Available Online: 16 June 2026 DOI: 10.54254/2753-7102/2026.34490

The impact of social media factors on impulse buying behaviors among generation Z: a study with fear of missing out as a mediating variable

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Abstract. This research examined the role of fear of missing out and other correlated median factors in their influence to impulsive buying behavior among generation Z (people who were born in 1995-2010, age 15-30) by using online questionnaires. In the survey, participants self report their attitudes and personal experiences of fear of missing out and impulsive buying behavior. Other median factors (influencer credibility, comments of products, algorithmic personalization and marketing strategies) also were obtained. The findings generally show that influencer credibility and comments of products have no significant effects on leading to fear of missing out. Nonetheless, personalized algorithmic information and marketing strategies have positive effects on the phenomenon of fear of missing out, which also were possible reasons for impulsive buying behaviors in generation Z. The research indicates people nowadays should build awareness to identify the promotional information exhibited by social media, and be more rational when facing an impulsiveness of purchasing.

Keywords: FOMO, impulsive buying, social media, generation Z

1. Introduction

1.1. Scope & purpose

As the modern landscape becomes increasingly digitalised, impulsive purchases influenced by social media factors become a major concern, especially among generation-z. The aim of this study is to explain the positive correlation between the social media factors (electronic word of mouth, influencer credibility, algorithmic personalisation and social media marketing) and impulsive purchase behaviour using the mediating variable of FOMO, which is a phenomenon characterised by pervasive apprehension over missing out on experiences that others have [1].

1.2. Overview of methodology

In theoretical research, our team will adopt a selective reading process of research papers online. Refining the searches with boolean operators such as AND, OR of key terms to narrow down the number of articles. This will allow us to allocate specific dependent, independent and mediating variables that are most effective.

Empirical research will be done through questionnaires targeting 417 Generation-Z consumers internationally. The study will adopt a quantitative, cross-sectional design, utilising the five-point Linkert scale to measure all constructs. The given results will be evaluated using Partial Least Square Structural Equation Modeling (PLS-SEM) through the SmartPLS software in order to elucidate the role of FOMO when bridging the gap between social media factors and impulsive purchase behaviour.

1.3. Summary of main findings or results

The results showcase that FOMO exhibited a strong positive influence on impulsive purchasing, confirming its role as a significant psychological mechanism that drives impulsive purchasing under social media context. Moreover, social media marketing and influencer credibility significantly increased FOMO, subsequently, demonstrating significant mediated effects on impulsive purchasing via FOMO. The direct effects of social media marketing and influencer credibility on impulsive purchases were also positive, indicating that FOMO can partially mediate their relationship while additional mechanisms also contribute. Conversely, Electronic Word of Mouth (EWOM) and algorithmic personalisation did not significantly affect FOMO nor directly influenced impulsive purchasing behaviour, therefore they exhibited no mediated effects on impulsive purchasing.

1.4. Significance of the findings

After deep research into existing literature, it was evident that they have largely only acknowledged FOMO as an emerging concept, but few have empirically tested its mediating role between a wide range of social-media factors and impulsive purchase behaviour. In particular, there has been limited research that has simultaneously compared influencer credibility, social media marketing, electronic word of mouth and algorithmic personalisation to determine their relative psychological effects.

This study successfully filled this gap by empirically testing FOMO as a mediating mechanism across multiple social media factors, thereby creating a significantly more nuanced understanding of how impulsive purchases can be triggered by social media platforms – hypothesising the effect of a valid and measurable variable.

Practically, this research is significant as the e-commerce market is expanding rapidly, particularly among Generation Z, a demographic that was born into social media access, and is constantly engaged with it. As impulsive purchasing can negatively affect Gen Z's disposable income, financial stability and quality of life, this study thereby gives valuable insights for marketers, policymakers and educators.

1.5. Theoretical background—S-O-R model

The stimulus organism response model is a preferred theory by researchers to understand and comment on the behavior of consumers during the decision-making processes that lead to purchase [2]. Within this model, the stimulus (S) refers to the external environment cues that exert influence amongst consumers [3]. In this context, social media factors such as influencer credibility, electronic word-of-mouth, algorithmic personalisation and social media marketing operate as stimulus-based cues that can expose individuals to persuasive content and information within the social media environment. The organism (O) is reflective of the cognitive states and internal processes that are triggered by environmental stimuli [4]. Here, Fear of Missing

Out (FOMO) represents this state through which the social media cues are psychological/mentally processed. Finally, the response (R) consists of the final behavioural outcomes that emerge as a result of the internal states, this can manifest as approach or avoidance [5]. In the context of this research, the response would be the impulsive purchase behaviour. Through this model, and the positioning of FOMO as the organismic component, it is evident that a strong theoretical model supports the mediating role of FOMO on the influence of social media factors on impulsive purchase responses.

