(Araştırma)

UNDERSTANDING STOCKPILING BEHAVIOR: THE ROLE OF PERSONALITY TRAITS AND CONSUMPTION MOTIVATIONS IN THE POST-COVID-19[1]

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ABSTRACT

This study investigates post-COVID-19 stockpiling behavior by analyzing how personality traits and consumption motivations relate, as well as the mediating role of hedonic and utilitarian consumption. Although previous research has connected stockpiling with personality, the underlying motivational mechanisms remain largely unexplored. Data were collected online from 198 participants (79% female; aged 18–66) using the HEXACO personality inventory (emotionality and conscientiousness subscales), a scale for hedonic and utilitarian consumption, and a scale for stockpiling. Exploratory and confirmatory factor analyses evaluated construct validity, and correlation analysis examined relationships among constructs. Mediation analyses using the PROCESS macro showed that utilitarian consumption significantly mediated the link between conscientiousness and stockpiling, suggesting that highly conscientious individuals stockpile for practical, goal-driven reasons. Furthermore, hedonic consumption mediated the relationship between emotionality and stockpiling, with higher hedonic tendencies related to lower stockpiling, indicating a preference for immediate emotional satisfaction over long-term preparedness. Overall, these results deepen the understanding of the psychological factors behind stockpiling behavior and emphasize the importance of motivational pathways. The findings also provide practical insights for policymakers and retailers to better manage demand fluctuations through more targeted, psychologically informed communication strategies.

Keywords Stockpiling behavior, Personality traits, Hedonic consumption, Utilitarian consumption

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STOKLAMA DAVRANIŞINI ANLAMAK: COVID 19 SONRASI DÖNEMDE KİŞİLİK ÖZELLİKLERİNİN VE TÜKETİM MOTİVASYONLARININ ROLÜ

ÖZ

Bu çalışma, kişilik özellikleri ile tüketim motivasyonlarının nasıl ilişkili olduğunu ve hedonik ve faydacı tüketimin aracılık rolünü analiz ederek COVID-19 sonrası stoklama davranışını araştırmaktadır. Önceki araştırmalar stoklamayı kişilikle ilişkilendirmiş olsa da bunun altında yatan motivasyon mekanizmaları büyük ölçüde araştırılmamıştır. Veriler, 198 katılımcıdan (%79 kadın; 18-66 yaş arası) HEXACO kişilik envanteri (duygusallık ve ihtiyatlı olmak alt ölçekleri), hedonik ve faydacı tüketim ölçeği ve stoklama ölçeği kullanılarak çevrimiçi olarak toplanmıştır. Açımlayıcı ve doğrulayıcı faktör analizleri ile yapı geçerliliği değerlendirilmiş, korelasyon analizi ile yapılar arasındaki ilişkiler incelenmiştir. PROCESS makrosu ile yapılan aracılık analizleri, faydacı tüketimin ihtiyatlı olmak ve stoklama arasındaki ilişkide aracılık ettiğini göstermiştir. Bu sonuç, ihtiyatlılık düzeyi yüksek bireylerin pratik ve hedef odaklı nedenlerle stoklama yaptığını düşündürmektedir. Ayrıca, hedonik tüketim, duygusallık ve stoklama arasındaki ilişkiye aracılık etmiştir; daha yüksek hedonik eğilimler daha düşük stoklama ile ilişkilidir; bu da uzun vadeli hazırlıktan ziyade anlık duygusal tatmini tercih ettiğini göstermektedir. Genel olarak, bu sonuçlar stoklama davranışının arkasındaki psikolojik faktörlerin anlaşılmasını derinleştiriyor ve motivasyonel yolların önemini vurguluyor. Bulgular ayrıca, politika yapıcılar ve perakendeciler için, daha hedefli, psikolojik olarak bilgilendirilmiş iletişim stratejileriyle talep dalgalanmalarını daha iyi yönetmek için pratik içgörüler sağlamaktadır.

Anahtar Kelimeler: Stoklama davranışı, Kişilik özelliği, Hedonik tüketim, Faydacı tüketim

1. Introduction

Differences in shopping habits due to changing living conditions have generated new reasons to explore consumer psychology further. Significant life transitions, including marriage, childbirth, and new employment, significantly influence individuals' consumption behaviors, leading to the evolution of consumer demand patterns (Lee et al., 2001). Life events that significantly change individuals' lives and affect consumption patterns share similarities and differences with the stockpiling behavior patterns that emerged because of the COVID-19 pandemic. For instance, both new parents and individuals facing widespread uncertainty, such as during a pandemic, may adapt their consumption styles to ensure security and maintain a sense of control over future needs (Bentall et al., 2021; Lee et al., 2001). However, consumer behavior is not solely shaped by rational considerations such as responsibility; affective factors, including fear- and anxiety-induced panic responses, also play a significant role (Islam et al., 2021). Unlike life events that are typically anticipated, such as marriage or childbirth, stockpiling behavior that emerged during the pandemic reflects a distinct and unplanned phenomenon experienced collectively rather than individually. In this context, media and government statements were issued to inform the public, while social media and news platforms served as key channels for both enhancing trust in authorities and raising awareness of the potential consequences of excessive purchasing, particularly during panic buying or stockpiling (Yuen et al., 2020). Given these dynamics, coupled with the growing influence of the digital age, it has become increasingly essential to conceptualize stockpiling as distinct from panic-driven behavior and to examine its underlying mechanisms.

The crisis accelerated the shift from traditional offline shopping to online purchasing models, as evidenced by Chinese consumers' transition to digital platforms (Wang et al., 2022). Studies indicate that online shopping habits among consumers increased fivefold between 2019 and 2022 (Young et al., 2022). During lockdowns, hedonic motivations emerged as a key driver for online shopping, as people sought leisure activities to cope with restrictions (Koch et al., 2020). This shift included purchases ranging from groceries to clothing and technology, illustrating how online availability has shaped consumption habits. The rise of online shopping also impacts people's shopping styles. In situations such as pandemics, limited product availability in stores, and greater online stock may influence individuals' stockpiling tendencies. From a utilitarian motivation perspective, consumers increasingly found it beneficial to prefer online shopping to avoid the risk of infection (Koch et al., 2020).

The COVID-19 pandemic also triggered unprecedented stockpiling behaviors. Stressful conditions, such as lockdowns and limited product availability, heightened consumer fears about shortages (Sheth, 2020; Micalizzi et al., 2020). Panic-driven purchasing emerged as a strategy for individuals to manage uncertainty, often influenced by social media's role in spreading misinformation and intensifying panic buying (Yuen et al., 2020). This study explores the psychological factors, particularly personality traits, that underlie stockpiling behavior and their interaction with consumption motivations. A correlational research model was employed as the research design, and quantitative data analysis methods were used to examine the mediating role of hedonic and utilitarian consumption. Consequently, significant

relationships were found among hedonic consumption and emotionality, utilitarian consumption and conscientiousness, and stockpiling behaviors. Importantly, the study makes a novel contribution by integrating personality traits with dual consumption motivations, offering a more comprehensive framework for understanding the psychological mechanisms underlying stockpiling behavior, which shows that stockpiling behavior can contain different motivational processes.

