FACTORS THAT INFLUENCE THE MECHANISM OF PANIC BUYING: THE MODERATING ROLE OF PERSONAL COGNITION

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ARTICLE INFO	ABSTRACT
	Purpose: The main aim of this research is to analyse the factors that contribute to panic buying behaviour and to give recommendations on government control tactics that might be used in similar situations. **Theoretical framework:** Scarcity is the theoretical basis of current research in the context of COVID-19 in Quanzhou, Fujian Province, China. Collect and review previous relevant studies by theme to understand the latest literature trends of scarcity, anxiety and panic buying. **Method:** This research takes 213 clients from Quanzhou City in Fujian Province, China. Using SPSS 27 for regression analysis and PROCESS 3.4.1 for testing the moderating effect and to investigate the status of panic buying. **Findings:** The problem of panic buying during public crisis circumstances, such as the COVID-19, was explored and solved in this study, it was discovered that: (1) group factors and anxiety have a significant positive impact on panic buying; (2) scarcity and government control have no significant impact on panic buying; and (3) there is no significant moderating effect of personal cognition between the two. **Research, practical & social implications:** Research has found that scarcity has a significant positive correlation with panic buying and anxiety; Scarcity has a significant impact on panic buying through the mediating effect of individual anxiety. Personal cognition has a significant moderating effect on scarcity on panic buying and anxiety on panic buying. **Originality:** The research problem addressed in this study is the phenomenon of panic buying during public crisis events such as the COVID-19 pandemic. this study proposes ideas for guiding government control in public crisis events. Doi: https://doi.org/10.26668/businessreview/2023.v8i8.2990

FATORES QUE INFLUENCIAM O MECANISMO DE COMPRA DE PÂNICO: O PAPEL MODERADOR DA COGNIÇÃO PESSOAL

RESUMO
Objetivo: O principal objetivo desta pesquisa é analisar os fatores que contribuem para o comportamento de compra de pânico e dar recomendações sobre táticas de controle do governo que podem ser usadas em situações semelhantes.

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Quadro teórico: A escassez é a base teórica da atual investigação no contexto da COVID-19 em Quanzhou, província de Fujian, China. Recolher e rever estudos anteriores relevantes por tema para compreender as tendências mais recentes da literatura em matéria de escassez, ansiedade e compra de pânico.

Método: Esta pesquisa leva 213 clientes da cidade de Quanzhou na província de Fujian, China. Utilizando o SPSS 27 para análise de regressão e o PROCESSO 3.4.1 para testar o efeito moderador e investigar o status da compra de pânico.

Conclusões: O problema da compra de pânico durante as circunstâncias de crise pública, como a Covid-19, foi explorado e resolvido neste estudo, descobriu-se que: (1) fatores de grupo e ansiedade têm um impacto positivo significativo na compra de pânico; (2) a escassez e o controle do governo não têm impacto significativo na compra de pânico; e (3) não há efeito moderador significativo da cognição pessoal entre os dois.

Investigação, implicações práticas e sociais: A pesquisa descobriu que a escassez tem uma correlação positiva significativa com a compra de pânico e ansiedade; a escassez tem um impacto significativo na compra de pânico através do efeito mediador da ansiedade individual. A cognição pessoal tem um efeito moderador significativo sobre a escassez na compra de pânico e ansiedade na compra de pânico.

Originalidade: O problema de pesquisa abordado neste estudo é o fenômeno do pânico compra durante eventos de crise pública, como a pandemia da Covid-19. este estudo propõe ideias para orientar o controle do governo em eventos de crise pública.

Palavras-chave: Papel Mediador da Ansiedade, Papel Moderador do Evento Percepção, Escassez.

FACTORES QUE INFLUYEN EN EL MECANISMO DE COMPRA DEL PÁNICO: EL PAPEL MODERADOR DE LA COGNICIÓN PERSONAL

RESUMEN

Objetivo: El objetivo principal de esta investigación es analizar los factores que contribuyen al comportamiento de compra de pánico y dar recomendaciones sobre las tácticas de control gubernamental que podrían ser utilizadas en situaciones similares.

Marco teórico: La escasez es la base teórica de la investigación actual en el contexto de COVID-19 en Quanzhou, provincia de Fujian, China. Recopilar y revisar los estudios pertinentes anteriores por temas para comprender las últimas tendencias de la literatura sobre la escasez, ansiedad y pánico al comprar.

Método: Esta investigación toma 213 clientes de la ciudad de Quanzhou en la provincia de Fujian, China. Utilizando SPSS 27 para el análisis de regresión y PROCESS 3.4.1 para probar el efecto moderador e investigar el estado de las compras en pánico.

Hallazgos: En este estudio se exploró y resolvió el problema de la compra de pánico durante las circunstancias de crisis públicas, como la COVID-19, se descubrió que: (1) los factores grupales y la ansiedad tienen un impacto positivo significativo en la compra de pánico; (2) la escasez y el control gubernamental no tienen un impacto significativo en la compra de pánico; y (3) no hay un efecto moderador significativo de la cognición personal entre los dos.

Investigación, implicaciones prácticas y sociales: La investigación ha encontrado que la escasez tiene una correlación positiva significativa con la compra de pánico y la ansiedad; La escasez tiene un impacto significativo en la compra de pánico a través del efecto mediador de la ansiedad individual. La cognición personal tiene un efecto moderador significativo sobre la escasez en las compras de pánico y la ansiedad sobre las compras de pánico.

Originalidad: El problema de investigación abordado en este estudio es el fenómeno del pánico comprar durante eventos públicos de crisis como la pandemia de COVID-19. Este estudio propone ideas para orientar el control gubernamental en eventos públicos de crisis.

Palabras clave: Función Mediadora de la Ansiedad, Papel Moderador de la Percepción de Eventos, Escasez.

INTRODUCTION

On January 30, 2020, the World Health Organization (WHO) announced that the 2019 coronavirus disease (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 was a public health emergency of international concern. On March 11, 2020, COVID-19 was

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identified as a global epidemic, which is the most serious epidemic facing mankind in the era of globalization. According to the article "Long term cardiovascular effects of COVID-19 infection" published in the journal of Natural Medicine in 2022, by comparing 150000 people infected with COVID-19 (85.6% of the non-hospitalized group, 10.9% of the 16800 hospitalized group, and 3.5% of the 5388 ICU group) and 5.6 million control groups, the comparative results of 20 cardiovascular diseases in six main categories, including infection, were obtained.

The risk of major cardiovascular diseases caused by coronavirus infection is more than 1.5 times that of other cardiovascular diseases, while the risk of any cardiovascular disease is about 1.7 times that of other cardiovascular diseases. The risk of cardiovascular disease increases after one year, whether it is a mild illness that does not require hospitalization, a moderate to severe illness that requires hospital treatment, or a critical illness that moves around in the intensive care unit (Xie &Xu &Bowe et al., 2022). According to the article "The risk of mental illness among people infected with COVID-19: a cohort study", also in the large sample of the United States Veterans Office, it was concluded that the risk of suffering from arbitrary mental illness increased by 1.46 times and the risk of requiring arbitrary prescription increased by 1.86 times.

