 level while confidence interval also showed the presence of zero. Thus, Hypothesis 8b was rejected.

Mediation of perceived severity of threat and cyberchondria

The mediation of perceived severity of threat (Hypothesis 9a) and cyberchondria (Hypothesis 9b) between fear of unknown and panic buying behavior was also tested. The results showed significant partial mediation of perceived severity of threat. The path coefficient was 0.065 and it was significant at the 1% level thus supporting Hypothesis 9a. Support for Hypothesis 9b was also found because the path coefficient of 0.262 was significant at the 1% level and the confidence interval also showed the absence of zero (0.202 – 0.305). Preacher and Leonardelli (2001) state that a variable is considered a mediator when it shrinks the direct effect of the

independent variable (FOU) on the dependent variable (PBB), thus proving it to be a worthy intervening mechanism between the IV and the DV. The results are in line with this condition as the direct effect of fear of unknown on panic buying behaviour is 0.277, but is reduced to 0.065 when perceived severity of threat mediates the relationship, and 0.262 when cyberchondria mediates the relationship. Thus, both perceived severity of threat and cyberchondria were found to mediate the relationship between fear of unknown and panic buying behavior.

Moderated-mediation

The moderation of spiritual engagement and organizational resilience was tested on the path from fear of unknown to panic buying behaviour when perceived severity of threat and cyberchondria mediate the relationship. The results yielded support for both paths as the p-values were less than 0.10. Hypothesis 10a was accepted with a path coefficient of 0.021 which was significant at the 10% and Hypothesis 10b was accepted at the 1% significance level with a path coefficient of 0.168. The results show that the moderation of spiritual engagement and organizational resilience does weaken the relationship between fear of unknown and panic buying behaviour, when perceived severity of threat and cyberchondria mediate this relationship as well. Research states that a moderating variable can either change the strength or direction of the hypothesized relationships (Memon et al., 2019; Henseler & Fassott, 2010). Since, both path coefficients are lower than they were without moderators, we conclude that there is significant moderation, to the extent that it reduces the impact of fear sources on panic buying behaviour. The summary of hypotheses testing results is shown in Table 4.7.

4.5 Model Fit

Assessing model fit using SmartPLS can be a tricky endeavor because the guidelines for CB-SEM goodness of fit do not apply in PLS-SEM. Measures that have been endorsed for PLS

based structural equation modeling (SEM) should be used with extreme caution because a detailed assessment of these measures has not been conducted so far, and literature on their usefulness is also scarce. Therefore, the recommended assessment for SmartPLS is the Standardized Root Mean Square Residual (SRMR) value which is also to be used caution, and if used, should be below 0.08 (Ramayah et al., 2017; Hu & Bentler, 1998). The results of the model fit analysis show an SRMR value of 0.063 for the saturated model and 0.07 for the estimated model. Since, these value are below the recommended 0.08 cut-off, we conclude that the model is a good fit.

Table 4.7*Results of hypotheses testing*

Hypotheses	Relationships	Path coefficient	p-value	t-statistic	R ²	Q ²	F ²	95% CI
Direct effects								
H ₁	FOU → PBB	0.277***	0.000	5.009	0.489	0.317	0.104	0.167;0.384
H ₂	FOU → PST	0.195***	0.001	3.018	0.111	0.111	0.04	0.029;0.280
H ₃	FOU → CYB	0.424***	0.000	8.516	0.245	0.210	0.252	0.303;0.503
H ₄	PST → PBB	0.236***	0.000	4.112			0.065	0.148;0.290
H ₅	CYB → PBB	0.337***	0.000	5.803			0.187	0.224;0.451
H ₆	PST → CYB	0.148***	0.009	2.347			0.027	0.066;0.228
Moderation								
H _{7a}	FOU → PST (Mod: SE)	0.038	0.588	0.542				-0.096;0.181
H _{7b}	FOU → CYB (Mod: SE)	0.087*	0.056	1.587				0.016;0.154*
H _{8a}	PST → PBB (Mod: OR)	0.115***	0.008	2.391				0.051;0.178
H _{8b}	CYB → PBB (Mod: OR)	-0.045	0.322	0.99				-0.133;0.047
Mediation (Indirect effects)								
H _{9a}	FOU → PST → PBB	0.065***	0.007	2.474				0.003;0.086
H _{9b}	FOU → CYB → PBB	0.262***	0.000	6.477				0.202;0.305
Moderated-mediation (Indirect effects)								
H _{10a}	FOU → PST → PBB (Mod: SE;OR)	0.021*	0.090	1.342				0.004;0.044
H _{10b}	FOU → CYB → PBB (Mod: SE;OR)	0.168***	0.000	5.138				0.130;0.216

