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EXPLORING THE DETERMINANT FACTORS OF IMPULSIVE BUYING BEHAVIOR DURING THE COVID-19 PANDEMIC AMONG INDONESIAN CONSUMERS

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ABSTRACT: The COVID-19 pandemic has ravaged the global economy, igniting much fear and panic that disrupted buying patterns and behavior. This study aims to investigate the phenomenon of impulsive buying behavior during the COVID-19 crises by exploring the influences of panic buying, perceived scarcity, and the mediation role of fear appeals. This study uses path analysis which is processed by using the Preacher-Hayes technique. A total of 243 respondents participated in the study. The result of this study revealed that perceived scarcity and panic buying were successfully proved to be significant predictors of impulsive buying behavior. However, the direct effect of fear appeals and the mediation role of fear appeals and panic buying on the relationship between perceived scarcity and impulsive buying behavior were failed to prove in this study.

Keywords: Impulsive buying; Panic buying; Perceived scarcity; Fear appeals; COVID-19

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INTRODUCTION

The COVID-19 pandemic is one of the most complex and multi-faceted challenges that businesses have faced since it first emerged in Wuhan, China, in late December 2019. It not only rocked the stability of the global economy, but it also igniting a great deal of fear and panic that disrupted buying patterns and shopping habits (Donthu & Gustafsson, 2020; Naeem, 2020; Sheth, 2020). Even worse, the lack of vaccines and the preponderance of unreliable data made people feel even more vulnerable and, in some cases, defensive around COVID-19 issues (Khuzaini & Zamrudi, 2021; Omar, Nazri, Ali, & Alam, 2021). The lockdowns (known in Indonesia as large-scale social restrictions) and social distancing policies were therefore implemented by the government to limit the spread of COVID-19.

As an outcome of this highly uncertain situation, consumers turned to all available online and offline channels to buy a considerable amount of products in anticipation of hefty price increases (Chua, Yuen, Wang, & Wong, 2021). This caused an enormous shortage of medical supplies (Liu, Zhang, Huang, Zhang, & Zhao, 2020; Xiao, Zhang, & Zhang, 2020), food, and necessities such as toilet paper (David, Visvalingam, & Norberg, 2021). Interestingly, Carr (2020) even added that, in the US, sales of guns and ammunition soared, perhaps in response to the fear of scarcity, biased information, social learning, a lack of trust, and a lack of confidence in the authorities (Arafat et al., 2020). Wei, Wen-wu, & Lin (2011) call this panic buying, where consumers purchase exceptionally large volumes of product, or an uncommonly diverse range of products, in anticipation of, during, or after a disaster or perceived disaster, or in anticipation of shortages or a significant price increase. Furthermore, Yuen, Wang, Ma, & Li (2020) stated that panic buying could be influenced by perception, fear of the unknown, coping behavior, and social psychological factors. Lins & Aquino (2020) added that men tended to engage more in panic buying than women during the COVID-19 pandemic. They also found that there is a positive correlation between panic buying and impulse buying in terms of scale, so the greater the tendency to panic buy, the more likely that some of that buying will also be impulsive.

Many studies have revealed impulsive buying behavior during public emergencies and crises like the COVID-19 pandemic (Sim, Chua, Vieta, & Fernandez, 2020; Xiao et al., 2020). However, studies on panic buying remain a niche area in the context of research into consumer behavior (Yuen et al., 2020). Lins & Aquino (2020) found that a search in the Scopus database on terms that include "panic buying" only returned 32 results, a number that drastically decreases when "panic buying" is combined with "impulse buying"; clearly, a limited number of studies consider panic buying and impulse buying within a single framework. Therefore, it is necessary to investigate the phenomenon of impulse buying during the COVID-19 crisis by examining the influences of panic buying on impulsive buying behavior.

Moreover, this study aims to extend the existing framework model by including perceived scarcity and the mediation role of fear appeals as additional predictors of impulsive buying behavior. According to Chua et al. (2021), in a

crisis like COVID-19, a sense of perceived scarcity will likely increase perceived price insecurity and the perceived risk of shortages among consumers, thereby increasing their drive to buy impulsively to avoid later regrets caused by failing to secure the products they need. Fear appeals can therefore mediate the effect of panic buying and perceived scarcity on impulsive buying behavior. Lang, Davis, & Öhman (2000) and Naeem (2020) state that fear is the universal trigger of impulsive buying behavior, which may be enhanced by the threat of harm, especially during the COVID-19 pandemic.