2. Conceptual Framework

Personality traits play a crucial role in determining how individuals react to crises. For example, personality differences influence compliance with government regulations during emergencies (Aschwanden et al., 2020). Stockpiling behavior, often observed in extraordinary situations, serves as a mechanism for emotional regulation. Witnessing others stockpile can further amplify these behaviors (Yuen et al., 2020). A key factor driving stockpiling is the fear of product unavailability, heightened by conditions of scarcity and uncertainty (Lehberger et al., 2021). Research shows that certain personality traits, particularly those outlined in the HEXACO model, are linked to stockpiling behavior. For instance, individuals with low honesty-humility scores are more likely to engage in panic-driven stockpiling (Columbus, 2021). In contrast, the trait of conscientiousness, part of the Five Factor Model, is related to planned, goal-oriented behaviors.

Research studies have yielded mixed results regarding the relationship between conscientiousness and hoarding behaviors. Some studies report no correlation (Yoshino et al., 2021), whereas others highlight its significance for stockpiling as a precautionary measure (Bacon et al., 2021; Bentall et al., 2021; Zettler et al., 2021). During the COVID-19 pandemic, stockpiling may have increased as individuals sought to comply with government regulations and minimize store visits (Krupić et al., 2021; Magnus Ross, 2024). Conversely, a negative relationship between responsibility and stockpiling has been observed (Dammeyer, 2020). Emotionality, another dimension of the HEXACO model, is characterized by anxiety, vulnerability, and impulsivity. High emotionality is linked to hedonic consumption behaviors motivated by pleasure-seeking and emotional stimulation (Coskun & Marangoz, 2019).

The other variables explored in this study are hedonic and utilitarian consumption behaviors, which reflect the underlying motivations behind consumption. Hedonic and utilitarian behaviors indicate the fundamental reasons for consumer behavior choices. Hedonic consumption is characterized by emotional and sensory gratification and involves the pleasure and excitement experienced while shopping (Hirschman & Holbrook, 1982). This study investigated whether individuals exhibit hedonic or utilitarian attitudes in their purchasing behavior, based on their personality traits. In hedonic consumption, consumers are influenced by their character tendencies and place greater emphasis on situational and emotional factors while shopping. Through hedonic consumption, consumers gain emotional benefits (Coskun & Marangoz, 2019).

In hedonic consumption, consumers are primarily motivated to pursue pleasure and avoid pain (Andrade & Cohen, 2007). In contrast, utilitarian consumption is practical and goal-oriented,

focusing on efficiently fulfilling functional needs (Strahilevitz & Myers, 1998). During the pandemic, hedonic motivations led to impulsive, emotionally charged purchases, while utilitarian motivations reflected consumers' efforts to minimize infection risk and adhere to precautionary measures (Koch et al., 2020). From a utilitarian perspective, consumers' needs are expected to be satisfied (Coskun & Marangoz, 2019).

Utilitarian behavior aims to satisfy needs through goal-oriented consumption (Strahilevitz & Myers, 1998). In utilitarian consumption, consumers emphasize product efficiency and their ability to achieve desired goals (Childers et al., 2001). A study analyzing consumers' motivations for online shopping during the pandemic revealed a link to hedonic motivation. It was observed that individuals participated in e-shopping during their leisure time due to the lockdown (Koch et al., 2020). The circumstances surrounding online consumption also influence people's shopping habits. During situations like pandemics, the limited availability of products in stores and an abundance of online stock can affect individuals' tendencies to stockpile. From a utilitarian perspective, consumers find online shopping advantageous in reducing the risk of infection (Koch et al., 2020).

This study examines how personality traits influence the understanding of stockpiling behavior through motivation (consumption patterns). This research analyzed personality traits and consumption patterns to establish causal links to stockpiling. The HEXACO Personality scale is preferred for use in this study (Ashton & Lee, 2009). The most important contribution of HEXACO to this study is that emotionality and conscientiousness dimensions are suitable sub-dimensions for examining stockpiling and consumer behavior. Those two subdimensions were used explicitly in this study. When compared to other personality classification systems, such as the Big Five, HEXACO's benefits for this study stand out in understanding the emotional or rational motivations behind stockpiling. The emotionality dimension within the HEXACO includes items such as "When I see other people crying, I feel like crying too," which measure sensitivity to others. Because we were examining behavior with a prosocial aspect, such as stockpiling, the HEXACO Emotionality was included in this study instead of the Big Five Neuroticism dimension. Similarly, the conscientiousness dimension contains items such as "I make a lot of mistakes because I don't think before I act," which measure subdimensions such as prudence. The HEXACO conscientiousness items were appropriate for this study when examining behaviors such as stockpiling and impulse control in buying.

The conscientiousness trait results in different outcomes depending on its level. At a low level, it results in unplanned behavior and increased impulsivity, while at a high level, it fosters planned, forward-looking, and conscious behavior (Carver, 2005). Individuals with high conscientiousness are often viewed as success-oriented, duty-conscious, and self-disciplined, whereas those with low conscientiousness may lack organization and planning skills (Costa & McCrae, 1992; Costa & McCrae, 1998).

In consumer contexts, conscientiousness closely aligns with utilitarian consumer behavior driven by necessity, which involves more rational decision-making. This goal-oriented

consumption style aims to fulfill specific needs through the purchase of products (Strahilevitz & Myers, 1998). Conversely, individuals with low neuroticism tend to exhibit calmness and emotional stability, whereas those with high neuroticism often display anxiety and impulsivity (McCrae & Costa, 1991). Anxiety can lead to panic behaviors, which may result in increased stockpiling from the consumer's perspective. This study examined the emotionality sub-dimension of the HEXACO model to analyze how emotional stability affects stockpiling and hedonic consumption. We investigated the relationship between emotionality, a subdimension of HEXACO, and hedonic consumption to understand better consumers' stockpiling tendencies associated with emotional stability. The HEXACO personality inventory defines the emotionality dimension through characteristics such as anxiety, vulnerability, sentimentality, and a lack of bravery and toughness (Ashton et al., 2004).

The present hypothesis posits that low emotional stability significantly enhances stockpiling behavior in conjunction with hedonic consumption, thereby rendering the

emotional stimulation elicited by products increasingly pertinent for consumers. Throughout the shopping experience, individuals frequently encounter heightened excitement and happiness before and after their purchases (Coşkun & Marangoz, 2019). While these two personality traits manifest distinct dimensions with varying motivations, tendencies toward stockpiling—indicative of similar behaviors—are rising. A prior study investigating stockpiling behavior and personality traits during the COVID-19 pandemic found that individuals who perceived a high threat level stockpiled more toilet paper, with the emotionality dimension playing an indirect role in this escalation. Furthermore, stockpiling behavior intensified among individuals with high conscientiousness (Garbe et al., 2020). Building on previous research, we analyzed the interrelationship between the emotionality and conscientiousness dimensions of stockpiling, particularly regarding hedonic and utilitarian consumption patterns.

