



The Role of Algorithmic Ad Personalization in Driving Impulse Buying Behavior: Mediating Effects of Perceived Value and Moderating Personality Traits

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How to cite this paper: Bakar, A. and Wang, H.Q. (2025) The Role of Algorithmic Ad Personalization in Driving Impulse Buying Behavior: Mediating Effects of Perceived Value and Moderating Personality Traits. *Open Access Library Journal*, 12: e13822.

<https://doi.org/10.4236/oalib.1113822>

Received: June 24, 2025

Accepted: August 3, 2025

Published: August 6, 2025

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Abstract

The study tests whether algorithmically personalized ads increase impulse buying, with pre purchase perceived value (price, emotional, social) as mediator and the traits extraversion and agreeableness as moderators. Survey data from 106 social media users were analyzed using SPSS regression procedures. The authors report significant direct, mediated and moderated effects, concluding that emotional and social value perceptions amplify impulsive buying, especially for highly extraverted or agreeable consumers. The generalizability of results is recommended to be enhanced by addition of more personality traits including neuroticism or conscientiousness as well as longitudinal and experimental efforts are suggested in future research to enhance the précised outcomes.

Subject Areas

Advertising, Business Analysis

Keywords

Algorithmic Ad Personalization, Impulsive Buying Behaviour, Perceived Value, Personality Traits, Extraversion, Agreeableness, Emotional and Social Value, Consumer Behaviour, Digital Marketing

1. Introduction

Over the past few years, unprecedented development of digital marketing technologies has emerged as a key driver of new buying behaviors. Algorithmic ad

personalization has become a powerful weapon that utilizes consumer statistics to market products across platforms such as Facebook and Instagram. Personalized advertisements make content relevant and engaging through complex algorithms, making user shopping experiences more enjoyable and forcing them to make particular purchases [1]. Using such specific promotional techniques brings essential psychological and behavioral issues that affect consumers. According to [2], personality advertisements influence consumer decision making processes through appealing to the emotional and cognitive responses, which supports the S-O-R model. In particular, spontaneous buying behavior, or consumers' tendency to impulse purchase, has received much interest. Knowledge of the dynamics and antecedents of this behavior, especially regarding algorithmic advertising, is relevant for marketing practitioners and academics.

While there is interest in algorithmic ad personalization, there is a limited understanding of the mechanisms and synergy that lead to impulsive buying behavior. This research intends to fill these gaps by examining the interaction between algorithmic ad personalization (independent variable), perceived value before purchase (mediator), and impulsive purchasing behavior (dependent variable), with extraversion and agreeableness personality traits as the moderate variables. In prior studies, researchers have examined person and object elements separately. Therefore, the holistic understanding of these connections has not been investigated much. [3] enhanced the concern towards algorithmic awareness, and [4] stated that perceived value be incorporated into the decision-making process. This study connects these perspectives by studying if personalized ads impact impulsive buying, using the S-O-R framework where the stimulus, algorithmic ads, affects the organism's perceived value (impulse buying).

Messages in the form of advertisements are one of the stimuli for this model, and personalization of ads using algorithmic recommendation programs is particularly effective. These advertisements also focus on consumers' attention, emotions, and cognitive appraisal in consumers, resulting in impulse buying tendency consequence. According to [5], such purchases result from impulse, as motivated by emotions, low perceived risks, and frictionless purchase processes. This research extends from their study by adopting pre-purchase perceived value as a mediator between the stimulus (algorithmic ads) and the response (impulsive buying behavior). As the intermediate variable, the perceived value also implies that it plays the role of finding the connection between the stimulus and the response while making it clear that the behaviors and decisions are often not impulsive but rather based on cognitive and affective appraisals. Extraversion and agreeableness are the personality traits considered moderators of the model. For instance, while extrovert persons, who are outgoing and have less self-control, may be easily swayed by appealing feelings in the advertisements, agreeable individuals who act concerning other people and can be trusted to reciprocate may react differently to appeals to social value in advertising from the personalized ads. [6] stated that personality plays a vital role in compulsive and impulsive buying

consumer behavior. [6] suggested that the consumer behaviors are mediated through influencer characteristic and perceived uniqueness at the crossover of algorithmic personalization and influencer endorsement. This paper builds from their work to establish how these traits can help to expand knowledge on the relationship between perceived value and the cal researched impulsive buying behavior.

Overall, this research fills the gaps in the existing literature by developing the proposed integrative model for the current study. Firstly, it extends the S-O-R framework by adopting mediating and moderating variables to explain how this impulsive buying behavior occurs. Secondly, it highlights the critical role of algorithmic ad personalization in shaping consumer perceptions and actions, offering valuable insights for marketers aiming to optimize their strategies. Thirdly, they state that it covers the role of the emotional, cognitive, social, and perceptual dimensions of perceived values on impulse buying behavior. Finally, by looking at the mediating effect of personality, this paper points out that consumers are not a homogeneous bunch. The research conducted in this study has significant implications with regard to theoretical and applied advancements. Moreover, this research offered suggestions for subsequent investigations, tech vendors, communicators, and advertisers concerning the relationships among automated advertising, perceived value, personality characteristics, and impulsive buying. This standpoint also contains some concepts of the S-O-R framework as a theoretical perspective and as a perspective pertinent to the necessary reflections for further research on consumer behavior in new media culture.

