The effect of perceived scarcity of staple goods on stockpiling behaviour and impulse purchase intention and the mediating role of social media

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Abstract: The research's goal in this setting is to uncover the effects of consumers' perceived scarcity of staple goods on impulse buy intention and stockpiling behaviour, as well as to determine the function of social media posts in mediating these effects. 594 consumers who had recently purchased staple goods from grocery stores participated in the survey. As a result of the structural equation model analysis, it was determined that perceived scarcity of staple goods has a positive effect on impulse purchase intention, stockpiling behaviour and social media. Finally, it was also determined that social media sharing has a mediating role on the effect of perceived scarcity of staple goods on impulse purchase intention and stockpiling behaviour. The findings obtained provide important theoretical and practical contributions.

Keywords: perceived scarcity; stockpiling behaviour; impulse purchase intention; social media.

Biographical notes: Ibrahim Avci started working as a Lecturer at Istanbul Şişli Vocational School. In 2017, he transferred to Gümüşhane University and in the same year, he started his Doctoral studies at Gümüşhane University, Department of Business Administration. He completed his Doctorate degree in 2021 and was appointed as an Assistant Professor in 2022. In 2024, he continued his academic studies at the same university as an Associate Professor in the field of Marketing.

1   Introduction

Recently, there have been several events that have affected the whole world and people have had to cope with. These crises, which started with the COVID-19 pandemic, developed with forest fires, disasters, earthquakes, and economic recession, and continued with the Russia-Ukraine war, also caused changes in consumer behaviour. Due to these crises, food prices are also increasing and this is expected to increase inflationary pressures (Uzun, 2023). Consumers engage in stockpiling behaviour both to avoid

shortages that may occur as a result of problems in supply due to the food crisis and to minimise the increases in food prices due to inflation. Staple goods are the products that consumers stock the most in crisis environments (Roy et al., 2020). Stockpiling behaviour is based on many different factors and one of these factors is perceived scarcity. This concept, which is expressed as people's limited access to a product or service, leads consumers to stockpiling behaviour. Consumers engage in impulse buying and stockpiling behaviour when they perceive that there is a problem in the supply of staple goods and that it will be difficult to access this product shortly. For example, due to the recent Russia-Ukraine war, there were problems in the supply of sunflower oil and sunflower oil was not available in the markets. The available sunflower oil was purchased and stocked by consumers more than the needed. In many previous researches (Sim et al., 2020; Omar et al., 2021), it has been reported that the perceived scarcity of a product has an impact on impulse purchase intention and stockpiling behaviour.

Another factor that influences consumers to panic, buy more products, and stock up is social media. Social media platforms, whose number and users have been increasing day by day, especially in recent times, are channels where socialising in virtual environments, and sharing personal elements such as photos, videos, thoughts, and false/true information are available. These platforms, which are also used to access information, are also effective in the purchasing behaviour of consumers. Many researches argue that social media has significant effects on purchasing behaviour (Küçüközcan and Durak, 2021; Kumar et al., 2024). Posts on social media platforms about the scarcity of staple goods may encourage consumers to stock up and make impulse purchases. Especially during the pandemic, photos of empty shelves in markets and videos of people queuing for shopping were shared on social media platforms, and consumers who saw these posts panicked and flocked to the markets (Raj et al., 2019). Therefore, perceived scarcity turned into real scarcity through social media, and consumers' stockpiling behaviours increased. Given the relationship between perceived scarcity, impulse purchase intention, stockpiling behaviour, and social media, the primary question in this research is whether customers' recent perceived scarcity of staple goods affects impulse purchase intention and stockpiling behaviour. Another question is: how do social media posts influence the effect of perceived scarcity on impulse purchase intention and stockpiling behaviour? Previous researches (Naeem, 2021; Wu et al., 2021) have revealed the relationship between perceived scarcity, impulse purchase intention, and stockpiling behaviour, but the role of social media in this relationship has not been investigated. The inclusion of social media in the current research reveals the rationale and importance of the research. In addition, considering that the researches are usually conducted during the pandemic, the fact that the current research is being conducted after the pandemic is considered to be important in terms of determining whether consumers continue to engage in stockpiling and impulse purchase behaviours.