The inpatient group with influenza and any reason was also controlled. The results showed that the number of COVID-19 patients diagnosed with any psychosis was 1.43 times that of the influenza group, and the number of COVID-19 patients was 1.62 times that of the inpatient group with any reason. It has been confirmed that individuals with NIC are more prone to anxiety, depression, and post-traumatic stress disorder (Xie & Xu &Al Aly, 2022). According to an article in the Journal of Clinical Epidemiology on the impact of NIC virus on the kidneys, a study of 90000 confirmed cases of NIC and 1.7 million negative controls did find that renal function decreased, and glomerular filtration decreased, confirming this. It is worth noting that in 5% of COVID-19 cases, the risk of chronic renal injury in the COVID-19 group increased by 35%, and even the renal function decreased by 30% (Benjamin Bowe et al., 2021). According to the article "The acute sequelae of COVID-19 breakthrough infection", there are 16000 cases in the breakthrough infection group, and more than 3.5 million cases in the negative infection group.

Obviously, vaccination can effectively reduce the risk of disease, but the risk of death is still high, and there are risks of various sequelae. Even after vaccination, the risk of all-cause mortality and sequelae after infection with COVID-19 still exceeds that of influenza (Al Aly,

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Bowe, Xie, 2021). With the joint efforts of the whole society, the epidemic has been significantly controlled in China, which not only shows the effective prevention and control actions taken by China after the outbreak of novel coronavirus, but also shows the rapid and timely official response of the people. It also demonstrates the social cohesion of the people in the face of major public health crises. Previous experience in infectious disease prevention and control has shown that panic buying is an important influencing factor in epidemic prevention and control. The accurate perception of personal and social risk factors by the public to a certain extent determines the success of measures to slow down the rapid spread of infectious diseases. The risk perceived by the public through personal or social experience is part of the panic buying process of infectious disease outbreaks, but more importantly, it stems from group factors. This article regresses panic buying and constructs a model with personal cognition as the moderating variable to explore the factors that affect panic buying. Therefore, this study can provide a reference for the path of panic buying in sudden public crisis, and also hope to provide some reference and reference for the construction of the panic buying model of COVID-19 problem.

LITERATURE REVIEW

Previous researchers classifies the causes of panic buying as exogenous, caused by an imbalance between the supply and demand of goods due to a sudden disaster, and psychological, such as individual anxiety, combined with market herding endogenous causes (Bailu, 2022). Hunter ' analysis of consumer behaviour in the aftermath of the 2011 Christchurch earthquake using commodity UPC scan data concluded that consumers increased their consumption of survival products in the immediate aftermath of the disaster and in the weeks that followed, and that the aftershocks, which lasted for several months, led to panic buying and stockpiling of essential goods (Hunter et al., 2023). More research will cause panic buying. More research has focused on the psychological causes of panic buying, with psychological factors such as perception of threat, perception of scarcity, fear of the unknown, coping behaviour, social influence and social trust all being associated with panic buying behaviour (Yuen, Wang, Ma, & Li, 2020).

Using an online survey, Nicomedes et al.(2020) used anxiety scales and open-ended questions to analyse people's feelings, thoughts and actions in community isolation during a pandemic and constructed a panic mapping from negative to positive, with panic egoism manifested in the widely reported phenomenon of panic buying (Nicomedes & Avila, 2020).

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Scholars such as Jeżewska-Zychowicz, Plichta, & Królak (2020) conclude that fear of scarcity, loss of control over the environment, insecurity (which further leads to fear), social learning, heightened anxiety and primitive human instinctive responses are all central factors that lead to the phenomenon of panic buying. The concept of panic buying In terms of food panic buying, scholars have found that during the COVID-19 pandemic, the likelihood of panic buying increased due to a lack of trust in information disseminated by the mass media and increased stress caused by the fear of not being able to buy food (Jeżewska-Zychowicz, Plichta, & Królak, 2020). The potential for panic buying is also increasing (Jeżewska-Zychowicz, Plichta, & Królak, 2020).

The relationship between scarcity and panic buying has also been explored by scholars. Visible shelf scarcity significantly affects consumers' purchase preferences, with relatively empty shelves making consumers perceive the item as more desirable and therefore more likely to buy it (Rajavi & Steenkamp, 2023). The theory is based on Malika's theory. Based on this theory, Malika's empirical analysis demonstrates that consumers' purchase preferences for scarce goods are influenced by inferences about others' purchase preferences and by the selection of useful information (Malika & Maheswaran, 2023). In the case of marketing strategies, manufacturers use a variety of methods. In terms of marketing strategy, manufacturers use scarcity strategies to signal the quality of goods to consumers, and their strategy of not raising prices or increasing supply when goods are scarce makes scarcity strategies more effective and thus promotes consumer purchases. The strategy of scarcity is more effective when producers do not increase the price or the quantity supplied, thus promoting consumer purchases (Calvo & Wagner, 2023).

Other studies have investigated multi-country data and empirically demonstrated that scarcity of quantity and scarcity of time significantly increase consumers' perceived arousal, further leading to more panic buying (Islam et al., 2020). The research is also based on a review of scholarship from various periods. Reviewing the research of scholars across time, it is easy to see that the scarcity of goods overlaid with external influences, such as natural disasters or epidemic crises, often result in panic buying by consumers. Empty supermarket shelves of toilet paper and hand sanitizer exacerbated the panic buying that erupted in the early 2020s as a result of the COVID-19 epidemic that swept the world (Taylor, 2021). The study was also conducted by a number of scholars. However, there are also studies by scholars that do not support the previous theories, and Omar's structural equation modelling results do not support a positive

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relationship between the perceived scarcity of the desired product and consumers' panic buying behaviour (Omar, Nazri, Ali, & Alam, 2021).

Based on scholarly research on scarcity and panic buying, our study suggests that during the COVID-19 pandemic, the scarcity of goods may have led consumers to engage in panic buying in response to their deprived freedom of choice. Based on the above arguments and theories, we propose the following hypothesis.

H1: Scarcity has a significant positive effect on panic buying.