Emotionality, as defined within the HEXACO Personality Scale, consistently identifies traits such as anxiety, fear, sentimentality, dependence, and emotional responsiveness, in contrast to traits including self-confidence, resilience, and courage (Ashton et al., 2004). Conscientiousness encompasses organization, diligence, perfectionism, and prudence. Concepts associated with elevated scores include a strong work ethic, self-discipline, and self-control, whereas lower scores are correlated with impulsivity and diminished success (Ashton et al., 2004). The exploration of the emotionality dimension is motivated by the hypothesis that individuals may adopt a hedonic consumption style as a reaction to the perceived threat posed by the pandemic, accompanied by an impulsive yearning for relief, which may subsequently heighten tendencies toward hoarding behavior. Furthermore, a separate study investigating factors influencing stockpiling behavior identified a correlation between stockpiling tendencies and elevated levels of extroversion and neuroticism, using the Big Five personality scale (Dammeyer, 2020). Building on previous findings indicating a significant relationship between neuroticism and stockpiling, this study aims to examine the emotionality dimension and hedonic consumption jointly. Additionally, the conscientiousness dimension, recognized as the second personality trait, is addressed, positing that individuals with heightened conscientiousness are predisposed to engage in hoarding behavior and favor a utilitarian

consumption style. Individuals are anticipated to amplify their stockpiling behaviors out of a sense of duty, in conjunction with the control and caution prompted by the situational context.

3. Hypothesis Development

The COVID-19 pandemic profoundly altered how individuals live, work, and consume. In the early phases of the pandemic, numerous retailers observed a dramatic increase in demand for bottled water and other non-perishable goods, such as canned foods and toilet paper. Subsequently, governments acted swiftly to relax competition laws to mitigate the significant pressure on supply chains (Schumacher & Rettore Micheli, 2024).

Product scarcity, defined as the real or perceived difficulty in accessing goods or services, can stem not only from actual current shortages but also from anticipated shortages, even when resources are neither objectively scarce presently nor predicted to become scarce in the future (Yuen et al, 2021; Islam et al, 2021). To avert shortages during potential future crises, it is paramount for thought leaders, policymakers, and scientists to gain a deeper understanding of the factors that drive individuals to stockpile and to mitigate these tendencies before they cause severe disruptions to the supply chain. Understanding individual differences can help predict who is likely to stockpile during future processes (Schumacher & Rettore Micheli, 2024).

In this study, two sub-dimensions of the HEXACO Personality Inventory, emotionality and conscientiousness, were selected to understand individual differences. To better understand the feelings of fear, anxiety, or control that arise from the pandemic and lead to stockpiling, the emotionality and conscientiousness dimensions were analyzed. These two personality traits were paired to individuals' responses to panic or control in crisis situations like pandemics. The emotionality dimension aimed to understand individuals' predisposition to traits like fear and anxiety, while the conscientiousness dimension aimed to understand individuals' planning and organization (Ashton & Lee, 2007). We assumed that two fundamental emotions underlie the stockpiling behavior that individuals engage in in response to the uncertainty created by the pandemic: anxiety and emotionality, or control and responsibility.

Instead of reducing the relationship between stockpiling and personality traits to two emotion-related variables, the study examined individuals' consumption motivations by adding hedonic and utilitarian consumption styles. Utilitarian consumption is associated with individuals behaving effectively, functionally, and practically during consumption, while hedonic consumption is associated with individuals prioritizing fun, exciting, and enjoyable (Voss et al., 2003). Hedonic consumption involves emotional engagement, while utilitarian consumption involves cognitive involvement (Voss et al., 2003). We hypothesized that the interaction that increases stockpiling occurs with both of these two personality dimensions. It was hypothesized that the conscientiousness personality trait, combined with a utilitarian consumption motivation, would positively increase stockpiling. In contrast, the emotionality dimension, in line with hedonic consumption motivation, would positively increase stockpiling.

The current study examines the influence of personality traits on stockpiling behaviors as mediated by consumption motivations. Specifically, this research investigates the roles of hedonic and utilitarian consumption within the relationship between personality traits—namely, emotionality and conscientiousness—and tendencies towards stockpiling. By integrating personality dimensions and consumption motivations, the study aims to enhance the understanding of the psychological mechanisms underlying stockpiling behavior during and following the COVID-19 pandemic. This study tests the following hypotheses:

H_1: Hedonic consumption behavior mediates the relationship between emotionality and stockpiling behavior.

H_2: Utilitarian consumption behavior mediates the relationship between conscientiousness and stockpiling behavior.

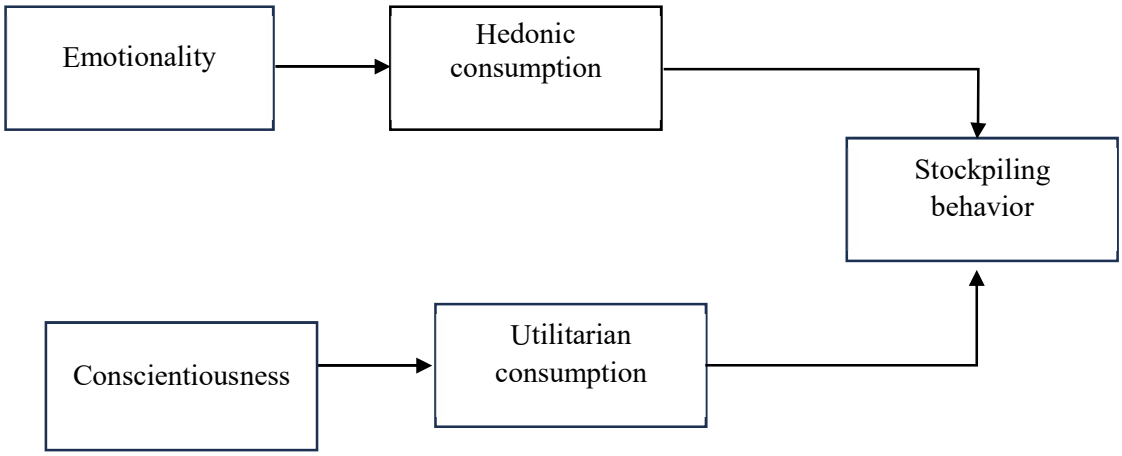

Figure 1. Research Model

4. Method

4.1. Participants

A priori power analysis was conducted using G*Power version 3.1 (Faul et al., 2007) to determine the minimum sample size required to test the hypothesis. This estimate was based on data from a previously published study reporting an effect size of .28 (Magnus Roos, 2024), which is considered small to medium according to Cohen's (1988) guidelines. With a significance level of $\alpha = .05$, the analysis indicated that at least 140 participants would be required for a linear multiple regression test with this effect size. Consequently, the obtained sample size of 198 exceeds this requirement and is sufficient for evaluating the hypotheses.

The study involved 198 participants, 157 females and 41 males. The participants' ages ranged from 18 to 66, with an average age of 33. Based on their most recent graduation status, educational attainment was classified into six levels: primary school, secondary school, high school, college, bachelor's degree, and postgraduate. A convenience sampling method was employed, and participation was voluntary. Inclusion criteria required individuals to be at least 18 years old and to provide informed consent before completing the survey.

Table 1. Demographical Variables

	N	Percent
Gender		
Female	41	79.3
Male	157	20.7
Age		
18-30	103	52
31-40	28	14.2
41-50	45	23.7
51-60	18	9.1
60 and above	2	1
Education Level		
Primary school	3	1,5
Secondary school	6	3
High school	78	39,4
College	21	10,6
Bachelor's degree	76	38,4
Postgraduate	14	7,1
Total	198	100

4.2. Procedure

Ethical permission for the research was obtained from the Istanbul Ticaret University Ethics Committee (E-65836846-044-316262, 03.04.2024). Data for the study were collected via an online platform. Participants received an informed consent form and confirmed their voluntary participation. Additionally, the participants were informed that the research data would be used solely for scientific purposes and would remain anonymous. The survey took approximately 15 minutes, and data collection occurred between April 23, 2022, and May 25, 2022.

