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Self-regulation and panic buying: examining the brake mechanism effect on fear of missing out

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Abstract

Purpose – Extant research indicates that fear of missing out (FoMO) caused by the negative influence of media and word-of-mouth (WOM) leads to panic buying and generates a negative impact on consumer well-being. However, the mechanism that can minimise or abort this impact remains understudied. Therefore, in this study, we examine how consumer self-regulation functions as a brake mechanism to intervene with the negative influences of media and WOM on FoMO.

Design/methodology/approach – Data were collected from a representative sample in Australia. Hypotheses were tested by applying generalised structural equation modelling (GSEM), and analysis was conducted using the statistical software Stata 17.

Findings – Self-regulation is negatively influenced by media channels and WOM but is positively influenced by media content. Consumer self-regulation acts as a brake mechanism for FoMO. Panic buying, which is triggered by FoMO, has a significant impact on negative emotional well-being.

Research limitations/implications – The limitations of the study are associated with the survey data collection.

Practical implications – We extend the knowledge of how self-regulation works as a brake mechanism for the complex FoMO construct consisting of a perception of missing out accompanied by irrational behaviours. Self-regulation emerges as a brake mechanism for FoMO. Hence, if self-regulation is practiced at the inception of the media and WOM exposure, it can counteract FoMO and potentially abort its' impact on panic buying.

Social implications – From a practical perspective, policymakers could help emotionally vulnerable individuals better engage in self-control practices through support programmes and workshops aimed at assisting the public in coping with overwhelming and intense adverse emotions experienced during and following various crises. Vulnerable cohorts, particularly the younger generation who are arguably more susceptible to FoMO, need to be studied more thoroughly in the marketing domain.

Originality/value – The role of self-regulation has been studied thinly in marketing literature, particularly in relation to offsetting irrational consumer behaviours. The originality of our study is that it extends and broadens the understanding of the role of self-regulation in the context of pandemics and addresses the inconclusive evidence of the impact of self-regulation on FoMO.

Keywords Self-regulation, FoMO, Panic buying, Negative consumer well-being

Paper type Research paper

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1. Introduction

The exponential growth and innovation of social and traditional media in recent years have fundamentally transformed consumer behaviour by altering interactions between consumers and markets (Li *et al.*, 2023; Appel *et al.*, 2020). Such media have grown in reach, frequency and usage and media content is far more easily accessible by consumers. Drawing on public health crisis reports (e.g. Ebola and H1*N*1 outbreaks) and traumatic events (e.g. terrorist attacks heavily covered by the media), Garfin *et al.* (2020, 2018) argue that the consequences of excessive media exposure on individuals' physical and mental health have been exponential. Increased social media-based communication has caused excessive emotional distress in the public (Garfin *et al.*, 2020; Gupta and Sharma, 2021). This has arguably led to fear of missing out (FoMO), triggering panic buying and negative emotional well-being. FoMO involves negative affect from individual perceptions of unmet social needs and is conceptually akin to the negative emotional effects of social ostracism (Gupta and Sharma, 2021; Williams, 2007).

Consumption and lifestyle-related changes individuals make under stress are influenced by their attitude towards self-control and via adopting various coping mechanisms (Zhao *et al.*, 2020). Recent studies found that consumption coping related to the COVID-19 pandemic helped manage consumer stress and subjective well-being (Jain *et al.*, 2023; Vinoy *et al.*, 2024). In reference to the post-COVID-19 scenario, a greater understanding of consumer well-being is needed, as changes created by the pandemic may be permanent and ingrained as habits in individuals (John and Thakur, 2021). Self-regulation, also referred to as self-control, is an antithesis to profligacy, such as is expressed during panic buying, and seen as a tool for regulating inclinations to purchase more than required (Billore *et al.*, 2023). Self-regulation tends to operate like a body muscle, with corresponding advantages (can be trained) and disadvantages (limited capacity) (Baumeister *et al.*, 2007). Prior research indicates that in situations of reduced self-control, depleted individuals are likely to purchase impulsively (Minton, 2018), further leading to addictive and even aggressive behaviours (Baumeister *et al.*, 2007). Conversely, enhanced intentions to practice self-regulation enable consumers to make responsible decisions and take positive actions. In this regard, self-regulation becomes an embedded strength in human behaviour that can work towards long-term goals through consistent effort (Baumeister *et al.*, 2007). Studying the psychological mechanisms of consumer behaviour has been highlighted in earlier self-regulation research (Baumeister *et al.*, 2007, 2008). Yet, while previous self-regulation established the concept of self-control in the realm of psychology (Alquist and Baumeister, 2023; Baumeister *et al.*, 2007; Carver, 2005; Carver and Scheier, 2001), the explicit demonstration of self-regulation as an intervention to FoMO remains under-researched in the marketing domain.