2. Literature Review

2.1. The Influence of Algorithmic Ad Personalization on Consumer Behavior

Personalized advertisements based on algorithms have gained significant industry attention because of their significant impact on purchase behavior. Targeted advertising hinges on complex algorithmic circuits in order to produce ad content from basic client information such as browsing history, particular likes and dislikes, and social media trail. According to [7], the application of AI in advertising as a persona connects with the consumer focus and produces relevant ads that create positive ad experiences while impacting the consumer's buying behavior. A study shows that advertising intervention plays a crucial role in affecting consumer-purchase decisions and, thereby, changing consumers' spontaneous buying behaviors. Personalized ads happen to be highly effective when marketing campaigns present viewers with content that they are interested in, which enhanced the conversion percentage hence making personalized advertisements a very important marketing tool.

2.2. Understanding the S-O-R Model in the Context of Algorithmic Advertising

The Stimulus-Organism-Response (S-O-R) model provides an extensive model of

how algorithmic ads change the consumer's behavior. This research shows that through the S-O-R model, external variables such as personalized advertisements prompt consumers' internal psychological states of cognition and affect that cause a direct conditional response through impulsive buying behavior. [8] uses the S-O-R model to show that customized advertisements rely on reactions from consumers and basic and secondary appraisals to make cognitive and emotional decisions. Web ads are thus transformed into stimuli to which, based on customer data collected, algorithms are triggered to elicit their emotional and perceptual responses before being directed towards impulsive buying behavior. The S-O-R model presents a conceptual lens through which to enunciate the role of algorithmic advertisements in reconfiguring consumer participation.

2.3. Pre-Purchase Perceived Value as a Mediator

Pre-purchase perceived value has the significant role of an intermediary between personal advertisement and impulsive buying behavior. [9] stated impact of tailor-made marketing ads on the customer product value beliefs together with its consequent impact on buying behavior. Advertisers divide the public into segments so that common appeals do appeal emotionally and make appropriate cost and worth performance in consumer minds. Research shows that these value perception elements strengthen consumer selection processes, resulting in spontaneous buying decisions. According to [10], personalized recommendations create emotional responses in consumers that serve as mediators in their purchase choices.

2.4. The Dimensions of Perceived Value: Price, Emotional, and Social Factors

Perception of a product has several dimensions, including perceived price, perceived emotion, and perceived social pressure. The price dimensions give the consumer's perception concerning the cost of a particular product in relation to the benefits that they seek to gain from it. Promotional ads always depict some reduced price or offer behind the particular product, making it seem more attractive and likely to be bought impulsively [11]. The affective dimension of perceived value concerns consumers' sentiments, with special ad appeals created to trigger relevant moods like enthusiasm or desperation. Appealing to emotions has been proven to create impulse buying because the buying decision is not generally based on reason but on feelings [12]. The social context refers to the impact that comes with social signals like celebrity endorsement or fellow consumer influence. Specifically, social proof-based advertisements can significantly improve the social utility of the product and thereby increase impulse purchasing [13].

2.5. Personality Traits as Moderators of Impulsive Buying Behavior

Extraversion and agreeableness are the most suitable personality traits that moderate the association between algorithmic ad personalization and impulsive buying

behavior. The self-generated proposition of extroverted individuals who are outgoing and spontaneous will make them respond quickly to the appealing emotions conveyed in the localized ads, which are likely to lead to impulsive buying in response to the personalized ads [14]. On the other hand, people who have a high level of agreeableness and are easily influenced by others would be more likely to act in accordance with the messages in the advertisements, for instance, a celebrity endorsement of a particular product [15]. Research by [15] also indicates that consumers' personality characteristics, which include self-control when purchasing products, have a significant influence on impulsive buying since extroverts have low self-control.

2.6. Impulsive Buying Behavior: The Role of Emotional and Cognitive Responses

In the present context, impulse buying behavior can be defined as a purchase which is not planned or for which prior planning was not seriously considered. They are typically made under emotional and cognitive control by stimuli such as personalized advertisements. [16] explained emotions such as excitement or FOMO, especially in the sphere of social commerce, have a significant impact on impulsive buying. Unlike retained, personal appeals that are aimed at provoking these emotions, cause an immediate and impulse purchase. In the same way, [17] provides insight into how machine learning helps boost the emotional attitude to advertisements and helps consumers make purchases spontaneously because the products are presented to them in accordance with their preferences.