*** path coefficient is significant at 1%; ** path coefficient is significant at 5%; * path coefficient is significant at

10% and CI is 10%;

Table 4.8*Summary of hypotheses supported and not supported*

Hypothesis	Hypothesis Statement	Decision
Direct effects		
H ₁	Fear of unknown has a positive relationship with panic buying behaviour.	Supported
H ₂	Fear of unknown has a positive relationship with perceived severity of threat.	Supported
H ₃	Fear of unknown has a positive relationship with cyberchondria.	Supported
H ₄	Perceived severity of threat has a positive relationship with panic buying behaviour.	Supported
H ₅	Cyberchondria has a positive relationship with panic buying behavior.	Supported
H ₆	Perceived severity of threat has a positive relationship with cyberchondria	Supported
Moderation		
H _{7a}	Spiritual engagement will moderate the relationship between fear of unknown and perceived severity of threat, such that high spiritual engagement will weaken the relationship.	Not supported
H _{7b}	Spiritual engagement will moderate the relationship between fear of unknown and cyberchondria such that high spiritual engagement will weaken the relationship.	Not supported
H _{8a}	Organizational resilience will moderate the relationship between perceived severity of threat and panic buying behavior, such that high organizational resilience will weaken the relationship.	Supported
H _{8b}	Organizational resilience will moderate the relationship between cyberchondria and panic buying behavior such that high organizational resilience will weaken the relationship.	Not supported
Indirect effects		
H _{9a}	Perceived severity of threat will mediate the relationship between fear of unknown and panic buying behaviour.	Supported

H _{9b}	Cyberchondria will mediate the relationship between fear of unknown and panic buying behaviour.	Supported
Moderated-mediation		
H _{10a}	Perceived severity of threat will mediate the relationship between fear of unknown and panic buying behavior when spiritual engagement and organizational resilience moderate the mediated relationship.	Supported
H _{10b}	Cyberchondria will mediate the relationship between fear of unknown and panic buying behavior when spiritual engagement and organizational resilience moderate the mediated relationship.	Supported

CHAPTER V: Discussion and conclusion

The current study aimed to analyse the role of fear of unknown, perceived severity of threat, and cyberchondria in manifestation of panic buying behaviour during COVID-19. It also aimed to analyse and investigate whether potential coping methods at the individual and organizational level could help reduce the impact of fear appeals so that individuals would not feel compelled to panic buy. Theoretically, the study's purpose was to further the protection motivation theory by exploring antecedents of panic buying behaviour in the context of the pandemic. Although, the theory has been used to explain a plethora of phenomena, there is still a need to understand its usefulness in determining factors associated with panic buying. Additionally, panic buying itself needs more exploration through empirical study because till now research is scant and mostly undertakes the qualitative method (Prentice et al., 2020; Hall et al., 2020; Arafat et al., 2020).

This study was conducted on individuals living in Pakistan, who exhibited active social media usage and were above 18 years of age. Out of 400 responses that were circulated online, 306 usable responses were collected. SmartPLS 4 was used to test the hypotheses. In this chapter, the results obtained from the analyses are discussed and their theoretical and practical implications are outlined. Finally, the limitations of this research as well as guidelines for future research are given in this chapter.

