Assessing customers' attitude towards online apparel shopping: A three-way interaction model

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Abstract

This paper aims to explore the attitude-intention-purchase behavior mechanism for the online purchase of apparel. Using the theory of planned behavior (TPB) as an underpinning theory, the moderating effects of electronic word of mouth (EWOM), perceived risk, and perceived behavioral control in the relationships have been examined. Data were collected from 432 online apparel consumers using a survey questionnaire. First, the instrument's psychometric properties were checked, and then data was analyzed using Hayes's PROCESS macros. The results indicate that online purchase intention mediates the relationship between consumers' attitudes toward online shopping and actual purchase behavior. In addition, the results found strong support for the three-way interactions between attitude, perceived risk, and EWOM on purchase intention, and (ii) attitude, EWOM, and perceived behavioral control on actual purchase behavior mediated through purchase intention. The three-way interactions involving the double-moderation of EWOM make significant contributions to the growing literature on online buying.

Keywords: Attitude, purchase intention, perceived risk, EWOM, online apparel shopping

1. Introduction

Online shopping has received increasing attention from marketing researchers over the last two decades (Cabeza-Ramírez et al., 2022; Goel et al., 2022; Kautish & Sharma, 2018; Matic & Vojvodic, 2017; Park & Kim, 2003). In addition, a recent-hit global pandemic has resulted in a paradigmatic change in consumer behavior (Donthu & Gustafsson, 2020), which is seen in terms of the phenomenal growth of online shoppers to purchase groceries (Husain et al., 2022; Moisescu et al., 2021; Shan et al., 2022; Shumul & Phau, 2022), gym-related products (Chiu et al., 2021), and apparel (Kaushik et al., 2020; Park & Lin, 2021). Most importantly, several researchers reported increased online apparel buying (Chrimes et al., 2022; Kaushik & Dhir, 2019). In addition, early studies identified various factors leading to online buying (Park & Kim, 2003) and online apparel by college students (Coward & Goldsmith, 2007). However, little is known about the attitude-intention-purchase mechanism of clothing (Abdul-Muhmin, 2010).

This study aims to unravel the consumers' online shopping of apparel. The global apparel market was $1.5 trillion in 2021 and is expected to reach $2 trillion in 2026 (Tighe, 2022). Technological

advancements have contributed to this phenomenal growth of online shopping (Botti, 2019; Kautish & Sharma, 2018). Most importantly, word-of-mouth (WOM) and electronic-word-of-mouth (EWOM) have played a significant role in transmitting information when people share their interests, preferences, and opinions about apparel among their peers (Filieri et al., 2021). Extant research supports the positive role of EWOM and social media in consumer behavior (Filieri, 2016; Gautam & Sharma, 2017; Ismagilova et al., 2020). Consumers interact on web-based platforms (such as Facebook, Twitter, and LinkedIn) and share their opinions about the products and services with others.

Drawing on the theory of planned behavior (TPB) (Ajzen, 1991), this study unfolds the attitude-behavior relationship. The literature review reveals that Liao et al. (2021) studied the effect of EWOM on online purchase intention and the role of perceived risk as a moderator in influencing purchase intention. In addition, Liao et al. (2021) studied EWOM as a mediator between perceived risk and purchase intention. They recommended the exploration of additional variables such as trust, loyalty, satisfaction, and repurchase intention. Some of the earlier studies that examined the relationship between attitude and purchase intention recommended including actual purchase behavior (Bian & Sorsythe, 2012). As EWOM has been studied as a mediator, none of the previous studies examined the moderating effect of EWOM on the relationship between attitude and purchase intention. Secondly, earlier studies focused on the interaction of perceived risk with attitude to influence purchase intention, ignoring the role of EWOM. Thus, while the previous research is scattered and studied EWOM and perceived risks in isolation, there is a lack of studies focusing on EWOM and perceived risk together influencing purchase intention.

Furthermore, perceived behavioral control is another variable that has been widely studied in the literature. However, research is sparse examining the combined effect of perceived behavioral

control, perceived risk, and EWOM in the online purchase intention context. To bridge this gap, this study focuses on the interaction between attitude and EWOM influencing purchase intention and how perceived behavioral control changes the strength of interaction on purchase intention. Thus, in this research, we used EWOM, perceived behavioral control, subjective norms as moderators, and actual purchase behavior as the primary dependent variable. In addition to attitude, purchase behavior, and perceived behavioral control, we use EWOM and perceived risk that may significantly affect online consumer behavior. The rationale for the present study thus stems from studying the new relationships between the variables influencing the actual purchase behavior (Lee & Koo, 2012; Meskaran et al., 2013; Rosario et al., 2016). As Filieri (2015) found that several variables contribute to consumer decision-making, we find perceived risk, EWOM, and perceived behavioral control helpful in explaining the consumer purchase intention and actual purchase behavior.

Perceived risk is an important variable influencing online consumer decision-making (Bianchi & Andrews, 2012; Cabeza-Ramírez et al., 2022; Drennan et al., 2006). Several researchers in the past have explored the risks involved (such as financial risk, privacy risk, and product risk) and their effect on consumer online purchase decisions (Bianchi & Andrews, 2012; Bourlakis et al., 2008; Tham et al., 2019). With the uncertainty involved in purchasing products or services online for the first time, consumers make subsequent purchases when they feel that their expectations are met and perceived risk is less. On the contrary, if the consumers are not satisfied with their first experience with an e-retailer, it is more unlikely that they will continue to rely on that e-retailer (Drennan et al., 2006; Ha & Coghill, 2008). As perceived risk about finance, privacy, and performance risks have been heavily documented in the literature, we focus primarily on the product and privacy risks of choosing online apparel by the consumers (Lin & Kim, 2016; Saxena

& Khanna, 2013; Singh et al., 2022; Tsai & Yeh, 2010). In sum, this study attempts to provide

answers to the following research questions (RQs):

RQ1: How does purchase intention mediate the relationship between the attitude and actual
purchase behavior?
RQ2: How does perceived risk (first moderator) and EWOM (second moderator) influence the
relationship between attitude and purchase intention?
 RQ3: How do EWOM (first moderator) and perceived behavioral control (second moderator)
influence the relationship between attitude and purchase intention?

This study makes five key contributions to the literature on online buying behavior. First, this

research was conducted in response to a call for extending research on EWOM (Filleri et al., 2018;

2021), perceived risk, purchase intention, and actual purchase behavior (Bian & Sorsythe, 2012;

Liao et al., 2021; Tham et al., 2019). This study provides strong evidence for the direct

relationships between consumers' attitude towards online shopping and purchase intention and

actual purchase behavior, thus fortifying the attitude-intention-behavior chain proposed by TPB.