2.7. Integrating Mediating and Moderating Variables in the Model

The use of the mediating and moderating variables in consideration of impulsive buying behavior offers a broader outlook on how personalized advertisements affect consumers' decisions. Pre-purchase perceived value mediates between the stimulus, the personalized ads, and the response, which is impulsive buying. In addition, the moderation of personality or extraversion and agreeableness traits accounts for why one person may respond positively to the targeted advertisement while another may not. According to [18] preferred attitude and self-presentation impact the personalization of ads, which in turn influence the level of impulsiveness in purchasing. These variables collectively form an effective model of explaining how personal adverts create impulse buying behavior. This research will be important to marketing practitioners in that they will be able to understand the correlation between algorithmic ad personalization, perceived value, personality traits, and impulsive buying behavior. The link between the presented thesis and further points is using a value-dimensions approach and advertising specialized appeals to emotions and social and price-related values to increase the likelihood of impulse buying. Secondly, even personality traits can be helpful for an additional degree of brand targeting through ad campaign refinement. [19] noted that

any brand that can admit that personalities differ and are reflected in consumer psychology is likely to develop messages in advertisements that will attract specific segments of the population and thus increase yields.

This research also enhances the growth of consumer behavior models by applying the S-O-R framework to include mediating variables and moderating variables. The analysis underscores the importance of algorithmic ad personalization in behavioral decision-making processes and the moderating effect of personality on how consumers engage with advertising content. It would be beneficial for further research to extend this study by investigating whether other personality characteristics like neuroticism and openness influence impulsive buying behavior. Further, understanding cultural variation in the impact of personalized ads might also afford a further understanding of the global applicability of algorithm-based advertising [20].

2.8. Hypotheses (See Figure 1)

H1: Algorithmic ad personalization has a positive effect on impulsive buying behavior.

H2: The dimensions of pre purchase perceived value (price, emotional, and social factors) mediate the relationship between algorithmic ad personalization and impulsive buying behavior.

H3: The relationship between algorithmic ad personalization and pre purchase perceived value (price, emotional, and social factors) is moderated by extraversion, such that the effect is stronger for individuals with higher levels of extraversion.

H4: The relationship between algorithmic ad personalization and pre purchase perceived value (price, emotional, and social factors) is moderated by agreeableness, such that the effect is stronger for individuals with higher levels of agreeableness.

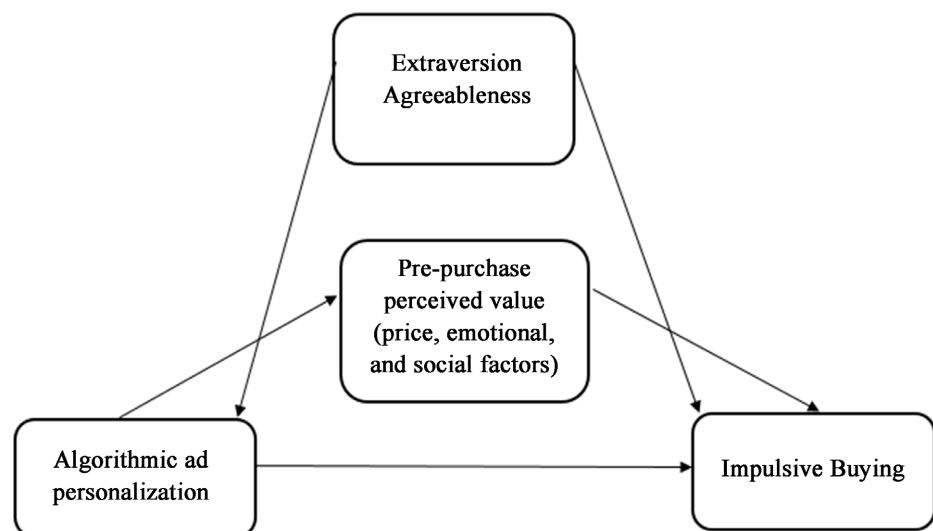


Figure 1. Role of algorithmic ad personalization in driving impulse buying behaviour: mediating effects of perceived value and moderating personality traits.

H5: The relationship between pre purchase perceived value (price, emotional, and social factors) and impulsive buying is moderated by extraversion, such that the effect is stronger for individuals with higher levels of extraversion.

H6: The relationship between pre purchase perceived value (price, emotional, and social factors) and impulsive buying is moderated by agreeableness, such that the effect is stronger for individuals with higher levels of extraversion.

3. Methodology

The study was conducted with a systematic approach to analyse the proposed model for investigation of role of algorithmic Ad personalization in driving impulse buying behaviour with mediating effects of perceived value and moderating personality traits. A sample of 106 participants were provided surveys at two different time lags, T1 and T2, in order to collect data. During T1, respondents were asked to complete a demographic section and self-rate their knowledge of algorithmic ad personalization as well as agreeableness, extraversion, and post purchase regret. During T2, the focus of the survey shifted to perceived value (including its price, emotional, and social value) and the key variable of impulsive buying behaviour. This design proposes time intervals in which monitoring the impact of algorithmic ad exposure on the behaviour of respondents eliminates the concerns that arise from lacking the temporal separation with regard to the factors posed by common method bias [21]. The Common Method Bias (CMB) was reduced in the study by using two-wave design where two time points (T1 and T2) were collected in the research. This separation in time permits a distinction between predictor and outcome to be achieved this diminishing the likelihood of exaggerated relationships as a result of CMB, which earlier research has shown to be the case.