The research is divided into five sections: Section 1 consists of the introduction, Section 2 includes the conceptual framework and hypothesis development section where relevant variables are explained, literature is reviewed and hypotheses are developed; Section 3 includes the research methodology section with information on data collection and research instruments; Section 4 includes the findings section where the structural model and research hypotheses are tested. Section 5 includes a discussion and conclusions, theoretical and practical contributions, research limitations and recommendations.

2   Conceptual framework and hypothesis development

2.1   Stockpiling behaviour

Stockpiling behaviour is defined as small and large-scale impulse purchasing and stockpiling, especially in times of disaster, war and crisis (Yuen et al., 2020). In addition to the perceived scarcity, consumers' stockpiling behaviour is based on the instinct to protect themselves and their families. In addition, psychological factors such as a sense of uncertainty, and concern that the individual's economic situation will not be able to cope with this scarcity, panic, and herd behaviour are also effective in stockpiling behaviour. When a panic environment occurs, consumers cannot act rationally, and they buy more of the products they need, causing the supply market to become unbalanced (Talwar et al., 2021). With stockpiling behaviour, market shelves become empty and other consumers cannot buy the products they need (Long and Khoi, 2020). Especially during the recently left-behind pandemic process, there has been an increase in consumers' stockpiling behaviour. Omar et al. (2021) found that consumers engage in stockpiling behaviour when they perceive that the store will run out of products due to the pandemic. As a result, consumers engage in stocking behaviour for themselves or their families due to reasons such as stress, anxiety, fear and uncertainty (Zulfikar and Roostika, 2022). Naeem (2021) stated in his research that consumers stock up without any advertisement or discount, only due to panic buying behaviour as a result of stockouts or misinformation. Therefore, perceived scarcity causes consumers to buy products that are perceived to be scarce in bulk, which leads to an increase in demand, stockpiling behaviour, and eventually actual scarcity (O'Brien et al., 2020).

2.2   Impulse purchase intention

Impulse purchasing occurs when consumers feel an intense desire to purchase any product immediately (Parsad, 2020). Much research in the literature contends that in any crisis situation, impulse purchasing behaviour increases (Kim, 2020; Addo et al., 2020). One of the impulse purchasing behaviours is the panic buying behaviour of consumers in panic due to perceived scarcity. Consumers who see that products are scarce and people are buying in panic also engage in stockpiling behaviour before others buy (Herjanto et al., 2021). Impulse purchasing occurs when consumers engage in unplanned purchase behaviour due to their emotions that are influenced by different factors they are exposed to. Therefore, consumers do not have any purchase desire for that product before entering a market. They are influenced by many cognitive and affective factors at the time of purchase (Coley and Brigitte, 2003; Digout et al., 2017). The most basic characteristic of impulse purchasing is that the impulse and decision to purchase occur during shopping. This type of purchase is also influenced by the suggestions offered to consumers during shopping. The stimuli that the consumer is exposed to during shopping create a new need in the consumer and lead to impulse purchasing (Divakar and Venkatesh, 2024).

2.3   Perceived scarcity

Perceived scarcity refers to people's expectation that the needed product will not be available for any reason (Sheu and Kuo, 2020). Perceived scarcity is also explained as people's limited access to a product or service. According to reactance theory, perceived

scarcity means an obstacle to personal freedom and consumers try to obtain some products with the motive that they will not be able to access them soon (Worchel and Brehm, 1971 cited in Chua et al., 2021). Limiting consumers' freedom of access to a product or service may lead consumers to stock up and purchase with the instinct of protection (Gupta and Gentry, 2019). Perceived scarcity makes products and services that are perceived to be limited more attractive and directs consumers to impulse purchasing and stockpiling behaviour. Previous research has found that perceived scarcity influences customers' purchase intentions in the retail industry (Yuen et al., 2020; Arafat et al., 2021; Wu et al., 2021). When consumers perceive that there will be a supply problem with any product, in other words, when they perceive that access to that product will be scarce, they may engage in both impulse purchasing and stocking behaviour (Sterman and Dogan, 2015; Sim et al., 2020). In their research, Omar et al. (2021) argued that consumers' perceived scarcity of products in grocery stores causes impulse purchasing hypotheses listed below were developed in this context:

H1   Perceived scarcity of staple goods has a positive effect on stockpiling behaviour.