Second, this is the first study to draw upon TPB and investigate how perceived risk (first

moderator) and EWOM (second moderator) interact with attitude to influence actual purchase

behavior mediated through purchase intention, which is a significant contribution to the studies on

consumer behavior. Third, this study reveals that consumers' perceived behavioral control and

EWOM strongly impact the relationship between attitude and purchase intention. Most

importantly, the three-way interaction between attitude, EWOM, and perceived behavioral control

in influencing the purchase intention creates an advanced understanding of the previous literature

focused on two-way interactions. Fourth, accentuating the role of EWOM in the present-day web-

based environment, the use of EWOM as a double moderator makes a unique contribution to the

existing studies. Fifth, the conceptual model developed and tested in this study involving three-

way interactions between attitude, perceived risk, EWOM, and perceived behavioral control in influencing purchase intention is a novel idea and contributes to the literature on online buying.

2. Theoretical background, conceptual model and hypotheses development

The constructs for this study stem from the theory of planned behavior (TPB) (Ajzen, 1991; Huang & Kao, 2015). In this research, the variables drawn from TPB are attitude, perceived behavioral control, and actual purchase behavior. In addition, this study uses two additional variables i.e., electronic word of mouth (EWOM) and perceived risk to explain consumer purchase behavior. Because of its ability to explain consumers' purchase behavior, TPB has been used as an underpinning theory by several scholars (Arora & Sahney, 2018; Vema & Chandra, 2018). For example, Ajzen (1991) contends that attitude, subjective norms, and perceived behavioral control precede intention to behave and individuals possessing adequate resources translate such behavior into the action of purchasing.

The basic tenet of TPB is that an individual's behavior depends on intention, which is influenced by their attitude (Ajzen, 1991). Furthermore, perceived behavioral control plays a crucial role in influencing purchase decisions. In the present-day digital world, the effect of social media on consumer behavior through EWOM has also been established by previous researchers (Hennig-Thurau et al., 2004; Lee & Koo, 2012; Lopez & Sicilia, 2014; Rosario et al., 2020). For example, Filleri (2015) documented that the quality of information from online reviews about product quality shared through EWOM influences consumer purchase decisions. Furthermore, since online buying of apparel involves the risk of getting low-quality products, as opposed to what has been shown on the websites, it is also imperative to study the effect of perceived risk on purchase intention and actual purchase behavior. Therefore, this study combines the core TPB variables with EWOM and perceived risk, especially concerning online apparel shopping.

EWOM is defined as "any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet" (Henning-Thurau et al., 2004: p. 39). It includes all the positive or negative information about a product, service, and reviews on those products mentioned in the message boards, blogs, and other mediums (Bhandari et al., 2021; Bronner & De Hoog, 2011; Forman et al., 2008). The underlying philosophy of EWOM is that the individuals participating in the conversations help each other by ventilating their opinions about products and services that help them in decision-making (Berger, 2014). Therefore, exchanging information among the participants through EWOM may decrease the risk of making wrong purchase decisions by consumers (Fong & Burton, 2008; Moe & Trusov, 2011). As social media networking platforms are becoming more popular, consumers refer to the customer review section of the retail website and rely on user-generated content and the reviews posted and communicated through eWOM before making purchase decisions. For example, Filieri and McLeavy (2014) documented that online reviews through EWOM help consumers make travel accommodation decisions. Bazi et al. (2020) contend that consumers actively engaged on social media about the products and identified cognitive, emotional, and behavioral engagement plays a vital role. Accentuating the notion of EWOM, in this study, a double moderation of EWOM is examined, as illustrated in the conceptual model. The proposed conceptual model is illustrated in Figure 1.

{Insert Figure 1 about here}

A key variable in this study is the purchase intention of consumers, which is concerned with consumers' willingness to purchase through the Internet and web surfing (Ariffin et al., 2018; Jamali et al., 2010; Meskaran et al., 2013). As per TPB, intention is influenced by individual's attitude. Consumers' attitude toward online shopping refers to the feelings (positive or negative)

they exhibit after processing the information received from other sources and their acquired knowledge (Ajzen & Fishbein, 1980; Chie et al., 2005; Park & Kim, 2003). Considering TPB as an underpinning theory, extant research has documented a positive association between attitude, purchase intention, and actual purchase behavior (Al-Debei et al., 2015; Farid, 2005; Rahman et al., 2018; Pavlou & Fygenson, 2006). About online apparel, emotional gratification and hedonic benefits motivate consumers to engage in actual purchase behavior (Dhurup, 2014). In a recently conducted study on apparel products in China, the researchers found a positive relationship between attitude and purchase intention (Sajid et al., 2022; Yao, 2020). Based on the available empirical evidence and the intuitive appeal, we postulate the following hypotheses:

H1: Consumers' attitude of online apparel positively impacts actual purchase behavior.
H2: Consumers' attitude of online apparel positively impacts purchase intention.
H3: Consumers' purchase intention of online apparel positively impacts actual purchase behavior.

2.1 Purchase intention as a mediator

The direct relationship between attitude and actual purchase behavior in the apparel industry is understandable and well-documented in the literature (Farid, 2015; Liao et al., 2021; Meskaran et al., 2013; Van der Heijden et al., 2003). However, we argue that attitude may also indirectly influence the actual purchase behavior through purchase intention. It is more likely that the attitude leads to purchase intention when consumers fill up the buying carts. The consumers make their intent clear about the purchases, yet, the actual purchase behavior happens only when they finally click the button to purchase the items and pay the required amount. Therefore, purchase intention is more likely to precede actual purchase behavior (Lim et al., 2016). Consumers may differ in time to convert their purchase decisions into actual purchase behavior; some may instantly make purchase decisions, and others may take a longer time by visiting other comparable websites and several comparable apparels, particularly regarding online clothing (Kaushik et al., 2020; Pena-

Garcia et al., 2020). Based on the limited empirical evidence, we postulate the following hypothesis:

H4: Purchase intention mediates the relationship between attitude and actual purchase behavior.

2.2 First moderated moderated-mediation hypothesis

As online shopping involves considerable risk, it is essential to consider perceived risk in influencing purchase intention and actual purchase behavior. The perceived risk of buying products and services online has been one of the major concerns affecting consumer decision-making (Liao et al., 2021; Park & Stoel, 2005). High risk associated with products and services drives consumers away from online shopping (Alreck & Settle, 2002; Amirtha et al., 2021; Garbarino & Strahilevitz, 2004). The prior research has identified six categories of perceived risk: physical, convenience, social, product, financial, and psychological risk (Peter & Tarpey, 1975), out of which financial risks and product risks are more important to online shopping as documented by researchers (Lu et al., 2005). While product risk is associated with the low quality of the product being delivered in comparison to the high quality of the product depicted on websites (Alreck & Settle, 2002), financial risk is related to credit card fraud and disclosure of personal information to external agencies, and also monetary loss from the purchases (Drennan et al., 2006; Sweeney et al., 1999). Online purchases may also involve delivery risk, i.e., packaging defects may be found when the product is delivered; and time risk, i.e., taking more time than promised. These risks negatively affect customer satisfaction and intention to continue online shopping with the same e-retailer (Claudia, 2012).