In order to analyse the complex relationships between algorithmic ad personalization and impulse buying, alongside the mediating effects of value perception and value driven and moderating role of personality traits, the study utilizes multiple regression analysis. This allows for greater understanding on how algorithmic ads affect impulse buying behaviour from a psychological standpoint. These claims are ratified by [22], who found evidence to suggest that those who are digitally advertised to actively engage with the ads possess specific personality traits that significantly affect their behaviour. The measurement sections using personality traits, value perception, and impulsive buying behaviour as tools to gauge the aim of the study allows for thorough examination without restrictions. Furthermore, the research adopted a probability sampling technique and selected sample size of 106 respondents. The sample of 106 respondents was selected on the strength of statistical power analysis to have sufficient powers of detecting meaningful effects and avoiding practical limitation. Such sample size offers adequate degree of precision and confidence that can be used to generalize results to a bigger population and it equally reduces chances of occurrence of errors in regression analysis [23].

4. Results and Discussion

The data collected using questioners was arranged, processed and analysed in SPSS. First of all, Descriptive statistics were analysed in start to find out the behaviour of variables. Furthermore, correlation analysis was done to find out the association of variables and multiple regression analysis was done to find out the direct impacts as well as moderation and mediation as explained below.

4.1. Descriptive Statistics of Respondents (See Table 1)

Table 1. Descriptive statistics.

	Mean	Std. Deviation	Variance	Skew-ness	Kur-tosis
Algorithmic Ad Personalization	3.9739	0.96574	0.933	-1.361	1.838
Extraversion	4.0000	0.72866	0.531	-0.167	-0.969
Agreeableness	3.6881	0.77038	0.593	0.246	-0.517
Post Purchase Regret	3.7238	0.75791	0.574	-0.086	0.013
Pre Purchase Perceived Value (Price)	3.5920	0.71325	0.509	-0.656	1.714
Pre Purchase Perceived Value (Emotions)	3.7377	0.67970	0.462	-0.655	0.642
Pre Purchase Perceived Value (Social)	3.6156	0.69708	0.486	-0.831	1.791
Impulsive Buying	3.2642	0.79111	0.626	-0.218	-0.425

The mean value of Algorithmic Ad Personalization as 3.97 suggests that respondents are moderately to highly aware of the algorithmic ad personalization. It is also noteworthy that the negative skewness indicates that most respondents tend to rate themselves highly for their awareness. The explanatory variables seem to show some degree of positive kurtosis which indicates that there are more extreme values where higher awareness rating is given compared to average awareness. For Extraversion personality traits (mean = 4.00) and Agreeableness mean = (3.69), there has been more moderate belongingness in the Extraversion trait and relatively high grouping in Agreeableness. The respondents portray themselves as moderate extroverts and agreeable persons. The Extraversion and Agreeableness show negative values for skewness, suggesting normal distribution of all the values and tends to have an Asymmetrical shape. Both variables possess a negative value of kurtosis, indicating the distribution is less peaked than normal.

The mean value for Post-Purchase Regret as 3.72 indicated that most respondents tend to regretted somewhat after making impulsive spending. The skewness value is negative which is not desirable but the value can be accepted around -0.086. With respect to the Pre-Purchase Perceived Value dimensions, respondents attributed values to Emotional Value (mean = 3.74) higher than Price (mean = 3.59) and Social Value (mean = 3.62). These values' negative skewness indicates

that the majority of the respondents viewed them positively, with more pronounced ratings towards higher emotional and social value. Positive kurtosis value, in particular for Price (1.714), means that these perceptions are clustered around the higher end of the scale. Impulsive Buying (mean = 3.26) suggests a moderate level of impulsive buying tendencies. The skewness (-0.218) and kurtosis (-0.425) indicate a distribution with slightly more normality and a tendency towards lower ratings of impulse.

4.2. Correlation Analysis

The association of variables used in proposed model was analysed using correlation analysis. Algorithmic Ad Personalization correlates positively with both Extraversion ($r = 0.312$, $p < 0.05$) and Agreeableness ($r = 0.455$, $p < 0.05$) suggesting that people who score high on these traits are more likely to be aware of algorithmic ad personalization. This suggests that social media users may respond differently to personalized advertisement because of their distinct personality traits. There exists a moderate significant correlation between Post-Purchase Regret and Agreeableness ($r = 0.628$, $p < 0.05$), which shows that more agreeable persons might tend to have more regret after an impulsive purchase. This means that agreeable individuals may be prone to re-evaluating their buying decisions, most likely due to feeling empathy towards themselves. In addition, Extraversion is correlated with Post-Purchase Regret ($r = 0.319$, $p < 0.05$), but this relationship is much weaker. However, it indicates a tendency for extraverted people to experience regret after purchasing something, though not as much as agreeable people do.

