Dealing With Loneliness:
The Role of Emotional Consumption and Fear of Missing Out

Ye Han
University of Wisconsin - La Crosse

Nina Krey
Rowan University

Shuang Wu
Rowan University

The current study investigates consumer behavior and emotional changes during a crisis by drawing on the stimulus-organism-response (S-O-R) framework and dual-system theory. Specifically, the study examines the effect of perceived threat of a crisis on self-isolation, i.e., social distancing, and subsequent behavior in response to heightened anxiety and loneliness. Findings confirm increased consumption behaviors of an indulgent nature as a response mechanism in dealing with negative emotions. Additionally, results suggest that people with different levels of fear of missing out (FOMO) report varying levels of loneliness. Particularly, people with higher levels of FOMO experience higher levels of loneliness due to self-isolation protective behaviors. This research offers insights into the challenges consumers experience during a crisis accounting for individual differences.

Keywords: emotion regulation consumption, loneliness, fear of missing out, threat, anxiety, social distancing, crisis, PLS

INTRODUCTION

Consumers change behaviors in response to crises that can vary from financial crises to natural disasters, health pandemics, and regional conflicts (Rayburn *et al*., 2022; Yuen *et al.,* 2020). Prior research confirms the impact of crises on consumer shopping and spending behaviors such as panic buying, technology-mediated consumption, and revenge spending (Gupta and Mukherjee, 2022a; Park *et al.,* 2022; Rayburn *et al.,* 2022; Yuen *et al.,* 2020). One example of a global crisis is the COVID-19 pandemic that continues to insight health, economic, and social issues around the world (Billore and Anisimova, 2021; Tran, 2021). Individuals across continents keep facing loss of life and uncertain long-term impact triggering feelings of threat and lack of control while leading to negative emotions including fear and anxiety (Kim *et al.,* 2020; Park *et al.,* 2022; Šrol *et al.,* 2021). Numerous research has investigated how the crisis leads to consumer market disruptions, changed behavior patterns, and emotional decision making (Kirk and Rifkin, 2020; Tran, 2021). However, most of this research either focuses on health-related motivations, unusual

retail consumer behaviors, or changes of consumers' purchasing behaviors such as online, curbside pickup, and in-store shopping (Kirk and Rifkin, 2020; Truong and Truong, 2022).

Considering the continuing uncertainty surrounding the pandemic, the outbreak of Monkeypox, ongoing natural disaster (e.g., hurricanes and storms), and the Russia-Ukraine war, understanding how individuals cope with emotional responses to crises is a timely endeavor. Moreover, examining consumers' emotional consumption behavior offers implications to marketers, retail managers, and policy makers when facing a crisis. Therefore, drawing on the stimulus-organism-response (S-O-R) framework and dual-system theory, the current research aims to provide a comprehensive assessment of consumption behavior as a response mechanism to overcome negative emotions during a crisis. Additionally, this study includes fear of missing out (FOMO) as an individual difference trait and moderator to explain varying levels of emotions and consumption behaviors. To date, most of the previous research has primarily focused on the influence of FOMO within a social media context including media usage and well-being (Tandon *et al.,* 2021), satisfaction and engagement with social media advertising (Bui *et al.,* 2022), and emotional reaction to social media outage (Sekścińska and Jaworska, 2022). While FOMO has been conceptualized as a psychological factor driving specific behaviors of individuals (Gupta and Mukherjee, 2022b; Tandon *et al.,* 2021), no previous study has investigated the moderating effect of FOMO on consumption behaviors.

The current research contributes to the existing literature on consumer responses to a crisis by synthesizing S-O-R and dual-system theories. First, the current research examines self-isolation as a protective behavior and its negative effect under the S-O-R framework. Second, this study investigates how the dual-system works interactively, i.e. consumer responses go beyond an impulsive response to environmental stimuli as the process is further impacted by the reflective system of consumers. In addition, the current research enriches the literature on individual differences in consumption behaviors during a crisis by including FOMO as a moderating factor. Lastly, the current study is conducted in the context of the COVID-19 crisis that continues to lead to economic and financial ramifications across numerous countries (The World Bank, 2020). Utilizing an ongoing global crisis in studying consumer reactions provides insights from actual consumer experiences and implications for businesses. These new insights on handling crises in general can benefit marketers in dealing with future crises by learning from previous catastrophes (Krey *et al.,* 2023).

The rest of the paper is organized as follows. The next section provides a review of the relevant literature with hypotheses proposed. Methodology, analysis, results, and discussion are presented in the subsequent section. Finally, theoretical and managerial implications, limitations, and future research are discussed.

