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Coping Mechanisms of Stress: The Impact on Online Purchase Impulsivity

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ABSTRACT

Objective – The coping mechanisms of stress and their impact on online purchase impulsivity are essential in understanding consumer behavior in the digital age. This research investigates the relationship between stress, the form of coping strategies, and impulsive online purchasing, addressing the gap in the existing literature. Next, to determine which is the most effective between self-control failure and self-reward as coping mechanisms of stress that can trigger online impulsive buying.
Methodology – Using a survey-based approach conducted online with a 5-Likert scale, assessed by 25 survey items. A sample-to-item sampling method to collect a diverse sample of consumers in Indonesia uses a 5 to 1 ratio.
Findings – The findings reveal that people in their productive age tend to experience this circumstance, resulting in a positive correlation between stress, self-reward, self-control failure, and online impulsive purchasing. However, it found that stress does not directly affect impulsive buying while coping mechanisms significantly impact this relationship.
Novelty – The conclusion emphasizes the relationship of the variables that may be used to develop a suitable marketing strategy and enhance employees' performances.
Keywords: *stress; consumer behavior; impulsive; self-rewards; self-control failure*

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I. INTRODUCTION

In today's fast-paced world, stress has become an inevitable part of life, especially for individuals in their productive years. According to the 2018 Basic Health Research (Riskesdas), there are more than 19 million Indonesians aged over 15 years who have mental and emotional disorders (Anwar, 2023). The constant pressure to meet deadlines, manage work-life balance, and fulfill personal and professional obligations can affect one's mental and emotional well-being. As a result, many individuals turn to various coping mechanisms to manage stress and achieve a sense of control. While some coping mechanisms are healthy and effective, others may have detrimental consequences, including impulsive buying behavior. Impulsive purchases comprise a significant portion of all purchasing activities, ranging from 40% to 80% (Aragoncillo & Orus, 2018). Emotional and psychological factors frequently drive impulsive purchasing behavior, resulting in poor financial planning and impulsive purchases (Gogoi, 2020). This behavior may seriously affect an individual's ability to achieve their objectives. In this essay, we will investigate impulsivity as the effect of purchase behavior, specifically self-control failure as the negative coping and self-reward as the positive coping as the mediators. In addition, we will discuss recent study findings on

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this topic and offer ideas on how individuals can successfully regulate their online impulsive buying to cope with stress.

Purchasing behavior is a complex phenomenon from the decision-making processes until obtaining a product. Coping mechanisms are the terms of strategies that individuals use to deal with stress and negative emotions. Some individuals may use purchasing behavior as a coping mechanism to deal with emotions. Tao et al. (2022) stated that negative emotions and behaviors have shifted consumer behaviors. In the worst case, people may develop a "nothing to lose" mentality and be more inclined to take risks, resulting in impulse purchases. However, this behavior may also affect a person in obtaining financial instability.

In recent decades, the relationship between buying behaviors to accomplish their coping and stress tendencies has puzzled researchers about the trigger on consumer behavior. First, recent findings have discovered mixed results regarding the relationship between stress and impulsive buying. Some studies have found that stress directs positively to impulsive buying (Zheng et al., 2020; Chiu et al., 2021), while others have found that stress has no significance as it acts as a created hedonic idea and becomes a regular behavior (Prawira & Sihombing, 2021). Second, a study has shown that impulsive buying may be a positive coping mechanism for stress, as it can provide a temporary sense of relief and pleasure and enhance motivation and well-being in reaching goals (Lim et al., 2021; Olsen et al., 2021). These two studies highlight that impulsive buying can be considered positive in the form of self-reward. However, Rodrigues et al. (2021) stated that impulsive behavior is caused by uncontrollable urges to purchase and a lack of awareness of the consequences of one's actions. These contradictory findings continue to spark debate among researchers and offer a promising field for further exploration of the intricate relationship between impulsivity and accomplishing self-satisfaction.

Balleyer and Fennis (2022) stated that people utilize shopping and spending to cope with stress and emotions. However, the effects of this behavior on impulsivity and self-reward pursuit still need to be thoroughly researched. This study examines how using purchase behavior in coping mechanisms influences impulsivity and positive coping. To comprehensively address the multifaceted objectives of this research paper, our research will focus on how people use buying to cope with stress and how coping mechanisms mediate these factors. Positive and negative coping mechanisms are also variables that may influence the level of impulsivity and detect the stress impact on the individuals (Hiustra et al., 2023). Furthermore, it adds to the current knowledge of stress and its influences on consumers' behavior. The paper will contribute to the impulsive buying behavior studies by inserting elements such as self-reward and self-control failure to understand impulsivity's effect better.

The findings contribute to a deeper understanding of impulse buying behavior, particularly the role of coping mechanisms. This knowledge can be used to develop more effective marketing strategies and interventions to address societal concerns about overconsumption and financial stability. By understanding how purchase behavior interacts with impulsivity and coping mechanisms, individuals can develop more effective and healthy strategies for managing stress and emotions. This can lead to improved mental health and overall well-being.