In the parameters of Pre-Purchase Perceived Value, Price has weak correlations with all other pairs of variables. This indicates that price perceptions might not be important as regards the relationships amongst the key study variables like algorithmic ad personalization or behavioural impulsive buying. Emotional and Social perceived value have stronger correlations with Post Purchase Regret ($r = 0.595$ and $r = 0.654$, respectively, $p < 0.05$) which implies that these values are more significant in shaping the regret that comes after an impulsive purchase. Impulsive Buying is positively correlated with Post Purchase Regret ($r = 0.287$, $p < 0.05$), Emotional Value ($r = 0.447$, $p < 0.05$) and Social Value ($r = 0.397$, $p < 0.05$). These correlations imply that people who do impulsive buying tend to have higher social and emotional value and experience greater regret after purchase. These statistics indicate that the psychological factors that mediate algorithmic ad personalization and impulsive buying behaviour are significantly determined by personality traits emotion and social value perception, and regret after purchase.

The obtained values of Pearson correlation with associated significance are indicated in **Table 2**.

4.3. Regression Analysis

Linear regression was done to find out the impact of algorithmic ad personalization on impulsive buying whereas multiple regression was done to find out the

moderation and moderation proposed in model. **Table 3** indicated the regression results for impact of algorithmic ad personalization on impulsive buying.

Table 2. Correlation analysis.

	01	02	03	04	05	06	07	08
Algorithmic ad personalization	--							
Extraversion	0.312*	--						
Agreeableness	0.455*	0.505*	--					
Post Purchase Regret	0.379*	0.319*	0.628*	--				
Pre Purchase Perceived Value (Price)	0.010	0.167	0.015	0.050	--			
Pre Purchase Perceived Value (Emotions)	0.054	0.060	0.125	0.115	0.595*	--		
Pre Purchase Perceived Value (Social)	0.000	0.047	0.029	0.104	0.654*	0.709*	--	
Impulsive Buying	0.020	0.034	0.026	0.007	0.287*	0.447*	0.397*	--

Table 3. Regression for direct impact.

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
(Constant)	3.199	0.328		9.743	0.000	2.548	3.850
Algorithmic ad personalization	0.016	0.080	0.020	0.204	0.001	-0.143	0.176

The unstandardized coefficient for Algorithmic Ad Personalized Advertisement features is estimated at 0.016 with standard error of 0.080. The standardized beta value has been set to 0.020, which is relatively small. The t value of 0.204 is also indicative of the weak covariation between the variable pairs. The p value, however, is 0.001, lower than the threshold of 0.05, which shows statistical significance. In relation to the previous analysis, it can be interpreted that Algorithmic Ad Personalization has an association with Impulsive Buying Behavior, but the magnitude of change is not very high. The 95% confidence interval has its lower bound at -0.143, whereas its upper bound stands at 0.176. Even though the interval provides includes the value zero, the fact that the significance of the p-value is noteworthy hints at the possibility that the covariation does exist, though within negligible range. Although Algorithmic Ad Personalization has a statistically significant result on Impulsive Buying Behavior, the impact is very weak. With the given algorithms, it is reasonable to argue that there is shallow effect on impulsive buying behavior. Therefore, some other mediating or moderating variables might

increase or moderate this relationship. It seems that additional investigation into perceived value or personality characteristics, as described in the hypotheses, could assist in understanding the structure of the impulsive buying behavior.

Table 4. Model summary.

Model	R	R Square	Adjusted R Square	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
1	0.020 ^a	0.010	-0.009	0.000	0.042	1	104	0.839

The R-value is 0.020 indicating that the correlation between the predictors or independent variables and the dependent variable is very low (see **Table 4**). The R square value is 0.010 which means that Only 1 percent of the Impulsive Buying Behaviour is explained by algorithmic ad personalization. The Adjusted R square value of -0.009 also explains that model explains the data poorly due to number of predictors which is included in the model. The F-change statistic is 0.042 along with a Sig. F Change value of 0.839 which is not statistically significant. this suggests that on the whole the model does not improve, in a meaningful way, over a baseline model, Therefore, these findings indicate that algorithmic ad personalization has on its own an extremely limited effect on impulsive buying behaviour algorithmic ad personalization. The regression plots for this relationship are indicated in **Figure 2**.