While perceived risk harms purchase intention, another important variable that plays a vital role between the consumers about the apparel is EWOM. Before buying apparel online, it is more likely that consumers use the information about the product quality, price, efficiency, and performance

9

shared between friends, colleagues, family members, and others who actively interact through various social media platforms (Gautam & Sharma, 2017; Rosario et al., 2020; You et al., 2015). Researchers have documented the efficiency of several social media platforms contributing to EWOM through reviews, blogs, images, pins, likes, and dislikes, which help consumers make correct decisions depending on the information available (Filieri, 2015; Rosario et al., 2016). In addition, the individuals exhibit opinion-seeking and opinion-giving behaviors and communicate these through EWOM (Filieri et al., 2021). Lopez and Silicia (2014) contend that trustworthiness plays a significant role in relying on the information gathered through EWOM. Filieri et al. (2015) provide evidence that consumer-generated media and EWOM have significantly influenced consumers' travel decisions.

While perceived risk has adverse outcomes for purchase intention consumers (Ariff et al., 2014; Gerber et al., 2014; Liao et al., 2021; Tham et al., 2019), perceived risk as a moderator in the relationship between attitude and purchase intention has been understudied. We argue that perceived risk (first moderator) changes the strength of the relationship between attitude and purchase intention. We further contend that EWOM (second moderator) may alter the moderated relationship between attitude and purchase intention because EWOM may convey messages about the reputation (or ill-reputation) of apparel based on which the intention may be changed. Previous studies have not dwelled on double moderation, and based on the direct effects of the perceived risk (first moderator) and EWOM (second moderator) on purchase intention, we propose the following exploratory three-way interaction hypothesis:

H2a: EWOM moderates moderated relationship between attitude and perceived risk in influencing the purchase intention.

2.3 Second moderated moderated-mediation hypothesis

According to TPB, one of the critical variables influencing consumer online purchase behavior is perceived behavioral control (Ajzen, 1991). While the attitude affects the individual's intention, the ease or difficulty of engaging in the behavior is crucial for translating the intention into an actual purchase. According to Ajzen (1991), the perceived behavioral control differs from person to person as some people could be high, and some could be low on perceived behavioral control. Individuals with higher perceived behavioral control tend to make necessary psychological adjustments and reduce the perceived risk associated with e-purchase decisions (Featherman & Pavlou, 2003). There is research evidence that the collaboratively shared opinions influenced consumers' attitudes towards online shopping of digital products through EWOM (Amblee & Bui, 2012). A recently conducted study in China on 263 individuals found that perceived control was positively associated with purchase intention in the online shopping context (Li et al., 2018). Thus when we see direct individual effects of EWOM and perceived behavioral control in purchase intention, the interactive effect of these would be interesting to explore. This study proposes that EWOM moderates the relationship between attitude and purchase intention. Perceived behavioral control (second moderator) would interact with EWOM to increase the strength of the moderated relationship. None of the previous studies have tested this effect of three-way interaction on purchase behavior, to the best of our knowledge. Though the non-availability of prior research in this relationship was not the essential criterion for the study, the primary reason is to explore the effect of EWOM and perceived behavioral control on purchase intention for clear understanding. We, therefore, propose the following exploratory three-way interaction hypothesis:

H2b: Perceived behavioral control moderates the moderated relationship between attitude and EWOM influencing the purchase intention.

3. Research Method

3.1 Sample

To test the conceptual model, we selected consumers engaging in online shopping in India. We used convenience, non-probability-based sampling to collect data as the number of e-buyers of apparel is unknown. First, we contacted habitual apparel buyers and requested details of their known people who are also regular buyers of it online. We motivated them to take the survey seriously as the research has several implications for both e-retailers and consumers. We included a qualifier question about the respondents' interest in online apparel. If the answer is 'No,' it would not allow them to continue the survey. It took around three months (mid-March 2022 to mid-June 2022) to collect data from the respondents, and we were satisfied with the total number of respondents who filled out the survey instrument distributed online. Though non-probability sampling may limit representativeness, this is an acceptable method when the respondents are challenging to identify (Cooper & Schindler, 2013). This is consistent with what past researchers have done in marketing research (Badgaiyan & Verma, 2014; Goel, 2022; Moisescu et al., 2021). In all, we received 432 responses that we used in the analysis. We checked non-response bias by comparing the first 100 respondents with the last 100 responses and did not find a statistical difference between these groups.

3.2 Demographic profile

Our of the 432 respondents, 276 were female and 156 were male. The demographic profile of the respondents was presented in Table 1.

{Insert Table 1 about here}

3.3 Measures

We measured all the constructs using the established measures from the literature. The measures used a 5-point Likert scale (where '5' represents strongly agree; '1' represents strongly disagree). The constructs, indicators, and sources of these constructs are presented in Table 3.

4. Analysis and Findings

4.1. Descriptive statistics and multicollinearity

The means, standard deviations, and zero-order correlations (descriptive statistics) were presented in Table 1.

{Insert Table 2 about here}

First, we observed the correlation matrix to see if there is any multicollinearity between the variables. The highest correlation was 0.70 (between attitude and purchase intention), and the lowest correlation as 0.20 (between EWOM and actual purchase behavior). As previous research suggested, correlation of over 0.75 may caution about the presence of multicollinearity. Since, the correlations were less than 0.75, multicollinearity is not a problem with the data in this research (Tsui et al., 1995). As an additional check, we also verified the variance inflation factor (VIF) and found that the VIF values for all the variables were less than '5', which suggest absence of multicollinearity (Montgomery et al., 2021).

4.2. Measurement model and Confirmatory Factor Analysis (CFA)

Before running the analysis, we followed two-step approach suggested by Anderson and Gerbing (1988) and checked the measurement model first. The results of confirmatory factor analysis (CFA) are presented in Table 3. We also calculated the average variance extracted (AVE) for all the variables, and composite reliability (CR) and found that these are above the acceptable levels

(Hair et al., 1998; Nunnally, 1994; Moss et al., 2007). All these values vouch for the reliability of the measures.

{Insert Table 3 about here}

4.3 Convergent validity, discriminant validity and common method bias

The convergent validity of the measures was established by checking the factor loadings of all the indicators. The results reveal that these loadings ranged from 0.70 and 0.87, thus are at the acceptable level (Hair et al., 1998). Further, the AVE for each of the constructs was higher than the acceptable values of 0.50, following the Fornell and Larcker's (1981) criterion. These statistics confirm the convergent validity and internal consistency of the indicators (Babin & Zikmund, 2016).