Panic buying, also referred to as hoarding and stockpiling (Cai *et al.*, 2023), is the context of the current study. The phenomenon is mainly attributed to crisis situations such as pandemics, political unrest and socio-economic chaos (e.g. Billore and Anisimova, 2021; Li *et al.*, 2021). Panic buying is also exacerbated by exposure to regulated and unregulated media (Ahmad and Murad, 2020), societal and peer influence and the herd mentality. One of the most dominant negative reactions reported in research is FoMO (Cham *et al.*, 2023; Gupta and Gentry, 2019; Prentice *et al.*, 2022). FoMO is a type of persistent anxiety, and previous research indicates that FoMO has increased in society because of an upsurge in consumption caused by increased exposure to media, particularly social media (Lu and Sinha, 2024; Tandon *et al.*, 2021).

Panic buying is shown to have a negative impact on consumer mental well-being (Tse *et al.*, 2022; Kohn *et al.*, 1994). Interestingly, panic buying is also shown to have a positive impact (Vinoy *et al.*, 2024), even improving subjective well-being (Jain *et al.*, 2023). Such inconsistency does not assist in understanding the relationship with consumer well-being. Therefore, empirical work needs to be conducted using various theoretical and contextual

lenses to further understand how panic buying and its' consumer well-being are related to each other.

The focus of this study is threefold; firstly, we examine the role of self-regulation in the interplay between media, word-of-mouth (WOM) and FoMO. Here, we position self-regulation at the inception of our research as a brake mechanism for FoMO. According to Inzlicht *et al.* (2021), a braking system is a form of psychological overcontrol, also contextualised in the controlled theory approach (Carver and Scheier, 2012), that generates behavioural inhibition and overrides the consumption behaviour approach. Study originality stems from the fact that while most brake mechanisms are based on fear-based motivations such as urgency (Inzlict *et al.*, 2021), our study examines the brake mechanism of self-regulation built upon subjective cognition of individuals controlled mechanisms. Secondly, we examine how FoMO affects panic buying. Thirdly, we investigate how panic buying impacts consumer well-being in the context of the recent pandemic. The findings contribute by also tackling the identified inconsistency in the domain of panic buying in terms of how it impacts consumer well-being. We address the following research questions:

RQ1. What is the role of self-regulation in offsetting the media and its WOM impact on FoMO?

RQ2. How does FoMO influence panic buying?

RQ3. How does panic buying influence consumer "negative" well-being?

The paper is organised as follows. First, we establish a theoretical background. Next, we present the research hypotheses, followed by the methodology, results and discussion. We then provide implications for theory and practice. Finally, we present the study limitations and offer directions for future research.

2. Theoretical framework and hypothesis development

2.1 The theoretical anchors of the study

Through the lens of panic buying research and Baumeister *et al.*'s (2007), strength model of self-regulation as a theoretical underpinning, this study conducts a path analysis to examine a "domino effect" of media and WOM on self-regulation, FoMO, panic buying and subsequently negative consumer well-being. In line with Jiang *et al.* (2023), we view self-regulation as a higher sense of self-discipline where consumers can construe their purchasing decisions as a responsibility rather than an opportunity. Emotion regulation has been linked to enhanced psychological and emotional well-being (Gross and John, 2003; Wenzel *et al.*, 2024). We therefore conjecture that self-regulation acts as a brake mechanism and plays an important role in offsetting Omo. Self-regulation as a brake system has been primarily studied by scholars in psychology who acknowledge there is little empirical evidence about how self-regulation works as a brake mechanism in extreme or urgent contexts (i.e. Alquist and Baumeister, 2023; Inzlicht *et al.*, 2021). Research on the issue remains centred on psychology but remains understudied in the marketing domain (Minton, 2022). To address this research gap, we merge the social psychology and consumer behaviour literature in order to obtain a more holistic and nuanced picture of the role of self-regulation as a brake mechanism for mitigating media-induced negative effects on consumer FoMO.

2.2 Hypothesis development

2.2.1 Media and impact on self-regulation. Consumer interaction with media largely manifests dualistically – consumption behaviour – and the creation and/or sharing of media

content. Despite a robust history, traditional media has been somewhat ineffective in reaching people and/or achieving desired outcomes because they are designed to talk at people rather than with them (Anisimova *et al.*, 2024). The literature recognises that media can play a critical role in instigating a sense of urgency and indeed fostering panic and herd mentality in society (e.g. Wilk *et al.*, 2022). The diversity and number of information channels can cause increased ambiguity among people and lead to irrational behaviour (Sala, 2020). Such behaviour can manifest as self-regulation failures, i.e. incapacity to control urges when facing crises (Baumeister and Vohs, 2007). Self-regulation, on the other hand, can be seen as a purposeful attempt by people to control their behaviour through pre-set goals and objectives Baumeister and Vohs (2007), Locke and Latham (1990). Excessive and addictive media consumption increases anxiety, which leads to self-regulation failures. Low self-control may make an individual more susceptible to media stimuli (Khan *et al.*, 2021; Nyrhinen *et al.*, 2024). Hence, in line with extant research, our first hypotheses are:

H1. Media channels will have a negative influence on consumer self-regulation.

H2. Media content will have a negative influence on consumer self-regulation.