Normal P-P Plot of Regression Standardized Residual

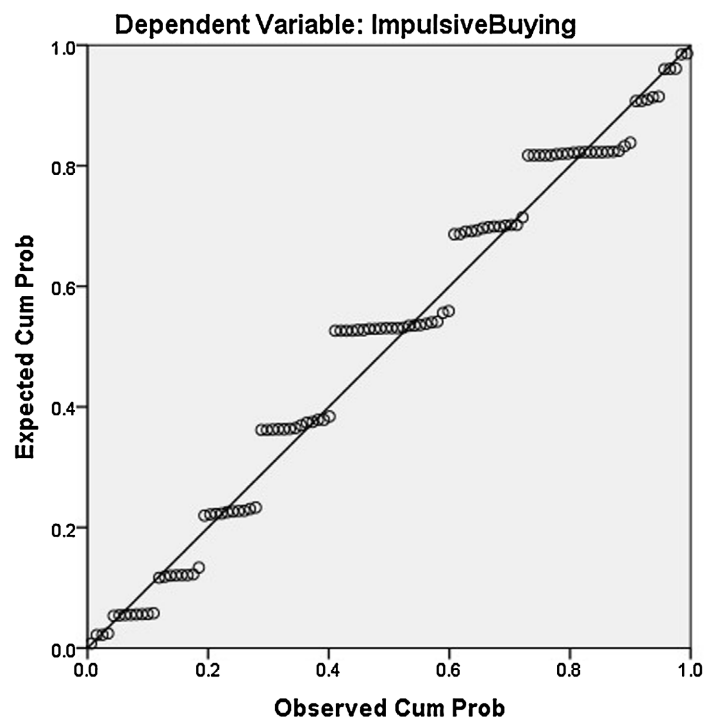


Figure 2. Regression standardized residuals.

4.4. Regression for Mediation

The indirect effect of the IV on the DV through the mediator is the product of the two paths including path (a) and path (b). The value for regression coefficient for path a that was the impact of algorithmic ad personalization on mediator variable pre purchase perceived value with its dimensions as price, emotions and social was found as 0.024 with p-value as 0.000 which means that although there is a weak impact but a positive and significant impact exists. Similarly, the impact of pre purchase perceived value with its dimensions as price, emotions and social on impulsive buying in path b was found as significant positive with value of beta as 0.429 and p value as 0.000 (see **Table 5**).

Table 5. Regression for mediation.

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	95.0% Confidence Interval for B	
	B	Std. Error			Lower Bound	Upper Bound
Path (a): Algorithmic Ad Personalization to Pre Purchase Perceived Value (Price, Emotions, Social)	0.015	0.062	0.024**	0.245	-0.108	0.138
Path (b): Pre Purchase Perceived Value (Price, Emotions, Social) to Impulsive Buying	0.555	0.115	0.429**	4.839	0.328	0.783

For calculation of mediation, the indirect effect the coefficient from Path a Algorithmic Ad Personalization to Pre Purchase Perceived Value Price, Emotions, Social was multiplied by the coefficient from Path b (Pre Purchase Perceived Value (Price, Emotions, Social) to Impulsive Buying). The obtained coefficient value was found as 0.010 which means that there exists a positive mediation of Pre Purchase Perceived Value (Price, Emotions, Social) between the impact of algorithmic ad personalization and impulsive buying. The plots for both path (a) and path (b) are indicated in **Figure 3** and **Figure 4** respectively.

4.5. Regression for Moderation

Multiple regression analysis was done to find out the moderating role of extraversion and agreeableness on mediation paths. indicated in **Table 6** and **Table 7** respectively:

The value of beta for the moderating role of extraversion on the impact of algorithmic ad personalization on pre purchase perceived value as mediator was found as 0.044 which means that with one-point increase in the value of extraversion the impact of algorithmic ad personalization on pre purchase perceived value will be strengthened by 0.044 thus the values led to acceptance of H3 for this study. Furthermore, the value of beta for moderating role of extraversion on the

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: ImpulsiveBuying

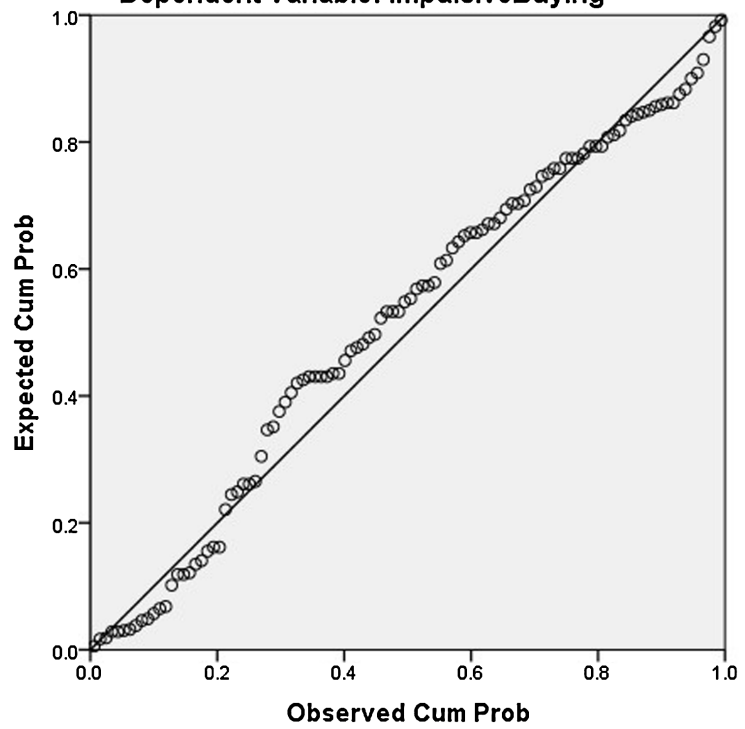


Figure 3. Plot for Path (a).