5.1 Discussion

During COVID-19, various instances of panic buying, stockpiling and hoarding were reported all over the world. To further understand this behaviour, this study was undertaken with the aim to explore the concept using the protection motivation theory (Rogers, 1975) so that factors

contributing to it could be better understood. In conjunction with this, this study also attempts to understand how certain coping mechanisms can help ameliorate the effects of fear of unknown, cyberchondria and perceived severity of threat so that panic buying behaviour is reduced. Multiple studies have investigated panic buying using the protection motivation theory but few have discussed or examined the effect of mitigating factors (Chua et al., 2021; Prentice et al., 2022; Billore & Anisimova, 2021). This study uses spiritual engagement and organizational resilience as potential tools to weaken the impact of fear appeals.

The results show that there is a significant, positive association between fear of unknown and panic buying behaviour. This conclusion is consistent with prior research and it suggests that when people experience fear, they are motivated into action to devise to combat the fear. More importantly, it is not just a general, overarching fear, but fear of unknown which is regarded as an extension of fear (Lovecraft, 1927). When the coronavirus outbreak started and gained prominence for being deadly, it raised a lot of concerns in people's minds because even medical practitioners could not adequately provide definitive conclusions about its nature, mortality rate, symptoms and preventive measures (Hertling et al., 2021). People were confused and harassed by the constant deluge of information about the virus, and not all information was accurate (Laato et al., 2020). When people encounter this kind of fear, they automatically move towards self-preservation by either conserving or hoarding. In order to hoard, individuals were motivated to buy unusually large amounts of products so that they could sustain themselves and their loved ones, as is evident in the significant relationship between fear of unknown and panic buying behaviour. The fact that government restrictions such as lockdowns and social distancing were imposed stringently also heightened perceptions of this fear. When individuals anticipated that they would be bound in future, and would not be able to purchase necessary items, they resorted to buying everything in

one go. This result is consistent with the propositions of the protection motivation theory which stipulates that people are motivated to protect themselves from harm, and in this case, buying in bulk meant avoiding further interactions with the outside world which could be a carrier for COVID-19.

The relationship between fear of unknown and cyberchondria also tested positive and significant thereby confirming the notion that fear can drive people to be excessively anxious about their health to the point where they cannot control internet searches about their health. Research also shows that COVID-19 and problematic internet usage overlapped (Nguyen et al., 2020). Nowadays, the concept of Doctor Google has also gained prominence as more and more individuals take to online searches in order to conduct a self-diagnosis. Because of this, they tend to override the importance of knowledge and expertise of verified medical practitioners, and may even arrive at erroneous conclusions (Halter, 2018). The relationship between fear of unknown and perceived severity of threat also emerged positive and significant, thus highlighting the importance of fear in heightening people's perception of the threat. When there is little information regarding the source of fear, that is, the virus itself, people tend to view the threat as more severe and dangerous. This link has also been supported by literature (Cauberghe et al., 2009; Kassem, 2020). This study also supports this relationship and provides more evidence in favour of it.

Research also suggests that perceived severity of threat elicits a stronger response so that the individual can protect themselves by engaging in certain behaviours (Milne et al., 2000). The results in this study support this relationship because a direct effect of perceived severity of threat was found on panic buying behavior. The results were highly significant, hence leading to acceptance of that hypothesis. The other relationship leading from cyberchondria to panic buying behaviour also emerged significant. Together, these relationships suggest that fear of unknown

translated into higher perceived severity of threat, cyberchondria and panic buying behaviour. The relationship between perceived severity of threat and cyberchondria was also supported and this shows that when people view the threat to be severe, they seek information about it online. Since, COVID-19 is a health risk, these people were even more motivated to check for their symptoms online, to the point that their searches became excessive.