2.2.2 Word-of-mouth and consumer self-regulation. Much attention has been paid to WOM, peers and reference groups in influencing people's actions during crises (Prentice *et al.*, 2022; Cham *et al.*, 2023). Saenger *et al.* (2020) found that when consumers face a threat, they may perceive that ostensible WOM increases their psychological discomfort. Hence, in chaotic situations, WOM enables prioritisation of utilitarian values relative to consumption decisions. Blazevik *et al.* (2013), for example, discuss "recipient reaction" to WOM mechanisms and explain that consumers can catch the "emotion" expressed in WOM messages and react accordingly.

Studies about self-regulation mechanisms and WOM are limited; hence, research evidence is inconsistent. Positive WOM is more persuasive for consumers with a promotion regulatory focus (achievement-oriented), while negative WOM is more persuasive for consumers with a prevention regulatory focus (no-loss and status-quo orientation). Given that negative WOM on resource scarcity was dominant during the COVID-19 pandemic, we expect WOM to have a negative influence on consumers' ability to self-regulate. Hence,

H3. WOM will have a negative influence on consumer self-regulation.

2.2.3 Consumer fear of missing out (FoMO) and consumer self-regulation. FoMO is defined as "*a pervasive apprehension that others might be having rewarding experiences from which one is absent*" (Przybylski *et al.*, 2013, p. 1841). It occurs also when individuals perceive, for example, an absence of belongingness (Roberts and David, 2020), anxiety and sensitivity (Gallagher *et al.*, 2017), perceived scarcity and threat (Gupta and Gentry, 2019; Yuen *et al.*, 2020) and perceived lack of control (Tandon *et al.*, 2021). As Przybylski *et al.* (2013) explain, "*the FoMO phenomenon can be understood as self-regulatory limbo arising from situational or chronic deficits in psychological need satisfactions*" (p. 1842). FoMO is a complex construct consisting of a perception of missing out on social connections and irrational behaviours in order to maintain these connections (Gupta and Sharma, 2021). Lyngdoh *et al.* (2023) noted that FoMO and ruminative negative thoughts intensify the impact of perceived social isolation among younger consumers. FoMO can prompt people to be individualistic and self-centred (Lazar, 2020). On the other hand, resilience that comes from self-control (Baumeister *et al.*, 2007) helps people be better prepared to counter the impact of unexpected conditions and avoid situations of resource loss. The research examining the relationship between self-regulation and FoMO has yielded varied results. Alt and Boniel-Nissim (2018) demonstrate that having individuals acquire and practice skills of self-regulation might help them control their levels of FoMO and, consequently, their urges to overindulge. Although Surya and

Aulina (2020) found a negative relationship between self-regulation and FoMO, self-regulation is too weak to predict FoMO tendencies. Therefore, research is needed to provide novel insights into how a braking mechanism on FoMO would work.

H4. Self-regulation will have a negative influence on FoMO, such that higher self-regulation will reduce FoMO.

2.2.4 FoMO as antecedent of panic buying. FoMO can be an overwhelming emotion as people ruminate and speculate about resource scarcity. Slovic *et al.* (2013) explain fear as a "visceral emotion" that plays a critical role in converting risk to feelings, thereby creating "affect" in the form of instant, intuitive and uncontrolled reactions to perceived dangers. The urge to be constantly informed about a situation can lead to irrational behaviour (Przybylski *et al.*, 2013). Fear of the unknown, triggered by emotional uncertainty, results in panic buying (Yuen *et al.*, 2020; Cham *et al.*, 2023; Alquist and Baumeister, 2023). In line with Chen *et al.* (2020) and Prentice *et al.* (2022), a sense of resource scarcity and uncertainty triggers FoMO, which instigates consumer irrationality and leads to panic buying. Chen *et al.* (2020) focused on panic buying contagion, a phenomenon that triggers emotional and behavioural reactions conceptually like FoMO. For example, Sattari and Billore (2020), in a study of elderly citizens from developing countries, showed how elevated perceptions of risk and fear of losing control due to a lack of clarity instigated critical lifestyle adaptations for self-assurance during the pandemic. Cham *et al.* (2023) found that personal fear and perceived scarcity (the characteristics of FoMO) triggered panic buying during the pandemic. Hence,

H5. FoMO will increase consumer propensity to panic buy.

2.2.5 Panic buying and negative consumer mental well-being. Panic buying "has re-emerged as a 'new' normal consumer behaviour and a coping mechanism for real and perceived dangers" (Billore and Anisimova, 2021, p. 777). Herd mentality may influence people to engage in more panic-based behaviours, as a socially collective situational reaction (Loxton *et al.*, 2020). As Tan (2021) explained, mindfulness and self-regulation are effective coping mechanisms for combating stress and anxiety that can trigger panic buying in response to a "perceived external or internal uncontrolled context" (Billore and Anisimova, 2021, p. 778). Panic-induced buying was shown to cause harmful consequences for society and lead to increased mental and emotional imbalances among individuals (Billore and Anisimova, 2021; Prentice *et al.*, 2022). Pfefferbaum and North (2020) also reported negative emotional outcomes, including "stress, depression, irritability, insomnia, fear, confusion, anger, frustration, [and] boredom" (p. 511) stemming from panic buying during the pandemic. These impacts can reduce social optimism and pro-environmental attitudes (Peluso *et al.*, 2021). According to Peluso *et al.* (2021), emotions such as withdrawal, frustration, anxiety, fear and sadness frequently occur during crises. Originating from psychology, sociology and medical research, consumer well-being has begun gaining momentum in marketing research (Jain *et al.*, 2023). However, results regarding the link between panic buying and consumer well-being have been inconsistent. Lins and Aquino (2020) and Tse *et al.* (2022) found that panic buying causes negative emotional reactions and harms psychological consumer well-being. Conversely, Vinoi *et al.* (2024) and Jain *et al.* (2023) found that hoarding has a significant positive impact on psychological well-being. Therefore, there is a need to further understand the impact of panic buying on consumer well-being. This leads to our final hypothesis:

H6. Panic buying leads to negative consumer well-being.