2. Literature review

2.1. Influencer credibility

Influencer credibility, can be understood by the classical Ohanian theory which emphasises attributes such as attractiveness, expertise and trustworthiness as determinants of persuasive power [6]. Additionally, authenticity is another dimension added to this model, given that followers expect influencers to disclose personal experiences, opinions and vulnerabilities [7]. The impact of their outreach is evident as scholars indicate that their presence has surpassed traditional advertising methods [8].

Moreover, the parasocial interaction theory explains the role of credibility, in terms of contributing to the rise of FOMO. This theory describes how followers can form nonreciprocated intimate relationships with influencers. Credibility of influencers can strengthen this parasocial attachment [9]. This intimate bond heightens their motivation to remain continuously engaged and updated on the influencer's activities, and this includes consumption choices [10], which eventually triggers Fear of Missing Out (FOMO), particularly when followers perceive significant gaps between themselves and the influencer.

These effects are particularly salient among Generation Z consumers, as they tend to form stronger parasocial relationships. This is due to their observance of massive amounts of media as well as their common consumption of short-form content that exposes the reality of public figures, easily drawing them into a sense of familiarity, connection of intimacy [11].

The positive correlation between influencer credibility and FOMO can be further explained through the social comparison theory [12], a psychological theory that suggests people determine their individual value by comparing themselves. Influencers who often appear to be people with very extravagant and luxurious lifestyles can therefore cause people to feel low self-esteem and self-worth, contributing to the fear of missing out phenomenon.

Collectively, these theories shed light on the ability of influencer credibility to increase followers' susceptibility to FOMO.

H1: Influencer credibility has a significant positive effect on FOMO.

2.2. Electronic word of mouth

Electronic word of mouth can be understood as "any positive or negative statement made by potential current, or former consumers about a product company, which is made available to a multitude of people and institutions via the internet [13]." For generation Z, who are highly active on social networking sites from a young age, exposure to peers' experiences and product-related content has become a daily and active occurrence, increasing their susceptibility to social influences and emotional reactions. Research in recent years has shown that exposure to eWOM content on social media, can activate the psychological processes of social comparison, pressure and worry that contribute to FOMO. For instance, a quantitative Indonesian study of Gen Z consumers found that electronic word of mouth had a significant effect on fear of missing out [14].

The mechanisms by which electronic word of mouth can contribute to the rise of FOMO, is grounded in the nature of the social media platforms, where users are able to constantly observe peers sharing experiences, recommendations and product endorsements. These interactions can provide social cues, norms or even create trends, signalling what others are doing [15]. They often portray consumption behaviours as normal and rewarding, this can trigger psychological pressures in the form of worry about being left behind from trends or losing opportunities experienced by others.

H2: Electronic word of mouth has a positive effect on FOMO

2.3. Algorithmic personalisation

Algorithmic personalisation refers to the way in which social media platforms can adapt information users are exposed to according to their individual needs, preferences or behaviour. Overall ensuring that users encounter content that align with what they are interested in or need [16]. In terms of e-commerce on social media, these algorithms may analyse the users past browsing history, cart abandonment rates and time spent on the product pages in order to push personalised time-sensitive deals and low stock data on their page, increasing the urgency of purchases [17]. This can cause the consumer to feel as if they are missing out on certain purchases that others are engaged in.

Algorithmic personalisation also has the ability to create a feedback loop in which FOMO can lead to more user interaction, and greater user interaction can lead to amplified FOMO. When a user experiences FOMO and responds through an increase in interaction on the page, consuming more trend-related videos, searching for similar content, or producing their own trend-based posts, the algorithm can alter their page to promote more related content [18].

Particularly for Generation Z consumers, who spend prolonged amounts of time engaging in social media platforms, algorithmic personalisation can intensify their exposure to trend-based and consumption-oriented content.

H3: Algorithmic personalisation has a positive effect on FOMO

2.4. Social media marketing

Social media marketing has been defined as the process of gaining website traffic or attention through social media sites, it usually centers on efforts to create content which attracts attention and encourages readers to share it across their social networks. The marketing strategies on social media have penetrated large amounts of individual consumers and alters the way they perceive information as the foundation for purchasing decisions [19].