II. LITERATURE REVIEW

Digitalization has transformed the consumer landscape, allowing individuals unprecedented access to products and services thanks to e-commerce and online shopping platforms. As a result of this convenience, impulse buying has also raised concerns, particularly in online shopping contexts. Online shopping has become a prevalent addiction for some people to buy services and goods without interacting directly with people (Luhur et al., 2023). It is easier for consumers to make impulsive purchases, with over 50% of internet purchases being impulsive (Lina et al., 2022). It has become apparent that stress is a critical component in understanding the dynamics of online impulse buying. The increasing interest in online

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shopping has attracted public attention to impulsive purchases. Stress can act as a stimulus for impulsive purchasing behavior, as people may turn to shopping to cope with stress or increase their self-esteem. When under stress, this conduct is frequently motivated by a desire to favor instant gains above long-term consequences (Olsen et al., 2021). Therefore, it is essential to investigate the connection between stress and online impulse purchases and the factors influencing this relationship.

Impulsivity, Stress, and Coping Mechanisms

Impulsivity has been a fascinating topic that stands out among purchasing behavior. Online impulse buying is the spontaneous need to purchase a good or service in an online environment. According to Aragoncillo and Orus (2018), impulse buying is characterized by its rapidity and lack of thoughtful, deliberate consideration of alternatives or future implications. The concept of impulse buying describes a sudden, unexpected, and unintended purchase made quickly (Kristiyono & Gozali, 2022). It happens without much reflection, is driven by strong emotions, and is often influenced by the environment, promotions, and social media (Redine et al., 2022). Vihari et al. (2022) added that online impulse buying has several adverse effects on consumers, including guilt and financial instability, and on e-commerce businesses, including higher return rates and client complaints. The customers' conditions drive them to be impulsive, especially when stressed, unstable, or under high pressure.

Stress is defined as a condition of tension caused by the impression of an imbalance between the demands of a situation and the resources available to a person, which could threaten their well-being (Redine et al., 2022). Previous studies on buying behavior suggest that individuals indulge in random buying under the influence of extreme emotional experiences. For instance, while angry or under stress, individuals shop to uplift their mood (Parsad et al., 2021). When individuals encounter situations or stimuli that they perceive as taxing or exceeding their resources, their cognitive appraisal comes into play. This appraisal process involves evaluating the situation, determining its nature (whether it is a threat, challenge, or loss), and subsequently influencing their emotional and behavioral responses (Jamieson et al., 2018). In some cases, the stressor can be perceived as a threat that may trigger impulsive reactions, such as a coping mechanism (Zhao et al., 2022). Various situational characteristics, such as novelty, predictability, uncertainty, temporal factors, or ambiguity, could lead to stressors (Peters et al., 2017). These elements can also influence the impulse purchase process. For example, stressful situations marked by uncertainty or unpredictability may lead to people seeking quick gratification through impulse purchases to manage stress and regain control (Akram et al., 2018). Managing stress has to be controlled, especially in today's fast-paced environment, where daily obstacles can destroy one's well-being.

A coping mechanism is a method or strategy to deal with stress, challenges, or emotional distress (Algorani & Gupta, 2022). Coping mechanisms can be broadly categorized into two main types: positive and negative coping mechanisms. Positive coping mechanisms are also known as healthy or adaptive strategies for coping, which benefit the individual and do not result in damaging consequences. According to Riepenhausen et al. (2022), positive coping mechanisms include problem-solving, emotional regulation, cognitive reappraisal, self-rewarding, and constructive communication. The opposite of positive coping mechanisms is negative coping, which refers to unhealthy behaviors. Unhealthy coping mechanisms include emotional suppression, avoidance, denial, and substance abuse. Negative coping mechanisms can lead to damaging consequences such as depression, anxiety, and antisocial behavior (Algorani & Gupta, 2022). Therefore, the influence of negative and positive coping mechanisms as the bridge between stress and online impulse buying will be identified. Based on this explanation, the conceptual framework can be seen in Figure 1.

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The Direct Influence of Stress

Stress can induce emotional responses such as anxiety, frustration, or sadness. These emotions can create a desire for immediate relief, and online shopping may serve as a means to alleviate negative emotions temporarily. Studying the relationship between internal and external stimuli on online impulse buying behavior by Kimiagari and Malafe (2021) found that cognitive and affective responses influence the relationship between internal and external stimuli. Redine (2022) performed a comprehensive analysis of academic research on impulse buying and found that stress is one of the factors that can lead to impulse buying behavior. Mandolfo and Lamberti (2021) discovered that stress can influence impulse-buying behavior in a systematic literature review of impulse-buying research methods. However, some researchers found contrasting outcomes. Stress did not significantly predict impulsive purchasing behavior (Iyer et al., 2020), but traits, motivations, consumer resources, and marketing stimuli did (Shams et al., 2021). Based on this discussion, the hypothesis is as follows:
H1: Stress has a direct effect on online impulse buying.