4.3. Instruments

Personal Information Form: This form includes demographic questions such as age, gender, and educational status.

Hedonic and Utilitarian Consumption Behavior Scale: This scale, developed by Coşkun and Marangoz (2019), assesses hedonic and utilitarian consumption behaviors through 42 items. Items 1 to 32 evaluate hedonic consumption, whereas items 33 to 42 focus on utilitarian consumption. The items "I quickly get bored with the things I buy and want to buy new things soon" and "I buy a product I really want without thinking." are sample items from the hedonic

consumption scale. The items "I go shopping knowing what I need" and "Making rational choices when shopping makes me feel good" are examples of items from the utilitarian consumption scale. Participants were instructed to rate each item using a 5-point Likert scale (1 = "Never" to 5 = "Always"), with Item 40 being reverse-scored. The original study reported Cronbach's alpha coefficients of 0.95 for hedonic consumption and 0.89 for utilitarian consumption. In this study, the internal consistency remained high (hedonic = 0.96; utilitarian = 0.89), indicating a robust level of reliability. Higher scores indicate a stronger inclination toward hedonic or utilitarian consumption.

HEXACO Personality Scale: It consists of six sub-dimensions: honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience (Ashton & Lee, 2009). The scale comprises 60 items, with 10 items per dimension. Participants rated these items using a 5-point Likert scale (1 = "Strongly Disagree" to 5 = "Strongly Agree"). For this study, only the emotionality and conscientiousness sub-dimensions were utilized. The items "I worry much less than most people" and "I can handle difficult situations without needing anyone's emotional support" are sample items from the emotionality subscale. The items "I usually push myself too hard when trying to achieve a goal" and "People often call me a perfectionist" are sample items from the conscientiousness subscale. Previous studies reported internal consistency for emotionality and conscientiousness at 0.80 and 0.77, respectively (Fischer et al., 2021). The current study's coefficients were 0.70 (emotionality) and 0.65 (conscientiousness), indicating acceptable reliability. The items for emotionality are 5,11,17,23,29,35,41,47,53,59; for conscientiousness are 2,8,14,20,26,32,38,44,50,56. The reverse-coded items for emotionality are 35, 41, 53, 59; for conscientiousness are 14, 20, 26, 32, 44, 56. These items were recorded before analysis.

Stockpiling Behavior Scale: A self-developed 7-item scale was utilized to assess stockpiling behavior with a dichotomous response format (Yes/No) (see Appendix). This decision was based on both conceptual and practical considerations. Notably, many of the existing scales in the literature conceptualize stockpiling primarily within a clinical or pathological framework, often as a subdimension of compulsive hoarding or obsessive-compulsive disorder (e.g., Frost et al., 2011; Güneysu et al., 2025). While these instruments are appropriate for capturing chronic and maladaptive accumulation patterns, they are less suited to measuring situational and functional stockpiling behaviors that emerge in response to external stressors such as supply chain disruptions or public crises.

Our study, by contrast, does not seek to assess stockpiling tendencies as a psychiatric symptom. Instead, it aims to understand stockpiling as a situational consumer behavior—a potentially rational and adaptive response to perceived scarcity or uncertainty. The items on the scale were derived from a comprehensive review of consumer behavior literature and tailored to the specific crisis context investigated in this study. This approach ensured content validity and relevance, enabling a more accurate capture of non-pathological stockpiling tendencies aligned with utilitarian and hedonic consumption motivations. Example items include: "Have you ever stocked products based on recommendations from people around you?" and "Have you stocked

a product in case it sells out?" Higher total scores indicate greater stockpiling behavior. Items were presented in random order. The internal consistency coefficient for this scale is 0.84.

4.5. Statistical Analysis

Data Analysis

Skewness and kurtosis values were analyzed to assess normality, with values ranging from -1 to +1 indicating normality (Kim, 2013). Descriptive statistics were computed for all variables, factor analysis, reliability analysis, and Pearson correlation analysis were performed using SPSS 24 to assess relationships among the variables. In addition, the construct validity of the Stockpiling scale was evaluated by confirmatory factor analysis (CFA) conducted in AMOS. Convergent validity indices were computed based on the standardized factor loadings obtained from the CFA, and the Average Variance Extracted (AVE) as well as the Composite Reliability (CR) were calculated in line with the procedure proposed by Fornell and Larcker (1981).

The mediating effects of hedonic and utilitarian consumption behaviors were tested using the PROCESS v4.2 macro (model 4) with 5000 bootstrap samples and a 95% confidence interval (Hayes, 2018). In Hypothesis 1, emotionality (predictor variable) affects stockpiling behavior (outcome variable) through hedonic consumption (mediator). In Hypothesis 2, conscientiousness (predictor variable) influences stockpiling behavior (outcome variable) through utilitarian consumption (mediator).

5. Results

5.1. Preliminary analysis

The item-total score correlation coefficients of the stockpiling scale were examined through item analysis, and the results are presented in Table 1. Regarding the results in Table 1, the total score correlation among the items is above .20, ranging from .56 to .64.

Table 2. Results of Exploratory Factor Analysis

Item No	Item Content (shortened)	Corrected item–total correlation	Cronbach α if item deleted	Factor 1	Factor 2
M1	Price increase expectation	.605	.820	.657	.109
M2	Advice from others	.645	.814	.713	.205
M3	Expert advice	.559	.827	.649	.378
M4	Social media info	.600	.821	.685	.334
M5	Perceived stock-out pressure	.596	.822	.697	–.472
M6	Stocked due to stock-out risk	.592	.822	.644	–.210
M7	Future stock-out concern	.590	.823	.661	–.344

Cronbach's α for full scale = .84.

An exploratory factor analysis was conducted using principal axis factoring to examine the latent structure of the scale. Before the factor analysis, sampling adequacy was assessed. The Kaiser-Meyer-Olkin measure was found to be **.**83**,** indicating that the data were sufficiently suitable for factor analysis**.** Additionally, Bartlett's test of sphericity was statistically

significant, χ^2 (21) = 518.49, $p < .001$, confirming that the correlation matrix was not an identity matrix and thus appropriate for structure detection. These preliminary tests supported the use of factor analysis for the dataset. The initial eigenvalue of the first factor was 3.614, accounting for 51.63% of the total variance before extraction. A second factor with an eigenvalue of 1.100 explained an additional 15.72% of the variance, increasing the cumulative variance explained to 67.35% based on the initial eigenvalues. However, the results of the extraction sums of squared loadings indicated that only the first factor retained a substantial eigenvalue (3.167) above the conventional threshold of 1.0, accounting for 45.25% of the total variance. The remaining factors exhibited markedly lower eigenvalues and contributed minimally to the explained variance (each < 10%), suggesting a limited contribution to the overall construct structure. This pattern of results supports retaining a unidimensional factor structure. According to established criteria (e.g., Tabachnick & Fidell, 2013), a single factor explaining more than 40% of the variance may be considered adequate evidence of one-dimensionality in early-stage scale development. Therefore, the findings suggest that the scale items coherently represent a single latent construct. As seen in Table 1, the factor loadings of the scale items range from .64 to .71. Additionally, the validity of the stockpiling behavior scale was assessed using the Average Variance Extracted (AVE) and Composite Reliability (CR) indices. For this construct, the AVE was 0.436, and the CR was 0.844. Although the AVE value falls below the recommended threshold of 0.50, this limitation is mitigated by the CR value exceeding 0.70. Prior research has noted that when CR is above 0.70, AVE values around 0.40 may still be considered acceptable (Fornell & Larcker, 1981; Malhotra & Dash, 2011; Henseler, Ringle, & Sarstedt, 2015). These results provide evidence supporting the scale's convergent validity.