3. Methodology

3.1 Online survey

We conducted an online cross-sectional survey using a nationwide Australian sample. Australia was selected for several reasons. First, Australia experienced one of the longest and strictest lockdowns in the world (Mannell and Meese, 2022; Schurer *et al.*, 2022). Second, recent studies have reported that Australian consumers actively engaged in panic buying during the pandemic (Prentice *et al.*, 2022). Third, the lockdowns led to increased instances of poor mental health across various demographic cohorts (e.g. Schurer *et al.*, 2022).

Data were collected from 571 Australian respondents using the services of a global market research agency. According to Mitchell (1993), the rule of thumb for data collection is that the minimum sample size should be at least 10 to 20 times as many cases as variables, which was achieved in this study. The period of data collection was October 2021. This period is highly relevant for the purpose of our study as it presented a unique combination of contexts including panic buying, a general sense of scarcity and apprehension due to lockdowns and a growing awareness of self-regulation in Australian society. The sample demographics are presented in Table 1. The survey method of data collection has been used previously in panic buying and self-regulation research (e.g. Khan *et al.*, 2021), as it provides increased control, quantifiability and objectivity over the research process. A random sampling procedure was used in this study. The market research agency used systematic sampling for that purpose, i.e. a random sample with a fixed periodic interval was selected from the underlying population.

Several procedures recommended by Churchill (1979) were employed to ensure appropriate scale development. These procedures included the use of multiple-item measures. Our study constructs are universal psychological and behavioural consumer traits and that are therefore less susceptible to cultural bias because they are less closely linked to culture-specific values (Artelt, 2005). Several measures were taken to reduce non-sampling, response and non-response errors. At the time of survey planning, ambiguous definitions and wording were eliminated, and the questionnaire length was reduced. Prior to the online survey, item non-response was reduced by removing irrelevant and sensitive questions. After scripting the survey, a pre-test of the questionnaire was implemented via a soft launch/pilot test and conducted on 10% of the sample. The full survey was launched following a thorough check of the questionnaire. The duration of the survey was 12 min on average. Missing data labels and outliers were filtered out of the collected data for further analysis (Osborne and Overbay, 2019).

3.2 The measures and scales

The measure of panic buying in the survey data was implemented using a categorical outcome variable (yes, no, do not know), which reflected respondents' self-assessment of whether they perceived their purchasing behaviour as panic buying. Hence, questions regarding panic buying were formulated in a manner that would not alienate respondents but could capture the essence, essentially, i.e. their tendency to buy more than necessary.

Measures for assessing the FoMO construct were adapted from Billore and Anisimova (2021), Chua *et al.* (2021) and Prentice *et al.* (2022). The self-regulation construct was assessed using items adapted from Shoda *et al.* (1990). Both constructs were measured using a seven-point Likert scale. To enable higher validity, a neutral response alternative was included. The items used to measure the media channel construct were adapted from Ahmad and Murad (2020) and Billore and Anisimova (2021). The items for measuring the construct of media content and WOM were adapted from Li *et al.* (2021) and Ahmad and Murad (2020).

Gender	Freq	Percent	Cum
Male	252	44.13	44.13
Female	314	54.99	99.12
Transgender	1	0.18	99.30
Non-binary	2	0.35	99.65
No answer	2	0.35	100.00
Marital status	*Freq*	*Percent*	*Cum*
Single/never married	166	29.07	29.07
Married	261	45.71	74.78
Partnered	60	10.51	85.29
Divorced/separated	67	11.73	97.02
Widowed	17	2.98	100.00
Total	571	100.00	
Work status	*Freq*	*Percent*	*Cum*
Employed full-time	203	35.55	35.55
Employed part-time	88	15.41	50.96
Self-employed	25	4.38	55.34
Unemployed/looking for work	48	8.41	63.75
Unemployed/not looking for work	39	6.83	70.58
Retired	126	22.07	92.64
Full-time student	15	2.63	95.27
Part-time student	3	0.53	95.80
Other	20	3.50	99.30
No answer	4	0.70	100.00
Annual income	*Freq*	*Percent*	*Cum*
Below 44,999	198	34.68	34.68
45,000–54,999	65	11.38	46.06
55,000–64,999	55	9.63	55.69
65,000–74,999	36	6.30	62.00
75,000–84,999	34	5.95	67.95
85,000–94,999	24	4.20	72.15
95,000–104,999	3	5.78	77.93
105,000 and above	86	15.06	92.99
Residential area	*Freq*	*Percent*	*Cum*
Urban	145	25.39	25.39
Suburban	358	62.70	88.09
Rural	68	11.91	100.00
Total	*571*	*100.00*	

Table 1.
Sample demographics

Source(s): Authors' own creation

A five-point Likert-type scale was deemed appropriate to measure how communication channels shaped consumer perceptions regarding pandemic-related information.