The Role of Self-Control Failure as Negative coping

A study on the effect of the COVID-19 pandemic by Wang et al. (2021) found that the uncertainty and unknown nature of the pandemic events can cause distress, annoyance, and tension, which in turn can trigger anxiety. This study also indicates that stress and anxiety induced by the pandemic can lead to a failure of self-control (Wang et al., 2021). Another study found that repeated failure may lead to stress and feeling pressured to respond to affective cues, thereby experiencing self-control failure, which might further decrease people's sensitivity to those cues (Du et al., 2021). This study suggests that self-control failure may be a critical factor in the relationship between stress and online impulse buying. Thus, the hypothesis is developed as follows:
H2: Stress influences self-control failure.

Furthermore, some studies have explored the relationship between impulse buying and other factors, such as face loss, desire for control, and behavior change technology. A study on the influence of face loss on impulse buying found that impulse buying behavior results from a lack of self-control (Sun et al., 2021). This study found that self-control is crucial in impulse buying formation and that consumers could regulate themselves to achieve delayed gratification rather than instant pleasure. Wang et al. (2021) discovered that self-control failure is associated with impulsive purchasing and consumer behavior. Another study found that behavior change technology for self-control can effectively reduce impulse buying tendencies (Han et al., 2021). This study suggests that self-control can be enhanced through repeated physical and cognitive exercises. Based on this information, the hypothesis is as follows:
H3: Self-control failure influences online impulse buying.

The Role of Self-Reward as Positive Coping

Self-rewarding is a way of rewarding oneself for an accomplishment or achievement. It is a form of self-love and appreciation of one's efforts, which can motivate oneself and cultivate a habit of personal growth (Darling-Hammond et al., 2020). Self-rewarding is a crucial component influencing impulsive purchasing behavior, particularly online shopping. Impulse buying is a sudden and unplanned purchase often made under the influence of a stimulus and is frequently associated with a "powerful and irresistible force to buy," as defined by Rodrigues et al. (2021). Stress as a constructive coping mechanism can lead to self-reward through self-regulation. When individuals experience stress, they may engage in behaviors that provide immediate relief or gratification, which can be a form of self-reward (Vihari et al., 2022). Therefore, the hypothesis is constructed as follows:
H4: Stress impacts self-reward.

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Sun et al. (2021) conducted a study that examined the impact of psychological factors on online impulsive buying and discovered that stress reaction was a strong predictor of online impulse buying. It lends credence to the notion that stress may lead to online impulse purchases as a self-reward. However, research methods and metrics are employed in high-quality literature to evaluate impulse shopping. Understanding the cognitive processes underlying online impulse buying may help individuals regulate their behavior and avoid engaging in impulsive buying as a form of self-reward (Mandolfo & Lamberti, 2021). According to Wongkar et al. (2022), self-reward can motivate people to make impulsive purchases, leading to often experiencing positive emotions, such as delight. It suggests that people looking to reward themselves may be more likely to make impulsive purchases (Wongkar et al., 2022). Thus, the hypothesis is developed below:

H5: Self-reward impacts online impulse buying.

III. METHODOLOGY

Respondents' Demographic Profile

The questionnaire consisted of two sections. The first section gathered general demographic information, including age, income level, monthly expenses, and shopping frequency during stress. The details of the specifications for the demographic profile are gathered in Table 1. The second section included 25 survey items to assess the study's four fundamental constructs: stress, self-control failure, self-reward, and online impulse buying.

Table 1. Demographic Profiles

Criteria	Characteristics	Percentage	Frequency
Age	< 17 years old	2.45%	4
	17 - 25 years old	84.05%	137
	26 - 35 years old	13.50%	22
	> 35 years old	0.00%	0
Gender	Male	15.95%	26
	Female	84.05%	137
Employment Status	Students	57.06%	93
	Employees	36.20%	59
	Housewives	6.75%	11
Income Level	<IDR1,000,000	52.15%	85
	IDR1,000,000-5,000,000	41.10%	67
	IDR5,000,001-10,000,000	6.13%	10
	>IDR10,000,000	0.61%	1
Monthly Expense	<IDR500,000	28.83%	47
	IDR500,000-1,500,000	52.76%	86
	IDR1,500,001-3,000,000	11.66%	19
	IDR3,000,001-4,500,000	4.91%	8
	>IDR4,500,000	1.84%	3
Shopping Frequency	1-2 times per month	65.03%	106
	3-5 times per month	26.99%	44
	>5 times per month	7.98%	13

These demographic profiles are constructed by considering that different demographic groups may have varying shopping behaviors and stress levels; hence, it is accurate for which section of each factor contributes most to impulsive buying.