According to previous research, various advertising contents that specifically emphasize urgency, exclusivity or viral trends can play significant impacts in encouraging consumers to have an intolerable impulsiveness on purchasing. By shaping fresh social influences, social media marketing activities can effectively attract consumer's attention and create a sense of urgency, furthermore evoke fear of missing out. For example, strategies about limited product quantities, time-limited sale promotions or endorsements from popular public figures own the ability to successfully reinforce consumers stuck with a perception that must act instantly to avoid missing on valuable opportunities [20].

Specifically, social media and fear of missing out have a significant simultaneous influence on purchasing decisions of generation Z, with the presence of positive emotions can finally increase their purchasing decisions [21].

H4: Social media marketing has a positive effect on FOMO

2.5. Fear of missing out

The fear of missing out phenomenon is conceptualised as a psychological construct [22] that was first introduced in 2004. It is a phenomenon particularly salient within social networking sites [23], where continuous visibility of others' activities can facilitate social comparison processes [24]. As defined by British psychologists, it is a "pervasive apprehension that others might be having rewarding experiences from which one is absent…". It is a feeling of "feeling of inferiority of the self and the own life as the result of the upward comparison to people [25]."

The emergence of FOMO can be explained through Festinger's social comparison theory, which states that individuals evaluate their own status and wellbeing relative to their peers. This elicits negative self-evaluations, anxiety and reduced self-esteem [25]. These negative responses underpin the very foundation of FOMO, and is a motivating factor for individuals to prevent exclusion, by aligning with the perceived social norms, or in this context, the consumption practices displayed online. In order to mitigate these negative effects, impulsive purchases can be a main mechanism for self-comfort [26], especially in fashion trends and social services as they provide symbolic value and facilitate social inclusion.

Focusing on Generation Z, statistics show that they are more likely to be influenced emotionally by the content shown on social media, with approximately 70% of people admitting to this fact [27]. Therefore, it is a reasonable conclusion to make that they are more likely to experience FOMO which within the S-O-R framework, is an organismic component and emotional outcome that can mediate the effect of external social media stimuli on impulsive purchase behaviour. Additionally, rather than operating as an independent variable, it can interpret the content given by the social media factors as social comparison and exclusion cues which are psychologically significant.

H5: FOMO has a significant positive effect on impulse purchasing behavior

H6: Fear of missing out mediates the relationship between influencer credibility and impulse purchasing behavior

H7: Fear of missing out mediates the relationship between electronic word of mouth and impulse purchasing behavior

H8: Fear of missing out mediates the relationship between algorithmic personalisation and impulse purchasing behavior

H9: Fear of missing out mediates the relationship between social media marketing and impulse purchasing behavior.

Impulsive purchasing behaviour

For the purpose of this study, impulsive purchase behaviour can be defined as the sudden unplanned urge to make purchases driven by strong emotional desires [28].

3. Research method

3.1. Literature review

A literature review was done, prior to consolidating the thesis and hypotheses. First, we searched through relevant, well-known and trustworthy databases: Science Direct and Google Scholar. Next, we identified key terms such as "impulsive purchases", "social media", "impulsive buy", "impulsive buying", "impulsive behaviour" and then found relevant articles. At this stage, we have identified a wide range of independent variables that could be utilised in the study. However, to narrow down the effect of each independent variable on the dependent variable, we specifically searched for them and used boolean operators such as "Impulsive

purchase AND electronic word of mouth" or "Impulsive purchase OR influencer credibility". This allowed us to finalise the independent variables we wanted to find – however to find the most influential factors towards our targeted population we also included GENZ as another key word. We then found a mediating variable through searching the key terms: "Impulsive purchase AND psychological phenomenon" as well as "Impulsive purchase AND social media AND psychological phenomenon".

3.2. Empirical research

Our empirical research was collected quantitatively through objective measurements. The aim of this was to find out whether the previous theories grounded in the literature reviews, actually match the results towards a predefined population [29]. However, since FOMO was our mediating factor, and not many articles included it, our research is therefore both inductive and deductive.

This research objective was met through utilising an online survey that an international Gen-Z community would answer. This is the most widely used instrument in quantitative research, as it allows a large database/sample to be collected in the most efficient way [30]. The software utilised was Wenjuanxing, a common chinese survey app as well as google forms. The questions inside of the survey were objective, in the style of a 5-scale Likert rating where 1=strongly disagree and 5 = strongly agree. Below is Table 1 which showcases the items (questions) that were asked to measure the constructs.