5.3. Descriptive Analysis

Pearson correlation analysis examined the relationships between stockpiling behavior, hedonic and utilitarian consumption dimensions, and the emotionality and conscientiousness personality dimensions. The results are presented in Table 2. The analysis revealed a significant positive correlation between the emotionality trait and hedonic consumption ($r = .21$, $p < .01$). In contrast, no significant correlation with utilitarian consumption was observed ($r = -.08$, $p > .05$). Regarding the conscientiousness sub-dimension, no significant correlation was observed with hedonic consumption ($r = .05$, $p > .05$). Conversely, a significant positive correlation was noted with utilitarian consumption ($r = .24$, $p < 0.05$) .01).

Table 3. Pearson Correlation Coefficients Between Variables in the Study

Variable	1	2	3	4	5
1.Hedonic	(*.96*)				
2.Utilitarian	-.25**	(*.89*)			
3.Emotionality	.21**	-.08	(*.70*)		
4.Conscientiousness	.05	.24**	.15*	(*.65*)	
5.Stockpiling	-.38**	.25**	-.07	-.06	(*.84*)

**p<.05, **p<.01 Note. Reliability coefficients are presented in parentheses.*

5.4. Testing common method bias

Although all variables in the study were measured using self-report questionnaires administered in a single session, which may raise concerns regarding common method bias (Podsakoff et al., 2003), statistical analyses were conducted to assess the extent of this issue. Specifically, Harman's single-factor test was performed by entering all measurement items into an exploratory factor analysis using unrotated principal axis factoring. The results indicated that the first factor accounted for 31.46% of the total variance, which is well below the commonly accepted threshold of 50% (Podsakoff et al., 2003). This suggests that common method variance is unlikely to pose a serious threat to the validity of the study's findings.

5.5. Mediation analysis

To test hypothesis 1, whether hedonic consumption mediates the relationship between emotionality and stockpiling behavior, a mediation analysis was conducted. Indirect effects (ab) are statistically significant when the 95% confidence interval (CI) does not include zero. Emotionality was entered as the independent variable (X), hedonic perception as the mediator (M), and stockpiling behavior as the dependent variable (Y).

The results indicated that emotionality significantly predicted hedonic consumption (X → M, a-path) (b = .98, t = 3.11, 95% CI [.3573, 1.5946], p < .01). The b-path (M → Y) analysis revealed a significant relationship between hedonic consumption and stockpiling behavior (b = -.03, t = -5.66, 95% CI [-.0414, -.0200], p < .05). However, the direct effect of emotionality on stockpiling behavior **(**X → Y, c′ path**)** was not statistically significant (b = .01, t = .21, 95% CI [-.0431, .0533], p > .05). The total effect of emotionality on stockpiling behavior **(**c path**)** was also nonsignificant, (*b* = –0.02, *t*=*-.97*, 95% CI [–0.0755, 0.0258], p > .05).

Table 4. Model Coefficients for the Mediating Role of Hedonic Consumption in the Relationship Between Emotionality and Stockpiling Behavior

	Consequent					
	M (hedonic consumption)			Y (stockpiling behavior)		
Antecedents	Coeff	*SE*	*p*	Coeff.	*SE*	p
X (emotionality)	.98 (*a*)	.31	.00**	.01 (*c'*)	.02	.83
M (hedonic consumption)	-	-	-	-.03 *(b)*	.01	.00*
	R^2 = .05 $F_{(1, 196)}$ = 9.68, *p* <.01			R^2 = .15 $F_{(2, 195)}$ = 16.53, *p* <.001		

***p*< .001, **p*< .01, *p*< .05

The indirect effect of emotionality on stockpiling behavior through hedonic consumption was statistically significant (b = -.03, *BootSE* = 0.01, 95% CI [-.0527, -.0098]) as the confidence interval did not include zero. Consequently, the mediating role of hedonic consumption in the relationship between emotionality and stockpiling behavior was significant (F (2, 195) = 16.53,

$p < .001$, $R^2 = .15$). All findings are displayed in Table 3. The emotionality personality dimension, via hedonic consumption, explained 15% of the variance in stockpiling behavior. This result indicated that individuals who are high in emotionality tend to develop stronger hedonic consumption, which in turn reduces their behaviors to stockpile. Therefore, hypothesis 1 is supported.

Hypothesis 2, the mediating role of utilitarian consumption was examined in the relationship between conscientiousness and stockpiling behavior**.** Conscientiousness was entered as the independent variable (X), utilitarian perception as the mediator (M), and stockpiling behavior as the dependent variable (Y). The results of the analysis of Hypothesis 2 showed that conscientiousness significantly influenced utilitarian consumption (X → M, a-path analysis) (b = .32, t = 3.53, 95% CI [.1428, .5053], $p < .001$). The b-path analysis (M → Y) revealed a significant relationship between utilitarian consumption and stockpiling behavior (b = .08, t = 3.99, 95% CI [.0422, .1246], $p < .001$). However, there is no direct effect of conscientiousness on stockpiling behavior ((X → Y) c'–path analysis; b = -.05, t = -1.84, 95% CI [-.1056, .0036], $p > .05$). Mediation analysis revealed that utilitarian consumption mediated the relationship between conscientiousness and stockpiling behavior (b = .03, 95% CI [.0093, .0481], $p < .001$). The indirect effect (X → M → Y) through utilitarian consumption was statistically significant (b = 0.03, *BootSE* = 0.01, 95% CI [0.0093, 0.0481]) as the confidence interval did not include zero. Consequently, the mediating role of utilitarian consumption in the relationship between emotionality and stockpiling behavior was significant ($F (2, 195) = 8.37$, $p < .001$, $R^2 = .08$). All findings are presented in Table 4. The conscientiousness personality dimension, through utilitarian consumption, accounted for 8% of the variance in stockpiling behavior. These findings indicated that individuals with high conscientiousness are more likely to engage in stockpiling behavior when they interpret product purchases through a utilitarian motivation. As a result, hypothesis 2 is supported.

Table 5. Model Coefficients for the Mediation Role of Utilitarian Consumption in the Relationship Between Conscientiousness and Stockpiling Behavior

	Consequent					
	M (utilitarian consumption)			Y (stockpiling behavior)		
Antecedents	Coeff	*SE*	*p*	Coeff.	*SE*	p
X (conscientiousness)	.32 (*a*)	.09	.00**	-.05 (*c'*)	.03	.07
M (utilitarian consumption)	-	-	-	.08 *(b)*	.02	.00***
	$R^2 = .06$			$R^2 = .08$		
	$F_{(1, 196)} = 12.44$, $p < .001$			$F_{(2, 195)} = 8.38$, $p < .001$		

***$p < .001$, **$p < .01$, *$p < .05$.

6. Discussion

This study aims to understand how consumption motivations influence the relationship between personality traits and stockpiling. Stockpiling behavior, driven by fear and the desire for control, is a coping mechanism for perceived threats. Responses to such threats are not uniform across individuals but rather vary depending on psychological and situational factors (Schumacher & Rettore Micheli, 2024). This research examines the effects of hedonic and utilitarian consumption patterns on the connection between HEXACO personality traits and stockpiling behavior.