The relationship between government control and panic buying can be complex and multifaceted, influenced by various factors including the nature of government control measures, the effectiveness of communication, public trust in government, and the context in which panic buying occurs. (Mat Dawi et al., 2021). Lack of Government Control: In situations where there is a lack of effective government control or regulation, panic buying may be more likely to occur. When there are no clear guidelines or restrictions in place, individuals may feel a sense of uncertainty and insecurity, leading to a heightened sense of panic and a rush to stockpile essential goods. (Mao et al., 2022)

Stringent Government Control: Conversely, when the government implements strict control measures, such as lockdowns or rationing systems, panic buying may be reduced. Clear and decisive government actions can provide a sense of security and stability, assuring the public that the necessary measures are being taken to manage the crisis. This can help alleviate panic and discourage excessive hoarding behaviors (Shri et al., 2023). Mixed Messaging or Inconsistent Control Measures: In situations where government communication is inconsistent, contradictory, or perceived as unreliable, panic buying can be exacerbated. If the public receives mixed messages or lacks confidence in the government's ability to manage the situation, it can create a climate of fear and uncertainty, leading to increased panic buying as individuals attempt to secure essential items (Kwon et al., 2021)

Public Trust and Compliance: The level of trust and compliance with government control measures can also influence panic buying behavior. If the public has a high level of trust in the government's actions and recommendations, they are more likely to follow guidelines and feel confident in the government's ability to manage the crisis. This can help mitigate panic buying as individuals have faith in the measures implemented (Ridzuan et al., 2020). Government actions, regulations, and communication play a crucial role in shaping public behavior during times of crisis or perceived scarcity. (Aoki, 2021). Regulations and Policies: Government-imposed regulations and policies can directly impact panic buying behavior. For

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example, if the government imposes restrictions on the sale or distribution of essential goods, implements rationing systems, or enforces price controls, it can help manage panic buying by ensuring equitable access to resources and discouraging hoarding behavior (Goren, Beeri & Vashdi, 2022)

Communication and Guidance: Clear and consistent communication from the government is essential in managing panic buying. Governments can provide accurate and timely information about the availability of goods, measures being taken to address the crisis, and guidelines for the public to follow. Effective communication can help alleviate uncertainty, reduce anxiety, and provide assurance that necessary steps are being taken to meet public needs (Naeem & Ozuem, 2021). Law Enforcement and Monitoring: Government control measures can involve law enforcement efforts to prevent hoarding, price gouging, or other unethical practices during times of crisis. By actively monitoring and taking action against such activities, the government can create an environment that discourages panic buying and ensures fair distribution of resources (Petrović, 2021)

Supply Chain Management: Governments can play a role in managing and coordinating the supply chain during crises. By working closely with industries, manufacturers, distributors, and retailers, the government can ensure a steady supply of essential goods, address potential disruptions, and prevent shortages. A well-managed and transparent supply chain can help reduce panic buying tendencies driven by perceived scarcity (Gil et al., 2021). Building Public Trust: The actions and credibility of the government significantly impact public trust and confidence. When the government demonstrates competence, transparency, and empathy in addressing the crisis, it can build public trust and influence behavior. Trustworthy and effective government control measures can help reduce panic buying tendencies by assuring the public that their needs are being addressed (Prayoga, 2020)

It is important for governments to carefully consider their approach to control measures during times of crisis, balancing the need to manage panic buying with individual rights and societal well-being. The effectiveness of government control measures in mitigating panic buying depends on various factors, including the specific context, the level of public compliance, and the overall trust in the government's actions (Gangadaran et al., 2021)

H2: Government Control has a significant effect with panic buying.

The underlying assumption behind panic buying is that the public behaves irrationally, uncoordinated, and uncooperative in emergency situations, which leads them to panic (Glass and Schoch-Spana, 2002). Uncertainty, panic, unusual purchases, and a high degree of

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concentration on the place of purchase are some of the distinguishing features of panic buying (Liren et.al, 2012). Indeed, one needs to determine whether purchases are motivated by panic or by preparing for disaster during a pandemic based on the plausibility of hoarding behaviour (Glass and Schoch-Spana, 2002). During the New Coronavirus pandemic, consumers were found to buy certain products in bulk, such as toilet paper, hand sanitizer, thermometers, and face masks. As a result, these essential products were swept off shop shelves in many countries (Ngunjiri, 2020). In light of this, some researchers have highlighted the need to understand the key factors that influence consumer panic buying during an epidemic.

Based on the existing literature on inventory and hoarding, researchers have identified threat perception, scarcity perception, fear of the unknown or uncertainty, coping behaviour, social influence, and social trust as the most important antecedents of panic buying (Yuen et.al, 2020) Ngunjiri (2020) argues that anxiety, fear, and perceived scarcity are some of the most important prerequisites. However, all these studies have shown that further empirical research is necessary to understand the interrelationships between the ancestors of panic buying and the different factors that mediate or moderate the relationships between predictor variables and behaviours of consumer panic buying (Liren et.al, 2012; Wijaya, 2020; Yuen et.al, 2020). From an objective perspective, there are differences between these three psychological theories. For example, expectancy theory suggests that the sensitivity of the expected object of fear influences individuals' anxiety, whereas resistance theory explains how individuals' perceived threats to freedom affect their motivation to regain freedom. In addition, behavioural inhibition systems theory explains why people react differently in particular situations. Although all these psychological theories are commonly applied to health settings, we used them to explain consumer panic buying behaviour as psychological factors are believed to play a crucial role to influence consumer anxiety and panic buying behaviour after COVID-19 prevalence (Sim et.al, 2020; Yuen et.al, 2020).

Therefore, based on the above arguments, we propose the following hypothesis:

H3: Group factor has a significant positive effect with panic buying.

Panic buying can lead to disruptions in the supply of certain categories of products, but business experts and academics point out that panic buying is not caused by supply shortages per se, but by high levels of consumer anxiety and fear (Kim et al., 2023). At its root, this anxiety and fear can be traced back to perceived scarcity in time and quantity. It is also a self-fulfilling process: the more impulsively and obsessively customers buy, the more anxious people feel about scarcity and the faster the product is sold out. Past research has proposed that

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panic buyers are mostly caused by disruptions in the supply of goods and services (natural disasters, pandemics, and prolonged strikes) (Wu et al., 2020). These stimuli create panic or fear due to the scarcity of time and quantity of citizens, which leads to impulsive and compulsive buying.

Feelings of anxiety are generated by stress coupled with the perception of a personal danger or threatening situation (Blanco-González et al., 2023). Anxiety/uncertainty management theory (AUM) aims to explain effective interpersonal and intergroup communication (Yu & Leung, 2023). AUM theory suggests that managing uncertainty and anxiety is central to the effectiveness of our communication with others. That is, individuals are able to communicate effectively based on their ability to manage their anxiety and accurately predict and interpret the attitudes, feelings and behaviours of others Yu & Leung, 2023). The Integrated Threat Theory of Bias (ITT) The Integrated Threat Theory of Prejudice (ITT) is an offshoot of the study of intergroup anxiety, with scholars such as Stephan suggesting that when levels of intergroup anxiety are high, people display exaggerated reactions, often negative reactions that rely on limited cognition, and that they may become careful to be overly agreeable to others or may behave awkwardly (Stephan et al., 1999). Locklear 's empirical research suggests that people in anxious and fearful states make relatively pessimistic risk assessments (Locklear et al., 2023). In the context of pandemics, it is important to note that the pessimism of people who are anxious and fearful is not a factor. In the context of a pandemic, uncertainty and fear can influence people to make negative risk assessments of future situations, prompting overreactions such as panic buying, while abnormal buying behaviour, conscious or unconscious, can alleviate negative emotions such as anxiety.