H2   Perceived scarcity of staple goods has a positive effect on impulse purchase intention.

2.4   Social media

Social media is a space that digitally connects people around the world. It is, in other words, a digital platform that allows users to create and share knowledge via virtual communities and social networks (Chen et al., 2017). Through social media, people can instantly share their photos, videos, activities, personal interests, and other information with other people. However, in addition to its advantages, social media can also cause fear and anxiety among consumers. During the pandemic, people spent more time at home and spent more time on social media, and some posts on social media platforms caused people to panic (Ahmad and Murad, 2020). In a crisis environment, panic purchasing behaviour may develop in the form of following the crowd or herding behaviour. Images of empty shelves or images of people stocking up shared in the media may cause other people to engage in stocking behaviour (Van Bavel et al., 2020). At the centre of crowd psychology is the principle of social proof, which is based on the idea that people watch how others think and behave and take action accordingly. Shopping behaviours seen on communication channels such as social media are perceived as the general behaviour of society, and as a result, consumers exhibit the same behaviour (Prentice et al., 2022). Especially during the pandemic, the toilet paper crisis and the sharing of images of empty shelves in markets on social media gave the public a message of scarcity (Raj et al., 2019). Considering these researches, the following hypothesis was developed:

H3   Perceived scarcity of staple goods has a positive effect on social media posts.

There are also researches in the literature that conclude that social media has an impact on consumers' purchase intentions and purchase behaviours (Kumar et al., 2024). Similarly, some researches conclude that social media has an impact on impulse purchasing (Sharma et al., 2018; Küçüközcan and Durak, 2021). In addition to situational factors such as scarcity, social factors such as social networks be effective in impulse

purchasing (Yuen et al., 2020; Herjanto et al., 2021). Posts on various social media platforms about the scarcity of medical supplies, especially during the pandemic, have played an important role in shaping consumers' perceptions (Islam et al., 2020). When consumers perceive a shortage of any product, they are affected by herd instinct, and especially the posts made in the media about this shortage trigger this situation. Excessive exposure to news in the media during such crisis periods increases anxiety in people and paves the way for stockpiling behaviour. When consumers see posts or comments on different social media channels or other communication channels about the shortage due to any crisis, they develop attitudes toward purchasing and stocking (Ardyan et al., 2021). Uysal (2022) argued in his research that the media often encourages panic purchasing and that people who are exposed to more news are more likely to stock up due to anxiety. In addition, sharing news about the depletion of staple goods on social media further reinforces impulse buying behaviour (Roy et al., 2020). Photos, stories, and videos shared on social media about people queuing up to buy the products they need at some shopping points lead others to stockpiler behaviour (Haudialwan, 2023). The following hypotheses were proposed in light of the links between social media, stockpiling and impulse purchasing:

H4   Social media posts have a positive effect on stockpiling behaviour.

H5   Social media posts have a positive effect on impulse purchase intention.

2.5   Mediation effect

In the research, the mediating role of social media posts in the effect of perceived scarcity on stockpiling behaviour and impulse purchase intention is also examined. When the literature is examined, there are researches in which social media is used as a mediating variable (Sezgin and Altay, 2021; Nasidi et al., 2022), but a mediating relationship within the scope of the variables in the current research has not been investigated before. Yiğit and Yiğit (2022) determined that social media has a partial mediating role in the effect of hedonic consumption on impulse purchasing. Pelenk Özel and Ağca (2022) discovered that social media plays a mediation function in the association between fear of missing out and impulse purchasing. Therefore, it is obvious that social media has a mediating role in the influence of many factors affecting consumer behaviour or purchase intention (Moujabber, 2023). However, there are no researches on the mediating role of social media in the effect of perceived scarcity on related variables. Consumers' posts on social media platforms regarding the perceived scarcity of staple goods may trigger stockpiling behaviour and impulse purchase intentions of other consumers who see these posts. In this regard, the following mediation hypotheses were proposed:

H6   Social media posts have a mediating role in the effect of perceived scarcity of staple goods on stockpiling behaviour.

H7   Social media posts have a mediating role in the effect of perceived scarcity of staple goods on impulse purchase intention.