Table 1. Effect items

Construct	Items
Influencer Credibility (IC)	1. I trust the opinions shared by social media influencers I follow. 2. Influencers I follow are knowledgeable about the products that they promote. 3. Influencers provide honest and reliable product recommendations. 4. I believe that influencers genuinely use the products that they advertise. 5. Influencer opinions or product recommendations change my own perception towards products.
Electronic Word of Mouth (EWOM)	1. I pay attention to reviews and comments on social media. 2. I consider other user's opinions and reviews when evaluating my own purchasing decisions online. 3. Positive discussions on social media affect how I view products. 4. Negative discussions on social media affect how I view products. 5. I find personal reviews on social media to be a trustworthy source.
Algorithmic Personalisation (AP)	1. Social media platforms show me content that matches my interests. 2. Social media algorithms help me discover new products that I may like. 3. The products recommended on my social media feed feels personalized to me. 4. Personalised content makes my social media experience more engaging. 5. Social media platforms adapt the products shown to me as my interests change over time.

Table 1. Continued

Social Media Marketing Activities (SMMA)	1. I frequently notice/spot advertisements on social media platforms. 2. Promotional offers on social media capture my attention. 3. Limited-time promotions and low-stock notices on social media create a sense of urgency for me to purchase. 4. Visually appealing ads on social media attracts me. 5. Social media marketing is overall persuasive to me.
Fear of Missing Out (FOMO)	1. I experience negative emotions when I miss out on deals that are shared on social media. 2. I feel emotional discomfort when I do participate in trending purchases. 3. Seeing other purchase new products on social media makes me feel left out. 4. I worry about missing limited time offers online. 5. Social media creates pressure for me to act quickly on promotions.

The type of sampling carried out was convenient sampling, which aimed to select individuals who are most easy to gain access to. This was utilised as it is the most efficient way to complete the study, in the short amount of time given.

In order to collect the data of the predefined target group, we have utilised a wide range of strategies.

1. Contacted university professors/teachers who can send the link of the survey to their students
2. Shared the survey to Whatsapp groups of that age group (particularly study groups: IB, AP, A-Level)
3. Shared the survey to Discord servers of that age group (particularly study groups: IB, AP, A-Level)
4. Sharing it directly to individuals we know of that age group
5. Share it on various social media platforms (where requirements were clearly written)

This survey was sent to 514 Gen-Z, across multiple different countries. However, through data cleaning, only 371 participants' data was used. We cleaned the data through exporting the results on excel, and calculating the standard deviation of each respondent's answers. If it was equal to 0, it was automatically removed from the database, as it showcases a likelihood that they have not done the survey properly. Based on Table 2, the majority (51.75%) of participants were adolescents and semi-adults aged around 15-20, the secondary in quantity participants (31.13%) were from 20-25, and the minority of our participants were adults (17.12%) age around 25-30. Based on Table 3, most of our participants are females (59.34%) and males (35.21%), with a small portion of Non-dual gender people (1.95%), unknown gender people (3.31%) and other gender option participants (0.19%).

Table 2. Age of participants

Year of Age	Total Quantity	Percentage
15-20	266	51.75%
20-25	160	31.13%
25-30	88	17.12%

Table 3. Gender of participants

Gender	Total Quantity	Percentage
Male	181	35.21%

Table 3. Continued

Female	305	59.34%
Non-dual	10	1.95%
Unknow	17	3.31%
Other	1	0.19%

The analysis of this data, as done through the use of Partial Least Square Structural Equation Modelling (PLS-SEM) which was done on the SMART-PLS software under the professional free trial license. This analysis method is commonly carried out in many social science studies, and can detect the relationships between complex variables [31]. There are two main models that PLS-SEM consists of: the structural model and the measurement model. The structural model represents the constructs and the relationships between them through the use of circles as well as arrows connecting them [32]. On the other hand, the measurement model demonstrates the relationship between variables that are latent (an unobserved concept).

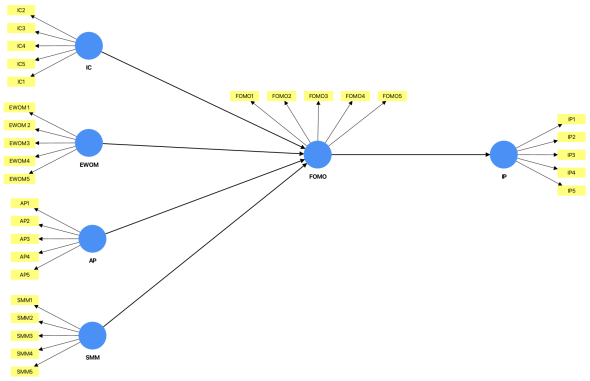

Figure 1. Connection between latent constructs

The figure1 above showcases the connections of each latent construct in our model.