THEORETICAL REVIEW

Impulsive Buying Behavior

Although impulse buying has been studied for nearly 80 years, it remains a mysterious and prevalent phenomenon that is still worthy of attention. Hausman (2000) even found recent studies showing that impulse buying is much more complex than previously thought since it arises from a desire to meet multiple needs that underpin different sorts of buying activity. Impulse buying, which involves unplanned purchases, can be defined as an individual tendency toward an irrational, spontaneous, thoughtless, intense, and irresistible desire to buy (Huang, 2016; Leonard, Zhang, & Howell, 2019; Parsad, Prashar, Vijay, & Kumar, 2021). Moreover, Lee & Song (2011) found that such behavior is not only influenced by individual internal factors, such as positive psychological and cognitive states, but also by external factors, such as marketing strategies and the situational environment. The deliberate encouragement of impulsive buying behavior is often viewed as a way for marketers to increase their profits; indeed, Barakat (2019), Hashmi, Attiq, & Rasheed (2019), and Terblanche (2018) report that between 30% and 80% of all retail sales are largely dependent on impulse buying.

In relation to the recent COVID-19 situation, studies from Naeem (2020) and Xiao et al. (2020) reveal that impulsive buying behavior increased as fears grew around COVID-19, illness, shortages, high prices, and perceived uncertainty. Furthermore, Gupta, Nair, & Radhakrishnan (2021) found that the COVID-19 pandemic significantly affected consumer behavior patterns, particularly in terms of stockpiling and impulse buying. Due to their stay-at-home obligations, many people began to make purchases impulsively, over an unusually extended period, to fulfill their daily needs, leading to product shortages and frequent price increases.

Perceived Scarcity

As news of COVID-19 spread worldwide, retailers attempted to maximize their inventory in anticipation of a boom in customer demand for essential and non-essential products. However, shortages were unavoidable because of the explosion in aggressive consumer behavior, influenced by environmental panic, which was worsened by the resulting empty shelves and long queues, a situation

that further stimulated increasing demand for essential items and enhanced the impulsive behavior (Addo, Jiaming, Kulbo, & Liangqiang, 2020; Iyer, Blut, Xiao, & Grewal, 2020; Suryaningsih, 2020). Shortages of particular products, due to excessive demand, also add to the fear, further driving people to buy excessively and impulsively (Keane & Neal, 2021). This is the effect of perceived scarcity, which refers to an individual's perception of product shortage or limited availability that results in the purchase of large quantities of items in reaction to anticipated regret (Aggarwal, Jun, & Huh, 2011; Chua et al., 2021; King & Devasagayam, 2017). Perceived scarcity is more common than actual scarcity. Studies from Addo et al. (2020), Iyer et al. (2020), Keane & Neal (2021), and Suryaningsih (2020) indicate positive relationships between perceived scarcity, panic buying, fear appeals, and impulse buying. Therefore, the first set of proposed hypotheses of this study are:

H1: Perceived scarcity has a positive impact on panic buying.
H2: Perceived scarcity has a positive impact on fear appeals.
H3: Perceived scarcity has a positive impact on impulsive buying behavior.

Panic Buying

Panic buying is a complex behavior driven by multiple motives and psychological processes (Yuen et al., 2020). It is usually a psychological reaction to perceived scarcity, stress, a sense of losing control, and insecurity in certain situations (Arafat et al., 2020; Hendrix & Brinkman, 2013). Clee & Wicklund (1980) stated that panic buying is a psychological reaction to a perceived need for an object when a buyer perceives the threat that stocks will run out as a loss of personal control. Panic buying is also tied to intention and behavior, and mass psychology also plays an important role (Xie, Chen, & Zhang, 2013). Panic buying is a socially undesirable type of herd behavior, when people buy large quantities of essential products or medicine, thereby creating the very scarcity that they fear (Stevens, Weinberg, Nelson, Meissel, & Shankman, 2018). A perception of scarcity is closely related to panic buying and can be driven by a lack of trust and reduced consumption (Wei et al., 2011).

When the World Health Organization (WHO) declared the COVID-19 pandemic, supermarket shelves were quickly emptied because of panic buying (David et al., 2021). Panic buying has caused the purchasing of huge consumer goods. Psychologically, stockpiling storable goods could give consumers a sense of aegis from the crisis (Grohol, 2020) but it inevitably creates supply disruptions (Peels et al., 2009). When people witness panic buying, they can become motivated to join in in a demonstration of herd behavior (Baddeley, 2010; Loxton et al., 2020; Zheng, Shou, & Yang, 2021). Iyer et al. (2020) found that panic buying increases stockpiling and creates another round of panic, resulting from the increasing number of consumers buying groceries and other products.