Figure 1   Proposed model (see online version for colours)
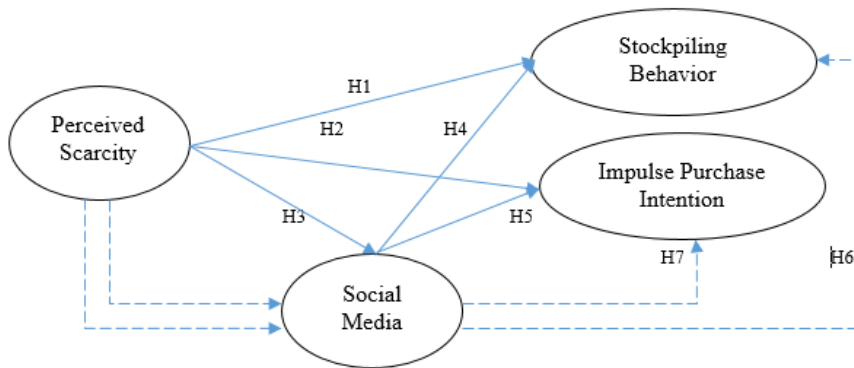
3   Research methodology

3.1   Characteristics of data collection and samples

The population of the research consists of all consumers who shop for staple goods from grocery stores. To reach customers faster and at a cheaper cost, as well as to ensure that all consumers could participate in the survey, the convenience sampling method, a non-random sample approach, was adopted. Convenience sampling is popular because it is cost-effective, takes less time than other sampling procedures, and is simple. Convenience sampling is beneficial for generating prospective hypotheses or research objectives. Thus, the chosen sampling method is appropriate for the research sample. An online questionnaire was employed to collect data in the survey-based research. Before applying the created survey form, ethics committee approval was received from Gumushane University Scientific Research and Publication Ethics Board (meeting numbered 2023/4 dated 29/08/2023). The link to the online survey prepared via Google Forms was shared via social media platforms and short messaging applications such as WhatsApp and Telegram by providing information about the research. By adding the filter question 'Have you recently purchased staple goods from grocery stores?' to the introduction section of the survey, consumers who have recently purchased staple goods from grocery stores were enabled to participate in the survey. The survey link was left active during July and August 2023, and 732 individuals completed it. Since 138 of the consumers who participated in the survey answered 'no' to the filter question, the data of 594 participants were taken into account and analysed with these data. Since the data was collected online and the survey questions were compulsory, no missing data was identified. Table 1 provides descriptive information on the consumers who participated in the survey.

   In addition, the information on the markets where the respondents shop the most and the staple goods they shop the most from these markets was also obtained. The markets where the respondents shop the most are BIM (39.7%), A-101 (28.6%), Migros (10.8%), ŞOK (7.9%), Carrefoursa (1.9%) and others (11.1%). The most frequently purchased staple goods from these markets were dairy products (28.1%), dried legumes (17.8%), pasta (15.2%) and oil (11.1%), respectively.

Table 1   Demographic statistics of the sample

Demographic characteristics		Total number of participants (N) = 594 Frequency	Percentage
Gender	Males	382	64.3
	Females	212	35.7
Marital status	Married	202	34
	Single	392	66
Age	17 years and below	27	4.5
	18–28	396	66.7
	29–39	113	19
	40–50	52	8.8
	51–61	5	0.8
	62 years and above	1	0.2
Education status	Primary	41	6.9
	Secondary	207	34.8
	Associate degree	133	22.4
	Undergraduate	193	32.5
	Post-graduate	20	3.4
Income status	10,000 TL and below	146	24.6
	10,001–15,000 TL	235	39.6
	15,001–20,000 TL	112	18.9
	20,001–25,000 TL	48	8.1
	25,001 TL and above	53	8.9
Occupation	State	66	11.1
	Private	112	18.9
	Self-employment	59	9.9
	Retired	7	1.2
	Student	192	32.3
	Not working	124	20.9
	Others	34	5.7

Note: TL: Turkish lira.