LITERATURE REVIEW AND HYPOTHESES

Stimulus-Organism-Response (S-O-R) Framework

The S-O-R framework provides a theoretical foundation to examine the influence of environmental factors on consumer behaviors (Mehrabian and Russell, 1974). According to S-O-R, factors and behaviors in the environment represent stimuli that impact organisms, i.e., consumer's psychological condition, leading to behavioral responses (Laato *et al.,* 2020; Li *et al.,* 2021). Thus, both cognitive and emotional responses are intermediates between stimuli and behavioral responses (Laato *et al.,* 2020; Mehrabian and Russell, 1974).

Previous research applies S-O-R to examine consumer responses to the retail environment and consumers' purchase behaviors in response to a crisis, i.e., the COVID-19 pandemic (Lavuri *et al.*, 2023). In these studies, stimuli represent environmental factors such as perceived severity and susceptibility (Li *et al.,* 2021; Zheng *et al.,* 2021), governance (Zheng *et al.,* 2021), social influences and norm (Li *et al.,* 2021), and pandemic related information overload (Laato *et al.,* 2020). The organism as the intermediate response of individuals expresses affective and psychological responses. As a result, behaviors such as panic buying, approach/avoidance, or other reactions are changed in response to the stimuli (Laato *et al.,* 2020; Li *et al.,* 2021; Rayburn *et al.,* 2022). To investigate consumer responses to a pandemic, the current study conceptualizes threat and the imposed social distancing mandates as crisis stimuli. In turn, organism express
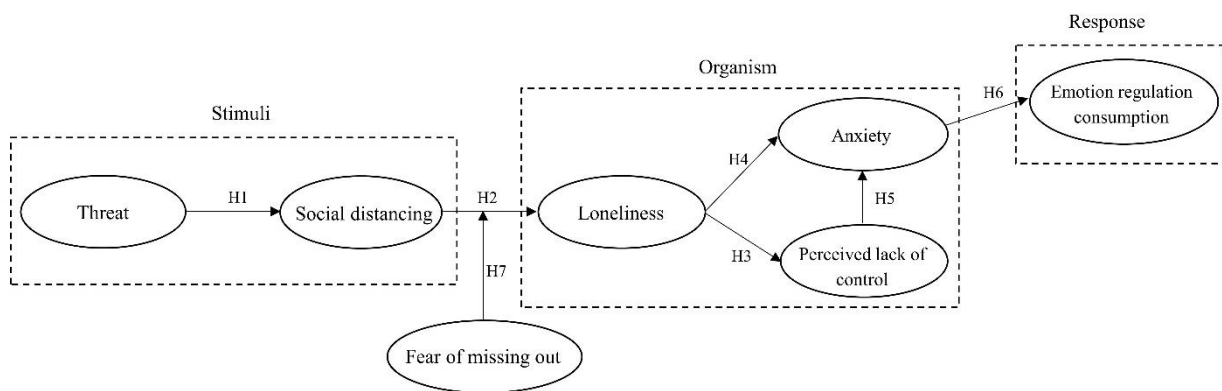
emotions such as anxiety and loneliness triggering responses related to consumption behaviors to ease the negative emotions.

Dual-System Theory

Dual-system theory indicates that the human mind is regulated by two systems simultaneously: impulsive and reflective (Samson and Voyer, 2012). The impulsive system is intuitive and unconscious, while the reflective system is controlled and conscious (Strack *et al.,* 2006). In addition, dual-system theory suggests that environmental stimuli, emotional responses, and behavioral outcomes are linked (Samson and Voyer, 2012). The environment encountered by consumers can elicit an emotional response and act as a behavioral reinforcer via the two systems (Samson and Voyer, 2012). In the impulsive system, environmental cues evoke affective reactions and lead to unplanned behaviors to approach positive or avoid negative situations (Strack *et al.,* 2006). Meanwhile, the reflective system considers the long-term value of behaviors as a result of situational self-reflection demands (Samson and Voyer, 2012). Self-regulation literature indicates that individuals' impulse and willpower are two competing forces with the later one being a rule-based reflective system used to prevent consumers from unplanned behaviors (Samson and Voyer, 2012). In the self-regulation process, individuals manage cognitive resources (i.e., willpower) to reduce ego depletion through proactive emotional or behavioral regulation (Przybylski *et al.,* 2013). FOMO is one of the manifestations of an individual's self-regulation (Sun *et al.,* 2022). Thus, individuals with low self-regulation express higher levels of FOMO than those with high self-regulation.

This research combines S-O-R and dual-system theory to examine emotional consumption during a crisis. Based on S-O-R, social environmental cues from a pandemic (i.e., stimuli) arouse consumers' internal psychological processes (i.e., organisms) leading to irrational behaviors such as emotion regulation consumptions (i.e., response) (Laato *et al.,* 2020). This process happens quickly and automatically; therefore, could be considered as part of the impulsive system (Li *et al.,* 2021). Meanwhile, FOMO is representative of the reflective system impacting the impulsive system (the S-O-R process) in the current research. Please see Figure 1 for an overview of the proposed relationships and the theoretical underpinning.