Moderation results for spiritual engagement and organizational resilience also showed that spiritual engagement moderated the direct relationship between fear of unknown and cyberchondria, and also moderated the mediated relationship from fear of unknown to cyberchondria to panic buying behaviour. Organizational resilience also moderated the relationship between perceived severity of threat and panic buying behaviour, and also moderated the mediated relationship between fear of unknown and panic buying behaviour. These results show that spiritual engagement emerged as a viable coping tool available to individuals during times of distress. It also indicates that organizational resilience can potentially help institutions and policymakers to help reduce the impact of fear sources. Individuals who display higher levels of spiritual engagement could benefit from their beliefs and thus were able to act more responsibly. This idea has been discussed in prior studies and they report that by resorting to prayer, spiritual feelings and religious discussions, people can overcome the effects of stress-causing events (Schuster et al., 2001). Moreover, this research is centered in Pakistan and people are particularly prone to resorting to spiritual engagement as a means of coping with disasters. Prayer, fasting, charity and engaging in comprehensive religious discussions is commonplace in this context. These contextual differences contribute to outcomes of this study.

The role of organizational resilience as a moderator was also significant in the relationship between perceived severity of threat and panic buying behaviour. This outcome shows that perhaps

organizations need to respond properly to the COVID-19 situation and should convince the consumers to not engage in acts that can harm other people in the population. People in Pakistan tend to respond emotionally to distressing situations and they make decisions that are not beneficial to their community. The results of this study show that organizations can help people by managing their perceptions of the threat. If these perceptions are managed at a macro level, then organizations harness the power to manage collective action, of the masses. This makes their contribution even more significant and should be explored further. It is possible that other countries and communities might be even more receptive to organizational efforts to reduce the impacts of disasters. Since Pakistan is a developing country, and demonstrates lower literacy rates, the role of organizational resilience might not be very strong here. Its people have not attained the level of mature understanding needed to combat serious issues that have broader societal-level effects. Hence, further investigation of organizational resilience is required as well.

5.2 Implications

5.2.1 Theoretical implications

This study provides the following contributions to the protection motivation theory. The first contribution is that it studies the impact of various sources of fear and threat on individuals' response manifested through panic buying behaviour. It also studies the proposed relationships in the context of a novel pandemic that affected millions around the world (Aktas & Aslim, 2020). In this regard, the research is a timely endeavor to help other researchers understand what factors contributed to panic buying behaviour, especially in a developing country that is not as well-equipped to handle disastrous situations (Linnerooth et al., 2011). The results showed that fear of unknown and cyberchondria had a significant, positive impact on panic buying behaviour.

Perceived severity of threat was also a contributing factor to panic buying. This is a noteworthy insight for the protection motivation theory because it shows that if the situation is viewed as extremely dangerous, it will propel people to take action. Cyberchondria also emerged as an important factor in explaining panic buying behaviour. This outcome is in line with the recent trend of following Doctor Google (Huisman et al., 2019). Since, COVID-19 is a health-related concern, it is not difficult to imagine why cyberchondria would emerge as relevant in this study. Nevertheless, its contribution to the theory cannot be denied because it helps us understand human behaviour during crises (Kim et al., 2022).

Apart from this, the inclusion of potential coping mechanisms at both the micro and macro level makes this study a more holistic approach to understanding protection motivation theory and its application (Qiao et al., 2022). The role of spiritual engagement and organizational resilience has not been explored prior to this study. The COVID-19 scenario painted the perfect picture for the application of these concepts, under the overarching frame of the protection motivation theory. The results confirm that spiritual engagement moderates the relationship between fear and cyberchondria, and also moderates the relationship between fear and panic buying when cyberchondria acts as mediator. This shows that at the time of the pandemic, people started to undertake excessive health related online searches and the results of those searches convinced them of the potency of the threat leading them towards panic buying. It also shows that spiritual engagement moderates this relationship thus confirming the role of coping mechanisms as viable options to intervene between fear and maladaptive responses. This study also shows that while spiritual engagement as emerged as significant, the role of organizational resilience as a moderating variable was also noteworthy, due to its moderating role between the relationship of perceived severity of threat and panic buying behaviour, and also between fear of unknown and

panic buying behaviour when perceived severity of threat acts as a mediator. This indicates that an organization's communication to consumers can be useful in managing panic buying when the threat is high. This shows the usefulness of the protection motivation theory too, in not just providing insight into how fear appeals affect human behaviour, but also how persuasive communication can help reduce the impact of various sources of fear.