4. Research analysis and results

Below is the Table 4 about outer-matrix loading (how well our questions measure the construct).

Table 4. Outer matrix loading

	AP	EWOM	FOMO	IC	IP	SMM
AP1	0.806					
AP2	0.796					
AP3	0.826					
AP4	0.805					
AP5	0.843					
EWOM 1		0.773				
EWOM 2		0.797				
EWOM3		0.833				
EWOM4		0.847				

Table 4. Continued

EWOM5	0.728				
FOMO1		0.848			
FOMO2		0.844			
FOMO3		0.862			
FOMO4		0.875			
FOMO5		0.867			
IC2			0.852		
IC3			0.861		
IC4			0.851		
IC5			0.817		
IP1				0.875	
IP2				0.850	
IP3				0.845	
IP4				0.832	
IP5				0.865	
SMM1					0.650
SMM2					0.822
SMM3					0.837
SMM4					0.791
SMM5					0.783
IC1			0.802		

4.1. Indicator reliability

Indicator reliability examines how much of each indicator's variance is explained by the construct.

Generally, Indicator loadings above 0.708 are recommended, indicating that the construct explains more than 50% of the indicator's variance [33]. Loadings between 0.40 and 0.708 can be considered for removal if leads to an increase in internal consistency reliability or convergent validity. However, those that are below 0.40 should automatically be eliminated from the measurement model [34]. Values that are higher than 0.95 can also be considered for deletion as it indicates that the items are considered to be identical and redundant.

In this particular measurement model, SMM1 with an indicator loading below 0.708 just slightly, will not be considered for removal as composite reliability and AVE met recommended thresholds.

4.1.1. Internal consistency reliability

Table 5. Internal consistency reliability

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AP	0.875	0.882	0.908	0.665
EWOM	0.856	0.857	0.897	0.635
FOMO	0.912	0.912	0.934	0.739

Table 5. Continued

IC	0.893	0.895	0.921	0.700
IP	0.907	0.908	0.931	0.728
SMM	0.838	0.856	0.885	0.607

Internal consistency reliability (see Table 5) refers to the degree in which the indicators (questions) measuring the same construct are related to each other [35]. The higher the values, the higher the reliability. Generally, results between 0.70 and 0.95 are considered good to satisfactory [36], however if above that threshold (> 0.95) then it can indicate that the indicators are redundant, which impedes the validity.

Cronbach's Alpha is a widely used measure that assumes all indicators equally contribute to a construct, this means that its estimate tends to be more conservative. In contrast, composite reliability accounts for the actual outer loadings of each indicator, providing a more holistic reflection of the construct's reliability. Therefore, it can be said that true reliability lies between Cronbach's Alpha and Composite reliability [35].

Seen from the given results of this measurement model, all values exceed 0.70 and remain below 0.95, thus internal consistency reliability can be considered satisfactory.

4.1.2. Convergent validity

Convergent validity is a metric that calculates the degree to which a construct converges. The variance can be analysed from the Average Variance Extracted (AVE). The AVE is equal to the communality of a construct, measuring its consistency. Values of 0.50 or higher is acceptable as it indicates that the construct can be explained by more than 50% of the variance of its indicators [36].

4.1.3. Discriminant validity

Discriminant validity refers to the extent to which a construct is empirically distinct from other constructs in the measurement model. This is crucial to ensure that each construct represents a unique concept and that relationships between constructs are not inflated due to conceptual overlap.

The first way to assess discriminant validity is through cross-loadings. This approach evaluates whether an indicator loads more strongly on its assigned construct than any other construct. Therefore, if it exhibits the highest loading on the construct it is intended to measure and substantially lower on other constructs, it maintains good discriminant validity. It can be seen below from the Table 6 that this is true, and the cross loadings are generally 0.1-0.2 higher which is a meaningful difference.