To establish discriminant validity, it is suggested to compare the square root of AVEs with the correlations between the constructs (Fornell & Larcker, 1981; Netemeyer et al., 1990). We compared the AVE of the measures with the with the square of the correlation between the constructs. The variance extracted estimates for attitude and purchase intention were 0.70 and 0.68, respectively, and both exceeded the squared correlation between them ($\Phi21 = 0.70$, $\Phi^221 = 0.49$; $p < 0.01$). Further, the squared correlation between purchase intention and perceived behavioral control was lower than the variance extracted estimates of 0.68 and 0.54 respectively ($\Phi21 = 0.46$, $\Phi^221 = 0.22$; SE of $\Phi21 = 0.05$; $p < 0.05$). These statistics, together with the CFA results, offer support for discriminant validity between these six variables. We also compared the baseline six-factor model with five other alternative models and presented the results in Table 4.

{Insert Table 4 about here}

The results reveal that the six-factor model fit the data well [$\chi^2 = 466.17$; df= 215; $\chi^2/df = 2.17$; RMSEA = 0.052; RMR = 0.047; Standardized RMR = 0.042; CFI = 0.954; GFI = 0.915]. A

comparison of alternative models with the baseline model (see Table 4) shows that the comparative

fit index (CFI) for six-factor model was 0.954, while the root mean squared error of approximation

(RMSEA) was 0.052. As the previous researchers contend, RMSEA of less than 0.08 indicates a

good fit of the model to the data (Browne & Cudeck, 1993), and provide evidence of construct

distinctiveness for attitude, perceived behavioral control, EWOM, perceived risk, purchase

intention, and actual purchase behavior.

We addressed the common method bias, which is a potential problem in any survey research, by

following the recommendations of Podsakoff et al. (2003) and performed Harman's single-factor

test. The results reveal that single factor accounted for less than 50 percent of the variance,

implying that common method bias is not a problem. We also tested common method bias by latent

factor method by subjecting all the constructs to one construct each time and found that the inner

VIF values were less than 3.3 (threshold), thus vouched that data is not infected by common

method bias (Kock, 2015).

4.4. Hypotheses testing

We used Model Number 4 in Hayes (2018) PROCESS macros for testing the hypotheses H1, H2,

H3 and the mediation Hypothesis H4. The results are presented in Table 2.

{Insert Table 2 about here}

Step 1 from Table 2 shows the effect of attitude on actual purchase behavior. The regression

coefficient of attitude was positive and significant ($\beta = 0.650$; $t = 17.23$; $p < 0.001$). The

bootstrapping result based on 20,000 bootstrap samples shows that the 95 percent bias-corrected

confidence interval (BCCI) was 0.5762 (LLCI) and 0.7245 (ULCI). The model explains 39.7

percent variance in the actual purchase behavior, the magnitude is very substantial ($f^2 = 0.64$), [the

effect size f^2 between 0.02 and 0.15 represents 'small'; f^2 between 0.15 and 0.35 represent medium

effect size, and $f^2 > 0.35$ represents 'large effect size' (Cohen, 1988)] and is statistically significant

[$R^2 = 0.397$; $F (1,430) = 296.95$; $p < 0.001$]. These results support H1, which postulates that

purchase intention is positively associated with actual purchase behavior.

Hypothesis 2 proposes that attitude positively predicts purchase intention. As shown in the Step 2

(Table 5), the regression coefficient of attitude on purchase intention was positive and significant

($\beta = 0.700$; $t = 20.74$; $p < 0.001$), and the 95 percent BCCI (LLCI: ULCI) were 0.6345 and 0.7673

respectively. The model was significant and explains 48.9 percent variance in purchase intention

because of attitude [$R^2 = 0.489$; $F (1,430) = 430.42$; $p < 0.001$], thus supporting Hypothesis H2.

Hypothesis 3 states that e-BI positively predicts actual purchase behavior. As shown in Step 3

(Table 5), the regression coefficient of purchase intention was positive and significant ($\beta = 0.292$;

$t = 5.74$; $p = 0.001$). The model is significant and explains 43.9 percent of variance in actual

purchase behavior, and very substantial in magnitude ($f^2 = 0.78$), and statistically significant [$R^2 = 0.439$; $F (2,429) = 175.55$; $p < 0.001$]. These results render support for H3.

Hypothesis H4 states that purchase intention mediates the relationship between attitude and actual

purchase behavior. To check the mediation it is necessary to check the indirect effects [Hayes

(2018) PROCESS macros Model Number 4]. As can be seen in Table 5, the total effect (0.6503)

was consisting of direct effect of attitude on actual purchase behavior (0.4454) and indirect effect

through purchase intention (0.2049). The indirect effect was calculated as the multiplication of

regression coefficient of attitude on purchase intention (0.7009), with regression coefficient of

purchase intention on actual purchase behavior (0.2924) i.e. [i.e., 0.7009 x 0.2924 = 0.2049].

Therefore, the total effect of attitude on actual purchase behavior was 0.6503 [0.4454 + 0.2049].

To check the mediation effect of purchase intention, it is important to see whether the indirect effect is significant or not. The result based on 20,000 bootstrap samples ($\beta = 0.2049$; Boot se = 0.0496) shows that the 95% confidence Intervals (CIs) are between 0.1137 and 0.3077, and 'zero' is not contained in the CIs. Thus, the indirect effect of attitude → purchase intention → actual purchase behavior was significant, thus supporting Hypothesis H4.

4.5 Testing the moderated moderator-mediation hypothesis (H2a)

The three-way interaction, as represented by Hypothesis H2a, was tested using Model Number 11 of Hayes (2018) PROCESS Macros. The results were presented in Table 6.

{Insert Table 6 about here}

As shown in Table 6, the regression coefficient of interaction effect (attitude x perceived risk x EWOM) was positive and significant ($\beta_{\text{attitude x perceived risk x EWOM}} = 0.068$; $t = 2.399$; $p < 0.05$; Boot LLCI (0.0123); Boot ULCI (0.1239). These results support Hypothesis H2a. The visualization of three-way interaction was illustrated in Figure 2.

{Insert Figure 2 about here}

In Figure 2, the relationship between attitude, perceived risk, and purchase intention at 'Low' and 'High' levels of EWOM, was shown in two panels. Panel A shows the interaction between attitude and perceived risk at lower levels of EWOM. As can be seen in Figure 2 (Panel A), lower levels of attitude are associated with higher purchase intention under higher levels of risk than at lower levels. On the contrary, Panel B shows the interaction between attitude and perceived risk at higher levels of EWOM. The purchase intention would be higher at lower levels of risk than at higher levels of risk under both the conditions of lower and higher levels of attitude. Upon close

17

examination, we can see that the curves are switched when we move to Panel B. These results corroborate the support to Hypothesis H2a.