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Measurement Scales

In this study, respondents were given the option to select a closed-ended question with a five-point Likert scale response provided by the researchers. The five-point Likert scale used in this study consisted of five response options: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. This scale allowed respondents to express their level of agreement or disagreement with each statement on a continuum, providing a more nuanced understanding of their perceptions.

The use of 5-point Likert scales is relatively simple to construct and administer, making them a convenient choice for researchers. Participants can easily understand the scale and provide their responses, even if they have limited experience with surveys or questionnaires. When properly constructed and implemented, Likert scales can produce reliable data. Repeated measurements of the same construct using the same scale will likely yield similar results. As we calculate the data using SmartPLS, Likert scales can also be valid measures of the constructs they are intended to assess. Additionally, Likert scales can be sensitive to minor differences in the measured underlying construct. This reliability ensures that researchers can have confidence in the accuracy of their findings.

Questionnaire

Before collecting primary data from the public, we conducted a pre-test to check the validity and reliability of the items. In the pre-test, 20 questions were constructed and filled by 30 participants, which was calculated using the PLS-SEM algorithm. However, the results indicate that 5 instruments are below 0.6 for Cronbach's alpha and are considered low reliability and unacceptable (Daud et al., 2018). Additionally, the pre-test found that the average variance extracted (AVE) is less than 0.5 and considered not accepted (Cheung et al., 2023). Considering the instruments are lessened, additional items are needed for accurate findings. Therefore, the main survey is arranged after eliminating those five and adding ten more items to be assessed.

The questionnaire set four variables: stress, self-control failure, self-reward, and online impulse buying. Stress was assessed using seven items adapted from Zia (2019) and Jin et al. (2023), measuring perceived stress levels and the inability to control stress (e.g., "I find it difficult to control irritations in your life" and "I feel so stressed there was no escape"). Seven items adapted from Manapat et al. (2019) and Çelik and Köse (2021) were used to assess self-control failure (e.g., "When I feel bad, I like to buy things'' and "I often act without thinking through all the alternatives''). The study also employed six items that were derived from Zia (2019), Zheng et al. (2020), and Wongkar et al. (2022) to evaluate self-reward (e.g., "I often find myself thinking about things that I have to accomplish" and "I think it is not a problem to spend the money I make for sheer pleasure"). The study assessed online impulse buying by measuring the following using five items adapted from Fook and McNeill (2020), Aragoncillo and Orus (2018), Vihari et al. (2022), and Zheng et al. (2020) that assessed the propensity to make impulsive purchases during online shopping (e.g., "I am able to make purchases anytime, so I tend to buy more spontaneously" and "I am able to make purchases during the visit to an electronic commerce website").

Sampling Method

To conduct this research, the researchers use the quantitative method with a questionnaire survey as a medium to analyze and examine the impact of online purchase impulsivity as a coping mechanism for stress. This study was conducted online using Google Forms to gather information from respondents anonymously. According to Memon (2020), the sample size determination used for this study is a sample-to-item with a minimum 5 to 1 ratio. The sample-to-item ratio is a valuable tool for ensuring that exploratory factor analysis (EFA) studies are well-designed and will produce reliable results because EFA is sensitive

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to sample size, and a small sample may not provide enough information to identify the underlying factor reliably (Costello & Osborne, 2019).

Considering that the study includes four variables, a sample size of at least 125 observations is required. The Partial Least Square (PLS) method was employed in this study to analyze the research model, utilizing the SmartPLS 4 software. The sample frame included all working-age Indonesians, both men and women, and focused on their careers, financial goals, and family issues. The questionnaire was developed in Bahasa Indonesia to meet respondents' perspectives in Indonesia. The survey form is divided into two sections, the first evaluating the responses filed.

IV. RESULTS AND DISCUSSION

The primary survey consists of 25 items, resulting in a total of 163 participants completing the survey. The strength of the relationship between a set of indicators and a latent variable can then be evaluated statistically using an indicator loadings analysis, which can be performed using this data.

Table 2. Validity and Reliability

Construct	Items	Loadings	Alpha	rho_a	CR	AVE
Stress	STR1	0.736	0.848	0.850	0.888	0.569
	STR2	0.783				
	STR3	0.820				
	STR4	0.731				
	STR6	0.759				
	STR7	0.659				
Self-Control Failure	SCF8	0.807	0.757	0.774	0.844	0.576
	SCF10	0.771				
	SCF12	0.760				
	SCF13	0.694				
Self-Reward	SR15	0.536	0.708	0.785	0.807	0.516
	SR18	0.730				
	SR19	0.781				
	SR20	0.797				
Online Impulse Buying	OIB21	0.820	0.847	0.850	0.892	0.624
	OIB22	0.824				
	OIB23	0.860				
	OIB24	0.729				
	OIB25	0.705				