H4: Anxiety has a significant positive effect with panic buying.

Panic buying usually refers to the phenomenon of excessive and often irrational buying behavior by individuals driven by fear, uncertainty, or perceived scarcity of goods. It is influenced by various psychological, social, and environmental factors. Although personal cognition may play a role in decision-making processes related to panic buying, it is not commonly used in such situations (Patiro et al.,2022).

Perceived threat: Personal beliefs and cognitive processes can regulate the relationship between perceived threat and panic buying. In situations of crisis or uncertainty, individuals who are more prone to disasters or have high levels of anxiety may perceive greater threats, leading to a higher likelihood of participating in panic buying (Razzak & Yousaf, 2022)

Social impact: Personal cognition can also regulate the relationship between social impact and panic buying. Some people may be more susceptible to social norms, group behavior, or peer pressure, which can exacerbate the tendency towards panic buying. On the contrary, individuals with strong personal beliefs or independent thinking may not be influenced by social factors, and therefore are less likely to participate in panic buying (Singh et al., 2021)

Risk perception: Personal cognition can regulate the relationship between risk perception and panic buying. Individuals with a high degree of risk aversion or a tendency to overestimate risk may be more inclined to make panic purchases to deal with uncertainty or perceived threats. (Aljanabi, 2021).

It's important to note that the relationship between personal cognition and panic buying is complex and multifaceted, and individual differences can significantly influence these dynamics. Additionally, external factors such as media coverage, availability of information, and situational cues also play a role in panic buying behavior (Schmidt, Benke & Pané-Farré, 2021). While personal cognition itself may not directly moderate the relationship in panic buying, personal factors such as beliefs, attitudes, and cognitive processes can influence the relationship between various variables and panic buying tendencies. Understanding these individual differences can provide insights into the underlying mechanisms and help in developing strategies to mitigate or manage panic buying behavior during crises or uncertain situations (Razzak & Yousaf, 2022).

H5: The moderating role of Personal cognition are significant.

Combining the above hypotheses, a conceptual framework of scarcity and panic buying mediated by anxiety is constructed using event perception as the moderating variable.

Figure 1 conceptual framework.
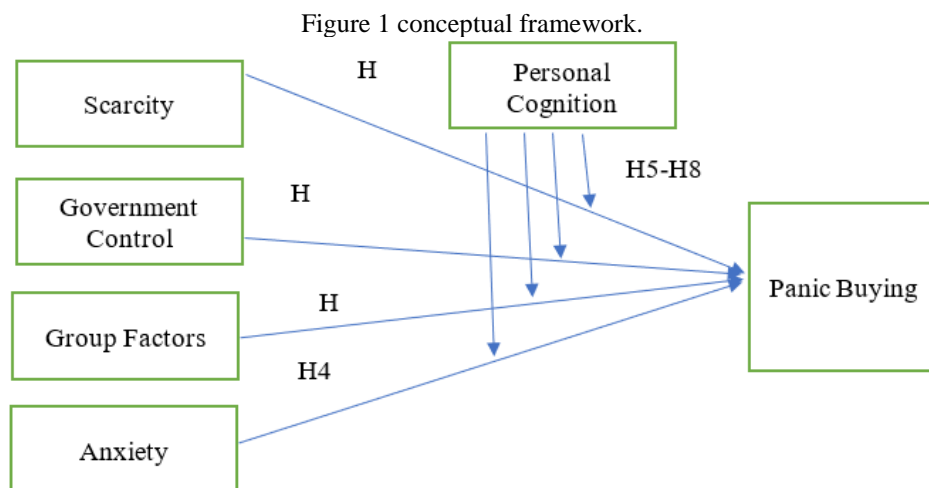
Source: Authors Compilation

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METHODOLOGY

The study data were collected from Quanzhou City, Fujian Province. Since March 2022, the current round of Omicron virus has hit the city, and different levels of control areas have been set up across the city according to the development of the epidemic, and closed-loop management has been implemented within the control areas to reduce unnecessary movement of people. A total of 213 valid samples were collected and collated from corporate employees, residents of the community and schoolteachers and students through the distribution of an online questionnaire, with a valid return rate of 97.87%. There were 139 females (65.3%) and 74 males (34.7%). 80 (37.6%) were aged 24 and below; 72 (33.8%) were aged 25-34; 43 (20.2%) were aged 35-44; 12 (5.6%) were aged 45-55; and 6 (2.8%) were aged 56 and above. 103 (48.4%) were unmarried and 104 (48.8%) were married. Income level, 85 people (39.9%) were 3,000 yuan and below; 35 people (16.4%) were 3,001-5,000 yuan; 39 people (18.3%) were 5,001-7,000 yuan; and 54 people (25.4%) were 7,000 yuan and above. At the level of education, 16 people (7.5%) were in high school or below; 21 people (9.9%) were in college; 136 people (63.8%) were in undergraduate programs; and 40 people (18.8%) were in master's programs or above. The basic profile of the survey respondents included basic information on gender, age, marital status, income level, and education of the subjects in five topics.

This study first used AMOS23 to test the discriminant validity; Then, descriptive statistics and correlation analysis were conducted using SPSS27; Perform regression analysis using the PROCESS function of SPSS27 to determine the causal relationship between the independent and dependent variables; Finally, the PROCESS 4.1 plugin was used to investigate the moderating effect of personal cognition on the direct relationship between various influencing factors and panic buying. There are six variables in this study: independent variables are scarcity (SC), government control (GC), group factor (GF), and individual anxiety (AN). The dependent variable is panic buying (PB). The moderating variable is Personal cognition (PC). Except for population structure, all variables mentioned above are classified according to the seven-point Likert scale, with 1-7 indicating "strongly disagree" or "completely agree".

The Scarcity SC Scale, developed by Byun and Sternquist (2011), has four (4) questions. Using the scale developed by Qing Wen et al. (2021), there were six (6) questions. For government control GC, the scale developed by Qingwen, Wang Yibao, and Jia Xiaojie (2021) is used in the context of China and consists of four questions. This study used a scale developed by Qingwen, Wang Yibao, and Jia Xiaojie (2021) based on Chinese background to measure

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population factor GF, with a total of three questions. The Personal Anxiety AN Scale developed by Chlan et al. (2003), Marteau and Bekker (1992), and Zsido et al. (2020) was used in this study, with a total of four (4) questions. The panic buying PB scale, developed by Frost et al. (2004) and Van et al. (2010), has three (3) questions. Personal Cognition PC Scale.