FIGURE 1
CONCEPTUAL MODEL

Threat and Social Distancing

A time of crisis is disruptive to normal routines. The lack of knowledge about a crisis and subsequent high level of uncertainty generates perceived crisis-based threat, which evokes protective responses (Yuen *et al.,* 2020). According to reactance theory, individuals feel restricted when they are facing threatening signals and will experience psychological reactance to conduct protective behaviors (Yuen *et al.,* 2020). Often it is not exposure to the actual disaster but the perceived threat that guides judgments and reactions towards the situation (Slovic *et al.,* 1980). Thus, the perceived threat in the environment is conceptualized as a stimulus. When perceived threat is high, people are more likely to follow recommended behaviors to

avoid danger; yet people underrate risk and are less likely to follow recommendations when perceived threat is low (Kim *et al.,* 2020).

With regard to containing negative effects of a crisis, social distancing or "physical distancing" involves keeping distance and limiting contact with people outside of the household and avoiding social events (Gollwitzer *et al.,* 2020). Social distancing practices include maintaining physical distance from others, remaining at home, and avoiding non-essential travel (Gollwitzer *et al.,* 2020). As a result, social interactions are reduced and limited. Even though certain groups such as the elderly and people with health conditions are more vulnerable during a health crisis, all consumers can experience vulnerability (Grossman *et al.,* 2021; Park *et al.,* 2022; Yap *et al.,* 2021).

Social distancing has been one of the suggested protective practices to reduce the spread of the COVID-19 virus (Grossman *et al.,* 2021). As regulations around social distancing started to relax and immediate threat decreased, individuals choose to follow social distancing guidelines more or less closely (Li *et al.,* 2021). Subsequently, social distancing behavior can vary across consumers. This individual difference with regard to social distancing as a protective behavior is based on personal assessment of the situation and other factors (Laato *et al.,* 2020). Therefore, we hypothesize that:

H1. Perceived threat has a positive impact on social distancing.

Emotional Responses

One major side effect of social distancing is loneliness expressed as an emotional response to crises (Horigian *et al.,* 2020; Kim *et al.,* 2020). Loneliness is defined as "the feeling of lacking needed social connections" based on the concept of objective isolation or solitude (Horigian *et al.,* 2020, p. 1). It is a negative psychological state or feeling and results in a more negative view of oneself (Gąsiorowska *et al.,* 2021). When considering social distancing, the main intention remains to protect people's physical well-being, yet it creates potential risks of loneliness and a decline of mental well-being (Gąsiorowska *et al.,* 2021; Luchetti *et al.,* 2020). Overall, the restrictions accompanying the pandemic have been suggested to increase loneliness leading to a public-health concern (Gąsiorowska *et al.,* 2021).

However, research related to loneliness remains conflicted within a crisis context since consumers can express greater levels of connectiveness and of sharing struggles as part of the "we are in this together" mindset which is not consistent with feeling lonely (Luchetti *et al.,* 2020). Yet prior findings suggests that loneliness can develop when there is no or limited social networks as is the case during the COVID-19 pandemic due to lockdowns, quarantining, or social distancing (Grossman *et al.,* 2021; Kim *et al.,* 2005). As such, the subsequent hypothesis is proposed:

H2. Social distancing has a positive impact on feelings of loneliness.

Perceived control is the degree to which people believe that they can personally impact events or outcomes in their surroundings (Chorpita and Barlow, 1998). Individuals are motivated to maintain a sense of control over what happens in their lives to satisfy intrinsic gratifications (Burger, 2013; Deci and Ryan, 2012). However, motivations to exercise control decrease when the situation is perceived as uncontrollable (Yuen *et al.,* 2020). When individuals are given few alternatives for prevention during a crisis, they often perceive a lack of control over the uncertainty about physical health and safety (Kemp *et al.,* 2014).

Pervious research supports that lonely individuals are prone to remember more negative information and have more negative interactions with others (Hawkley and Cacioppo, 2010). Therefore, these individuals share a greater number of self-derogatory characteristics than less lonely individuals (Preece *et al.,* 2021). Subsequently, individuals express lower innate desire to deal with the situations leading to loneliness and not feeling in control of one's life (Deci and Ryan, 2012). Loneliness coincides with negative social expectations to interact with others, which is heightened by social distancing being mandated by external parties such as the government (Grossman *et al.,* 2021). The mandated isolation can cause loneliness when people are forced to forego their social interaction desires for fear of infection.