5.2.2 Practical implications

The findings reported earlier have important implications for marketers and policymakers. The results show that stressful events lead to irrational responses and that fear is a major contributing factor in the manifestation of those behaviours. The takeaway for marketers from this situation is that they should have an effective response strategy in the event disaster strikes and causes panic among the masses (Ketrone et al., 2021). Although the nature of the disaster might not be known, it is still beneficial to have some viable options on hand as a means of recourse so that individuals are not left to their own devices. When intervention strategies are in place, it streamlines and coordinates responses at a larger scale thereby leading to a somewhat smoother transition from chaotic and irrational to responsible behaviour. Marketers now know that any anticipated shortages in supply chains, though they may not be true, can cause immense panic in consumers. Thus, they should be proactive in communicating how well they are prepared for such a scenario so the consumers are assured of uninterrupted supply in future.

After COVID-19, organizations and marketers, alike, need to understand the importance of encouraging social responsible consumption patterns (Karmaker et al., 2021; Ali et al., 2021). Not all societies can bear the brunt of some segments acting irrationally. Engaging in acts of panic buying as a response to fear and uncertainty deprives the already impoverished segments from buying essential items even. If this behaviour is not controlled by reducing fear in the public then

real shortages will persist. Thus, even policymakers should devise measures that will ensure that people respond in a reasonable manner to a bad situation. Now that this research shows a marked propensity of people towards self-diagnosis exhibited through cyberchondria, policymakers should encourage soliciting the expertise and knowledge of actual medical practitioners rather than having to resort to internet searches. Moreover, in a country like Pakistan, it is likely that appealing to the spiritual or religious side of people will help encourage desirable behaviours. Hence, policymakers should incorporate the use of such measures to help people deal with their fear and anxiety so that they are at a lesser risk of exhibiting irrational behaviours.

5.3 Research limitations and future research directions

The current research gathered data at one point in time, during COVID-19, because of imposed time constraints. Future researchers can attempt to use the longitudinal design to understand panic buying in a more comprehensive manner. Future studies can also use panic buying manifested during COVID-19 and compare it to panic buying as a result of other disasters. This might make for an interesting study and will also help gain insight into what kind of behaviour exhibit in those situations, if those behaviours are similar or dissimilar, what kind of products are purchased, and to what extent are they context specific. Such nuances in behavioural patterns can help marketers better position their brands, especially if those brands are available in a variety of contexts and countries.

Apart from this, the current study examined the role of spiritual engagement in Pakistan, a country where religion and connection to God is of the utmost importance. Testing the efficacy of this construct in other settings where spirituality is not that prevalent can be useful and can make for a compelling argument. This research has studied spiritual engagement as a whole. Future

researches can investigate whether there are dimensions to spiritual engagement in which some are better at explaining variance in behaviour. Certain contextual factors may also govern people's perceptions of spiritual engagement, and can therefore, yield entirely different results. Thus, it is a worthwhile undertaking. Finally, this study has been conducted in Pakistan which is a developing economy and the level of education, political and societal factors affect how people view an organization's efforts to communicate with consumers. Future studies can study panic buying and organizations' responses to it in a more advanced economy to see if people are more receptive to persuasive communication efforts from organizations.

5.4 Conclusion

The objective of this study was to investigate and understand the effects of fear of unknown, perceived severity of threat, and cyberchondria on panic buying when spiritual engagement and organizational resilience act as moderators. Data gathered from consumers during COVID-19 showed that fear, perceived severity of threat, and cyberchondria had a significant impact on panic buying behaviour and that fear also caused people to make more internet searches regarding their health. Fear also caused people to perceive the threat to be more severe. The importance of spiritual engagement is also highlighted in this research and it shows that it is significant in explaining the variations in people's behavioral patterns during COVID-19.