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: PPPxPES

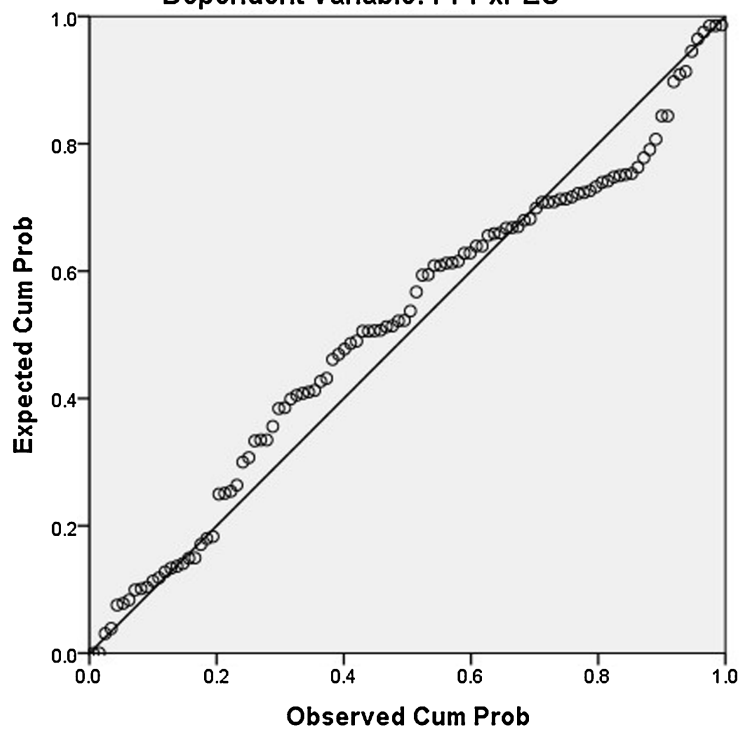


Figure 4. Plot for Path (b).

Table 6. Regression for moderation of extraversion.

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	95.0% Confidence Interval for B	
	B	Std. Error			Lower Bound	Upper Bound
(Constant) algorithmic	15.095	2.343		6.442	10.448	19.741
ad-personalization	0.312	0.698	0.044	0.447	-1.072	1.696
PPPV (Price, Emotions, Social)	0.301	0.681	0.028	0.337	1.011	1.368

Table 7. Regression for moderation of agreeableness.

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	95.0% Confidence Interval for B	
	B	Std. Error			Lower Bound	Upper Bound
(Constant) algorithmic	14.402	2.388		6.032	9.666	19.137
ad personalization	0.175	0.712	0.024	0.246	-1.238	1.588
PPPV (Price, Emotions, Social)	0.147	0.619	0.038	0.198	1.127	1.611

impact of pre purchase perceived value on impulsive buying was found as 0.028 such that with 1-point increase in the value of beta, the relationship will be strengthened by 0.028 points, thus H4 of study is also accepted. For the moderating role of agreeableness on the impact of algorithmic ad personalization on pre purchase perceived value was found as 0.024 which means that with one-point increase in the value of beta the impact of algorithmic ad personalization on pre purchase perceived value, will be strengthened by 0.024 thus these values also led to acceptance of H5 of this study. Moreover, the value of beta for moderating role of agreeableness on the impact of pre purchase perceived value on impulsive buying was found as 0.038 such that with 1-point increase in the value of beta, the relationship will be strengthened by 0.038 points, thus findings led to acceptance of H6 of study. The regression plot for this association is indicated as below in **Figure 5** and **Figure 6**.

5. Conclusion and Recommendations

The objective of this research was to evaluate how algorithmic advertisement personalization affects impulsive purchase tendencies with mediation of pre purchase perceived value (price, emotional, social) and moderation of personality traits extraversion and agreeableness. The results substantiate that algorithmic ad personalization has an impact on impulsive buying behaviour, which is consistent with the hypothesis. This is in line with earlier studies that claim personalized ads do have a significant effect in decision making, but not as simple as that, other sociopsychological factors need to be understood and controlled [24]. More specifically, emotional and social values, which mediate the relationship between