Following the advice of Field (2018) who recommended suppressing factor loadings less than 0.3, any item with all scores suppressed should be removed. Scores greater than 0.4 are considered stable (Pangaribuan & Febriyanto, 2019). Seven indicators are used to assess the stress latent variable: STR1, STR2, STR3, STR4, STR5, STR6, and STR7. The indicator loadings for the Stress latent variable range from 0.659 to 0.820 (see Table 2). This implies that all of the indicators accurately measure the latent variable. Seven indicators assess the latent variable of Self-Control Failure: SCF8, SCF9, SCF10, SCF11, SCF12, SCF13, and SCF14. However, the three indicators' loadings (SCF9, SCF11, and SCF14) are extremely low (0.000, -0.197, and 0.030, respectively). It means these indicators do not accurately measure the latent variable self-control failure and should be removed from the model. After removing these three indicators, the remaining indicators have high loadings (ranging from 0.694 to 0.807), indicating that they accurately measure the Self-Control Failure latent variable. In the first assessment, six self-reward indicator items had strong Outer Loadings ranging from 0.558 to 0.797. However, in the first assessment, two items

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(SR16 and SR17) had low Outer Loadings (0.451 and 0.518, respectively). These two items were eliminated from the final evaluation. In both the first and final assessments, all five online impulse buying indicator items had strong Outer Loadings ranging from 0.705 to 0.860. The five indicator items accurately measured the online impulse buying construct. However, Hair et al. (2010) supported that factor loadings be more than 0.50. Several items must be removed because the value is less than 0.50, indicating a weak association between the manifest and latent variables. This suggests that the item is not providing much information about the latent variable and may be introducing clutter into the model (e.g., STR5, SCF9, SCF11, SCF14, SR16, SR17). Deleting the variable may enhance the model's overall accuracy.

The composite reliability for each construct should be greater than 0.70, and the average variance extracted (AVE) for each construct should be greater than 0.50 (Fornell & Larcker, 1981). The AVE is the sum of the squared loadings (indicator loadings) divided by the number of indicators. All loadings were more significant than 0.50, with the majority exceeding 0.60. The factor loadings ranged from 0.65 to 0.92. The high factor loadings support the conclusion that the measures have convergent validity. All results are acceptable because Cronbach's alpha and composite reliability exceed 0.7 (see Table 2). Composite reliability measures internal consistency, and values between 0.60 and 0.70 are considered acceptable in exploratory research, while values between 0.70 and 0.90 are considered satisfactory to good (Hair et al., 2019).

The results of Croanbach's Alpha, rho_A, Composite Reliability, and AVE measurements are all latent construction and reliable and valid as all of their values. As a result, they can be used to evaluate structural models and hypotheses because they meet the test criteria. Furthermore, the AVE value for the research construct is greater than 0.5, indicating that the research tools have passed the dependability test.

The 95% confidence intervals for beta coefficients, *t* statistics, and *P* values are all relatively wide, implying that the actual values of these findings of the variables used in the study have high-reliability coefficients.

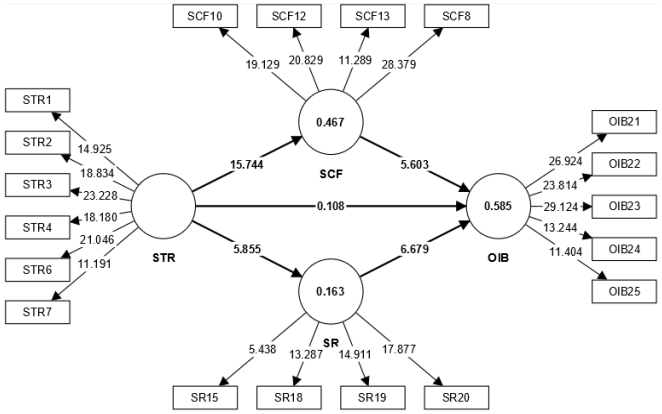

Figure 2. Bootstrapping Results

In the bootstrapping graphical output above, *t* values are used as the inner and outer models, while the construct uses R^2. With a 95% confidence level, the *t* value requires at least 1.96 in score to be considered significant, the critical value for two-tailed significance at the 0.05 level (Hair et al., 2021). The outer model *t* values are all statistically significant, indicating that the constructs in the outer model explain 58.5% of the variance in the latent variable. The inner model *t* values are also statistically significant, and the inner model constructs explain 10.8% of the variance in the latent variable. The outer model *t* value is slightly lower than the inner model *t* value, suggesting that the outer model is not as good fit as the inner model.

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However, both *t* values are highly significant, so both models can be considered well-fitting. The R^2 value for the inner model is higher than the R^2 value for the outer model, suggesting that the inner model explains more of the variance in the construct than the outer model. This is likely because the inner model includes more variables than the outer model.