Table 6. Cross-loading approach

	AP	EWOM	FOMO	IC	IP	SMM
AP1	0.806	0.654	0.370	0.491	0.383	0.546
AP2	0.796	0.573	0.381	0.452	0.445	0.527
AP3	0.826	0.642	0.501	0.582	0.510	0.599
AP4	0.805	0.607	0.445	0.566	0.465	0.597
AP5	0.843	0.647	0.466	0.560	0.493	0.606
EWOM 1	0.607	0.773	0.391	0.520	0.404	0.518
EWOM 2	0.637	0.797	0.374	0.495	0.415	0.533
EWOM3	0.672	0.833	0.414	0.558	0.446	0.565
EWOM4	0.675	0.847	0.368	0.474	0.405	0.551
EWOM5	0.476	0.728	0.476	0.531	0.433	0.518

Table 6. Continued

FOMO1	0.449	0.473	0.848	0.682	0.677	0.661
FOMO2	0.413	0.387	0.844	0.668	0.677	0.614
FOMO3	0.442	0.423	0.862	0.647	0.704	0.645
FOMO4	0.529	0.498	0.875	0.661	0.739	0.695
FOMO5	0.471	0.431	0.867	0.637	0.766	0.674
IC2	0.581	0.592	0.651	0.852	0.568	0.658
IC3	0.504	0.509	0.677	0.861	0.627	0.634
IC4	0.521	0.477	0.645	0.851	0.574	0.633
IC5	0.596	0.613	0.643	0.817	0.612	0.671
IP1	0.506	0.497	0.733	0.627	0.875	0.671
IP2	0.538	0.507	0.700	0.583	0.850	0.649
IP3	0.448	0.443	0.751	0.672	0.845	0.642
IP4	0.471	0.412	0.640	0.512	0.832	0.547
IP5	0.461	0.408	0.709	0.579	0.865	0.624
SMM1	0.601	0.587	0.372	0.456	0.402	0.650
SMM2	0.611	0.532	0.627	0.624	0.640	0.822
SMM3	0.621	0.563	0.666	0.646	0.653	0.837
SMM4	0.541	0.567	0.571	0.591	0.541	0.791
SMM5	0.437	0.448	0.675	0.661	0.584	0.783
IC1	0.545	0.543	0.585	0.802	0.542	0.643

The second way is through Fornell-larcker criterion. According to result in Table 7, the square root of AVE for each construct exceeded its correlation with other constructs, indicating adequate discriminant validity. However, it is important to note that some constructs are highly related for example FOMO and IP as well as SMM and IC.

Table 7. Fornell-larcker criterion approach

	AP	EWOM	FOMO	IC	IP	SMM
AP	0.815					
EWOM	0.766	0.797				
FOMO	0.537	0.515	0.860			
IC	0.656	0.652	0.766	0.837		
IP	0.568	0.532	0.830	0.700	0.853	
SMM	0.708	0.677	0.766	0.774	0.736	0.779

The Heterotrait-Monotrait ratio is the ratio of average correlations between indicators across constructs relative to the average correlations of indicators within the same construct. Most constructs remain below the threshold of 0.90, which is acceptable in most social sciences. However, FOMO and IP slightly exceeded the threshold. This is acceptable given the strong empirical and theoretical relationship between fear of missing out and purchase intention. Both constructs still exhibit satisfactory convergent validity and Fornell-Larcker criterion results, indicating that it is conceptually distinct. The analyzing result are show in Table 8 below.

Table 8. Heterotrait-monotrait ratio

	Heterotrait-Monotrait ratio (HTMT)
EWOM <-> AP	0.890
FOMO <-> AP	0.593
FOMO <-> EWOM	0.575
IC <-> AP	0.736
IC <-> EWOM	0.742
IC <-> FOMO	0.848
IP <-> AP	0.632
IP <-> EWOM	0.599
IP <-> FOMO	0.910
IP <-> IC	0.773
SMM <-> AP	0.839
SMM <-> EWOM	0.815
SMM <-> FOMO	0.854
SMM <-> IC	0.884
SMM <-> IP	0.828

4.2. Results

4.2.1. Path coefficients

Direct effects to FOMO (see Table 9).

Table 9. Path coefficient

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
AP -> FOMO	-0.066	-0.066	0.055	1.185	0.236	Not significant
EWOM -> FOMO	-0.084	-0.080	0.064	1.313	0.189	Not significant
FOMO -> IP	0.830	0.831	0.022	38.354	0.000	Significant
IC -> FOMO	0.477	0.476	0.057	8.433	0.000	Significant
SMM -> FOMO	0.500	0.499	0.061	8.231	0.000	Significant

4.2.2. Total indirect effect

The Table 10 shows the reliability of direct effects to Impulsive purchase behaviour.

Table 10. Total indirect effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
AP -> IP	-0.054	-0.055	0.046	1.185	0.236	Not significant
EWOM -> IP	-0.070	-0.066	0.054	1.305	0.192	Not significant
IC -> IP	0.396	0.396	0.048	8.222	0.000	Significant
SMM -> IP	0.415	0.415	0.053	7.902	0.000	Significant

4.2.3. Special indirect effects

FOMO as a mediating factor between social media factors and impulsive purchase (see Table 11).