Normal P-P Plot of Regression Standardized Residual

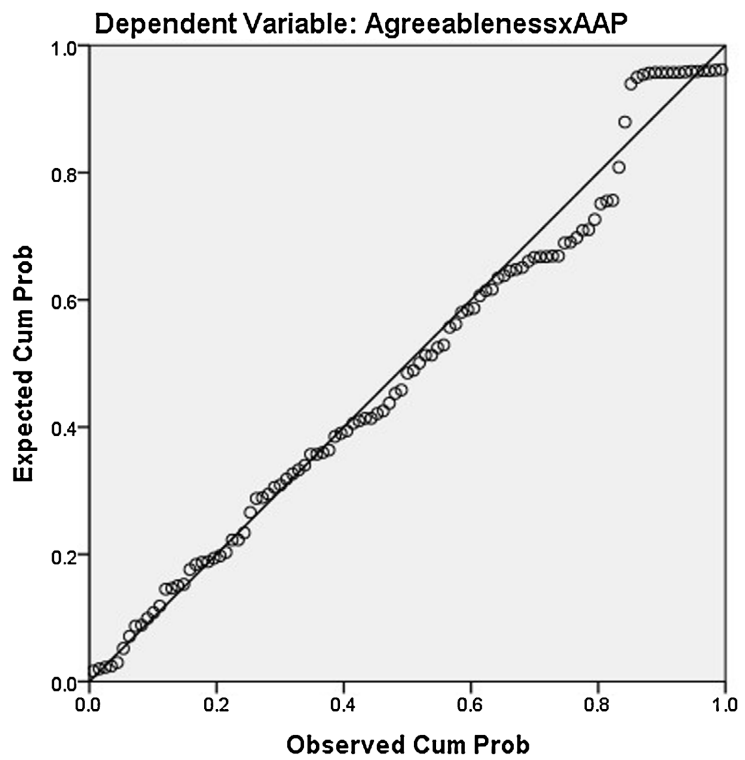


Figure 5. Moderation plot for extraversion.

Normal P-P Plot of Regression Standardized Residual

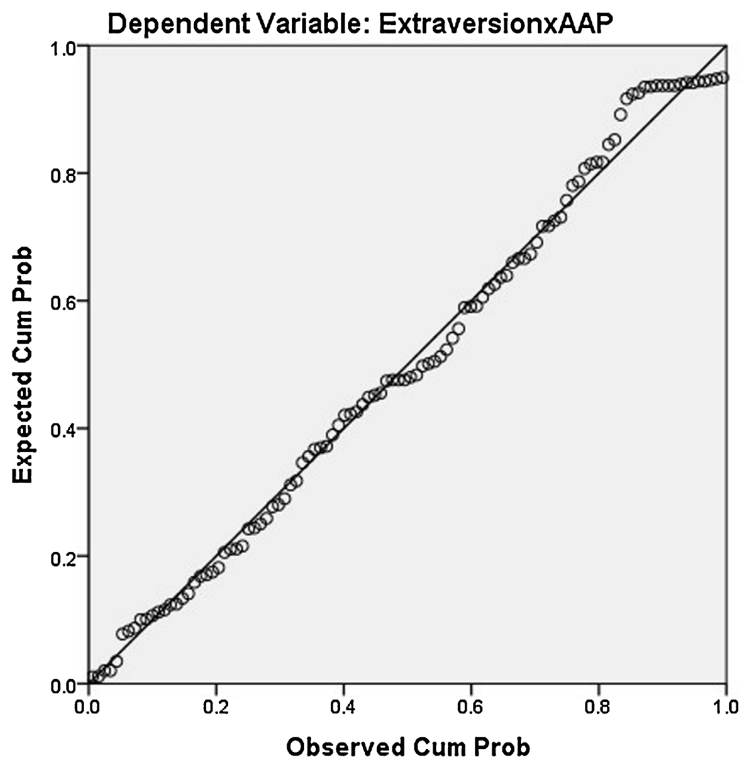


Figure 6. Moderation plot for agreeableness.

personalized ads and impulsive buying commercially, emerge as strong influences, supporting the work of [25] on the issue of perceived value and consumer intentions to purchase. The personality traits of extraversion and agreeableness was moderated, indicating that the effects of trait extraversion and trait agreeableness on impulsive buying behaviour are stronger with the effects of personalization on the advertisement awareness. These traits enable the easier adoption of personalized advertising and therefore lead to greater reckless spending [26].

The research claimed that emotional and social perceived value significantly correlates with the engagement in impulsive buying behaviour, which is consistent with former studies that indicate these two facets contributed considerably to online impulse purchases. On the other hand, the impact of algorithmic ad personalization on impulsive purchasing was weak in this case, which implies that other factors like personality traits and value perceptions might strengthen and weaken the impact of ad personalization on consumer behaviour. It also supports the position of [27] that the behaviour of consumers is determined not only by the advert but by the client's individual psychological and sociological factors. In order to improve the generalizability of the results, it is recommended that future studies increase the sample size. It may also be beneficial to examine other aspects of personality such as neuroticism or conscientiousness, as they would greatly enhance the understanding of the interaction between advertising personalization and the various components of personality. Age, gender, income, and digital literacy were not analysed as control variables. Whereas they might contribute to the phenomenon of impulsive purchasing, the main aim of this study was to test that how the relationship between algorithmic ad personalization and perceived value influences the state of impulsive buying behaviour. These variables may be used in future studies in order to make inferences on the interpretability of the model and also evaluate their possible actions on the central relationships being examined. Longitudinal studies may facilitate a better comprehension of the chronic impact of algorithmic ads on impulsive purchasing behaviours in regard to the consumer's brand loyalty and perception (sensitivity) of the brand. In addition, the inclusion of such experimental approaches would strengthen the causal conclusions regarding the effects of personalization of algorithmic advertising on impulse purchase behaviour. These algorithms should be studied from the perspectives of cultural differences as well as digital literacy of consumers, especially when it comes to the phenomenon of impulsive buying, to provide a broader explanation of the phenomenon.

Conflicts of Interest

The authors declare no conflicts of interest.

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