RESEARCH FINDINGS

Homologous Methods and Effectiveness Testing

Deviation of homologous methods

This study obtained data through a survey questionnaire, and in order to minimize the bias of common methods, certain controls were implemented during the questionnaire layout design process. The order of questions in each scale is arranged using the forward problem assembly method. According to Harman's suggestion, SPSS27 was used for single factor testing and principal component analysis was performed on all variables. Among them, 5 factors have eigenvalues greater than 1, and the variance percentage of factor 1 is 36.28%<50%, indicating that the bias of commonly used methods is well controlled.

Differentiation effectiveness testing

In order to investigate the validity of the scale in this study, confirmatory factor analysis was conducted on all variables. By comparing the three-factor model, two factor model, and single factor model, the results (see Table 1) show that the fitting indicators of the three-factor model are significantly better than the two factor and single factor models, indicating that the three main structures of the scale in this study have good discriminant validity. Suitable for further correlation and regression analysis testing.

Table 1 Validation factor analysis of each variable

MODEL	χ^2	df	χ^2/df	NFI	CFI	RFI	TLI	RMSEA
M1:PC+SC+GC+GF+AN+PB	3169.14	252	12.576	0.409	0.427	0.353	0.372	0.234
M2:PC+SC+GC+GF+AN,PB	3063.92	251	12.207	0.429	0.447	0.372	0.392	0.230
M3:PC,SC+GC+GF+AN,PB	2259.21	249	9.073	0.579	0.605	0.533	0.562	0.195
M4:PC,SC+GC+GF,AN,PB	1791.63	246	7.283	0.666	0.696	0.625	0.659	0.170
M5:PC,SC,GC+GF,AN,PB	1228.04	242	5.075	0.771	0.806	0.739	0.779	0.139
M6:PC,SC,GC,GF,AN,PB	519.75	237	2.190	0.903	0.944	0.887	0.935	0.075

Source: Authors

Descriptive statistics and correlation analysis

The descriptive statistics and correlation analysis of the variables in this study are shown in Table 2. Under descriptive statistical analysis, the average values of each dimension were

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greater than 4, indicating that the subjects had a high level of cognition towards the six dimensions, especially personal cognition and government control factors (M=6.24; M=6.07); Relatively speaking, although personal understanding is the most stable and highly focused; In the descriptive statistics of panic buying, panic buying (4.52 ± 1.88) is very close to the rating standard of 4.5, which is a relatively high score. In addition, the correlation test met expectations except for government control, and all dimensions of the influencing factors, except for anxiety and personal cognition, anxiety, and government control, showed pairwise correlation. Scarcity, group factors and anxiety were significantly positively correlated with panic buying (r=0.376, p<0.01; r=0.645, p<0.01; r=0.734, p<0.01); There is a significant positive correlation between various factors besides anxiety and personal cognition. It can be seen that there is a certain correlation between various variables, which preliminarily validates the theoretical hypothesis of this study.

Table 2 Descriptive Statistics and Correlation Analysis

variable	M±SD	PR	SC	GC	GF	AN	PB
PR	6.24±1.11	--					
SC	5.42±1.51	.386**	--				
GC	6.07±1.26	.612**	.226**	--			
GF	4.63±1.88	.145*	.412**	.148*	--		
AN	4.02±2.13	.095	.410**	.026	.640**	--	
PB	4.52±1.88	.098	.376**	.031	.645**	.734**	--

**. At the 0.01 level (double tailed), the correlation is significant.
*. At the 0.05 level (double tailed), the correlation is significant.
Source: Authors

Causality test for panic buying

In order to test the direct impact mechanism of panic buying, this study conducted a layer-by-layer regression analysis on the sample data using SPSS 27. Under the control of demographic characteristics, a regression model of turnover intention was constructed using five dimensions as independent variables. The results are shown in Table 3. In the regression equation between demography variables and panic (model 1), the model has a significant relationship (F=5.817, p<0.01), but the adjusted R^2=0.102 is too low. When further introducing the independent variable into the regression model, the regression equation between the control variable and the independent variable on turnover intention showed a significant relationship (F=70.199, p<0.01), and the four independent variables could explain the degree of change in 61.7% of panic buying. This fully confirms the rigor of the qualitative analysis in this study, that is, the previous definition of panic buying, and the preliminary exploration of various

influencing factors are relatively accurate and comprehensive. Based on the above tests, it is assumed that H3 and H4 have passed validation.

Specifically, gender and marital status also have a significant positive impact on panic buying（β= 0.13，p=0.01；β= 0.19, p<0.01), as can be seen from the coding situation, the degree of panic buying in women is significantly higher than that in men, and if you have a family, the degree of panic buying will also increase. Group factors and anxiety have a significant positive impact on panic buying（β= 0.29，p<0.01；β= 0.52，p<0.01）。Therefore, the hypotheses H3 and H4 of this study have been validated. The impact of scarcity and government control on panic buying is not significant（β= 0.05，p>0.05；β=- 0.03, p>0.05), therefore, assuming that H1 and H2 are not valid.

The regression equation can be derived:

PB=0.13gender+0.19 marital status+0.29GF+0.52AN

Table 3 Regression Analysis

regression equation （N=213）		Fit indicators			Coefficient significance		
outcome	Predictive variables	R^2	adjusted R^2	F	β	t	p
	model 1 K1				0.28**	4.12	0.00
	K2				-0.25**	-2.44	0.02
	K3	0.123	0.102	5.817	0.08	1.23	0.22
	K4				-0.19*	-1.98	0.05
	K5				0.27**	2.77	0.01
	model 2 K1				0.13**	2.84	0.01
	K2				-0.05	-0.68	0.50
	K3				0.05	1.13	0.26
	K4				-0.03	-0.47	0.64
PB	K5	0.632	0.616	38.752	0.19**	2.90	0.00
	SC				0.05	1.00	0.32
	GC				-0.03	-0.67	0.50
	GF				0.29**	5.12	0.00
	AN				0.52**	8.83	0.00

Note:1) K1~K5: Gender, age, education, income, marital status; 2)*p<0.05,**p<0.01
Source: Authors

Moderating effect

In order to better study the moderating mechanism of individual cognition on various factors and panic buying, this study first used SPSS27 to centrally process each factor and obtain new variables. Use the model of process 4.1 to test the moderating effect of the direct impact path of panic buying. The output results are shown in Table 4. Specifically, the impact of personal cognition on panic is not significant（β=- 0.008, P=0.918) and the interaction term

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has no significant impact on the willingness to convert the dependent variable（β= 0.021, P=0.657), indicating that personal cognition did not play a significant moderating role in the relationship between various factors and panic buying. Therefore, assuming H5 is also forged.