Table 11. Special indirect effects

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
AP -> FOMO -> IP	-0.054	-0.055	0.046	1.185	0.236
EWOM -> FOMO -> IP	-0.070	-0.066	0.054	1.305	0.192
IC -> FOMO -> IP	0.396	0.396	0.048	8.222	0.000
SMM -> FOMO -> IP	0.415	0.415	0.053	7.902	0.000

5. Discussion and conclusion

5.1. Discussion

5.1.1. Research awareness and research value

Given that Table 5 indicates our data gas satisfactory reliability, this research study has addressed a meaningful research problem by examining how social media related factors can influence impulsive behaviour among Generation Z, with fear of missing out serving as a mediating psychological mechanism. As Generation Z is the first cohort of true "digital natives", being born into the digital age, their consumption decisions are increasingly shaped by emotionally charged and socially embedded online environments. However, existing research has mainly only focused on the direct effects of social media marketing variables, while underlying emotional processes that are actually driving impulsive consumption remains unresearched and unexplored.

By positioning FOMO as a central mediating variable, this study moves beyond the foundational level of marketing effects and answers the question of why certain social media stimuli can translate into impulsive purchase behaviour. This approach offers both academic value, by extending consumer behaviour theories in digital contexts and also provides practical relevance, as it informs marketers about the psychological mechanisms through which social media strategies influence young consumers' purchasing decisions.

5.1.2. Results discussion

From Table 9, the results reveal that there is a strong and positive relationship between FOMO and impulsive purchase behaviour ($\beta = 0.830$, $p < 0.01$), indicating that emotional urgency significantly increases the likelihood of impulsive purchase behaviour. This finding is consistent with prior research, suggesting that FOMO heightens the feelings of exclusion and negative self view, which causes them to engage in consumption practices displayed online to relieve these feelings [27]. Within the SOR framework, FOMO also functions as the internal emotional state through which external social media stimuli can translate into impulsive purchase behaviour. Therefore hypothesis 5: "FOMO has a significant positive effect on impulsive purchasing behavior" is accepted.

Influencer credibility and social media marketing were both found to be significantly and positively influenced by FOMO, and their effects on impulsive purchase behaviour were fully mediated by FOMO. The positive effect of influencer credibility on FOMO ($\beta = 0.477$, $p < 0.001$) supports the parasocial interaction theory, which explains how followers can have a nonreciprocated intimate relationship with influencers, which causes them to engage with their content and eventually can allow them to have FOMO when they perceive significant gaps between themselves and the influencer. This means that hypothesis 1 is accepted. Similarly, social media marketing, through advertising appeals to create a sense of urgency has a positive effect on FOMO (($\beta = 0.500$, $p<0.001$). Thereby hypothesis 4 is accepted.

In contrast, algorithmic personalisation and electronic word of mouth did not show significant effects on FOMO or on impulsive purchase behavior; this leads to the rejection of hypothesis 3 and hypothesis 2 Despite previous studies suggesting that personalised content and social community generated information can cause FOMO [17, 37]. Our present findings indicate that these factors may be processed as information cues rather than emotional triggers by Generation Z. Specifically, algorithmic personalisation may have become a standard feature of social media platforms, therefore reducing its emotional impact on Generation Z ($\beta = -0.066$, $p = 0.236$) who are born into the digital age. Conversely, non-significant effects of eWOM can suggest that online reviews lack the immediacy and social pressure that are necessary to induce the FOMO phenomenon, especially given the growing prevalence of sponsored or manipulated content – Generation Z may be less likely to believe complete strangers online.

The mediation analysis Table 11 further underscores the pivotal role that FOMO plays in our proposed model. FOMO was found to significantly mediate the relationship between influencer credibility and impulse purchasing behaviour ($\beta = 0.396$, $p < 0.001$) supporting hypothesis 6 and 7. Similarly, FOMO was found to mediate the relationship between social media marketing and impulsive purchasing behaviour ($\beta = 0.415$, $p < 0.001$), supporting [hypothesis]. These results indicate that influencer credibility and social media marketing do not directly lead to impulsive purchase behaviour but rather, the influence operates through the emotional mechanism/organism of the S-O-R model of fear of missing out. Conversely, the mediating effects of FOMO in the relationships that involve electronic word of mouth and algorithmic personalisation remain insignificant, this leads to the rejection of hypothesis 8 and 7. This finding further reinforces the distinction between an emotional pathway and an informational pathway in impulsive purchasing behaviour among Generation Z.