After having the bootstrapped *t* values to measure individual predictor significance, the intercorrelation among variables also needs to be assessed by the multicollinearity test. Multicollinearity occurs when two or more independent variables in a regression model are highly correlated (Daoud, 2017). The variance inflation factor (VIF) emerges as a valuable tool for quantifying the extent of multicollinearity and its subsequent influence on the stability of regression models, as shown in Table 3.

Table 3. Multicollinearity Test

Construct	VIF
Stress → Online Impulse Buying	1.882
Stress → Self-Control Failure	1.000
Self-Control Failure → Online Impulse Buying	2.212
Stress → Self-Reward	1.000
Self-Reward → Online Impulse Buying	1.410

Akinwande et al. (2015) mentioned that if VIF is equal to 1, the factors are not correlated or have no multicollinearity regressors (e.g., the construct of stress to self-reward). Furthermore, 1 < VIF < 5 indicates the moderate correlation of the construct (Shrestha, 2020), such as the construct for stress and online impulse buying has an inner VIF of 2.212, which demonstrates that the conditions are not multicollinear because it is below 5. The result shows that 5 constructions of 4 variables are "orthogonal" (Daoud, 2017), with no correlation between the predictors.

According to the discriminant validity assessment by cross-loadings, the indicator's outer loading on the associated construct should be greater than all of its loadings on other constructs on each item row. Cross-loadings that exceed the outer loadings of the indicators indicate a discriminant validity issue (Hair et al., 2011), which is prepared in detail in Table 4.

Table 4. Discriminant Validity (Fornell Larcker Criterion)

	Online Impulse Buying	Self-Control Failure	Self-Reward	Stress
Online Impulse Buying	0.790			
Self-Control Failure	0.676	0.759		
Self-Reward	0.664	0.537	0.718	
Stress	0.483	0.683	0.404	0.755

Discriminant validity occurs if cross-loading two different instruments that measure two constructs that are predicted to be uncorrelated produces scores that are not correlated (Fornell & Larcker, 1981). because the AVE was greater than 0.5 (see Table 4). It demonstrates that the convergent and discrimination validities of each construct are acceptable.

Once discriminant validity is proven, a model summary can be created to comprehensively assess how well the SEM model matches the observed data and effectively represents the underlying theoretical

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framework. The model summary measures the relationship between the dependent variable and the framework model (see Table 5), utilizing the R^2 can be in decimal or percentage.

Table 5. Model Summary

	R^2	R^2 *Adjusted*
Online Impulse Buying	0.585	0.577
Self-Control Failure	0.467	0.463
Self-Reward	0.163	0.158

The range for a coefficient of determination or R^2 is from -∞ to 1 (Chicco, 2021). Additionally, Hair et al. (2021) reported that R^2 can be categorized into 4 groups: very weak ($R^2 < 0.25$), weak ($0.25 \leq R^2 < 0.50$), moderate ($0.50 \leq R^2 < 0.75$), and substantial ($R^2 \geq 0.75$).

According to Table 5, the R^2 for online impulse buying is 0.585, considered moderate. It evidences the robust relationship between the model and online impulse buying as the dependent variable. However, the connection of self-reward to the model is weakest because the coefficient of determination is low at 0.163.

As the model summary table provides a statistical overview of the fitted model, measuring the relationship between the independent and dependent variables is also needed to state the significance using hypothesis testing. Hypothesis testing is a statistical method used to assess whether a difference between two samples represents a fundamental difference between the populations from which the samples were taken or whether the observed results are likely due to chance (Walker, 2019).

Table 6. Hypothesis Testing

Hypothesis	**Relationship**	***β***	**Mean**	**STDEV**	***t* statistics**	***P* Values**	**Decision**
H1	Stress → OIB	0.009	0.009	0.088	0.108	0.914	Not Supported
H2	Stress → SCF	0.683	0.688	0.043	15.744	0.000	Supported
H3	SCF → OIB	0.443	0.448	0.079	5.603	0.000	Supported
H4	Stress → SR	0.404	0.414	0.069	5.855	0.000	Supported
H5	SR → OIB	0.422	0.422	0.063	6.679	0.000	Supported

As this research is observed using the 95% confidence interval, the significance is 5% or 0.05 at a *P* value. The significance of the *P* value is determined "high" when it is less than 5% and the *t* value is above 1.96 (Hair et al., 2021) or known as "statistically significant." The relationship of each hypothesis proposed gains positive results, meaning that as the dependent variable increases, the independent variable will also increase.