Additionally, due to a crisis, people can express greater propensity of loneliness associated with greater social isolation and fewer social contacts (Gąsiorowska *et al.,* 2021).

Furthermore, loneliness has been linked to feelings of anxiety (Hawkley and Cacioppo, 2010). Anxiety has been shown to be an emotional system elicited from an actual confrontation with threat cues (Šrol *et al.,* 2021). People perceive disasters or crises as causes of threat and experience various negative emotions such as anxiety in response (Chorpita and Barlow, 1998; Kemp and Kopp, 2011). For example, the current pandemic disrupts people's routines (e.g., social isolation) and threatens their health and safety (Choi *et al.,* 2020). As a result, more and more people report increased levels of anxiety since the beginning of the pandemic (Choi *et al.,* 2020).

In addition to loneliness, perceived lack of control further heightens anxiety levels (Chorpita and Barlow, 1998). Specifically, lack of control tied to a negative event leads to psychological vulnerability and propensity to experience anxiety (Šrol *et al.,* 2021). When an individual's need for self-determination is not filled, unpleasant emotions such as anxiety can be the result (Burger 2013, p. 120). Related to a crisis, lack of control may put people in an overestimation of the likelihood of infection and an increased desire of health care services, thus elevating anxiety levels (Chorpita and Barlow, 1998). Thus, loneliness, perceived lack of control, and anxiety are considered as emotional responses of individuals to the environmental cues associated with a crisis. Based on the above discussion, we pose the following hypotheses:

H3. *Feelings of loneliness have a positive impact on perceived lack of control.*

H4. *Feelings of loneliness have a positive impact on anxiety.*

H5. *Perceived lack of control has a positive impact on anxiety.*

Emotion Regulation Consumption

People engage in behaviors to experience positive emotions and avoid feeling bad (Tice *et al.,* 2001). However, negative emotions are not always unavoidable. To reduce negative emotions, people often employ behavioral responses to manage threatening or stressing stimuli that exceed their control (Kemp and Kopp, 2011). Based on the broaden-and-build theory, positive emotions undermine the effects of negative emotions (Kemp and Kopp, 2011). As such, individual responses aim to gain positive reinforcement and to mitigate negative emotional states (Kemp *et al.,* 2014). One common response in dealing with negative emotions is rooted in consumption (Tice *et al.,* 2001). Consumption can involve hedonic or utilitarian products where hedonic products are goods and services leading to pleasurable emotions in consumers (Holbrook and Hirschman, 1982). For example, people experiencing sadness are more likely to consume hedonic food (Kemp and Kopp, 2011). Thus, individuals experiencing negative emotions have been shown to consume hedonic products to maintain positive emotional states, or to defeat and "down-regulate" negative emotions; this process is known as emotion regulation consumption (ERC) (Kemp and Kopp, 2011). As previously mentioned, people experience negative emotions including anxiety during crises (Chorpita and Barlow, 1998). The current pandemic accompanied by self-isolation, threat to health, and feelings of loneliness triggers increased anxiety among the population. Therefore, this study assesses how consumption is utilized as a response by the organism to alleviate anxiety levels:

H6. *Anxiety has a positive impact on emotion regulation consumption.*

FOMO as a Moderator

From the perspective of self-determination theory (SDT), a person's self-regulation and psychological health depends on the fulfillment of three needs: competence – feeling capable to act; autonomy – feeling a sense of volition; relatedness – feeling connected with others (Patrick *et al.,* 2007). People may engage in a variety of behaviors to fulfill their needs including relationship building and work for need fulfilment purposes (Patrick *et al.,* 2007). However, an individual will experience a state of ego depletion in which they do not have all the resources to fulfill the needs (Baumeister and Vohs, 2007). Self-regulation involves

the management of cognitive processes to reduce ego depletion through proactive emotional and behavioral regulation (Przybylski *et al.,* 2013). Furthermore, an individual who has effective self-regulation has the cognitive ability to adjust psychological needs (Baumeister and Vohs, 2007).

FOMO associated with the idea that other people might be engaging in rewarding experiences without that person is considered a "self-regulatory limbo" due to the situational or long-term lack of psychological need satisfaction (Bui *et al.,* 2022; Gupta and Mukherjee, 2022b; Przybylski *et al.,* 2013). People with effective self-regulation can manage their cognitive processes to regulate perceived FOMO, when they cannot satisfy their intrinsic needs of interpersonal connections (Baumeister and Vohs, 2007; Sun *et al.,* 2022). This self-regulation process is considered a self-controlled system, i.e., the reflective system of dual-system as mentioned (Samson and Voyer, 2012). Ultimately, individuals with different cognitive processes of self-regulation will have different levels of FOMO toward the same environment.