3.2   Measures/research instrument

The data was gathered using an online questionnaire created with Google Forms. The first part of the questionnaire, which consists of four sections, includes a filter question for the participation of consumers who have recently purchased staple goods from grocery stores, the second part includes three frequency questions about the shopping behaviour of the participants, the third part includes 18 items related to the independent, dependent and mediator variables of the research, and the last part includes descriptive questions about the demographic characteristics of the participants. Validated multi-item scales developed from prior researches on the issue were preferred in the research, and

these scales were rated using a fivr-point Likert-type scale. Among the scales used in the research, perceived scarcity was measured with five items (Singh et al., 2023), stockpiling behaviour with five items (Lins and Aquino, 2020; Omar et al., 2021), social media with five items (Arafat et al., 2021) and impulse purchase intention with three items (Gupta et al., 2021). Because the scales used in the research are in English, they were translated into Turkish using the translation-reverse translation method; a pretest was conducted on an expert academician and nine consumers to guarantee the scales' content validity. After the pretest, data were collected after a few corrections were made to the questionnaire form in line with the feedback of experts and consumers. The data obtained during the pretest phase were not included in the analyses to avoid skewness problems.

4 Results

4.1 Measurement model

SPSS 21 and AMOS 24 package programmes were used to analyse the research data. While the SPSS programme was used to perform normality, reliability, and validity assessments, the AMOS programme was employed to test the structural model and hypotheses. The research of structural equation models was utilised to investigate the mediating interactions between the research variables. Since the mediation tests proposed by Baron and Kenny (1986) were found to be inadequate in traditional mediation analyses, the bootstrap technique, which provides more reliable results with structural equation modelling (SEM) analysis, was chosen. Full mediation occurs when the relationship between the independent and dependent variables becomes unimportant as a result of the mediating variable; partial mediation occurs when the relationship is decreased (Burmaoğlu et al., 2013). The goodness-of-fit values derived from SEM analysis are used to determine whether or not the research's structural model is compatible. The most commonly used goodness-of-fit values in the literature are ratio of chi-square statistics to the degree of freedom (df), root mean square error of approximation (RMSEA), comparative fit index (CFI), goodness-of-fit index (GFI), normed fit index (NFI), adjusted goodness-of-fit index (AGFI), Tucker-Lewis index (TLI) and incremental fit index (IFI).

First, normality analysis was used to determine whether or not the research data were normally distributed. George and Mallery (2016) argued that the skewness values obtained as a result of normality analysis should be in the range of –2 to +2 values and kurtosis values should be in the range of –7 to +7 values. All variables in the research had skewness and kurtosis values that were within the range of values. Cronbach's alpha (α) and composite reliability (CR) tests were employed to assess the scales' construct reliability, while average variance extracted (AVE) values were utilised to establish the constructs' discriminant and convergent validity (Hair et al., 2013). The following conditions must be met by measurement models: factor loadings for all indicators must be greater than 0.5 (Hair et al., 2010), α and CR values must be greater than 0.7 (Bagozzi and Yi, 1988), and AVE must be greater than 0.5 (Fornell and Larcker, 1981). Within the framework of this information, the information obtained regarding the research scales is given in Table 2.

Table 2   Results of internal consistency and convergent validity tests

Construct	Item	Standardised factor loading	Cronbach alpha (α)	CR	AVE
Perceived scarcity	PS1	0.427	0.739	0.757	0.517
	PS2	0.545			
	PS3	0.767			
	PS4	0.815			
	PS5	0.483			
Impulse purchase intention	IP1	0.741	0.745	0.753	0.506
	IP2	0.762			
	IP3	0.622			
Social media	SM1	0.451	0.829	0.832	0.558
	SM2	0.802			
	SM3	0.565			
	SM4	0.800			
	SM5	0.793			
Stockpiling behaviour	SB1	0.748	0.917	0.919	0.694
	SB2	0.817			
	SB3	0.872			
	SB4	0.892			
	SB5	0.829			

When Table 2 is inspected, it is discovered that the factor loadings of some of the research variables are less than 0.50. Therefore, items PS1 and PS5 of the perceived scarcity variable and SM1 of the social media variable were excluded from the analyses since their factor loadings were below 0.50. When the factor loadings, α, CR, and AVE values for each variable and factor were analysed, it was determined that all values obtained were above the reference values. The reliability and convergent validity of the research scales are ensured by these findings. Following convergent validity, the discriminant validity of the constructs was investigated. Discriminant validity is established by comparing the square root of the AVE value of each construct utilised in the research with the correlation coefficients of that construct with other constructs. As a result of this comparison, the square root of the construct's AVE value must be bigger than the construct's correlational values with other constructs in order to assure discriminant validity (Chin, 1998).