First, the H1 proposed is not significant due to the *P* value being greater than 5%, which is at 0.914, and the *t* stat is below 1.96. Therefore, this study did not find evidence to support the relationship between stress and online impulsive behavior. Second, the relationship between stress and self-control failure proposed in H2 is statistically significant because the p-value is less than 0.05, and the *t* stat is higher than 1.96, which is at 15.744 and the highest number in this hypothesis test. Thus, the data has enough evidence to support the stress and self-control failure correlation. Third, the proposed H3 found a statistically significant association between online impulse buying and self-control failure. The result of hypothesis testing implies the p-value is below 0.05, and the *t* stat is 5.603 ($t > 1.96$), indicating that the finding is statistically significant and can support the correlation between self-control failure and online impulse buying. Next, according to H4, there is a statistically significant correlation between stress and self-reward. It is evidenced

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by Table 7, showing that the p-value is 0 ($P < 0.05$) and the *t* stat is 5.855, which is above 1.96. Therefore, the finding successfully provides enough evidence to support the stress and self-reward relationship. Lastly, the hypothesized statistical significance of the association between self-reward and online impulsive buying in H5. The hypothesis testing results indicate that the *P* value is 0 (*P* 0.05), and the *t* stat is 6.679 ($t > 1.96$), considered to be statistically significant. It also shows that the finding confirms the association between self-control failure and online impulsive buying. Thus, the indirect effects of the correlation between stress and online impulse buying through self-reward and self-control failure can be assessed as follows.

Table 7. Path Coefficients of Specific Indirect Effects

Relationship	*β*	Mean	STDEV	*t* statistics	*P* Values
STR → SCF → OIB	0.303	0.308	0.058	5.180	0.000
STR → SR → OIB	0.171	0.173	0.033	5.227	0.000

From Table 7, the connection between stress and impulsive purchase can be determined using a mediator of self-control failure and self-reward. The constructs have a positive relationship, meaning that every variable is in line with each other. The relationship between stress and online impulse buying using self-control failure as the mediating variable resulted in 0.303 of the original sample. It is confirmed that the correlation is statistically significant as the *P* value is below 0.05 and the *t* stats is 5.180 (above 1.96). Compared to the relationship using self-reward as the mediator, it shows that the construct resulted in 0.171 in the relationship between stress and online impulse buying through self-reward. It is considered statistically significant, with the *t* stats is 5.227 and higher than 1.96 and the *P* value being under 0.05.

Discussions

The analysis summarizes that stress influences people to do coping strategies, specifically self-reward as the positive and self-control failure as the negative side. Furthermore, these typical mechanisms lead people to purchase impulsively. However, stress is not associated with online impulsive buying, as there might be several factors that can mediate and moderate this relationship. This paper examines their demographic profiles based on the survey results to analyze the respondents who experience the four variables mentioned.

The data shows that people in the productive age (17-35) are more likely to have higher purchase intentions, resulting in 80.05% of 163 respondents. People in the productive age are more likely to have disposable income and more likely to buy spontaneously. This is because they are more likely to have disposable income and are more susceptible to social media and other marketing messages (Bureau of Labor Statistics, 2022), which means they have more money to spend on discretionary items. People in productive age, who often lead active and social lifestyles as they go to school, start a career or get married and have children, often need to buy new items such as work clothes. They choose lifestyle brand alliances to convey their way of life, using brands to communicate their chosen lifestyle, highlighting the influence of lifestyle on brand purchases (Maney & Mathews, 2021). Out of 137 female respondents, 116 are between the ages of 17 and 25, while 17 are between the ages of 26-35. It shows that female shoppers tend to be more impulsive than male shoppers (Iyer et al., 2020), as the survey requirements are for people who experience stress and correlate with impulsive buying. They are more likely to make impulse purchases, particularly when items are on sale or appear to be of good value. Increased impulsivity can also lead to increased purchasing intentions. Furthermore, students tend to have more purchase intention, resulting in 57.06% out of 163 respondents. It indicates that students as Gen Z may be more likely to be early adopters of new products and services, according to Chen et al. (2023). They are also more likely to use social media, which

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businesses can use to reach out to students and promote their products. In addition, students may be more likely to have disposable income to spend on non-essential items.

While the employment status found that the student is in a higher position, it points out that they might have a low monthly income. The data shows that the highest percentage of monthly income is under one million IDR (below 63.80 USD), resulting in 52.15% of 163 respondents. It is followed by a range between > 1 million to ≤ 5 million IDR (ranging from 63.80 to 319.00 USD), with 67 voters or about 42.10%. An income level is correlated to monthly expenses, defined by FitzRoy and Nolan (2021), that people are motivated to work harder and earn more money to meet their basic needs and wants. However, when people earn higher incomes, their expenses also tend to increase. People are constantly exposed to new products and services and often need to purchase these items to maintain a certain lifestyle (FitzRoy & Nolan, 2021). The survey results found that most people have to spend about 500,000 to 1.5 million IDR (around 32.00 to 96.00 USD) in a month for 86 of 163 participants. The following percentage is at the lower level of the options IDR < 500,000 (below 32.00 USD), which gains about 28.83% or 47 respondents. After focusing on the demographic profiles of the respondents, this study questioned whether they tend to shop when they feel stressed or not, followed by the possibilities to control this expense. Therefore, 106 responders are found to shop 1-2 times monthly to cope with stress.