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Appendix A

Section I

Qualifier questionnaire

1. Please indicate your frequency of use for the following websites during COVID-19:

	Never	Once a week	More than once a week	Daily	Several times in a day	Not applicable
Facebook						
Instagram						
Twitter						
LinkedIn						
YouTube						
WhatsApp						

2. I actively follow business pages on social media

Regularly	Often	Sometimes	Very seldom	No
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3. During COVID-19, I purchased more items than usual from the following categories (select all that apply):

- Grocery items (wheat, flour, rice, sugar, oil)
- Hand sanitizers
- Cleaning products
- Face masks
- Clothes/ Jewelry
- Cell phones
- Computers/laptops
- Books/ Stationery items
- Footwear
- Fitness/gym equipment
- Home and kitchen appliances

4. Please name the store/app/online delivery service you did your grocery from during COVID-19

- Store: _____
- Online/App: _____
- Store providing delivery: _____

Section II

Strongly Disagree 1	Disagree 2	Neither Agree nor Disagree 3	Agree 4	Strongly Agree 5
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Fear of unknown

I often thought about the mysteries of life during COVID-19.	1	2	3	4	5
Not knowing all the answers about COVID-19 bothered me.	1	2	3	4	5
I often wonder why I am here.	1	2	3	4	5
My mind is troubled by the vastness of the universe.	1	2	3	4	5
I am afraid of not knowing answers to COVID-19.	1	2	3	4	5
I am obsessed with the unexplainable.	1	2	3	4	5
I cannot stop thinking about death and other deep questions in life.	1	2	3	4	5
I often feel alone when thinking about the unknown because it is so vast.	1	2	3	4	5
I feel overwhelmed by life and its many mysteries.	1	2	3	4	5
I constantly wish that I knew all the answers to life.	1	2	3	4	5

Perceived Severity of Threat

The negative impact of the coronavirus (COVID-19) is very high.	1	2	3	4	5
Coronavirus (COVID-19) can be life-threatening.	1	2	3	4	5
The coronavirus (COVID-19) is a serious threat for someone like me.	1	2	3	4	5
I believe that COVID-19 is a deadly disease.	1	2	3	4	5
I believe that COVID-19 can bring severe health problems.	1	2	3	4	5

Cyberchondria

After reading information about COVID-19 online, I often feel confused	1	2	3	4	5
I feel frightened after reading information about COVID-19 online.	1	2	3	4	5

Once I start reading information about COVID-19 online, it is hard for me to stop.	1	2	3	4	5
After searching for health information on COVID-19, I feel frustrated.	1	2	3	4	5
I often become obsessive with my internet usage on COVID-19.	1	2	3	4	5

Very Strongly Disagree 1	Strongly Disagree 2	Disagree 3	Neither Agree nor Disagree 4	Agree 5	Strongly Agree 6	Very Strongly Agree 7
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Spiritual Engagement

Prayer has helped me feel closer to God during COVID 19.	1	2	3	4	5	6	7
I have made requests of God in my prayers during COVID 19.	1	2	3	4	5	6	7
Worship has been refreshing to me spiritually during COVID 19.	1	2	3	4	5	6	7
Worship has been a regular practice for me during COVID 19.	1	2	3	4	5	6	7
Worship is a priority in my (spiritual) life during COVID 19.	1	2	3	4	5	6	7
I have given money (<i>zakat/sadqa</i>) to charity during COVID 19.	1	2	3	4	5	6	7
I have given money (<i>zakat/sadqa</i>) to a stranger who needed it (or asked for it) during COVID 19.	1	2	3	4	5	6	7
I have donated goods/clothes/food during COVID 19.	1	2	3	4	5	6	7
I have done volunteer work for charity during COVID 19.	1	2	3	4	5	6	7
I have donated blood/plasma/medical supplies during COVID 19.	1	2	3	4	5	6	7
When I fast, I experience more clarity	1	2	3	4	5	6	7
My spirit is cleansed by my fasting	1	2	3	4	5	6	7
What is truly important becomes clear when I fast	1	2	3	4	5	6	7
My values or morals are strengthened by my fasting	1	2	3	4	5	6	7
I feel closer to God when I fast	1	2	3	4	5	6	7