Table 3 shows that the research scales also have discriminant validity. The square root of each construct's AVE score is bigger than its correlation coefficients with other constructs. When the correlation coefficient values are examined, it is clear that all variables have a positive association. When relationships between variables are analysed, the relationship between perceived scarcity and social media is revealed to be the smallest, while the relationship between stockpiling behaviour and social media is found to be the strongest.

Table 3 Correlation of the constructs and test for discriminant validity

	Mean	*Std. deviation*	*PS*	*SB*	*SM*	*IP*
PS	3.7834	1.03119	*0.719*			
SB	2.6582	1.26220	0.290	*0.833*		
SM	2.9419	1.17368	0.284	0.696	*0.746*	
IP	3.3754	1.09332	0.335	0.327	0.382	*0.711*

Notes: Correlation is significant at the 0.01 level (2-tailed).
PS: perceived scarcity, SB: stockpiling behaviour, SM: social media and
IP: impulse purchase intention.

4.2 Structural model and hypothesis testing

The structural model of the research and the hypotheses defended within the scope of the model were tested using SEM. Mediation analysis was also performed in SEM because there are hypotheses on the mediation link between the research hypotheses. To explore the mediation effect in a model, Baron and Kenny (1986) recommend four steps. To begin, the independent variable should have a statistically significant effect on the dependent variable. The independent variable should have an effect on the mediating variable in the second step, and the mediating variable should have a significant effect on the dependent variable in the third step. When all variables are assessed combined in the final step, the effect of the independent variable on the dependent variable should be reduced or the link should become statistically insignificant (Kenny et al., 1998). When a mediating variable is used in a research, full mediation occurs when the relationship between the independent and dependent variables becomes statistically insignificant, whereas partial mediation occurs when the relationship between the independent and dependent variables retains its significance due to the mediating variable but the level of significance decreases (Mackinnon et al., 2002). Figure 2 depicts the structural model's SEM result, which also indicates the mediation effect. The goodness-of-fit values obtained after running the structural model is shown in Table 4.

Table 4 The goodness-of-fit values

Fit indices	x^2	*df*	x^2/df	*GFI*	*CFI*	*RMSEA*	*NFI*	*AGFI*
Good	$p > 0.05$	-	< 3	> 0.95	> 0.95	< 0.05	> 0.95	> 0.95
Acceptable			$3 < (x^2/df) < 5$	> 0.90	> 0.90	< 0.08	> 0.90	> 0.90
Structural model	269.237	85	3.167	0.943	0.960	0.060	0.943	0.919

Table 4 shows that all values obtained for the structural model are within the good and acceptable goodness-of-fit range (Tabachnick and Fidell, 2013) and the structural model shows a good fit with the research data. In the evaluation of the hypotheses formed within the scope of the research model, standardised direct and indirect effect coefficients, bootstrap, and p values were taken into consideration. Preacher and Hayes (2008) argue that for the mediation effect to be significant, the lower and upper bounds of the bootstrap confidence intervals of each hypothesis should be greater or less than zero. The results of the research hypotheses are presented in Table 5.