The conditional effects of the focal predictor (purchase intention) at values of moderators (Perceived Risk x EWOM), and the moderator value(s) defining Johnson-Neyman significance region(s) were shown in the bottom of Table 6. Table 7 presents the conditional X*W interaction (attitude x Perceived Risk) at values of the moderator Z (EWOM). Johnson-Neyman (JN) technique generates regions of significance where the conditional effect of the moderator is present. The indirect effects of attitude on actual purchase behavior through purchase intention were presented in Table 8.

{Insert Tables 7 and 8 here}

4. 6 Testing the moderated moderated-mediation hypothesis (H2b)

perceived behavioral control as a second moderator and EWOM as a first moderator in the relationship between attitude and actual purchase behavior mediated through purchase intention was tested using Model Number 11 of Hayes (2018) PROCESS macros. The results were presented in Table 9.

{Insert Table 9 about here}

Hypothesis 2b posits that eWOM (first moderator) and perceived behavioral control (second moderator) interact with attitude to affect purchase intention. The regression coefficient of the three-way interaction (attitude x EWOM x perceived behavioral control) was significant ($\beta_{\text{attitude x EWOM x perceived behavioral control}} = 0.075$; $t = 2.58$; $p < 0.05$). The regression results [Hayes (2018) PROCESS – Model 11] reveal that the three-way interaction in the relationship between attitude, eWOM, and perceived behavioral control, is supported through purchase intention as a mediator

(also called testing the 'moderated moderated-mediation). As is presented in Table 9, the bootstrapping result based on 20,000 bootstrap samples shows that the 95% index of moderated moderated-mediation show that index (0.0221) and Boot SE (0.0166) and Boot LLCI (0.0005) and BOOT UL (0.0463) shows significant values (as zero is not contained in the Lower and Upper limits), thus supporting Hypothesis H2b. In the bottom of Table 9, we presented the conditional effects of the focal predictor (purchase intention) at values of moderators (EWOM x perceived behavioral control).

Table 10 presents the conditional interaction (attitude x EWOM) at values of the moderator Z (perceived behavioral control). The moderator values defining Johnson-Neyman significance region(s) show that for the values 2.2028 (6.6372% below and 93.3628% above) the significance regions exist because the Boot LLCI and ULCI do not contain zeros.

{Insert Table 10 about here}

Table 11 shows the results of conditional indirect effect (attitude → purchase intention → actual purchase behavior), which checks the moderated moderated-mediation hypothesis.

{Insert Table 11 about here}

The three-way interaction was shown in two panels of Figure 3.

{Insert Figure 3 about here}

Panel A (see Figure 3) shows the relationship between attitude, EWOM and purchase intention at low levels of perceived behavioral control, and Panel B shows the relationship at high levels of perceived behavioral control. When perceived behavioral control is low, under both low and high conditions of EWOM, the effect of attitude on purchase intention is same, whereas when attitude increases from low to high, there is divergence in the effect of attitude on purchase intention. The difference between the curves become much as we move to Panel B, which represents higher level

19

of perceived behavioral control. In the beginning (when attitude is low) and when attitude increases from low to high, there is divergence of lines. Higher levels of EWOM are associated with lower purchase intention than at lower levels of EWOM. This implies EWOM plays a vital role in influencing the relationship between attitude and e-BI. It could be that the consumers become more aware of the product, combined with higher levels of perceived behavioral control results in restricting their purchase intention. These visualizations of graphs render additional support to the three-way interaction hypothesis (i.e. H2b).

4.6 Post-hoc analysis

Subjective norms, one important component of TPB, was not considered in the conceptual model because of space constraint and complexity of the model. However, we conducted post-hoc analysis and found that the regression coefficient of subjective norms on actual purchase behavior was positive and significant ($\beta = 0.302$; $t = 2.005$; $p < 0.05$).

Further, we investigated the interaction between PI and subjective norms on actual purchase behavior. The regression coefficient of interaction term was significant ($\beta_{\text{PI x subjective norms}} = 0.096$; $t = 2.419$; $p < 0.05$), and the 95 percent BCCI (LLCI: ULCI) were 0.0181 and 0.1753 respectively. The model was significant and explains 34.8 percent variance in actual purchase behavior because of direct effect of subjective norms and interaction of subjective norms with PI on actual purchase behavior [$R^2 = 0.348$; $F(3,428) = 76.44$; $p < 0.001$]. These results are consistent with findings from the literature. The moderation effect of subjective norms (see Figure 4) shows that at relationship between purchase intention and actual purchase behavior becomes stronger when subjective norms are high when compared to low level of subjective norms. The interaction effect is shown in Figure 4.

{Insert Figure 4 about here}

The empirical model was presented in Figure 5.

{Insert Figure 5 about here}

5. Discussion

This study tested a new, moderated-mediation approach to explore the interdependencies among multiple variables influencing actual purchase behavior. As a result, we highlighted the importance of EWOM, perceived risk, and perceived behavioral control in the context of consumers' purchase intention and the boundary conditions for stimulating actual purchase behavior. The first critical feature of this study, beyond the statistical results, is that our approach differs significantly from the other studies in the literature. The prevailing research focused on the antecedent conditions of attitude, purchase intention, and actual purchase behavior. Our study extends beyond the direct results by exploring the three-way interaction effects. Though some of the previous studies examined two-way interactions and the mediating effects of self-efficacy (Li et al., 2018), the interaction of three variables does not exist in the literature yet.

Second, the results provide strong evidence of the positive association of attitude with actual purchase behavior (Hypothesis 1), which is consistent with the TPB and findings from other studies. Third, the results also support the positive effect of attitude on consumers' purchase intention, which again is in line with the findings from previous studies (Hypothesis 2) (Vazquez & Xu, 2009; Yang et al., 2007). Fourth, the direct effect of purchase intention on actual purchase behavior (Hypothesis 3) has been well-supported in this study, primarily when the shoppers are driven by value-driven purchases of apparel (Ariffin et al., 2018; Gupta & Kim, 2010; Zhou et al.,

2007). Further, the indirect effect of attitude through purchase intention (Hypothesis 4) has found support in this study.