The results of the mediation analysis revealed that utilitarian consumption significantly mediated the relationship between conscientiousness and stockpiling behavior. Specifically, individuals high in conscientiousness were more likely to engage in utilitarian consumption, which, in turn, predicted greater stockpiling behavior. Our findings align with the existing literature, suggesting that conscientious individuals engage in stockpiling out of a sense of duty to avoid infection and minimize their visits to stores (Krupić et al., 2021; Magnus Roos, 2024). Conscientious individuals are typically characterized by their tendency toward planning, caution, future orientation, and goal-directed behavior (Costa & McCrae, 1992). In the context of consumer decision-making, such traits are likely to promote calculated and preventive behaviors—particularly during periods of uncertainty or resource scarcity (Carver & Connor-Smith, 2010). Utilitarian consumption, which emphasizes practical value, necessity, and functional outcomes, may prompt the conscientious consumer to prepare for future needs in a rational, organized manner. As such, stockpiling may be viewed by these individuals not as impulsive but as a strategic behavior aligned with their need for control and preparedness. This interpretation is supported by studies showing that conscientiousness predicts increased precautionary behaviors, including food storage and planning during crises (Aschwanden et al., 2020; Sadus et al., 2023). Therefore, the interaction between conscientiousness and utilitarian motivation appears to reinforce structured coping strategies, making stockpiling a functional rather than emotionally driven consumer response. Many studies address the direct effect of conscientiousness on stockpiling; however, it is not directly significant in our study (Bacon et al., 2021; Bentall et al., 2021; Zettler et al., 2021).

The findings indicate that emotionality exerts a strong positive influence on hedonic consumption, suggesting that individuals with higher emotional reactivity are significantly more inclined to engage in consumption driven by affective needs and pleasure-seeking motives. Previous studies have also shown that the most prominent personality trait influencing hedonic behavior is the emotionality dimension (Bengül, 2023). This result is consistent with previous studies that associate emotional traits—such as mood intensity, anxiety, and sensitivity—with increased reliance on emotionally gratifying behaviors to regulate affect (Watson & Clark, 1984; Hirschman & Holbrook, 1982). Hedonic consumption, in this context, may serve as a coping strategy to mitigate emotional discomfort, particularly during times of uncertainty. Also, the existential threat (Arafat et al.,2020) and the monotony of life (Carpenter et al, 2005) that began with the pandemic may have indirectly influenced the tendency of

emotionally driven individuals to engage in hedonic shopping (Schumacher & Rettore Micheli, 2024). However, the subsequent negative association between hedonic consumption and stockpiling behavior was unexpected and theoretically counterintuitive. Traditional frameworks suggest that emotionally driven or impulsive individuals may be more prone to stockpiling due to heightened threat sensitivity and urgency (Yuen et al., 2020). Yet this finding implies that individuals oriented toward hedonic experiences may downplay long-term risks in favor of immediate emotional rewards, thereby exhibiting lower engagement in precautionary behaviors such as stockpiling. This interpretation aligns with affective forecasting literature, which posits that emotionally aroused individuals often misjudge future needs or consequences in favor of present-focused gratification (Loewenstein et al., 2001). Therefore, while emotionality may amplify the tendency toward hedonic consumption, hedonic consumption might paradoxically suppress practical or utilitarian actions, such as stockpiling, in crisis contexts. Although some studies indicate a significant relationship between stockpiling and emotionality (Dammeyer, 2020; Kurnaz, 2022; Lehberger et al., 2021; Smith & Thomas, 2022; Schmidt et al., 2021), this study found no direct relationship.

6.1. Limitations and Future Research

One noteworthy limitation of the present study is the sample's gender distribution, which was predominantly female. While this reflects common trends in survey-based behavioral research (e.g., Smith, 2008), it may restrict the generalizability of the findings. Prior research has demonstrated that gender can influence both stockpiling behavior and consumption motivations, with women tending to score higher on risk sensitivity and hedonic responsiveness, particularly in retail and product-related contexts (Palan, 2001; Dittmar et al., 1995). The overrepresentation of women in the sample may limit the extent to which the observed patterns can be generalized to male consumers, who may engage in stockpiling for different reasons or exhibit distinct motivational profiles. Future studies should aim for more gender-balanced samples to assess whether the observed relationships hold across diverse demographic groups.

Another limitation is that the study was conducted in Istanbul and used an online survey. Research in rural and urban areas has shown that urban populations stockpile more (Magnus Roos, 2024). Therefore, future studies should aim for a larger, more diverse sample group. Presenting the surveys consecutively online may have influenced the respondents' answering styles. Subsequent studies could investigate participants' personality traits and consumption habits over multiple sessions. Moreover, our study included only internet users, using an online survey.

The measurement of stockpiling was based on self-reports rather than actual behavior. Therefore, gathering data during peak stockpiling events and from more extensive, representative samples may be more scientifically beneficial. Stockpiling should be addressed more comprehensively from a demographic perspective. Research indicates that consumers' preparedness significantly influences their tendency to stockpile and their perceptions of why others stockpile (Ntontis et al., 2022). Socioeconomic income levels should be analyzed separately from personality variables regarding people's tendencies toward stockpiling.

Stockpiling was positively associated with household income (Bentall et al., 2021). The perception of scarcity, alongside media portrayals of empty shelves and a declining sense of trust in the government, may also motivate people to engage in stockpiling behavior (Ntontis et al., 2022; Yuen et al., 2020).

6.2. Theoretical Implications

This study makes several contributions to theory. Firstly, it emphasizes the pivotal role of consumption motives in shaping the relationship between personality and stockpiling. Rather than treating personality traits as direct predictors of consumer behavior, our findings demonstrate that motivational pathways offer a more precise explanation of how individual differences manifest. Secondly, the study improves our understanding of conscientiousness. Rather than exerting a uniform effect on stockpiling, conscientiousness was found to predict stockpiling only through utilitarian motives. This finding extends trait activation theory by showing that motivational contexts determine whether conscientiousness manifests as adaptive and preventive consumer behaviors. Thirdly, the unexpected negative correlation between hedonic consumption and stockpiling challenges traditional assumptions about threat sensitivity. Drawing on affective forecasting literature, this paradox suggests that hedonic motives may reduce precautionary responses by prioritizing short-term gratification over long-term risk management. Finally, the results

broaden coping and risk perception theories by framing stockpiling as a functional planning strategy for conscientious and utilitarian consumers, and as an affect-driven avoidance behavior for emotionally oriented consumers. This duality highlights the necessity for theoretical models of consumption to integrate personality traits with motivational orientations to capture consumer decision-making processes comprehensively.