H4: Panic buying has a positive impact on fear appeals.
H5: Panic buying has a positive impact on impulsive buying behavior.
H6: Panic buying positively mediates the relationship between perceived scarcity and impulsive buying behavior.

The Mediation Role of Fear Appeals

Fear is one of the basic emotions, often felt after a conscious assessment of dangerous conditions (Poels & Dewitte, 2006), and is a mechanism by which to protect oneself from threatening situations (Addo et al., 2020). Fear appeals can fall into one of three categories: fear of illness, fear of empty shelves, and fear of price increases (Naeem, 2020). Tannenbaum et al. (2015) found that fear appeals encourage consumers to deal with a depicted threat cognitively, and the outcome of this processing effort may bias their decisions. The pandemic was a matter of grave concern, and the fear that was generated around it frequently triggered impulse buying behavior (Lin & Chen, 2012). Especially, as there were no outward signs of remedial and altering the COVID-19 pandemic, people have to deal with, or prevent, and counter it. People responded by buying more essential items, overstocking, isolating themselves from the community, and being obsessed with buying groceries, beer, sanitizers, and toilet paper (Addo et al., 2020). Several studies suggested that fear appeal is an important mediating factor of the effects of perceived scarcity and panic buying on impulsive buying behavior (Addo et al., 2020; Iyer et al., 2020). Therefore, the final set of proposed hypotheses are:

H7: Fear appeals have a positive impact on impulsive buying behavior.
H8: Fear appeals positively mediate the relationship between perceived scarcity and impulsive buying behavior.
H9: Panic buying and fear appeals positively mediate the relationship between perceived scarcity and impulsive buying behavior.

To summarize, the proposed conceptual framework of this study is shown in Figure 1.

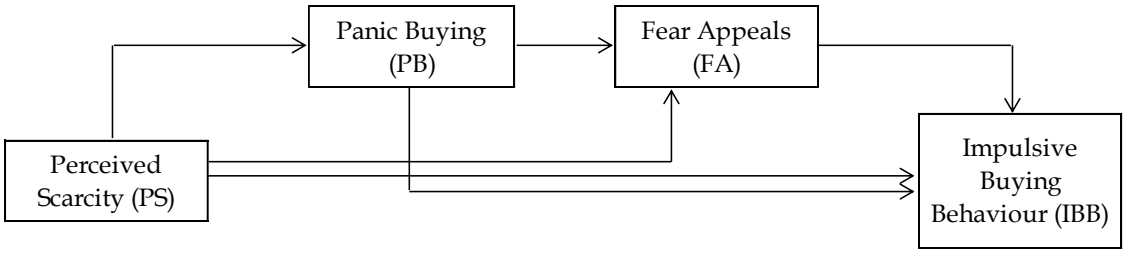

Figure 1. Conceptual Framework

METHODOLOGY

This study conducts exploratory research, using a quantitative approach, to investigate and examine the influences of panic buying, perceived scarcity, and the mediation role of fear appeals on impulsive buying behavior. The primary tool for gathering data is a survey questionnaire. The following inclusion criteria were established: (1) they must be 18 years or above, (2) living in Indonesia, (3) earning a monthly income, and (4) with their own mobile device that is connected to the internet. In light of the COVID-19 protocols, convenience sampling was used to gather potential target respondents, following the guidance of Du, Derks,

Bakker, & Lu (2018). Qin, Huang, Johnson, Hu, & Ju (2018) and Xiao et al. (2020) state that convenience sampling is often used in consumer behavior studies to achieve an adequate sample recovery rate. We also used a snowball sampling technique whereby respondents were invited to participate in an online survey and then encouraged to recruit others by distributing the study's online link to friends and family. A total of 384 respondents were gathered in the study, from whom 270 completed the survey assignments and, finally, 243 were classified as valid respondents that met the survey criteria.

A total of three items to operationalize the panic buying construct were adopted from Addo, Jiaming, Kulbo, & Liangqiang (2020), Ahmed, Streimikiene, Rolle, & Duc (2020), and Gupta, Nair, & Radhakrishnan (2021). They are:

1. "As a result of the massive spread of COVID-19, I rushed to purchase groceries and other essential items";
2. "The panic buying of other consumers made me also do the same"; and
3. "I tend to buy compulsively and stock huge amounts of items when I see other people panic shopping."