Fifth, the key finding of this study is the moderating effect of perceived risk in online shopping behavior by influencing the relationship between attitude and purchase intention. Further, EWOM (second moderator) in changing the strength of the relationship between attitude and purchase intention (Hypothesis 2a) has been supported by this research. Though no prior studies were available to vouch for the empirical validation of the first moderated moderated-mediation relationship, the theoretical support of TPB and intuitive appeal about the direct effects of perceived risk on purchase intention make it comprehensible (Ariffin et al., 2018; Gerber et al., 2014; Tham et al., 2019). Further, the results align with studies relating to the effect of EWOM on consumers' purchase intention and behavior (Bhandari et al., 2021; Filieri et al., 2021). Sixth, another double moderation eWOM and perceived behavioral control, yet another construct from TPB, on purchase intention (Hypothesis 2b) found support in this study. Again, the non-existence of prior studies to vouch for this double moderation calls for further studies to get support for the proposed relationships. Overall, the study has supported all six hypotheses.

5.1 Theoretical implications

The double moderated moderated-mediation conceptual model developed and tested in this research has several implications for e-marketing theory and practice. First, the study contributes to the growing body of knowledge on online buying behavior by fortifying the attitude-intention-behavior chain proposed by TPB. By providing evidence of the direct relationships of (i) consumers' attitude towards online shopping resulting in purchase intention, (ii) purchase intention leading to the actual purchase behavior, and (iii) attitude directly resulting in purchase decisions,

this study concurs with the previous studies in the literature (Ariffin et al., 2018; Gerber et al., 2014; Gupta & Kim, 2010; Tham et al., 2019; Zhou et al., 2007)

This study's key contributions are the two moderated-mediation relationships, which are the first in connection with online buying behavior. First, while earlier researchers have documented the direct effects of perceived risk, this study considers perceived risk as the first moderator in influencing the attitude-intention relationship. Further, EWOM (second moderator), in changing the strength of the first moderator (perceived risk) affecting the actual purchase behavior mediated through purchase intention, has been the most significant contribution to the literature.

The second moderated moderated-mediation includes EWOM as the first moderator and perceived behavioral control (as a second moderator) in explaining the attitude-intention relationship. This second moderated moderated-mediation studied in this research adds to the literature. It may be a bold comment that despite voluminous research in online buying, the three-way interactions in a single model have not been studied. We feel that this itself adds to the bourgeoning literature on online buying.

5.2 Practical implications

The results of this research provide several implications for managers, practitioners, and e-retailers. First, our results confirm that actual purchase behavior is predicted by attitude and purchase intention. Therefore, e-marketers should focus on the antecedent conditions motivating consumers to change their attitude towards online shopping. During the global pandemic, several researchers found phenomenal growth in online shopping consumers; either because of virus fear or health consciousness, e-retailers may benefit from the present trend. Since this study focused on the online shopping of apparel, e-retailers need to explore the motivating factors (e.g., price

discounts, buy-one-get-one-free, quick product delivery) for the consumers to continue to engage in shopping.

Second, since individuals share social media and engage in EWOM, e-retailers need to see that the products advertised in online shopping meet the requirements of consumers (Filieri et al., 2015). It is suggested that e-retailers consider both positive and negative reviews posted by consumers on social media. Such user-generated content helps e-retailers to improve their services by focusing on the red flags raised by online consumers. Since EWOM plays a vital role in influencing online consumer purchase intention (Filieri et al., 2021), e-retailing companies should give enough space for consumers to express their satisfaction/dissatisfaction with buying online apparel. As demand for apparel increases yearly, e-retailers must conduct surveys about customer satisfaction, tastes, and preferences to improve sales. To remain competitive, e-retailers must consider changing tastes and preferences and make the latest apparel available in online stores. The feedback from the customers about the current trends in apparel may be shared with active customers to influence potential buyers. Third, the results underscore the importance of perceived risk as an essential variable that discourages consumers; it is necessary to minimize the risk of buying online apparel so that consumers continue to engage in online shopping.

Finally, as perceived behavioral control plays a vital role in consumer purchase decisions, e-retailers need to see whether the apparel offered comes within the expected customers' price range. Concurring with extant research, this study provided added evidence that attitude towards online buying may lead to purchase intention. The e-retailers should be aware that when perceived behavioral control of consumers is low and when consumers do not have enough means to make purchase decisions, it is more likely that the intention does not result in actual purchase behavior. For example, if the product's price is high, the information reaches others quickly through EWOM,

and the e-retailers may lose customers. This study recommends that in a highly competitive world, e-retailers must offer products at competitive prices to retain market share and remain in the market.

5.3 Limitations and future research directions

The results from the study should be interpreted in light of some limitations. First, the study has the inherent limitation of self-report surveys, i.e., social desirability bias. However, we followed the procedures suggested by previous researchers to minimize the social desirability bias by including proper wording and prefacing questions, clearly defining the role of respondents, and appreciating them for dispassionate and unbiased answers (Latkin et al., 2017). Second, the results are based on a sample of 432, which is not large enough to be generalizable. Third, we focused on a limited number of variables and ignored the personality characteristics that may impact attitudes toward online shopping. Fourth, we operationalized perceived risk to include the product and security risks arising from online buying apparel and ignored the performance and delivery risks. However, as we used the instrument previously tested, we assume that the perceived risk is captured by the indicators we used in this study. Fifth, this study explored the relationship between the attitude and actual purchase behavior of consumers about apparel in the Indian context. Cultural differences must be considered when the conceptual model is applied to consumers in other countries.

This study offers several avenues for future research. First, in addition to the variables, future researchers may consider the consumers' relational behavior in the online context in terms of website quality, product information on the website, security perception, ease of navigation, e-marketer's strategies to promote online sales, which may have a profound effect on purchase behavior of consumers. Second, the study was conducted concerning online apparel buying. Future

studies may focus on online shopping necessities, consumer satisfaction, and post-purchase behavior. Third, it would also be interesting to study the conditions under which the customers engage in repurchases and continue to buy online.

Most importantly, during the post-pandemic, as customers prefer to make purchases online, it would be interesting to see if they return to offline physical stores or continue to engage in online shopping. When writing this article, the fourth wave of virus mutation has affected worldwide, and the future is still unknown regarding the free movement of people to visit offline stores. Therefore, it is more likely that online shopping will continue.

Fourth, future studies may also include additional variables: trust in information transferred through EWOM, reliability of online shopping retailers, promotions, and discounts offered for bulk buying, which may have a profound effect on the purchase behavior of consumers. Fifth, it would be interesting to investigate cross-cultural differences in consumer behavior related to online apparel in different countries. Sixth, future researchers may examine the effects of religiosity and spirituality on consumer buying behavior. Finally, future studies may collect longitudinal data to test the proposed conceptual model.