When facing a crisis, individuals may have different abilities and cognitive resources to react to health threats, to make decisions, or to maintain relationships with others. Therefore, self-regulation may vary among individuals during a crisis leading to different levels of FOMO. Drawing on dual-system theory, the impulsive system and the reflective system interactively impact consumer behaviors (Samson and Voyer, 2012). Therefore, FOMO as part of the reflective system acts as a moderator and interacts with the impulsive emotional responses triggered by perceived threats and self-isolation behaviors. Subsequently, FOMO is proposed to have a moderation effect on the relationship between social distancing and perceived loneliness. We, therefore, hypothesize the following moderating effect:

H7. Fear of missing out (FOMO) moderates the relationship between social distancing and loneliness.

METHODOLOGY

Data Collection and Sample

Due to the rapidly changing nature of the COVID-19 pandemic and the different impact across the USA, data collection concentrated on the Northeast during December of 2020. An online survey was made available to various universities in the target area as well as across a variety of social media channels. The survey first included pre-validated measures and concluded with demographic questions.

The final sample encompassed 320 respondents (female = 51.9%, M_{age} = 32). About 36.9% of respondents were either married or in partnerships and 28.7% indicated a highest education level of a Bachelor's degree (28.7%). Most respondents were currently employed full-time (42.2%) or part-time (35.4%).

Measures

The measures used in the online survey featured minor modifications to item wording of some scale items to ensure fit to the specific context of the study. Perceived threat associated with COVID was measured with two items adapted from Kim *et al.,* (2020). Five items assessed various facets of social distancing behavior (Gollwitzer *et al.,* 2020). The feeling of loneliness was operationalized with five items while anxiety was measured with three items (Kim *et al.,* 2005; Lee *et al.,* 2011). Four items captured the perceived lack of control of individuals associated with a specific situation (Kemp *et al.,* 2014). To measure emotion regulation consumption, four items were adapted from Kemp *et al.,* (2014). As previously discussed, FOMO was considered as a moderator and was captured with seven items (Przybylski *et al.,* 2013). All measures, apart of threat, utilized a 7-point Likert scales (1 = strongly disagree, 7 = strongly agree). Threat implemented a 7-point semantic differential scale. Scale items, corresponding descriptive measures, and internal consistency for all measures are included in Table 1.

TABLE 1
MEASUREMENT MODEL RESULTS

Construct and items	Loadings	α	CR	AVE
Perceived threat[a] (Kim *et al.,* 2020)		0.881	0.944	0.893
Not at all serious / Very serious	0.948			
Not at all life-threatening / Very life-threatening	0.943			
Social distancing[b] (Gollwitzer *et al.,* 2020)		0.869	0.905	0.657
I am extremely careful to keep my distance from others, including even friends and family.	0.857			
I have almost zero in-person social interactions with people I am not living with.	0.841			
If I have to leave the house, I make sure to stay at least 6 feet away from other people.	0.833			
Most days, I do not leave my house.	0.728			
I am avoiding non-essential travel.	0.787			
Loneliness[b] (Kim *et al.,* 2005)		0.864	0.901	0.647
I feel left out.	0.855			
I am unhappy being so withdrawn.	0.819			
My social relationships are superficial.	0.715			
There is no one I can turn to.	0.787			
I feel isolated from others.	0.837			
Perceived lack of control[b] (Kemp *et al.,* 2014)		0.799	0.856	0.598
I feel that I cannot control what is happening.	0.791			
I feel that the situation is out of my hands.	0.770			
I feel like there is only so much I can do.	0.773			
I am nervous and confused.	0.757			
Anxiety[b] (Lee *et al.,* 2011)		0.887	0.924	0.803
Felt anxious	0.912			
Felt stressed	0.884			
Felt nervous	0.893			
Emotion regulation consumption[b] (Kemp *et al.,* 2014)		0.765	0.856	0.586
I find myself consuming products of an indulgent nature more than usual.	0.780			
I drink things that make me feel better about the situation.	0.693			
I consume products that are not the healthiest for me.	0.743			
I consume products (e.g., food, drink) to put me at ease.	0.840			

Construct and items	Loadings	α	CR	AVE
Fear of missing out[b] (Przybylski *et al.,* 2013)		0.846	0.882	0.518
I fear my friends have more rewarding experiences than me at the moment.	0.740			
I get anxious when I don't know what others are up to.	0.802			
It is important that I understand others "in jokes."	0.699			
Sometimes, I wonder if I spend too much time keeping up with what is going on.	0.691			
It bothers me that I currently miss an opportunity to meet up with others.	0.771			
When I have a good time, it is important for me to share the details online.	0.547			
That I currently miss out on a planned get-together bothers me.	0.761			

Notes: [a] = 7-point semantic differential scale; [b] = 7-point Likert scale

Data Analysis

The current research employs partial least squares structural equation model (PLS-SEM) using SmartPLS 3 (Ringle *et al.,* 2015). PLS-SEM was the preferred method for this study as 1) it assesses the predictive quality of results and explains a construct of interest, 2) is suitable for moderation models and two-item constructs, and 3) is widely established (Hair *et al.,* 2019).