6.3. Managerial Implications

The present findings offer several important practical implications, particularly for stakeholders managing supply and demand during crisis periods. Understanding the psychological drivers behind stockpiling behavior—such as hedonic and utilitarian consumption motives—can help marketers, policymakers, and retailers design more targeted and effective interventions. The study results may have implications for marketing and customer communication strategies. Communication messages can be customized by investigating customer groups' product choices based on their personalities and consumption styles (hedonic or utilitarian), and by implementing improved marketing methods that provide customer-specific stock and campaign information. This can improve consumer satisfaction and the organization’s production strategies. For example, communication strategies that reduce uncertainty and emphasize product availability may alleviate hedonic-driven urgency and panic buying. Additionally, emphasizing rational, need-based consumption through educational campaigns can appeal to consumers with strong utilitarian orientations. For policymakers, these insights can inform the timing and framing of public information releases to avoid triggering excessive demand. Retailers may also use these findings to manage inventory visibility and implement purchasing

limits strategically, mitigating stockouts and reducing system strain. Overall, integrating psychological insights into supply chain and consumer management strategies can enhance resilience and responsiveness during disruptions.

6.4.Conclusion

This study sought to determine how the relationship between personality traits and stockpiling behavior varies with consumption patterns. While previous literature has established a direct link between stockpiling behavior and personality traits, this study further examined and revealed the motives underlying this relationship. In this context, consumption patterns were taken into account. Furthermore, no direct relationship was found between personality traits and stockpiling; however, consumption styles significantly mediated this relationship.

In the event of scarcity caused by extraordinary circumstances like a pandemic, experts can alleviate concerns about stock levels or overconsumption by communicating effectively with consumers through advertising and marketing strategies tailored to their personality traits and consumption styles. By better understanding individuals' motivations for product consumption, purchasing behavior can be more effectively managed.

References

Andrade, E. B., & Cohen, J. B. (2007). On the consumption of negative feelings. *Journal of Consumer Research, 34*(3), 283–300. https://doi.org/10.1086/519498

Arafat, S. M. Y., Kar, S. K., Marthoenis, M., Sharma, P., Hoque Apu, E., & Kabir, R. (2020). Psychological underpinning of panic buying during pandemic (COVID-19). *Psychiatry Research*, *289*, 113061. https://doi.org/10.1016/j.psychres.2020.113061

Aschwanden, D., Strickhouser, J. E., Sesker, A. A., Lee, J. H., Luchetti, M., Stephan, Y., … Terracciano, A. (2020). Psychological and behavioral responses to coronavirus disease 2019: The role of personality. *European Journal of Personality*, *35*(1) https://doi.org/10.1002/per.2281

Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. R., Di Blas, L., ...De Raad, B. (2004). A six-factor structure of personality-descriptive adjectives: Solutions from psychological studies in seven languages. *Journal of Personality and Social Psychology*, *86*(2), 356–366. http://dx.doi.org/10.1037/0022-3514.86.2.356.

Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review, 11*(2), 150–166. https://doi.org/10.1177/1088868306294907

Ashton, M., & Lee, K. (2009). The HEXACO-60: A short measure of the major dimensions of personality. *Journal of Personality Assessment, 91*(4), 340–345. https://doi.org/10.1080/00223890902935878

Bacon, A. M., Krupić, D., Caki, N., & Corr, P. J. (2021). Emotional and behavioural responses to COVID–19. *European Psychologist, 26*(4), 334–347. https://doi.org/10.1027/1016-9040/a000461

Bengül, S. (2023). Examining the relationship between customers' characteristics and hedonic consumption behavior with canonic correlation analysis, an application on women academicians. *The Journal of International Scientific Researches, 8*(1), 1-18. https://doi.org/10.23834/isrjournal.1186953

Bentall, R. P., Lloyd, A., Bennett, K., McKay, R., Mason, L., Murphy, J., McBride, O., Hartman, T. K., Gibson-Miller, J., Levita, L., Martinez, A. P., Stocks, T. V. A., Butter, S., Vallières, F., Hyland, P., Karatzzias, T., & Shevlin, M. (2021). Pandemic buying: Testing a psychological model of over-purchasing and panic buying using data from the United Kingdom and the Republic of Ireland during the early phase of the COVID–19 pandemic. *PLOS ONE, 16*(1*)*, e0246339. https://doi.org/10.1371/journal.pone.0246339

Carpenter, J. M., Moore, M., & Fairhurst, A. E. (2005). Consumer shopping value for retail brands. *Journal of Fashion Marketing and Management: An International Journal*, *9*(1), 43-53. https://doi.org/10.1108/13612020510586398

Carver, C. S. (2005). Impulse and constraint: Perspectives from personality psychology, convergence with theory in other areas, and potential for integration. *Personality and Social Psychology Review, 9*(4), 312–333. https://doi.org/10.1207/s15327957pspr0904_2

Carver, C. S., & Connor-Smith, J. (2010). Personality and coping. *Annual review of psychology*, *61*(1), 679-704. doi: 10.1146/annurev.psych.093008.100352

Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing, 77*(4), 511–535. https://doi.org/10.1016/s0022-4359(01)00056-2

Columbus, S. (2021). Honesty-humility, beliefs, and prosocial behavior: A test on stockpiling during the COVID-19 pandemic. Collabra: Psychology, 7(1), Article 19028. https://doi.org/10.1525/collabra.19028

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Coskun, T., & Marangoz, M. (2019). Hedonik ve Faydacı Tüketim Davranışları Ölçeğinin Geliştirilmesi: Güvenirlik ve Geçerlik Çalışması. *Business and Economics Research Journal, 10*(2), 517–539. https://doi.org/10.20409/berj.2019.183

Costa, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences, 13*(6), 653–665. https://doi.org/10.1016/0191-8869(92)90236-i

Costa, P. T., Jr., & McCrae, R. R. (1998). Trait theories of personality. In D. F. Barone, M. Hersen, & V. B. Van Hasselt (Eds.), *Advanced personality* (pp. 103–121). Plenum Press. https://doi.org/10.1007/978-1-4419-8580-4_5

Dammeyer, J. (2020). An explorative study of the individual differences associated with consumer stockpiling during the early stages of the 2020 Coronavirus outbreak in Europe. *Personality and Individual Differences*, 167, 110263. https://doi.org/10.1016/j.paid.2020.110263

Dittmar, H., Beattie, J., & Friese, S. (1995). Gender identity and material symbols: Objects and decision considerations in impulse purchases. *Journal of Economic Psychology, 16*(3), 491–511. https://doi.org/10.1016/0167-4870(95)00023-H

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175-191.