All the items were answered on a five-point Likert Scale (5- Strongly Agree, 4- Agree, 3–Neutral, 2- Disagree, and 1- Strongly Disagree). The Cronbach's α of panic buying amounted to 0.81.

Perceived scarcity was measured using three items developed by and Addo et al. (2020), Allon & Bassamboo (2011), and Gupta & Gentry (2019). They are:

1. "While shopping in this store, I thought that the limited product quantity for a particular category is due to the COVID-19 situation";
2. "I found that many stores, both online and offline, sold out faster during the COVID-19 pandemic"; and
3. "I thought that the scarcity of particular products was due to the COVID-19 situation".

The scale was measured from 1 (Strongly Disagree) to 5 (Strongly Agree). The average Cronbach's α of this construct was 0.85.

Another three measures (fear of illness, fear of empty shelves, and fear of price increases) were employed by Limaye et al. (2020), Naeem (2020), and Zhang, Qin, Wang, & Luo (2020) to operationalize the mediator construct of fear appeals. They are:

1. "The fear of coronavirus pushed me to stock up on items";
2. "I experienced the fear of shortages during the COVID-19 situation"; and
3. "I felt the fear of increasing prices for particular items due to COVID-19".

The items were answered on a five-point Likert Scale (5- Strongly Agree to 1- Strongly Disagree). The average Cronbach's α of this construct was 0.88.

Finally, this study measured impulsive buying behavior using items drawn from Ahmed et al. (2020) and Marot & Lins (2018). They are:

1. "I often bought items without planning to during the COVID-19 pandemic";

2. "Because of the COVID-19 situation, I couldn't resist buying impulsively"; and
3. "The massive spread of COVID-19 is the main reason for my impulsive buying".

They were also answered on a five-point Likert Scale (5- Strongly Agree to 1- Strongly Disagree). The average Cronbach's α was 0.67.

To summarize the result of Cronbach's α approach, we can conclude that all constructs (panic buying, perceived scarcity, fear appeal, and impulsive buying behavior) proposed in this study are sufficiently reliable, as the value of Cronbach's α for each construct was higher than 0.60 (Hair, Ringle, & Sarstedt, 2013), and can be processed for further analysis.

For further exploration, the descriptive analysis and the bootstrap method, as developed by Hayes & Preacher (2014) and Hayes & Scharkow (2013), were conducted to statistically analyze the serial mediation model. The model was estimated using PROCESS (Model 6) for SPSS, with perceived scarcity as an independent variable, panic buying as a first mediator, fear appeals as a second mediator, and impulsive buying behavior as a dependent variable. This study uses a 95% confidence level interval (CI) with 5,000 bootstrap samples gained. The Sobel test was applied to determine whether a specific variable mediates the effect of the independent to the dependent variable. Miswanto, Arifin, & Murniyati (2020) and Hadi (2018) state that the bootstrapping (resampling) technique developed by Hayes and Preacher (2014) has an advantage over Sobel's test for mediation analysis in that it does not rely on normality assumptions and is suitable for small sample sizes. Hayes, Montoya, and Rockwood (2017) even declared that, for a model solely dependent on observed variables, the results produced by the structural equation model (SEM) and PROCESS were substantively identical.

We evaluate that the direct effect between variables should deliver a p-value lower than 0.05 (Hayes & Preacher, 2014). Furthermore, Hayes and Scharkow (2013) and Primanto & Rahman (2019) argue that the cut-off of the p-value should be lower than 0.01 to determine statistical significance. For indirect evaluation, Sama & Trivedi (2019) stated that "the absence of zero value between the bootstrapped lower level confidence interval (LLCI) and upper-level confidence interval (ULCI) confirmed that there was a mediation effect between variables." Therefore, the existing mediation role should also follow Wong's (2015) guidance which states that the mediation effect is proven whenever the direct impact between variables is significant.

RESULTS

The study sample included all socio-economic classes, in that 49.8% were classified as lower-middle class, 39.9% belong to the middle-middle class, and 10.2% to the upper-middle class. This study surveyed a similar proportion of males (47.7%) and females (52.3%) to fulfill the validity and reliability requirements of the online questionnaire, as proposed by Vallejo, Jordán, Díaz, Comeche, & Ortega (2007). In addition, the age distribution shows the majority

categorized as Generation Y/millennials (85.6%), followed by Generation Z (10.3%) and Generation X (4.1%). Supriatna (2020) explained that Generation X refers to those born between 1965 and 1979, Generation Y/millennials were born between 1980 and 2001, and Generation Z were born after the year 2000.