RESULTS

Measurement Model

The outer loadings are highly significant ($p < 0.05$) and load on their corresponding constructs. Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) values all exceed common cut-off values of 0.60, 0.70, and 0.50 respectively (Hair *et al.,* 2019). Therefore, the measurement model's internal consistency and convergent validity is confirmed (see Table 1). Discriminant validity assessment includes the Heterotrait-Monotrait Ratio (HTMT) method (Hair *et al.,* 2019; Ali *et al.*, 2021). All HTMT values are below the conservative threshold of 0.85 ranging from 0.09 [0.042, 0.207] to 0.74 [0.658, 0.798] (Hair *et al.,* 2019). Overall, the measurement model achieves discriminant validity (Table 2).
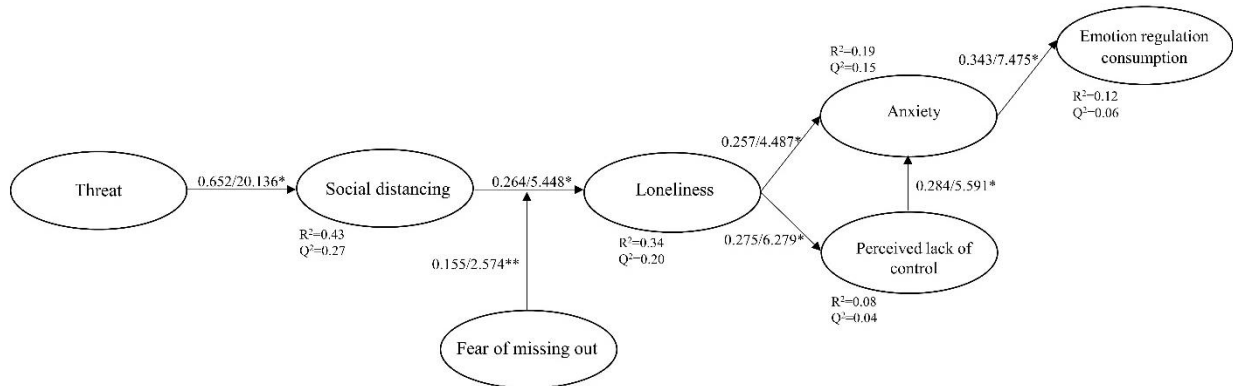
TABLE 2
DISCRIMINANT VALIDITY ASSESSMENT

Construct	1	2	3	4	5	6	7
1. Threat	0.945	**0.736** [0.658, 0.798]	**0.085** [0.042, 0.207]	**0.111** [0.076, 0.207]	**0.195** [0.079, 0.300]	**0.098** [0.049, 0.252]	**0.111** [0.073, 0.223]
2. Social distancing	0.652	0.811	**0.262** [0.174, 0.377]	**0.109** [0.073, 0.225]	**0.084** [0.053, 0.211]	**0.170** [0.100, 0.298]	**0.165** [0.123, 0.264]
3. Loneliness	0.074	0.222	0.804	**0.281** [0.198, 0.396]	**0.381** [0.252, 0.483]	**0.256** [0.144, 0.365]	**0.543** [0.446, 0.622]
4. Control	0.067	-0.010	0.275	0.773	**0.368** [0.250, 0.481]	**0.276** [0.156, 0.407]	**0.352** [0.215, 0.478]
5. Anxiety	0.172	0.060	0.335	0.355	0.896	**0.410** [0.296, 0.513]	**0.386** [0.270, 0.505]
6. Emotion regulation consumption	-0.071	-0.131	0.207	0.231	0.343	0.766	**0.381** [0.253, 0.501]
7. Fear of missing out	-0.056	-0.090	0.492	0.318	0.348	0.281	0.720

Note: Main diagonal ($\sqrt[2]{AVE}$) and lower triangular matrix (Pearson correlation) present the Fornell-Larcker criterion. The upper triangular matrix presents the HTMT values and confidence intervals.