Table 4 Test the moderating effect

	coeff	se	t	p	LLCI	ULCI
constant	4.514	0.081	55.724	0	4.354	4.674
X	0.983	0.054	18.06	0	0.876	1.09
PR	-0.008	0.073	-0.103	0.918	-0.152	0.137
X*PR	0.021	0.048	0.444	0.657	-0.074	0.117

Source: Authors

DISCUSSION AND CONCLUSION

Hypothesis 1 does not hold, and scarcity has no significant positive impact on panic buying. This means that the supply situation in the market will not directly affect panic buying.

Hypothesis 2 is not valid, and government control has no significant impact on panic buying. This means that government regulation will not directly affect panic buying.

Hypothesis 3 holds, and group factors have a significant positive impact on panic buying. This means that group factors will directly affect panic buying. Panic buying can be reduced by effectively managing group factors.

Hypothesis 4 holds, and anxiety has a significant positive impact on panic buying. This means that anxiety directly affects panic buying. You can reduce panic buying by alleviating anxiety.

Hypothesis 5 holds, and the moderating effect of personal cognition is not significant. This means that personal cognition has no significant moderating effect on various factors and panic buying.

The findings of this study provide important insights into the factors that contribute to panic buying behavior. The results suggest that the supply situation in the market and government control measures may not be direct determinants of panic buying. Instead, group factors and anxiety emerge as significant drivers of panic buying behavior. The influence of group factors highlights the social nature of panic buying, indicating that individuals are more likely to engage in panic buying when they observe others doing the same. Consequently, strategies aimed at managing group dynamics, such as effective communication, public awareness campaigns, and coordination among stakeholders, may be effective in reducing panic buying incidents. The significant impact of anxiety on panic buying underlines the

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psychological aspect of this behavior. Individuals experiencing heightened anxiety levels may engage in panic buying as a means to regain a sense of control and security. Therefore, efforts to alleviate anxiety through targeted interventions, such as providing accurate information, offering psychological support, and promoting emotional well-being, can help mitigate panic buying tendencies.

However, it is important to note that personal cognition does not appear to significantly moderate the relationship between various factors and panic buying. This implies that individual cognitive processes, such as beliefs, attitudes, and decision-making, may not play a substantial role in shaping panic buying behavior. Future research could explore additional factors that may influence personal cognition in the context of panic buying. Overall, the findings suggest that effective strategies to reduce panic buying should focus on managing group factors and addressing anxiety levels. By understanding the social and psychological aspects of panic buying, policymakers, retailers, and public health authorities can develop targeted interventions that address the underlying causes and mitigate the negative consequences associated with panic buying behavior.

REFERENCES

Aboukhadeer, E. A., Azam, S. F., & Albattat, A. R. S. (2023). Corporate Governance and International Public Sector Accounting Standards (IPSAS) on the Quality of Accounting Information in Libyan Government Sector. International Journal of Professional Business Review, 8(1), e0812-e0812.

Aboukhadeer, E. A., Azam, S. F., & Albattat, A. R. S. (2023). The Relationship Between International Public Sector Accounting Standards (IPSAS) and the Quality of Accounting Information in Libyan Government Sector. International Journal of Professional Business Review, 8(1), e0813-e0813.

Al-Aly Z, Bowe B, Xie Y. Long Covid after Breakthrough COVID-19: the post-acute sequelae of breakthrough COVID-19.2021.

Al-Aly, Z., Bowe, B., & Xie, Y. (2021). Long Covid after Breakthrough COVID-19: the post-acute sequelae of breakthrough COVID-19.

Aljanabi, A.R. (2021). The impact of economic policy uncertainty, news framing and information overload on panic buying behavior in the time of COVID-19: a conceptual exploration. *International Journal of Emerging Markets*.

Aoki, N. (2021). Stay-at-Home Request or Order? A Study of the Regulation of Individual Behavior during a Pandemic Crisis in Japan. International Journal of Public Administration, 44, 885 - 895.

Intern. Journal of Profess. Bus. Review. | Miami, v. 8 | n. 8 | p. 01-21 | e02990 | 2023.

16

Arif, S., & Al Hassan, S. (2022). Impact of Psychological Contract Breach on Employees' Sabotage and Whistle-Blowing Behaviors through Perceived Organizational Frustration. Journal of Development and Social Sciences, 3(2), 1125-1138.

Azam, S. M. F., Yajid, M. S. A., Tham, J., Hamid, J. A., Khatibi, A., Johar, M. G. M., & Ariffi, I. A. (2021). Research Methodology: Building Research Skills (1st ed.). McGraw-Hill Education (Malaysia) Sdn Bhd.

Bahari, N., Saufi, R. A., Zainol, N. R., Samad, N. S. A., & Yaziz, M. F. A. (2023). Entrepreneur's Personality Traits and Firm Performance of Malaysian Smes: Mediated by Market Orientation. International Journal of Professional Business Review, 8(1), e01260. https://doi.org/10.26668/businessreview/2023.v8i1.1260

Bailu, J. (2022). Research on the Emergence Principle and Intervention Mechanism of Group Panic Buying Behavior under Public Health Emergencies.

Blanco-González, A., Cachón-Rodríguez, G., Hernández-Perlines, F., & Prado-Román, C. (2023). Effects of social responsibility on legitimacy and revisit intention: The moderating role of anxiety. Journal of Business Research, 157, 113583.

BOWE B, XIE Y, XU E. Kidney outcomes in long COVID[J/OL]. Journal of the American Society of Nephrology, 2021, 32(11): 2851-2862.

BOWE B, XIE Y, XU E. Kidney outcomes in long COVID[J/OL]. Journal of the American Society of Nephrology, 2021, 32(11): 2851-2862.

Byun, S.-E., & Sternquist, B. (2011). Fast fashion and in-store hoarding: the drivers, moderator, and consequences. Cloth. Text. Res. J. 29(3), 187-201.

Calvo, E., Cui, R., & Wagner, L. (2023). Disclosing product availability in online retail. Manufacturing & Service Operations Management, 25(2), 427-447.

Chen, G., Zhang, G., Yang, Y., Zhang, J., & Hu, Y. (2023). Relationship Between Negative Life Events and Depressive Symptoms for Chinese College Students: The Mediating Role of Rumination and Moderating Role of Perceived Social Support and Psychological Capital. Psychology Research and Behavior Management, 271-282.

Chlan, L., Savik, K., & Weinert, C., (2003). Development of a shortened state anxiety scale from the Spielberger State-Trait Anxiety Inventory (STAI) for patients receiving mechanical ventilatory support. j. Nurs. Meas. 11, 283-293.

Collette, T., Moore, B. A., & Judkins, J. L. (2022). Limiting Freedom: The Role of Reactance in Social Change. Routledge.