Table 1. Demographic Profiles

Profiles	Frequency	Percentages
Gender		
Male	116	47.7%
Female	127	52.3%
Age		
> 41	10	10.3%
20 – 41	208	85.6%
< 20	25	4.1%
Socio-Economic Class		
Upper-Middle	25	49.8%
Middle-Middle	97	39.9%
Lower-Middle	121	10.3%

The proposed hypotheses in this study were tested through the sequential mediation analysis using Hayes PROCESS (Model 6) for SPSS. The results, shown in Table 2, indicate that there is a significant positive relationship between perceived scarcity, panic buying, fear appeals, and impulsive buying behavior, thereby supporting Hypotheses 1, 2, and 3 ($p < 0.01$). The results also show a positive effect of panic buying on fear appeals and impulsive buying behavior, thereby supporting Hypotheses 4 and 5 ($p < 0.01$). However, this study fails to find support for Hypothesis 7 that postulates a positive direct effect of fear appeals and impulsive buying behavior. The p-value of the relationship between fear appeals and impulsive buying behavior is higher than 0.01, resulted in a rejection of Hypothesis 7.

Table 2. Result of the PROCESS Bootstrapping Test

Hypotheses	Path	SE	p	95% of CI		Decision
				LLCI	ULCI	
	Direct Effect					
H_1	PS – PB	0.05	0.00	0.57	0.76	Supported
H_2	PS – FA	0.06	0.00	0.39	0.61	Supported
H_3	PS – IBB	0.07	0.00	0.11	0.39	Supported
H_4	PB – FA	0.05	0.00	0.32	0.53	Supported
H_5	PB – IBB	0.07	0.00	0.20	0.47	Supported
H_6	FA – IBB	0.72	0.82	-0.12	0.16	Rejected
	Indirect Effect					
H_7	PS – PB – IBB			0.12	0.33	Supported
H_8	PS – FA – IBB			-0.08	0.10	Rejected
H_9	PS – PB – FA - IBB			-0.47	0.06	Rejected

Hypothesis 6 was supported by the multivariate analysis reported in Table 2. Hypotheses 8 and 9 were not significant as there is a zero value between the

bootstrapped LLCI and ULCI, and an insignificant bivariate effect between fear appeals and impulsive buying behavior (Hypothesis 7). Specifically, panic buying significantly mediates the effect of perceived scarcity and impulsive buying behavior positively (Hypothesis 6). In contrast, adding fear appeals to the model results in a non-significant relationship between perceived scarcity and impulsive buying, so Hypothesis 8 is rejected. The serial mediation model with panic buying and fear appeals as mediators also showed an insignificant effect in this study, so Hypothesis 9 is also rejected.

DISCUSSION

Consumers were forced to adopt new shopping habits during the COVID-19 pandemic, especially when the local government implemented lockdowns (large-scale social restriction) and social distancing. As a result of these restrictions, many people purchased much more than they needed (Hall, Prayag, Fieger, & Dyason, 2020; Hobbs, 2020), exploiting both online and offline channels. Wei et al. (2011) defines this type of behavior as panic buying in which "consumers purchase exceptionally huge amounts of product, or an uncommonly diverse range of products, in anticipation of, during, or after a disaster, or perceived disaster, or in anticipation of shortages or a large price increase." The concept of panic buying is different from impulsive buying. Badgaiyan & Verma (2014), Dhandra (2020), and Sofi & Nika (2017) explain that impulsive buying is an outcome of marketing stimuli to make a spontaneous, sudden, on-the-spot purchasing decision, whereas panic buying often occurs in anticipation of an impending disaster (Ardyan, Kurniawan, Istiatin, & Luhgiatno, 2021).