Structural Model

The structural model assessment involves one-tailed tests with 5,000 bootstrap subsamples (Hair *et al.,* 2019). Results reveal that all structural relationships express significance and importance through magnitude of their standardized values (Figure 2). All VIF values remain below the conservative threshold of 3 with values ranging from 1.01 to 1.08, suggesting the absence of multicollinearity issues (Hair *et al.,* 2019). With R^2 values of 0.08 to 0.43 exceeding the minimum threshold of 0.02 as indicated in Figure 2, predictive accuracy is supported (Hair *et al.,* 2019). Next, f^2 assessment measures the magnitude of the effect sizes ranging from values of 0.02, 0.15, and 0.35 representing small, medium, and large effects respectively (Krey *et al.,* 2023). Most variables reflect medium effect sizes (0.039 to 0.741). The final step involves predictive validity examination applying PLSPredict with 10 folds and 10 replications (Sarstedt *et al.,* 2016). The root mean squared error (RMSE) values of the endogenous constructs in the model expresses overall smaller values for the PLS-SEM method in comparison to the linear regression (LM) approach. In addition, all Q^2 values exceed zero providing further support for the model's out-of-sample predictive power. Overall, predictive validity of the model is confirmed.

FIGURE 2
ESTIMATED PATH MODEL

Notes: Path coefficients/t-values; * p < 0.01; ** p < 0.05

With regard to hypotheses assessment, results support all proposed hypotheses (see Table 3). H1 is supported as threat exerts a significant effect on social distancing (β = 0.652, p-value < 0.01). In turn, social distancing leads to higher levels of loneliness (β = 0.264, p-value < 0.01) consistent with H2. In line with H3 and H4, loneliness positively impacts perceived control (β = 0.275, p-value < 0.01) and anxiety (β = 0.257, p-value < 0.01); the effect is slightly stronger for control. Furthermore, perceived control positively influences anxiety (β = 0.284, p-value < 0.01) supporting H5. Lastly, results uphold H6 as anxiety positively impacts emotion regulation consumption (β = 0.343, p-value < 0.01). Overall, results confirm the impact of social distancing on loneliness leading to feelings of lack of control and anxiety which consumers compensate by engaging in emotion regulation consumption; all of which is triggered by the perceived threat.

TABLE 3
STRUCTURAL MODEL RESULTS

Paths relationships		β	t-values	p-values	f^2	Confidence intervals
H1	Threat →Social distancing	0.652	20.136	0.000	0.157	[0.584, 0.709]
H2	Social distancing →Loneliness	0.264	5.448	0.000	0.222	[0.169, 0.354]
H3	Loneliness → Control	0.275	6.279	0.000	0.146	[0.197, 0.370]
H4	Loneliness →Anxiety	0.257	4.487	0.000	0.118	[0.141, 0.361]
H5	Control →Anxiety	0.284	5.591	0.000	0.943	[0.184, 0.377]
H6	Anxiety →Emotion regulation consumption	0.343	7.475	0.000	0.151	[0.253, 0.432]
H7	Fear of missing out x Social distancing →Loneliness	0.155	2.574	0.010	0.040	[0.121, 0.287]

Moderation Analysis
To assess the moderating hypothesis H7, the PLS product-indicator method is applied (Henseler and Fassott, 2010). Results confirm the moderating effect FOMO on the relationship between social distancing and loneliness (β = 0.155, p-value < 0.05). Positive associations between loneliness and social distancing are weaker among individuals with low FOMO in comparison to those with high FOMO.

DISCUSSION

The current study takes an exhaustive look at emotional responses and associated consumption behaviors within a crisis context. With the continuous uncertainty surrounding the pandemic (e.g., new variant) and the ongoing outbreak of monkeypox, understanding how individuals adjust their behaviors and cope with emotions in response to a crisis addresses timely concerns. Firstly, results suggest that the personal assessment of the potential threat of an ongoing crisis leads to a series of emotional reactions resulting in indulgence consumptions.

People who perceive high levels of threat are more likely to follow social distancing practices serving as a protective behavior. However, individuals' perceived threat (i.e., stimulus) negatively affects their psychological processing. The protective behavior against potential threats lead to greater feelings of loneliness posing emotional challenges to individuals. In addition, lonely people experience higher levels of anxiety and lack of control, which additionally increases anxiety. In response to the psychological triggers, consumers indulge and treat themselves to something nice to compensate for the negativity in their lives and inside themselves (Kemp and Kopp, 2011). Additionally, the moderating effect of FOMO confirms personal differences associated with loneliness. An individual's ability to deal with emotional situations and to effectively self-regulate impacts the feeling of loneliness.

Consistent with previous findings, results support changes of consumer emotions and behaviors in response to an ongoing crisis. Recent research investigates the change of purchasing behaviors, particularly consumers' panic buying behaviors and hoarding during the pandemic (e.g., Billore and Anisimova, 2021; Kirk and Rifkin, 2020; Lavuri et al., 2023; Truong and Truong, 2022). Furthermore, recent research identifies individual differences such as age and gender impacting emotional responses (Gąsiorowska *et al.,* 2021; Grossman *et al.,* 2021; Yap *et al.,* 2021). Current findings add to this literature by identifying FOMO as an additional individual difference trait in expressing emotions during a crisis. Lastly, our findings confirm the interactive nature of consumers' self-regulation processing and its impact on consumption behaviors. Thus, the current study enriches the understanding of consumer consumptions in dealing with emotions and personal differences during a crisis.