The construct of negative emotional well-being was assessed by asking respondents how frequently they experienced negative emotions during the COVID-19 pandemic. Prior research recognised the importance of self-reported subjective measures of well-being (e.g. Peluso *et al.*, 2021). To operationalise negative well-being, we adapted seven negative affective states (anxiety, fear, frustration, withdrawal, sadness, feeling out of control and confusion) from Peluso *et al.* (2021). Psychological withdrawal is often viewed as an ego-depletion phenomenon associated with self-regulation failures (Baumeister *et al.*, 2007). According to Peluso *et al.* (2021), these measures were based on expertise from social psychology, as they could accurately capture the negative emotional states felt by many during the pandemic. Similarly, a six-point Likert scale was used to measure negative affective states.

3.3 Common method bias

Since this was a cross-sectional survey, efforts were made to decrease common method bias (CMB). We conducted vigilance for CMB on two levels – procedural and statistical. For procedural vigilance, we first conducted the data collection based on a randomised data collection approach, where the questions were shuffled to reduce response bias (Surira *et al.*, 2024). For this, the data collection agency ensured that the order for the items in the grid questions was randomised. Secondly, our survey included a psychological separation approach by discussing COVID-19 as the context of our study at the beginning of the survey (Jordan and Troth, 2020). Thirdly, we ensured that the survey instrument included a temporal separation in how the questions were posed to the respondents. In line with Podsakof *et al.* (2003), temporal separation was achieved by placing the demographic questions between the predictor and the criterion variables, so that the measurement of the predictor criterion or independent variables would not appear to be connected to criterion or dependent variables.

For statistical vigilance, we tested for CMB using Harman's single factor test (Kock *et al.*, 2021; MacKenzie and Podsakoff, 2012; Abror *et al.*, 2022; Tan *et al.*, 2022; Shah *et al.*, 2022; Surira *et al.*, 2024). CMB is present if an exploratory factor analysis (EFA), including all study variables, reveals one factor accounting for more than 50% of the variance. We ran a non-rotated EFA using principal axis factoring while deliberately constraining the number of extracted factors to one (Fuller *et al.*, 2016; Podsakoff *et al.*, 2003). Since our results were 37.8% against a threshold level of 50%, there was no indication of CMB in our study. This is also in line with extant literature, (e.g. Rindfleisch *et al.*, 2008; Cote and Buckley, 1987) that highlights that 35% is an acceptable threshold for studies in consumer psychology. These measures are also reflected in our studies, and hence, CMB is not suspected in our study (Babin *et al.*, 2016; Tan *et al.*, 2023).

3.4 Reliability, validity and multicollinearity

The reliability of the measurement with low-correlated items were removed, and a majority of Cronbach α were between 0.78 and 0.94, which exceeds the threshold of 0.7 (Nunnally, 1978). Content validity was ensured in two ways. First, we employed established measures. Additionally, several experts from the market research industry reviewed the survey to ensure meaningful data collection in the final version. Multicollinearity, which could have been a potential concern, particularly with the three media variables feeding on the FoMO, was checked. Correlations between these variables were moderate (<0.5). To check for convergent validity, we ran a confirmatory factor analysis (CFA) using Stata 17 to assess the validity of our multi-item constructs. Table 2 shows their factor loadings. All are within the acceptable range (Hair *et al.*, 2010), statistically significant ($p < 0.001$), and average variance extracted (AVE) for each construct exceeds 0.5. This indicates convergent validity (Fornell and Larcker, 1981).

In addition, discriminant validity between the constructs is present because the square root of AVE for each construct exceeds its correlation with the other constructs (Fornell and Larcker, 1981), as shown in Table 3.

3.5 Analytical approach

As the measurement of panic buying in the survey data was implemented using a categorical outcome variable (yes, no and do not know), generalised structural equation modelling (GSEM) was chosen to test the hypotheses. This is because GSEM can accommodate not only continuous data but also binary and categorical data as GSEM is a combination of a generalised linear model (GLM) and structural equation model (SEM) estimation (Zhang and Zhang, 2018). Given the variability in sample sizes associated with SEM approaches, Wolf *et al.* (2013) state that the required sample sizes can range between 30 and 460 for research