Previous studies related to panic buying behavior show that there is a positive relationship between perceptions of scarcity, panic buying, fear appeal (Li, Zhou, Wong, Wang, & Yuen, 2021; Omar et al., 2021; Wiedmer, Whipple, Griffis, & Voorhees, 2020), and impulsive buying behavior (Addo et al., 2020; Iyer et al., 2020; Kim & Su, 2020). The results of the direct and indirect hypotheses testing in Table 2 shows that six out of the nine proposed hypotheses in this study are in line with the conclusions of previous works. However, the direct effect of fear appeals on impulsive buying behavior, the mediation role of fear appeal on the relationship between perceived scarcity and impulsive buying behavior, and the mediation role of panic buying and fear appeal on the relationship between perceived scarcity and impulsive buying behavior, were rejected. The insignificant effect of fear appeals may have been unique in the COVID-19 situation. Chi et al. (2021) argue that consumers have a greater sense of the anticipated danger of future events, rather than the real-time presence of a threat during crises like the COVID-19 pandemic. Instead of cowering in fear, they tend to avoid regret by making immediate purchases in anticipation of an increase in price, or imminent shortages (Prentice, Quach, & Thaichon, 2021). As a result, panic buying is becoming a trend in shopping behavior (Yuen et al., 2020).

The majority of the respondents categorized as Generation Y (millennials) and Generation Z experience more anxiety than other generations (Dahlen, Teate,

Ormsby, & Schmied, 2020), making it easier for them to be driven by fear to buy impulsively, sometimes as a result of seeing others engaging in panic buying. Previous studies highlight this issue by stating that the low degree (or even the insignificance) of fear appeals during the pandemic were mainly caused by rumors, conflicting word-of-mouth communication, hoaxes stories, fake news, and misinformation (Dedeoglu & Ventura, 2017; Shen, Lee, Pan, & Lee, 2021; Wu, Deng, & Liu. 2021; Islam et al., 2021; Naeem, 2020; Primanto, ABS, & Slamet, 2018; Radwan, Radwan, & Radwan, 2020; Wang, Tauni, Zhang, Ali, & Ali, 2020). At the beginning of the crisis period, people tended to believe the information they read and heard without validating and checking with alternative sources. However, as time went by, with the more trusted information sources and their longer experience, they felt increasingly confident to re-evaluate some of their past decisions. Thus, any false past exposures will lead to their future maladaptive responses, including threat denial, such as COVID-19 being a hoax, COVID-19 vaccines malfunctioning, product shortages being fake, capitalist pricing manipulation, and others. People are more likely to ignore messages and remain in their current behavior whenever they perceive that the threat is irrelevant or insignificant to them (Kang & Lin, 2015; Shin, Ki, & Griffin, 2017). Based on this explanation, it can be assumed that the study respondents have a low degree (or even an insignificant) level of fear. They tend not to be motivated to process all the fear appeal messages that were interrogated in this study due to the rumors and unclear information during the COVID-19 pandemic situation in Indonesia. However, once they experienced threats themselves, they will voluntarily adopt and imitate the behaviors of others to minimize risks and adjust to others' expectations (Xu et al., 2017). Aljanabi (2021) strengthened the argument by stating that people tend to imitate their peer's behaviors during crises due to the explosion of rumors and misinformation.

FURTHER STUDY

The results of this study reveal that panic buying, perceived scarcity, and fear appeal are significant predictors of impulsive buying behavior. Furthermore, while the mediation role of fear appeals on the relationship between government stimuli, perceived scarcity, and impulsive buying was proven in this study, the effect of panic buying on impulsive buying behavior with the mediation of fear appeal was not proven. Most Generation Y (millennial) and Generation Z respondents, who are more anxious than other generations, revealed that the fear of panic in the minds of exhausted consumers is enough to trigger impulsive purchases, especially during crises like COVID-19. Panic and impulsive buying also may be developed through misinformation, fake news, rumors, perceived arousal, and marketing stimuli. Therefore, future studies should consider variables not included in this study, such as hoax information, perceived arousal, and marketing stimuli.

One limitation is that our study does not properly represent the Indonesian population regarding age distribution; the high percentage of Generation Y (millennial) in this study does not represent the reality of Indonesia's demographics and may indicate a bias. Future studies should be

conducted with a more representative population sample, utilizing alternate methodologies. We also recommend a similar study to extend the geographical coverage globally to understand the results better.

Finally, this study reveals that the mass of hoax stories, fake news, conflicting word-of-mouth communications, and misinformation, demotivated the Y (millennial) and Z generations to process all the fear appeals messages related to COVID-19. They adopted the behavior of others to minimize risk and adjust to the expectations of their peers. This indicates that, during crises like the recent COVID-19 pandemic, organic peer influence within the Y (millennial) and Z generations should be harnessed to activate their sense of risk and prevent their negative responses to panic and impulsive behavior. This take is to minimize promoting the fear of COVID-19 in various media like television, social media, and elsewhere.

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