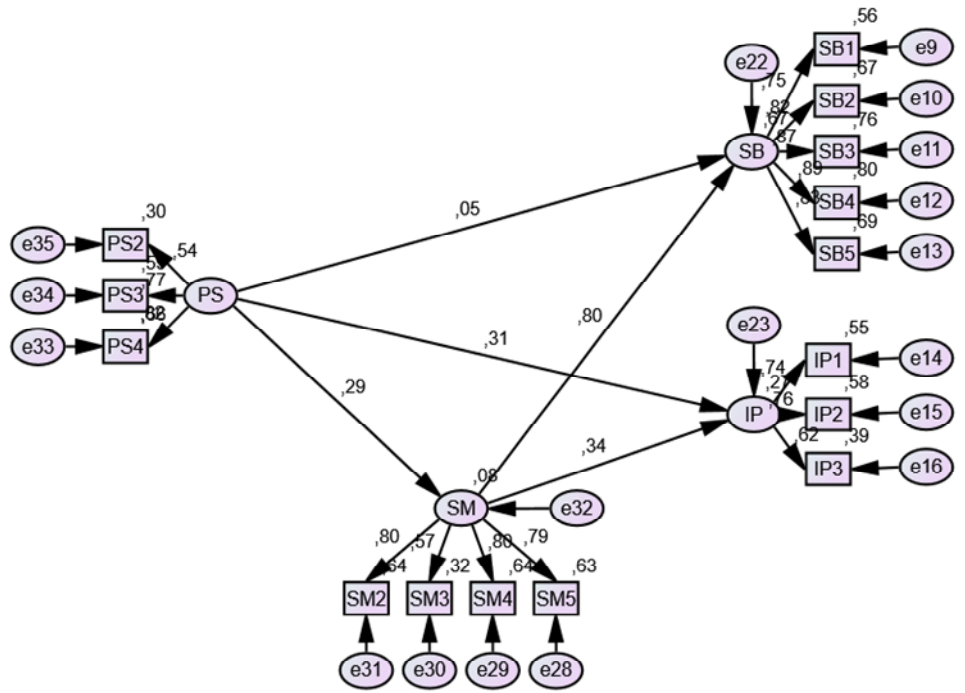**Figure 2**   Structural model (see online version for colours)

Table 5   Hypothesis results

Hypotheses		Direct impact	Indirect effect	Mediating effect	Bootstrap lower bound	Bootstrap upper bound	P value	Result
H1	PS-SB	0.408					*	Supported
H2	PS-IP	0.463					*	Supported
H3	PS-SM	0.288					*	Supported
H4	SM-SB	0.802					*	Supported
H5	SM-IP	0.339					*	Supported
H6	PS-SM-SB		0.049	Full (0.170)	0.176	0.303	0.003	Supported
H7	PS-SM-IP		0.308	Partial	0.063	0.154	0.004	Supported

Note: *p < 0.01, **p < 0.05 and ***p < 0.10.

When the hypothesis results are analysed, it is seen that all of the hypotheses are supported at a p < 0.05 confidence interval. Perceived scarcity of staple goods has positive effects on stockpiling behaviour, impulse purchase intention, and social media posts (H1, H2, H3). Social media posts about perceived scarcity have a significant positive effect on stockpiling behaviour and impulse purchase intention (H4, H5). When the mediation hypotheses are examined, it is seen that social media posts have a full mediation role in the effect of perceived scarcity of staple goods products on stockpiling behaviour and a partial mediation role in the effect on impulse purchase intention (H6,

H7). Moreover, the highest effect is between social media and stockpiling behaviour, while the lowest effect is between perceived scarcity and social media.

5 General discussion and implications

5.1 Conclusions

Research results show that consumers' perceived scarcity of staple goods leads them to stockpiling behaviour. In other words, when consumers perceive that the staple goods in the markets will run out and that they will not be able to access these products in the near future, they stock up by purchasing more of these products than they need. Moreover, due to this perceived scarcity, consumers have an impulse purchase intention. When a consumer shopping in a grocery store perceives that there are no staple goods on the shelf or that there is little left, he/she may have an impulse purchase intention even though it is not in his/her purchase plan, and as a result of this perceived scarcity, he/she may make impulse purchases with the concern that the staple goods will run out or that he/she will not be able to reach this product. In many previous researches, it has been determined that stocks are made or impulse purchases are made as a result of perceived scarcity (Omar et al., 2021). Sterman and Dogan (2015) argued in their research that scarcity causes stress and panic and ultimately consumers engage in stockpiling behaviour due to scarcity. Bozacı and İşcan (2023), as a result of their research in Kırıkkale Province, determined that perceived scarcity in an inflationary environment positively affects impulse purchase intention. When the results obtained (H1, H2) are compared with the findings of the researches in the literature, it is seen that there are parallel results.