Construct	Item	Loading
Media channels	Popular media (TV)	0.69***
AVE = 0.53	Popular media (radio broadcast)	0.70***
	Entertainment services (e.g. games and streaming)	0.65***
	Popular media (newspapers, magazines etc.)	0.70***
	Government directives	0.76***
	Government recommendations	0.77***
	Government support schemes and assistance	0.77***
	Social platforms (Facebook, Twitter, Snapchat, TikTok, WhatsApp, etc.)	0.65***
		0.65***
	Social media influencers (popular hashtags, e.g. #stay at home)	0.75***
	Communication from public health and safety authorities	0.76***
	Press conferences from public health and safety authorities	0.77***
	Direct posts and leaflets, handouts etc. from public health authorities	0.72***
	Business interventions (e.g. shops deciding to close down)	0.79***
	Official websites dedicated to COVID-19	0.80***
	Display of information in public spaces and transport	
Media content	News about stockpiling	0.74***
AVE = 0.67	Conversations, hashtags and images about stockpiling on social media	0.86***
	News about social distancing	0.74***
	Conversations, hashtags and images about social distancing on social media	0.93***
		0.69***
	News about the lockdowns and restrictions	0.91***
	Conversations, hashtags and images about lockdowns and restrictions on social media	
Word-of-mouth	Family and relatives living in your country	0.70***
AVE = 0.60	Family and relatives living outside of your country	0.74***
	Peers and Friends	0.81***
	Work colleagues	0.81***
	Social platforms (Facebook, Twitter, Snapchat, TikTok, WhatsApp, etc.)	0.79***
		0.80***
	Independent opinion makers and commentators, journalists etc.	0.81***
	Independent dedicated COVID-19 websites	0.72***
	Websites hosted by health professionals	0.80***
	Other sources for the COVID-19-related questions such as Chatbots, SIRI, etc.	
Self-regulation	I exhibit self-control in frustrating situations	0.69***
AVE = 0.51	I cope well with difficult and important problems	0.70***
	I am able to pursue my goals when I get motivated	0.69***
	I am capable of exhibiting self-control in tempting situations	0.77***
	I am skilled in maintaining emotional self-control even when I am facing social exclusion	0.75***
		0.77***
	I am capable of maintaining self-control when I feel frustrated	0.74***
	Typically, I can effectively pursue my goals	0.60***
	If I have to postpone a desired gratification, I can divert my attention from feeling frustrated about it	

Table 2.
Constructs and convergent validity

(*continued*)

Construct	Item	Loading
FoMO *AVE = 0.66*	Feeling anxious about my present and future during the COVID-19 pandemic triggers me to buy more than I normally would	0.86***
	Feeling stressed for my family needs during the COVID-19 pandemic makes me buy more than I normally would	0.88***
	My fear of missing out on essential daily goods during the COVID-19 pandemic triggers me to buy more than I normally would	0.86***
	The pressure to compete with other shoppers during the COVID-19 pandemic makes me want to buy more than I normally would	0.87***
	Seeing empty shelves in the media triggers me to buy more than normally would	0.86***
	When I see empty shelves in stores during shopping, I buy more than I usually would	0.87***
	Anticipating a supply shortage due to the COVID-19 pandemic makes me buy more than I normally would	0.86***
	I buy more than I normally would when I am in the presence of large crowds of other shoppers	0.83***
	I buy more than I normally would because of the anxiety I feel from an existing or future lockdowns	0.90***
	The change in the opening hours has triggered me to purchase more items than I would normally do	0.83***
	The sizes of a product will be very limited during COVID-19	0.70***
	The products that I feel I want to buy will be very limited during COVID-19	0.76***
	I buy more than I normally would because of a potential increase in the price of products	0.80***
	I buy more that I normally would because I feel anxious about practicing social distancing	0.85***
	I shop online because I want to avoid any exposure to COVID19 problems	0.60***
	When shops restrict the number of items of a desired product that I want to buy, I go to multiple stores	0.77***
	The brand availability for the products I usually buy will be very limited during COVID-19	0.75***
	The types of products will be very limited during COVID-19	0.72***
Negative consumer well-being *AVE = 0.65*	Anxiety	0.83***
	Fear	0.81***
	Frustration	0.73***
	Withdrawal	0.83***
	Sadness	0.81***
	Feeling of being out of control	0.84***
	Confusion	0.79***

Source(s): Authors' own creation

Table 2.

studies. Generalised structured component analysis has been used in marketing and psychometric literature as an alternative to SEM (Hwang and Takane, 2004; Hwang *et al.*, 2010). The analysis represents a component-based approach to SEM (Tenenhaus, 2008) and maintains all the advantages of partial least squares as a component-based SEM methodology (Hwang *et al.*, 2010) and the overall measures of model fit (Hwang and Takane, 2004). In addition, while SEM fits models to single-level data, GSEM fits models to single-level *or* multi-level data such as including models with higher complexity such as mixed effects and unobserved effects within data analysis (Baum, 2016). Hence, a generalised structured component analysis was adopted as the analytical approach in our study. Statistical analyses were conducted using Stata 17.