6. Conclusions

Using the TPB, the present study explored the sequential relationship between consumer attitude, purchase intention, and purchase behavior. In addition, the moderating effects of perceived risk, EWOM, and perceived behavioral control were investigated. Most importantly, this study underscores the dual role of EWOM between consumer attitude and purchase intention. The results show that intention emerges as a path to predict actual behavior, and EWOM and perceived behavioral control play an essential role in transforming attitude into an intention. Further, this study highlighted the importance of perceived risk in analyzing the relationship between attitude

and purchase intention. Based on the results of this research, it is proposed that consumers relying on the high level of EWOM and perceiving the low levels of risk tend to show purchase intention and engage in actual purchase behavior. These results help the e-marketers craft strategies as EWOM, perceived behavioral control, and perceived risk have been stamped as essential variables influencing consumer behavior. While designing innovative products in apparel, retailers need to take consumer feedback as EWOM plays a significant role in influencing consumer behavior. The information regarding the cost-effectiveness, availability of discounts, after-sales service, and satisfaction of the customers who engaged in online shopping gets transmitted to potential customers. Further, as this study provided strong evidence of the importance of the perceived risk of buying online apparel, it is suggested that retailers take all the steps to reduce the risk.

This study concludes that exploring the complex interrelationships between consumers' attitudes towards online shopping, perceived risk, EWOM, and perceived behavioral control is essential in understanding online purchase behavior. As the number of online shoppers has been increasing partly due to the global pandemic and partly because of paradigmatic changes in consumer behavior, online buying remains on the research agenda.

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Table 1

Demographic details

Variable	Categories	Frequency	Percentage
Gender	Female	276	63.9
	Male	156	36.1
	Total	432	63.9
Education	High School (Until 10th grade)	47	10.9
	Intermediate (10+2)	43	10.0
	Bachelor's degree	92	21.3
	Master's degree	187	43.3
	Ph.D.	63	14.6
	Total	432	100.0
Age (in years)	18-24	113	26.2
	25-34	199	46.1
	35-44	50	11.6
	45-54	44	10.2
	55-above	26	6.0
	Total	432	100.0
Occupation	Student	272	63.0
	Employed	137	31.7
	Unemployed	23	5.3
	Total	432	100.0
Online retail stores used	Amazon	135	31.3
	Flipkart	193	44.7
	Myntra	54	12.5
	Ajio	43	10.0
	Others	7	1.6
	Total	432	99.8

Table 2

Descriptive Statistics: Means, standard deviations, and zero-order correlations

	Mean	Standard Deviation	1	2	3	4	5	6	Cronbach's Alpha	Composite Reliability	AVE
1.Attitude	3.70	0.96	**0.83**						0.90	0.90	0.70
2.Purchase Intention	3.69	0.96	0.70***	**0.82**					0.89	0.89	0.68
3.Perceived Risk	3.75	0.85	0.06	-0.26**	**0.77**				0.83	0.85	0.59
4. eWOM	2.19	0.82	0.30***	0.36***	0.32***	**0.77**			0.88	0.88	0.59
5.Perceived Behavioral Control	3.69	0.90	0.37***	0.46***	0.06	0.41***	**0.73**		0.79	0.82	0.54
6. Actual Purchase Behavior	3.80	0.99	0.63***	-0.59***	0.07	0.20***	0.37***	**0.82**	0.81	0.81	0.68

*** $p < 0.001$; Zero-order correlations are reported; ** $p < 0.05$

AVE = Average Variance Extracted; Diagonal elements are the square root of AVE.

Table 3
Confirmatory factor analysis

Constructs and the sources of the measures	Alpha	Standardized Loadings (λ_{yi})	Reliability (λ^2_{yi})	Variance $(Var(\varepsilon_i))$	Average Variance-Extracted Estimate $\Sigma(\lambda^2_{yi})/[(\lambda^2_{yi})+(Var(\varepsilon_i))]$
Attitude (towards online purchase behavior) (Sorce et al., 2005; Joines et al., 2003; Kim & Park, 2005)	0.90				0.70
I like the idea of purchasing apparel from online retail store.		0.80	0.64	0.36	
The idea of using online retail store to purchase apparel is appealing.		0.83	0.69	0.31	
My attitude towards online purchasing of apparel is positive.		0.87	0.75	0.25	
I feel comfortable when purchasing of apparel from online retail store.		0.84	0.70	0.30	
Perceived Behavioral Control (Francis et al., 2004; Shim et al., 2001)	0.79				0.54
It is possible for me to purchase apparel from online retail store.		0.72	0.52	0.48	
It is easy for me to purchase apparel from online retail store.		0.80	0.65	0.35	
I have enough money to purchase apparel from online retail store.		0.71	0.50	0.50	
I myself decide whether to purchase apparel from online retail store or not.		0.70	0.49	0.51	
eWOM (Bambauer-Sachse & Mangold, 2011)	0.88				0.59
I often read other consumer's online review to purchase apparel from online retail store.		0.70	0.49	0.51	
To make sure I usually purchase apparel from online retail store after view consumer's review.		0.78	0.61	0.39	
I often consult other consumer's product review to help choose right online retail store for apparel.		0.81	0.65	0.35	
I frequently gather information from online consumer's product reviews before I purchase apparel from online retail store.		0.78	0.61	0.39	
When I purchase apparel from online retail store, consumer's online reviews make me confident whether purchase the product or not.		0.77	0.59	0.41	
Perceived Risk (Dowling and Richard, 1994; Sweeny et al., 1999)	0.83				0.59
Purchasing of apparel from online retail store is riskier than in-store shopping.		0.78	0.61	0.39	
The apparel displayed on online retail store differs from the actual product.		0.83	0.68	0.32	
I worry that low-quality apparel could be sold in place of high-quality product offered in online retail store.		0.71	0.50	0.50	
I worry about my personal data being abused or resold by online retail store franchise.		0.74	0.55	0.45	

Purchase intention (Ajzen and Fishbein, 1980; Dodds et al., 1991; Bian and Forsythe, 2012)	0.89				0.68
I would love to purchase apparel from online retail store.		0.75	0.56	0.44	
I will try to purchase apparel from online retail store in future.		0.86	0.74	0.26	
I intend to purchase apparel from online retail store within next year.		0.87	0.75	0.25	
There is high probability that I would purchase apparel from online retail store within 12 months.		0.81	0.66	0.34	
Subjective Norms (Ajzen and Fishbein (1980; Ling, 2009)					0.58
Many important friends and relatives around me think that I should use online retail store to purchase apparel.		0.79	0.63	0.37	
Many friends and relatives around me have purchased apparel from online retail store.		0.76	0.57	0.43	
I feel social pressure to purchase apparel from online retail store.		0.76	0.58	0.42	
The people who I listen to, could influence me to purchase apparel from online retail store		0.74	0.54	0.46	
Actual Purchase Behavior (Lin, 2007)	0.81				0.68
I prefer purchasing apparel from online retail store.		0.81	0.65	0.35	
I frequently use online retail store for purchasing apparel.		0.84	0.70	0.30	