Another finding of the research is that the perceived scarcity of staple goods has an impact on social media posts. People who perceive that there are no staple goods in the markets or that people face difficulties in accessing staple goods may post about this situation on social media. Especially when the posts made during the pandemic process are examined, consumers sharing photos of empty shelves in the markets, sharing videos of people waiting in line to buy basic food in the markets, and making comments on social media platforms that there will be a shortage support this situation (Raj et al., 2019; Van Bavel et al., 2020). Therefore, the H3 hypothesis of the research is also in line with the literature. In addition, social media posts have a positive effect on stockpiling behaviour and impulse purchase intention (H4, H5). Considering the power of social media today, social media is effective in many behaviours of consumers, as well as in purchasing and consumption behaviours (Kumar et al., 2024). Ardyan et al. (2021) found that when consumers see scarcity-oriented messages and comments on social media platforms, they have an attitude toward purchasing and stocking. Roy et al. (2020), on the other hand, argued that the news about the shortage of basic necessities on social media leads consumers to make instant purchases. Therefore, the results obtained within the scope of these hypotheses support the literature.

According to the mediation results of the research, the entire effect of perceived scarcity of staple goods on stockpiling behaviour is realised through social media. In other words, social media posts play a full mediating role in the effect between these two variables. Consumers do not directly engage in stockpiling behaviour after the perceived scarcity of staple goods; they engage in stockpiling behaviour as a result of the sharing of scarcity posts about staple goods on social media and consumers' exposure to

these posts. Another result is that part of the effect of perceived scarcity of staple goods on impulse purchase intention is realised through social media. In other words, social media posts play a partial mediating role in the effect between these two variables. When a person sees that staple goods are missing on the shelves while shopping in the supermarket and has an impulse purchase intention despite not planning to buy them, scarcity-oriented posts on social media are partially effective in increasing this intention. Considering the researches examining the mediating role of social media (Yiğit and Yiğit, 2022; Pelenk Özel and Ağca, 2022), there are researches that conclude that social media has a mediating role on consumer behaviour. However, since the mediating role of social media between the variable/variables in the current research has not been investigated in previous researches, these results make important contributions to the literature in this sense.

5.2   *Theoretical and practical contributions*

The results of the research are generally in line with the results of similar researches in the literature. However, the fact that the mediating role of social media has not been examined before and that the mediating role of social media in the effect of perceived scarcity on stockpiling behaviour and impulse purchase intention has been investigated in the current research reveals the original value and theoretical contribution of the current research. Therefore, not only perceived scarcity is not enough for consumers to have stockpiling behaviours and impulse buying intentions, but also the posts made on social media within this framework play an important role. In addition, considering that these behaviours increased during the pandemic, the research also makes theoretical contributions in terms of revealing whether similar behaviours continue after the pandemic. In addition to the theoretical contributions, the research also offers practical contributions. Considering the effect of perceived scarcity on stockpiling behaviour and impulse buying, and the resulting real scarcity, staple good producers, suppliers, and market managers may share messages that there is no problem in supply and that there will be no scarcity environment, and that there is no need to engage in stockpiling behaviour. Government authorities should prevent misinformation on social media, if any, to minimise impulse buying and stockpiling behaviour. Communicate effectively and in a timely manner with the public to reduce the harmful effects of fake news and exaggerated media coverage. If there are suppliers or market authorities who stockpile staple goods, criminal sanctions should be imposed for creating a panic environment in society. In addition, to reduce the perception of scarcity among consumers and prevent stockpiling behaviour, the number of products that each consumer can purchase can be limited. Finally, opinion leaders in society and especially social media influencers, who are popular opinion leaders, can deter stockpiling behaviour by suggesting that it is wrong and that it violates other people's rights.

5.3   *Research limitations and recommendations*

In addition to its important theoretical and practical contributions, the research has a few limitations. Since the convenience sampling method is preferred as the sampling method in the research, the findings obtained only cover the respondents and the results cannot be generalised. In addition, since the data was obtained through an online survey, the respondents were literate and able to use smartphones, computers, etc. Since only

consumers who physically shop for staple goods in grocery stores were included in the research, online shopping was ignored. Future researchers who will conduct research on this subject may be advised to choose a sampling method that can generalise the results and reach consumers from all levels. In addition, whether consumers' stockpiling behaviour and impulse purchase intentions differ in terms of demographic variables or the regulatory role of these variables can also be examined. Finally, the research can be expanded by adding different independent and mediating variables (economic, social and psychological factors) that may have an impact on consumers' stockpiling behaviour and impulse purchase intentions to the model.

Data availability

Data will be made available on request.

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