Frost, R. O., Steketee, G., & Tolin, D. F. (2011). Comorbidity in hoarding disorder. *Depression and Anxiety*, *28*(10), 876-884. https://doi.org/10.1002/da.20861

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50. https://doi.org/10.1177/002224378101800104

Fischer, M., Twardawski, M., Steindorf, L., & Thielmann, I. (2021). Stockpiling during the COVID-19 pandemic as a real-life social dilemma: A person-situation perspective. *Journal of Research in Personality, 91*, Article 104075. https://doi.org/10.1016/j.jrp.2021.104075

Garbe, L., Rau, R., & Toppe, T. (2020). Influence of perceived threat of COVID-19 and HEXACO personality traits on toilet paper stockpiling. PLOS ONE, 15(6), e0234232. https://doi.org/10.1371/journal.pone.0234232

Güneysu, İ., Aslan, E. A., Batmaz, S., & Güneysu, S. (2025). An evaluation of metacognitive functions in obsessive-compulsive disorder. *Arch Neuropsychiatry*, 62:62−68. https://doi.org/10.29399/npa.28707

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford Publications: New York.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic Consumption: Emerging Concepts, Methods, and Propositions. *Journal of Marketing, 46*(3), 92–101. https://doi.org/10.2307/1251707

Islam T., Pitafi H., Wang Y., Aryaa V., Mubarik S., Akhater N., et al.(2021). Panic Buying in the COVID-19 Pandemic:A Multi-Country Examination. *Journal of Retailing and Consumer Services*.102357. https://doi.org/10.1016/j.jretconser.2020.102357

Koch, J., Frommeyer, B., & Schewe, G. (2020). Online shopping motives during the COVID-19 pandemic—Lessons from the crisis. *Sustainability, 12*(24), 10247. https://doi.org/10.3390/su122410247

Kim, H. Y. (2013). Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics*, *38*(1), 52–54.

Krupić, D., Žuro, B., & Krupić, D. (2021). Big Five traits, approach-avoidance motivation, concerns, and adherence with COVID–19 prevention guidelines during the peak of the pandemic in Croatia. *Personality and Individual Differences, 179*, 110913. https://doi.org/10.1016/j.paid.2021.110913

Kurnaz, A. (2022). The Big Five personality traits as antecedents of panic buying. *Marketing and Management Innovations, 3*, 21–33. https://doi.org/10.21272/mmi.2022.3-02

Lee, E., Moschis, G. P., & Mathur, A. (2001). A study of life events and changes in patronage preferences. *Journal of Business Research*, 54(1), 25–38. https://doi.org/10.1016/s0148-2963(00)00116-8

Lehberger, M., Kleih, A.-K., & Sparke, K. (2021). Panic buying in times of coronavirus (COVID-19): Extending the theory of planned behavior to understand the stockpiling of non-perishable food in Germany. *Appetite, 161*, 105118. https://doi.org/10.1016/j.appet.2021.105118

Loewenstein, G., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin, 127*(2), 267–286. https://doi.org/10.1037/0033-2909.127.2.267

Magnus Roos, J. (2024). Personality traits and stockpiling in the United Kingdom during the COVID–19 pandemic. *European Journal of Psychology Open*, *83*(3). https://doi.org/10.1024/2673-8627/a000060

Malhotra, N. K., & Dash, S. (2011). *Marketing research: An applied orientation* (6th ed.). Pearson Publishing.

McCrae, R. R., & Costa, P. T. (1991). The NEO Personality Inventory: Using the Five-Factor Model in Counseling. *Journal of Counseling & Development, 69*(4), 367–372. https://doi.org/10.1002/j.1556-6676.1991.tb01524.x

Micalizzi, L., Zambrotta, N. S., & Bernstein, M. H. (2020). Stockpiling in the time of COVID-19. *British Journal of Health Psychology, 26*(2), 535–543. https://doi.org/10.1111/bjhp.12480

Ntontis, E., Vestergren, S., Saavedra, P., Neville, F., Jurstakova, K., Cocking, C., … & Jørstad, K. (2022). Is it really "panic buying"? Public perceptions and experiences of extra buying at the onset of the COVID-19 pandemic. *PLOS ONE, 17*(2), e0264618. https://doi.org/10.1371/journal.pone.0264618

Palan, K. M. (2001). Gender identity in consumer behavior research: A literature review and research agenda. *Academy of Marketing Science Review*, 2001(10), 1–31.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Sadus, K., Göttmann, J., & Schubert, A. L. (2023). Predictors of stockpiling behavior during the COVID-19 pandemic in Germany. *Journal of Public Health*, 31(10), 1717-1733. https://doi.org/10.1007/s10389-022-01727-x

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

Schumacher, A., & Rettore Micheli, L. (2024). Anticipated scarcity and stockpiling during the COVID-19 pandemic: the role of perceived threat, childhood SES and materialism. *Plos One*,*19*(3). doi:10.1371/journal.pone.0294497

Sheth, J. (2020). Impact of COVID-19 on consumer behavior: Will the old habits return or die? *Journal of Business Research*, https://doi.org/10.1016/j.jbusres.2020.05.059

Smith, W. G. (2008). Does gender influence online survey participation? A record-linkage analysis of university faculty online survey response behavior. *ERIC Document Reproduction Service No. ED 501717.*

Smith, N., & Thomas, J. (2022). Doomsday prepping during the COVID–19 pandemic. *Frontiers in Psychology, 12*, 659925. https://doi.org/10.3389/fpsyg.2021.659925

Strahilevitz, M., & Myers, J. G. (1998). Donations to charity as purchase incentives: How well they work may depend on what you are trying to sell. *Journal of Consumer Research, 24*(4), 434 446. https://doi.org/10.1086/209519

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson: Boston, MA.

Voss, K. E., Spangenberg, E. R., & Grohmann, B. (2003). Measuring the hedonic and utilitarian dimensions of consumer attitude. *Journal of Marketing Research*, *40*(3), 310–320. http://www.jstor.org/stable/30038861

Wang, X., Li, L., & Su, Q. (2022). The impact of the COVID-19 pandemic on consumer behavior— Evidence from China's stock market. *Frontiers in Public Health, 10*, 865470. https://doi.org/10.3389/fpubh.2022.865470

Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin*, *96*(3), 465–490.

Yoshino, S., Shimotsukasa, T., Hashimoto, Y., & Oshio, A. (2021). The association between personality traits and hoarding behavior during the COVID–19 pandemic in Japan. *Personality and Individual Differences, 179*, 110927. https://doi.org/10.1016/j.paid.2021.110927

Young, M., Soza-Parra, J., & Circella, G. (2022). The increase in online shopping during COVID-19: Who is responsible, will it last, and what does it mean for cities? *Regional Science Policy and Practice*, *14*(S1), 162–178. https://doi.org/10.1111/rsp3.12514

Yuen, K. F., Wang, X., Ma, F., & Li, K. X. (2020). The psychological causes of panic buying following a health crisis. *International Journal of Environmental Research and Public Health, 17*, 3513. https://doi.org/10.3390/ijerph17103513

Yuen K.F., Leong J.Z., Wong Y.D., Wang X. (2021). Panic buying during COVID-19: Survival psychology and needs perspectives in deprived environments. *International Journal of Disaster Risk Reduction*, 62:102421. https://doi.org/10.1016/j.ijdrr.2021.102421 PMID: 36568695

Zettler, I., Schild, C., Lilleholt, L., Kroencke, L., Utesch, T., Moshagen, M., … Geukes, K. (2021). The role of personality in COVID-19-related perceptions, evaluations, and behaviors: Findings across five samples, nine traits, and 17 criteria. *Social Psychological and Personality Science*, 12(8), 194855062110016. https://doi.org/10.1177/19485506211001680

Appendix 1. Stockpiling Behavior Scale

1- Have you stockpiled products recently in anticipation of price increases?
2- Have you ever stockpiled products based on recommendations from people around you?
3- Have you ever stockpiled products based on the recommendations of experts?
4- Have you ever stockpiled products based on information you obtained through social media?
5- Does the thought of a product running out make you feel the need to stockpile?
6- Have you ever stocked products in anticipation of them running out?
7- Do you think you will stock products in the future out of concern that they might run out?