Theoretical Contributions and Implications

This research contributes to crisis-related consumer behavior and consumer psychology literature in several ways. First, the current research extends the S-O-R framework to emotion regulation consumption to explain the series of emotional consumer responses during a crisis. Generally, threatening signals of a crisis trigger individuals' protective behaviors such as self-isolation (Laato *et al.,* 2020). However, the negative effects of protective behaviors can lead to negative emotions and indulgent consumptions. Second, the research enriches the stream of crisis literature by combining S-O-R and dual-system theory to analyze consumer psychology under two systems. As part of the impulsive system, the pandemic acts as a stimulus that triggers internal psychological processing and leads to emotion regulation consumption. The reflective system explains the moderation effect of FOMO on the emotions of an individual triggered by stimuli. Therefore, more than an impulsive response to environmental stimuli, consumers' emotional and behavioral processes are impacted by the reflective system as well.

In addition, limited research has examined individual differences during the pandemic focusing on both the external (i.e., environmental cues) and internal (i.e., psychological cognition) factors. This research provides new insights by proposing FOMO as rational reflection that impacts emotion regulation consumption. People with limited control of their self-regulation process express higher levels of FOMO and are more likely to seek belongingness, be impacted by stress in the social situation, and experience negative mood (Bui *et al.,* 2022). People do not only feel lonely by self-isolation and staying away from their social networks, but also through the perception of being left behind by others (Przybylski *et al.,* 2013). This study provides insights into the mental challenges some individuals are dealing with in direct response to the pandemic which is amplified by the increased sharing of information via social media (Gąsiorowska *et al.,* 2021; Grossman *et al.,* 2021). These findings can be applied in studying consumer behaviors in the post pandemic world. Especially during the period of "back to normal", people who are still engaging in

protective behaviors and have high levels of emotional vulnerability continue to be significantly impacted. Under these circumstances, people will be ambivalent about adhering to social distancing rules due to strong desires to stay connected with others and return to normal social activities. Living in a post-pandemic environment could be more challenging for these individuals.

Managerial Implications

From a managerial perspective, this paper provides insights for policy makers and businesses impacted by crises. As consumers deal with negative emotions through emotion regulation consumption, companies should continue to offer indulgent products and services beyond strict necessities to help consumers handle a crisis. As a result, companies need to transform their business to shift towards an online or virtual marketplace if possible to allow continuous consumption (Tran, 2021). For example, offline retailers should use their existing physical retail network for quick delivery and pick-up of online orders during a crisis. Live streaming commerce could be adopted to provide offline purchasing experience with real human interactions to consumers to overcome their negative emotions caused by a crisis. Lastly, companies can also provide consumers who experience psychological vulnerability with additional customized messages and services in dealing with challenges during a crisis based on their purchase history.

Next, it is critical to have a better understanding of consumer psychological responses and behaviors to establish suitable policies to manage the side effects of emotion regulation consumption (i.e., out of stock products) and consumers' well-being. In light of the development of new crises, like Monkeypox, government agencies should distribute necessary and accurate information about the crises while implementing proper self-protection behaviors to contain people's perceived threat. As media plays an important role in shaping consumers' perceptions, the exaggeration of crises-related information should be limited on various media platforms such as social media (Li *et al.,* 2021). Furthermore, community organizations need to pay more attention to individuals who are psychologically vulnerable. Social communities or government agencies can take advantage of social media to identify individuals sharing content related to loneliness, uncontrollable situations, and psychological vulnerability on social media platforms (Reuter *et al.,* 2018). In turn, these individuals should receive special care to successfully maneuver a crisis.

Limitations and Future Research

There are several limitations in this study that future research can address. First, self-reported measures were used in the current study. Actual consumption behavior can be collected and further analyzed in future research. Second, the main focus of the study remains emotion regulation consumption as a response mechanism. Additional responses such as seeking social support (Preece *et al.,* 2021) and consumption patterns should be examined in future research to broaden the current findings. Furthermore, future research should examine potential outcomes after consumers engage in emotion regulation consumption to offer insights into the success of this method in dealing with loneliness and negative emotions.

While the timing of the data collection warranted a location focus, a more global approach needs to be implemented to increase generalizability. Especially a cross-national and cross-cultural comparison is essential to increase the implications for managers in dealing with the persisting pandemic. Mental well-being has been a major concern as people are facing an ongoing crisis. So, identifying activities that individuals actually engage in to address mental well-being can guide future policy creation.

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