4. Results

As shown in Tables 4 and 5, traditional media channels were found to have a negative and statistically significant influence on consumer self-regulation ($\beta = -0.134$, $p < 0.05$), which supports H1. This finding echoes Nyrhinen *et al.* (2024), who found that information overload

	1	2	3	4	5	6
1 Media channels	*0.73*					
2 Media content	0.69	*0.82*				
3 Word-of-mouth	0.76	0.70	*0.77*			
4 Self-regulation	−0.14	−0.14	−0.24	*0.71*		
5 Fear of missing out	0.59	0.65	0.64	−0.30	*0.81*	
6 Negative consumer well-being	0.29	0.36	0.37	−0.36	0.42	*0.80*

Table 3. Pairwise correlations and discriminant validity

Note(s): The square root of AVE for each of the six multi-item constructs is reported in bold on the main diagonal. As can be seen, discriminant validity applies as the square root of AVE for each construct in all cases exceeds the correlation between constructs
Source(s): Authors' own creation

Hypothesis	Coefficient	Support
H1	$\beta = -0.134$, $p < 0.05$	Yes
H2	$\beta = 0.134$, $p < 0.001$	No
H3	$\beta = -0.139$, $p < 0.05$	Yes
H4	$\beta = -0.288$, $p < 0.001$	Yes
H5	$\beta = 0.900$, $p < 0.001$	Yes
H6	$\beta = 0.573$, $p < 0.001$	Yes

Table 4. Hypotheses results

Source(s): Authors' own creation

	Coeff	SE	Z	P>|z|	[95% CI]	
slfReg_cov19						
Media channels	−0.134	0.062	−2.15	0.032	−0.256	−0.0118
Media_Content	0.134	0.038	3.50	0.000	0.058	0.2096
WOM	−0.139	0.069	−2.00	0.045	−0.275	−0.0028
_cons	0.331	0.129	2.56	0.011	0.077	0.5863
panic_buying						
FoMO	0.900	0.852	10.57	0.000	0.733	1.068
_cons	−2.941	0.326	−9.01	0.000	−3.58	−2.301
negAffReacC19						
panic_buying	0.573	0.082	6.99	0.000	0.412	0.734
_cons	−0.346	0.063	−5.43	0.000	−0.471	−0.221
FoMO						
slfReg_cov19	−0.288	0.057	−4.99	0.000	−0.401	−0.174
_cons	3.875	0.057	67.19	0.000	3.762	3.988
var(e.slfReg_cov19)	0.966	0.057			0.860	1.085
var(e.negAffReacC19)	0.919	0.054			0.818	1.032
var(e.FOMO)	1.899	0.112			1.691	2.133

Table 5. p-values of the study constructs

Note(s): *$p < 0.5$; **$p < 0.01$; ***$p < 0.001$
Source(s): Authors' own creation

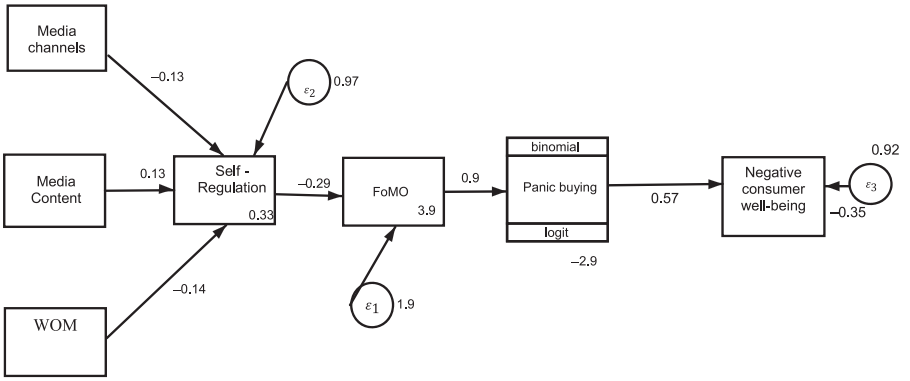
from multiple channels can disrupt consumer self-regulation. Contrary to expectations, we found that media content had a positive and significant influence on consumer self-regulation ($\beta = 0.134$, $p < 0.001$). Given this surprising finding, H2 is rejected. One explanation for the outcome for H2 is that the more consumers interact with the same media content, the stronger their self-regulation efforts. In line with Baumeister and Vohs (2007), some consumers may develop a sense of immunity to distressing media content and seek opportunities for conscious self-regulation. WOM has a negative and significant influence on consumer self-regulation ($\beta = -0.139$, $p < 0.05$). Hence, H3 is supported. This finding is in line with Blazevic *et al.* (2013) and Nyrhinen *et al.* (2024), who found that WOM triggers self-regulation failures (Figure 1).

Individual self-regulation was found to have a negative and significant influence on FoMO ($\beta = -0.288$, $p < 0.001$). Support for H4 reiterates the notion that when individuals practice self-regulation, they are less likely to resist negative feelings (Alt and Boniel-Nissim, 2018) of unmet social needs that are often followed by irrational behaviours to maintain social connections (Gupta and Sharma, 2021). Likewise, this finding confirms Inzlicht *et al.* (2021), who highlight that braking systems override or decrease approach behaviour by triggering a sense of control (Carver and Scheier, 2012). We found that FoMO has a positive and significant influence on panic buying ($\beta = 0.900$, $p < 0.001$), which is in line with Cham *et al.* (2023), Prentice *et al.* (2022) and Alquist and Baumeister (2023). Hence, H5 is supported.

H6 is also supported, as panic buying was related to an increase in consumers' negative emotions ($\beta = 0.573$, $p < 0.001$). This result is in line with Lins and Aquino (2020) and Tse *et al.* (2022). This result thereby extends the scope of discussion regarding the relationship between panic buying and negative consumer well-being.