Diansari, R. E., Musah, A. A., & Othman, J. B. (2023). Perception of Prosocial Behavior in Accountability of Village Fund Management in Indonesia: the Moderating Role of Internal Control and Leadership. International Journal of Professional Business Review, 8(4), e01481. https://doi.org/10.26668/businessreview/2023.v8i4.1481 (Original work published April 4, 2023)

Intern. Journal of Profess. Bus. Review. | Miami, v. 8 | n. 8 | p. 01-21 | e02990 | 2023.

17

Frost, R.O., Steketee, G., & Grisham, J. (2004). Measurement of compulsive hoarding: Saving inventory revised. Behav. Res. Ther. 42 (10), 1163-1182.

G Kwon, I.W., Ho Kim, S., & Usman, H. (2021). Vaccine Supply Chain Distribution under Covid-19 Pandemic: Stressed, Resourceful and Resilient- Lesson Learned from the United States Experiences. *The Impact of COVID-19 on Supply Chain Management*.

Gil, D., Domínguez, P., Undurraga, E.A., & Valenzuela, E. (2021). The Socioeconomic Impact of COVID-19 in Urban Informal Settlements. *medRxiv*.

Glass, T.A., Schoch-Spana, M., 2002. Bioterrorism and the people: how to vaccinate a city against panic. Clin. Infect. Dis. 34 (2), 217–223.

Goren, T., Beeri, I., & Vashdi, D.R. (2022). Framing policies to mobilize citizens' behavior during a crisis: Examining the effects of positive and negative vaccination incentivizing policies. *Regulation & Governance*.

Hunter, L., Gerritsen, S., & Egli, V. (2023). Changes in eating behaviours due to crises, disasters, and pandemics: a scoping review. Nutrition & Food Science, 53(2), 358-390.

Into the unknown: a review and synthesis of contemporary models involving uncertainty. J. Anxiety Disord. 39, 30–43. Chlan, L., Savik, K., Weinert, C., 2003.

Islam, T., Hameed, A., Arya, V., Wang, Y., Akhtar, N., Mubarik, S., & Xiaobei, L. (2020). Journal of Retailing and Consumer Services Panic buying in the COVID-19 pandemic: A multi-country examination. Journal of Retailing and Consumer Services, 59(June), 102357. https://doi.org/10.1016/j.jretconser.2020.102357

Jayasekera, K. G. T., Ahmad, A., & Azam, S. M. F. (2022). Managing Knowledge in Tourism Industry: A Nonaka's SECI Model. International Journal of Multidisciplinary Research and Publications, 5(7), 73–78.

Jayawardena, C., Ahmad, A., Valeri, M., & Jaharadak, A. A. (2023). Technology acceptance antecedents in digital transformation in hospitality industry. International Journal of Hospitality Management, 108, 103350.

Jeżewska-Zychowicz, M., Plichta, M., & Królak, M. (2020). Consumers' fears regarding food availability and purchasing behaviors during the COVID-19 pandemic: The importance of trust and perceived stress. Nutrients, 12(9), 1–14. https://doi.org/10.3390/nu12092852

K, A., Gangadaran, A., Pradeep, P., Purushothaman, P.K., & Thayyil, J. (2021). Impact of pandemic control measures on physical activities and sedentary behaviour of medical students in Kozhikode.

Kaluarachchige, I. P., Yajid, M. S. A., Khatibi, A., & Azam, S. M. F. (2023). Entrepreneurial Competencies on Dynamic Capabilities towards Entrepreneur Performance in Sri Lanka's Community Based Tourism. International Journal of Hospitality and Tourism Systems, 16.

Kim, J. H., & Im, J. B. (2023). Forecasting Offline Retail Sales in the COVID-19 Pandemic Period: A Case Study of a Complex Shopping Mall in South Korea. Buildings, 13(3), 627.

Intern. Journal of Profess. Bus. Review. | Miami, v. 8 | n. 8 | p. 01-21 | e02990 | 2023.

18

Lianjie, C., Ahmad, A., & Md Kassim, A. A. (2023). Impact of Scarcity on Panic Buying: Assessing the Mediating Role of Anxiety and the Moderating Role of Event Perception. International Journal of Professional Business Review, 8(6), e02377. https://doi.org/10.26668/businessreview/2023.v8i6.2377

Liren, X., Junmei, C., Mingqin, Z., 2012. Research on panic purchase's behavior mechanism. Innovation and management. In: Proceedings of the 9th International Conference on Innovation & Management, pp. 1332–1337.

Locklear, L. R., Sheridan, S., & Kong, D. T. (2023). Appreciating social science research on gratitude: An integrative review for organizational scholarship on gratitude in the workplace. Journal of Organizational Behavior, 44(2), 225-260.

Malika, M., & Maheswaran, D. (2023). Busy or poor: How time or money scarcity cues differentially impact purchase decisions regarding service firms. Journal of the Academy of Marketing Science, 1-18.

Mao, Q., Hou, J., & Xie, P. (2022). Dynamic Impact of the Perceived Value of Public on Panic Buying Behavior during COVID-19. *Sustainability*.

Marteau, T.M., & Bekker, H., (1992). The development of a six-item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI). Br. J. Clin. Psychol. 31, 301-306.

Mat Dawi, N., Namazi, H., Hwang, H. J., Ismail, S., Maresova, P., & Krejcar, O. (2021). Attitude Toward Protective Behavior Engagement During COVID-19 Pandemic in Malaysia: The Role of E-government and social media. Frontiers in public health, 9, 609716. https://doi.org/10.3389/fpubh.2021.609716

Naeem, M., & Ozuem, W. (2021). Understanding misinformation and rumors that generated panic buying as a social practice during COVID-19 pandemic: evidence from Twitter, YouTube and focus group interviews. *Inf. Technol. People, 35*, 2140-2166.

Ngunjiri, F., 2020. The challenge of inclusion in the ethics classroom. Intersections (51), 24.

Nicomedes, C. J. C., & Avila, R. M. A. (2020). An analysis on the panic during COVID-19 pandemic through an online form. Journal of Affective Disorders, 276(March), 14–22. https://doi.org/10.1016/j.jad.2020.06.046

Omar, N. A., Nazri, M. A., Ali, M. H., & Alam, S. S. (2021). The panic buying behavior of consumers during the COVID-19 pandemic: Examining the influences of uncertainty, perceptions of severity, perceptions of scarcity, and anxiety. Journal of Retailing and Consumer Services, 62(May). https://doi.org/10.1016/j.jretconser.2021.102600

Patiro, S.P., Budiyanti, H., Hendarto, K.A., & Hendrian, H. (2022). Panic-Buying Behavior During the Covid-19 Pandemic in Indonesia: A Social Cognitive Theoretical Model. *Gadjah Mada International Journal of Business*.

Petrović, V. (2021). Threats to democracy: measures taken by right–wing populist regimes during the covid19 crisis in eastern europe1.

Intern. Journal of Profess. Bus. Review. | Miami, v. 8 | n. 8 | p. 01-21 | e02990 | 2023.