5.2. Conclusion

5.2.1. Conclusions

This research systematically examined how social media influences impulsive behaviors among the generation Z population. By collecting data through survey and analysis to them, our research indicates that algorithmic personalisation applied by most social media and comments to a kind of product have no certain significant effect on the occurrence of fear of missing out, while the credibility of the influencer followed by generation Z

and social media marketing strategies showed a positive correlation with the occurrence of fear of missing out. According to the privilege research finished by other scholars, our present research shows that fear of missing out is a finite reason for leading impulsive buying behaviors. As a result, factors able to impact fear of missing out can also contribute to impulsive buying behavior. The algorithmic personalisation and electronic word of mouth products showed no significant impact on impulsive buying behavior, and influencer credibility and social media marketing performed positive effects on impulsive buying behavior. People should be more rational about their demands when facing complicated advertisements and have a systematic consideration when exposed to advocates from social media influencers.

5.2.2. Recommendations made

This study could have evaluated the direct relationship between social media factors and impulsive purchasing, then studying the mediated effect using FOMO, in order to truly compare the mediation level.

The model utilised may appear to be over simplified, as it disregarded many other variables which may influence users' responses. This includes factors such as education level, gender, disposable income and amount of social media usage. Furthermore, although the reach of this study was meant to be international, it can be seen that it is mostly concentrated within the China and Australia region as we utilised convenience sampling.

Moreover, in terms of the methodology of the study, it could have incorporated qualitative methods as well such as interviews, to gain a deeper insight into Gen Z consumers' psychological motivations.

Finally, future research could explore how behaviour changes over time, rather than just collecting data during one specific point in time. This allows the research to be more insightful.

5.2.3. Practical implications and potential applications

5.2.3.1. For marketing

Marketers targeting Generation Z should prioritise focus on credible influencer partnerships and strategically designed social media marketing procedures, as these elements have increased fear of missing out and impulsive purchasing tendencies. Whilst reliance on peer-based electronic word of mouth or algorithmic personalisation alone may be less effective. However, the findings from this research can also have practical implications ethically, such as the exploitation of psychologically vulnerable young consumers.

5.2.3.2. For policy making

In terms of policy making, the findings highlight the need for greater oversight of influencer marketing practices as well as social media advertising directed at Generation Z. Policy markers should therefore consider stricter enforcements of transparency regulations such as clearer disclosure in terms of sponsored content or paid partnerships, this way, the risk of FOMO-induced impulsive purchases can be reduced.

Authorship

We would like to thank all the individuals participating in this survey and all the people who contributed for the diffusion of the questionnaire.MingshuoGao and Natalie Nguyen contributed equally to this work and should be considered co-first authors. N.N. did the former literature searching, drafted the research schedule, developed the hypotheses, designed the questionnaire, participated in the data collection, performed the statistical analyses, interpreted results, drafted the basic schema for the essay. M.G. did the former literature searching, participated in the schedule designing, developed the hypotheses, performed the data collection, oversaw the data analysis, interpreted results. All authors participated in the writing process of this paper.

Acknowledgement

We would like to thank all the individuals participating in this survey and all the people who contributed for the diffusion of the questionnaire.

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Appendix

1. Website of our questionnaire.
https://v.wjx.cn/vm/rP8iAAf.aspx

2. Primary data collection from the questionnaire.
https://downdoc.wjx.cn/exceldown/345496604/345496604_%E6%8C%89%E6%96%87%E6%9C%AC_%E8%B0%83%E6%9F%A5%E5%88%86%E6%9E%90%E7%A4%BE%E4%BA%A4%E5%AA%92%E4%BD%93%E5%9B%A0%E7%B4%A0%E5%AF%B9%E5%86%B2%E5%8A%A8%E6%80%A7%E8%B4%AD%E4%B9%B0%E8%A1%8C%E4%B8%BA%E7%9A%84%E5%BD%B1%E5%93%8D%EF%BC%9A%E4%BB%A5%E9%94%99%E5%A4%B1%E6%81%90%E6%83%A7%E4%B8%BA%E4%B8%AD%E4%BB%8B%E5%8F%98%E9%87%8F_376_376.xlsx?Expires=1767641058&OSSAccessKeyId=LTAIkYiHONyE2mHz&Signature=rHnPwGETC2tlJzPqF68kJzZFbIw%3D