A result indicated that stress can not directly affect impulsive online purchasing (Hypothesis 1), it is supported by the previous study from Reed (2017) that stress did not impact the consumers' purchasing behavior. From the result, people tend to feel disappointed when everything goes unplanned or something happens unexpectedly. As a result, it confirms that other factors might trigger impulsive purchases. Moreover, stress can lead people to adopt negative coping mechanisms, such as mentioned by the previous research that stress influences self-control failure by increasing anxiety and decreasing sensitivity to affective cues (Du et al., 2021; Wang et al., 2021). This finding supports Hypothesis 2 that stress impacts a lack of self-control. The study shows that sometimes people know they cannot handle making mistakes during stress as they think there are no possible alternatives. Thus, self-control failure triggers online impulse buying, as stated in Hypothesis 3. A supportive statement from Chen et al. (2022) reinforced that self-control is connected to the development of impulsive purchases; consumers can use self-control to attain delayed satisfaction as opposed to immediate pleasure (Sun et al., 2021; Wang et al., 2021). It promotes the research items regarding the urge to buy something when they feel uneasy about controlling themselves. Additionally, the result for Hypothesis 4 is strengthened by previous findings that stress can lead to self-rewarding behaviors, as people may seek immediate relief or gratification when feeling stressed (Rodrigues et al., 2021; Vihari et al., 2022). According to the survey, people often think of an accomplishment after doing something and are willing to spend their money for sheer pleasure. Lastly, Hypothesis 5 is supported by Wongkar et al. (2022), that self-reward can influence people to make impulsive purchases because it gives them positive feelings.

Based on the coefficients, Path 1 (Stress → Self-Control Failure → Online Impulse Buying) has a higher value than Path 2 (Stress → Self-Reward → Online Impulse Buying). This means self-control failure plays a more significant role than self-reward in mediating the relationship between stress and impulse buying intention. In other words, when stressed, people are more likely to experience self-control failure, leading to increased impulse buying intentions. Self-reward, conversely, has a weaker effect on the relationship between stress and impulse buying intention. It happens because people probably think it is always a form of self-reward after doing something. At the same time, it is a failure to control oneself after looking at an online shop (Tarka et al., 2022) and then coming up with a mind of the need to have something as an accomplishment, which is repeated several times. This finding suggests that interventions aimed at strengthening self-control might be more effective in reducing impulsive buying behavior than interventions solely focused on reducing stress or altering the desire for self-reward. However, it is

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important to note that a comprehensive approach addressing stress management and self-control strategies may yield the most optimal results.

As the findings analyzed the stress factor on impulsivity, it was found that coping mechanisms also influence its interrelation. Positive and negative coping mechanisms are also variables that may influence stress levels and detect the impact on the impulsivity of individuals. Furthermore, it adds to the current knowledge of stress and its influences on consumers' behavior. The paper will contribute to the impulsive buying behavior studies by inserting elements such as self-reward and self-control failure to better understand the effect of impulsivity.

V. CONCLUSION

This study investigates the relationship between stress and online impulse buying, focusing on the mediating role of coping mechanisms such as self-control failure and self-reward. Through an in-depth examination, hypotheses, and methodology, the study provides valuable insights. It discovers that stress does not cause online impulse purchases directly, but rather through mediating and moderating factors. Individuals under stress, on the other hand, seek coping mechanisms, and self-reward and self-control failure play a significant role in mediating the stress-impulsivity relationship. Our findings suggest that emotional regulation is important in online impulse purchases. Measures that reduce stress and promote positive coping mechanisms, such as listening to music, could help reduce impulsive purchasing motivated by negative emotions. Furthermore, implementing loyalty programs with immediate rewards, such as points, discounts, or exclusive access, could take advantage of the self-rewarding nature of impulse purchases, potentially encouraging additional purchases. Secondly, given the impact of self-reward on online impulse purchasing, implement loyalty programs that provide immediate rewards for impulse purchases. This could include points, discounts, or exclusive access to products, all of which reinforce the concept of self-reward. These strategies can successfully use loyalty programs to drive impulse purchases and cultivate customer loyalty. The study's limitations include its emphasis on Indonesian culture and coping mechanisms as stress and online impulse buying mediators. Future research could look into relationship social media influence and diverse emotion regulation such as mindfulness. This would provide a deeper awareness of how individuals deal with stress and manage their online shopping habits. Furthermore, studying the impact of social media and advertising is critical for comprehending the overall context of online impulse buying behavior when people are stressed. By capturing interaction of internal and external factors influencing consumer behavior in the online environment, this broader perspective would improve the study's validity. Exploring these additional variables and addressing previous research limitations has the potential to significantly improve our understanding of stress, coping mechanisms, and online impulse buying. This knowledge is critical for developing effective strategies that encourage responsible consumer behavior, improve financial well-being, and enable individuals to make informed decisions in the increasingly digital world of online shopping.

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