I read posts related to spiritual healing (recitation of quranic verses, eating foods mentioned in the Quran etc) during COVID 19.	1	2	3	4	5	6	7
I posted or shared verses from holy scriptures during COVID 19.	1	2	3	4	5	6	7
I felt better when friends or family shared religious texts during COVID 19.	1	2	3	4	5	6	7
Sharing or forwarding religious quotes or messages is a good way to support each other during COVID 19.	1	2	3	4	5	6	7
I joined spiritual/religious groups, online, that focused on creating support for each other during COVID 19.	1	2	3	4	5	6	7
My group and I shared religious verses/sayings/prayers with COVID patients in need.	1	2	3	4	5	6	7
I sent religious verses/sayings/prayers to COVID patients or their family members so they would recite them.	1	2	3	4	5	6	7
I created or was a part of an online group to recite prayer for COVID 19 victims.	1	2	3	4	5	6	7
I shared my support for COVID warriors (essential workers) i.e health workers.							
Engaging spiritually online was my main activity during COVID 19.	1	2	3	4	5	6	7

Panic Buying

During COVID-19, I bought things I didn't need.	1	2	3	4	5	6	7
During COVID-19, I bought things I did not plan to buy.	1	2	3	4	5	6	7
During COVID-19, I bought things without thinking.	1	2	3	4	5	6	7
I was a bit reckless about what I bought during COVID-19.	1	2	3	4	5	6	7
I consider myself an impulse purchaser	1	2	3	4	5	6	7
Fear drove me to buy things to stock at home during COVID 19.	1	2	3	4	5	6	7
The fear of not having the products that I need led me to buy more things during COVID 19.	1	2	3	4	5	6	7
I panic when I think that essential products may run out from the shelves, so I prefer to buy them in bulk.	1	2	3	4	5	6	7
Fear drove me to buy more things that I usually did during COVID 19.	1	2	3	4	5	6	7
One way to relieve the feeling of uncertainty during COVID was to make sure that I had a good amount of the products that I needed at home.	1	2	3	4	5	6	7
The feeling of uncertainty influenced my buying habits during COVID 19.	1	2	3	4	5	6	7

Organizational Resilience

My grocer stood straight and tried to maintain its position during COVID-19.	1	2	3	4	5	6	7
My grocer was successful in generating diverse solutions to problems during COVID-19.	1	2	3	4	5	6	7
My grocer developed alternatives in order to facilitate customers during COVID-19.	1	2	3	4	5	6	7
My grocer showed agility in taking required action in this time.	1	2	3	4	5	6	7
My grocer was successful in acting as one whole with all of its customers.	1	2	3	4	5	6	7
My grocer showed resistance to the end in order to not lose.	1	2	3	4	5	6	7
My grocer took action rapidly during COVID-19.	1	2	3	4	5	6	7
My grocer did not give up and continued its path during COVID-19.	1	2	3	4	5	6	7
My grocer tried to see the humorous side of problems during COVID-19.	1	2	3	4	5	6	7
My grocer tried to handle unpleasant feelings related to COVID-19.	1	2	3	4	5	6	7

Section III

Demographic Information Questionnaire

1. Please select your gender
 - Male
 - Female
2. Kindly select your age bracket:
 - 18 – 28
 - 29 – 39
 - 40 – 50
 - Above 51
3. Please select your marital status:
 - Married
 - Not married (single/widow(er)/single)
4. Please select the education level that applies to you:
 - High school/A levels/Intermediate
 - Undergraduate
 - Masters
 - PhD/
 - Other (please specify): _____
5. Kindly select the occupation that best applies to you:
 - Self-employed
 - Student
 - Public employee
 - Private employee
 - Retired
 - Unemployed

Thank you for taking time to complete this questionnaire. Your time and effort is much appreciated.