5. Discussion

Our study examined social and psychological factors that influence negative mental consumer well-being in the context of panic buying. It is evidenced that self-regulation has a higher capacity to abort or minimise media and WOM-induced apprehensions regarding scarcity amid manipulated scenarios of shortage. In line with previous studies (Prentice *et al.*, 2022; Gallagher *et al.*, 2017; Ahmad and Murad, 2020), we argue that media should be more responsible and less sensationalist (Anisimova *et al.*, 2024), as self-regulation failures induced by external factors can trigger impulsive purchasing (Nyrhinen *et al.*, 2024).



Source(s): Authors' own creation

Figure 1.
Research model

A positive influence of media content on self-regulation emerged as an unexpected outcome. This implies that self-regulation can act as a "muscle" in two ways: first, when self-regulation behaviour is trained for a better performance, and second, when self-regulation is reduced due to an individual's ego-depletion (Baumeister and Vohs, 2007) and desensitisation towards media. This suggests that – based on different regulatory approaches – people can exhibit different filtering mechanisms relative to media content. This filtering can impact subsequent consumption behaviours and self-regulation-based decision-making.

The results of our study suggest that FoMO can lead to panic buying, and that trigger can be controlled by individual self-regulation. In situations of herd behaviour, where people may not be able to distinguish between authentic and hyped situations (Loxton *et al.*, 2020), a higher sense of self-regulation lowers FoMO and prevents people from panic buying. By encouraging behavioural mindfulness, individuals can exhibit altruistic attitudes and enhance their power of self-regulation to move beyond self-centricity and atomistic tendencies (Tan, 2021). In terms of the link between panic buying and negative well-being, and in line with Lins and Aquino (2020) and Tse *et al.* (2022), we demonstrate that panic buying causes negative emotional reactions and harms psychological consumer well-being.

6. Theoretical and practical implications

Our first and key theoretical implication is that self-regulation plays an important role in counteracting FoMO. By focusing on the context of panic buying, we aimed to extend previous work investigating the aftereffects of the strength model of self-control, also referred to as self-regulation (Baumeister *et al.*, 2007, 2008), in the diverse sub-domains of psychology research related to eating, drinking, spending (i.e. consumption) and decision-making (Baumeister *et al.*, 2007). Baumeister's Strength Model (2007), which served as a theoretical anchor in our study, offered the useful analogy arguing that self-regulation is like a muscle, which can be strengthened if practiced in offsetting FoMO. Our finding that self-regulation acts as a braking mechanism on FoMO and is in accordance with previous research and the aforementioned analogy (Alt and Boniel-Nissim, 2018; Carver, 2005; Inzlict *et al.*, 2021), thus providing a mechanistic insight that consumers who self-regulate are less likely to succumb to FoMO.

Secondly, our findings imply that media consumption makes people less likely to self-regulate and to use their capacity to process media information in a non-depleted manner. Thirdly, we demonstrate that FoMO leads to panic buying, thereby contributing to the previous research on irrational consumer responses when dealing with uncertain situations (Yuen *et al.*, 2020; Cham *et al.*, 2023; Alquist and Baumeister, 2023). Finally, we respond to calls regarding a need for more empirical research regarding the link between irrational consumption and mental well-being (Milton, 2022). Our findings demonstrate that panic buying manifests in negative consumer well-being and thereby further extend the literature that signalled the negative effects of panic buying on psychological consumer well-being (e.g. Lins and Aquino, 2020; Tse *et al.*, 2022).

From the practical perspective, policymakers could help emotionally vulnerable individuals better engage in self-control practices through support programmes and workshops aimed at assisting the public in coping with overwhelming and intense adverse emotions experienced during and following various crises. Furthermore, responsible and measured communication is critical to avoid provoking negative FoMO that results in panic buying (Billore and Anisimova, 2021). Attention needs to be drawn to policy-based interventions and risk-mitigation methods that can encourage the public to practice self-regulation. Concerted efforts should be made by public policymakers to normalise the act of self-regulation and embed it in the fabric of everyday life through education and awareness (Billore *et al.*, 2023).

7. Future research directions and limitations

The limitations of this study are associated with the use of self-report measures in online surveys and measuring data at one point in time. Future researchers can also apply a longitudinal research design for new insights. Since self-regulation may manifest differently culturally because of varied socio-cultural and political influences on panic creation and resolution, future research is encouraged to examine the link between self-regulation and consumer mental well-being in different cultural contexts. This would enable communication policymakers and practitioners to devise communications based on a better understanding of consumer regulatory focus. Finally, vulnerable cohorts, particularly the younger generation, who are arguably more susceptible to FoMO, need to be studied more thoroughly in the marketing domain.

8. Conclusion

Self-regulation has been examined as a brake mechanism that offsets consumer FoMO in the context of panic buying in Australia during the COVID-19 pandemic. Our core finding that self-regulation offsets FoMO significantly augments and contributes to the previously limited marketing research by demonstrating that having individuals acquire and practice skills of self-regulation might help them control their levels of FoMO. Furthermore, we complement existing psychology research regarding the favourable effect of emotion regulation on well-being. Such emotion regulation can be instrumental for developing resilience in times of crisis and uncertainty.

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