19

Pinzon, R. T., Wijaya, V. O., Buana, R. B., Al Jody, A., & Nunsio, P. N. (2020). Neurologic characteristics in coronavirus disease 2019 (COVID-19): a systematic review and meta-analysis. Frontiers in Neurology, 11, 565.

Pointet Perizzolo, V. C., Glaus, J., Stein, C. R., Willheim, E., Vital, M., Arnautovic, E., ... & Schechter, D. S. (2022). Impact of mothers' IPV-PTSD on their capacity to predict their child's emotional comprehension and its relationship to their child's psychopathology. European journal of psychotraumatology, 13(1), 2008152.

Prayoga, K. (2020). How Jokowi Communicates with the Public During Covid-19 Crisis: An Analysis of Tweets on Twitter. *Jurnal Komunikasi: Malaysian Journal of Communication, 36*, 434-456.

Qian, M., Wu, Q., Wu, P., Hou, Z., Liang, Y., Cowling, B.J., & Yu, H. (2020). Psychological Responses, Behavioral Changes and Public Perceptions during the Early Phase of the COVID-19 Outbreak in China: A Population Based Cross-Sectional Survey. medRxiv, pp. 1-25. https://doi.org/10.1101/2020.02.18.20024448.

Questionnaire Design and Administration: A Practical Guide. Wiley. Frost, R.O., Steketee, G., Grisham, J., 2004. Measurement of compulsive hoarding: saving inventory revised. Behav. Res. Ther. 42 (10), 1163–1182.

Rajavi, K., Kushwaha, T., & Steenkamp, J. B. E. (2023). Brand Equity in Good and Bad Times: What Distinguishes Winners from Losers in Consumer-Packaged Goods Industries? Journal of Marketing, 87(3), 472-489.

Razzak, A.A., & Yousaf, S. (2022). Perceived Resilience and Vulnerability during the Pandemic-Infused Panic Buying and the Role of COVID Conspiracy Beliefs. Evidence from Pakistan. *Journal of Global Marketing, 35*, 368 - 383.

Razzak, A.A., & Yousaf, S. (2022). Perceived Resilience and Vulnerability during the Pandemic-Infused Panic Buying and the Role of COVID Conspiracy Beliefs. Evidence from Pakistan. *Journal of Global Marketing, 35*, 368 - 383.

Ridzuan, A.R., Luthfia, A., Mohideen, R.S., Allam, S.N., Zamri, N.A., Zulkarnain, A., Ismail, S., Ramlan, A.F., & Puspokusumo, R.A. (2021). Panic buying during Covid-19 in Malaysia. *PROCEEDINGS OF 8TH INTERNATIONAL CONFERENCE ON ADVANCED MATERIALS ENGINEERING & TECHNOLOGY (ICAMET 2020).*

Salazar Kämpf, M., Adam, L., Rohr, M. K., Exner, C., & Wieck, C. (2023). A Meta-Analysis of the Relationship Between Emotion Regulation and Social Affect and Cognition. Clinical Psychological Science, 21677026221149953.

Savin, V., Yin, L., Chernobay, L., Konokhov, S., Vasiltsova, N., & Mosiiuk, S. (2023). Analysis of the Impact of International Migration on the Financial and Economic Cooperation of Countries. International Journal of Professional Business Review, 8(5), e01591. https://doi.org/10.26668/businessreview/2023.v8i5.1591

Schmidt, S., Benke, C., & Pané-Farré, C. A. (2021). Purchasing under threat: Changes in shopping patterns during the COVID-19 pandemic. PloS one, 16(6), e0253231. https://doi.org/10.1371/journal.pone.0253231

Intern. Journal of Profess. Bus. Review. | Miami, v. 8 | n. 8 | p. 01-21 | e02990 | 2023.

20

Shri, C., Verma, A., Gupta, G., & Kumra, R. (2023). Prioritizing Factors of Panic Buying Behaviour: A Neutrosophic Analytical Approach. *IIM Kozhikode Society & Management Review*.

Sim, K., Chua, H.C., Vieta, E., Fernandez, G., 2020. The anatomy of panic buying related to the current COVID-19 pandemic. Psychiatr. Res. 288, 113015.

Singh, G., Aiyub, A.S., Greig, T., Naidu, S., Sewak, A., & Sharma, S. (2021). Exploring panic buying behavior during the COVID-19 pandemic: a developing country perspective. *International Journal of Emerging Markets*.

Stephan, W. G., & Finlay, K. (1999). The role of empathy in improving intergroup relations. Journal of Social issues, 55(4), 729-743.

Tan, S. H., & Pang, J. S. (2023). Test Anxiety: An Integration of the Test Anxiety and Achievement Motivation Research Traditions. Educational Psychology Review, 35(1), 13.

Taylor, S. (2021). Understanding and managing pandemic-related panic buying. Journal of Anxiety Disorders, 78(January). https://doi.org/10.1016/j.janxdis.2021.102364

Van, D. M., McLawhorn, M. L., Crimmins, J., MacIntyre, C. R., & Seale, H. (2010). Life and pandemic influenza: Attitudes and intended behaviour of staff and students towards BMC Public Health, 10(1), 130.

Van, D., McLaws, M.L., Crimmins, J., MacIntyre, C.R., Seale, H., 2010. University life and pandemic influenza: attitudes and intended behaviour of staff and students towards pandemic (H1N1) 2009. BMC Publ. Health 10 (1), 130.

Xie, Y., Xu, E., Bowe, B., & Al-Aly, Z. (2022). Long-term cardiovascular outcomes of COVID-19. Nature medicine, 28(3), 583-590.

Yin, L., Daixuan, N., Orozalieva , A., Fedoryshyna , K., Galenko , O., & Peredalo, K. (2023). Improving the Efficiency of Management of Large International Companies for the Development of Financial and Economic Cooperation Between Countries, Given Migration. International Journal of Professional Business Review, 8(5), e01945. https://doi.org/10.26668/businessreview/2023.v8i5.1945

Yu, B., & Leung, Y. W. (2023). Establishing ties or strengthening friendships? Students' use of online social networks in intercultural friendship development. Information Technology & People.

Yuen, K. F., Wang, X., Ma, F., & Li, K. X. (2020). The psychological causes of panic buying following a health crisis. International Journal of Environmental Research and Public Health, 17(10). https://doi.org/10.3390/ijerph17103513

Yuen, K.F., Wang, X., Ma, F., Li, K.X., 2020. The psychological causes of panic buying following a health crisis. Int. J. Environ. Res. Publ. Health 17 (10), 3513.

Zsido, A.N., Teleki, S.A., Csokasi, K., Rozsa, S., & Bandi, S.A. (2020). Development of the short version of the spielberger state-trait anxiety inventory. psychiatr. res,13223

Intern. Journal of Profess. Bus. Review. | Miami, v. 8 | n. 8 | p. 01-21 | e02990 | 2023.

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