Table 4

Comparison of Measurement Models

Model	Factors	χ^2	df	χ^2/df	$\Delta\chi^2$	RMSEA	RMR	Standardized RMR	CFI	TLI=NNFI	GFI
Null	Saturated Model	5733.56	253								
Baseline Model	**Six factor Model**	**466.17**	**215**	**2.17**		**0.052**	**0.047**	**0.042**	**0.954**	**0.946**	**0.915**
Model 1	Five factor model	592.65	220	2.69	126.48**	0.063	0.053	0.047	0.932	0.922	0.895
Model 2	Four factor model	975.25	224	4.35	509.08**	0.088	0.088	0.079	0.863	0.845	0.811
Model 3	Three factor model	1207.25	227	5.32	741.08**	0.100	0.087	0.077	0.821	0.801	0.770
Model 4	Two factor model	2068.87	229	9.03	1602.7**	0.136	0.135	0.123	0.664	0.629	0.621
Model 5	One factor model:	2671.49	230	11.62	2205.32**	0.157	0.161	0.145	0.555	0.510	0.556

[** $p < 0.01$

Six factor model: ATT, APB, PI, PBC, eWOM, PRISK

Five factor model: ATT + APB, PI, PBC, eWOM, PRISK

Four factor model: ATT + APB + PI, PBC, eWOM, PRISK

Three factor model: ATT + APB + PI + PBC, eWOM, PRISK

Two factor model: ATT + APB + PI + PBC + eWOM + PRISK

One factor model: ATT + APB + PI + PBC + eWOM + PRISK

Abbreviations: ATT = Attitude; APB = Actual Purchase Behavior; PI = Purchase Intention; PBC= Perceived Behavioral Control; eWOM = Electronic Word of Mouth; PRISK = Perceived Risk]

Table 5

Testing H1, H2, H3, and H4

	DV= Actual Purchase Behavior				DV = Purchase Intention **H2**				DV = Actual Purchase Behavior			
	Step 1				Step 2				Step 3			
	Coeff	se	t	p	Coeff	se	t	p	Coeff	se	t	p
Constant	1.3865	0.1444	9.6039	0.0000	1.0953	0.1292	8.4759	0.0000	1.0662	0.1502	7.098	0.0000
Attitude **H1**	**0.6503**	**0.0377**	**17.2324**	**0.0000**	**0.7009**	**0.0338**	**20.7468**	**0.0000**	0.4454	0.051	8.7325	0.0000
Purchase Intention **H3**									**0.2924**	**0.0509**	**5.7468**	**0.0000**
R-square	0.397				0.489				0.439			
F	296.95				430.42				175.55			
df1	1				1				2			
df2	430				430				429			
p	0.0000				0.0000				0.0000			
Total Effect												
			Total Effect	se	t	p	LLCI	ULCI				
			0.6503	0.0377	17.2324	0.0000	0.5762	0.7245				

Direct Effect											
			Direct Effect	se	t	p	LLCI	ULCI			
Attitude →Actual Purchase Behavior			0.4454	0.051	8.7325	0.0000	0.3452	0.5456			
Bootstrapping Indirect Effect (H4) (To verify mediation)											
			Indirect Effect	BOOT se	BOOT LLCI	BOOT ULCI					
Attitude → Purchase Intention → Actual Purchase Behavior			0.2049 (0.7009 x 0.2924 = 0.2049)	0.0496	0.1137	0.3077					

[Notes: N = 432. Boot LLCI refers to the lower bound bootstrapping confidence intervals. Boot ULCL refers to the upper bound bootstrapping confidence intervals. Number of bootstrapping samples for this bias corrected bootstrapping confidence intervals are 20,000. The level of confidence for all confidence intervals in output was 0.95. We have four decimal digits for bootstrap results because some values may be very close to zero.]

Table 6

Testing of Hypothesis 2a (three-way interaction) (Results of moderated moderated-mediation model)

Variables		DV= Purchase Intention					
		Coeff	se	t	p	LLCI	ULCI
Constant		-1.6235	1.1808	-1.3749	0.1699	-3.9442	0.6972
Attitude		1.4116	0.2901	4.8653	0.0000	0.8414	1.9818
Perceived Risk		-0.8155	0.3042	-2.6803	0.0076	-1.4134	-0.2175
eWOM		1.0947	0.3901	2.8058	0.0052	0.3279	1.8615
Attitude x Perceived Risk		-0.1796	0.0752	-2.3895	0.0173	-0.3273	-0.0319
Attitude x eWOM		-0.2867	0.1032	-2.7768	0.0057	-0.4896	-0.0838
Perceived Risk x eWOM		-0.3221	0.1063	-3.0301	0.0026	-0.5311	-0.1132
Attitude x Perceived Risk x eWOM	**H2a**	**0.0681**	**0.0284**	**2.3991**	**0.0168**	**0.0123**	**0.1239**
R-square		0.529					
F		71.27					
df1		7					
df2		424					
p		0.0000					
R-square change		0.0061					
Δdf1		1					
Δdf2		424					
F-change		5.75					
p		0.00168					
Index of moderated moderator-mediation							

Index			BOOT se	BOOT LLCI	BOOT ULCI			
0.0199			0.0138	-0.0155	0.0396			
Index of moderated moderator-mediation by Perceived Risk								
eWOM			Index	BOOT se	BOOT LLCI	BOOT ULCI		
Low			-0.0246	0.0174	-0.0515	0.021		
Medium			-0.0127	0.0147	-0.0390	0.0215		
High			0.0093	0.0203	-0.0404	0.041		
	Conditional effects of the focal predictor (Purchase Intention) at values of moderators (Perceived Risk x eWOM)							
Perceived Risk	eWOM	Effect	se	t	p	LLCI	ULCI	
Low	Low	0.7574	0.0583	12.9972	0.0000	0.6429	0.8720	
Low	Medium	0.7080	0.0455	15.5767	0.0000	0.6187	0.7973	
Low	High	0.6170	0.0466	13.2540	0.0000	0.5255	0.7085	
Medium	Low	0.6732	0.0468	14.3804	0.0000	0.5812	0.7652	
Medium	Medium	0.6646	0.0369	18.0229	0.0000	0.5921	0.7370	
Medium	High	0.6488	0.0510	12.7083	0.0000	0.5484	0.7491	
High	Low	0.6310	0.0550	11.4663	0.0000	0.5229	0.7392	
High	Medium	0.6429	0.0444	14.4748	0.0000	0.5556	0.7301	
High	High	0.6646	0.0637	10.4359	0.0000	0.5395	0.7898	
	Moderator value(s) defining Johnson-Neyman significance region(s)							
		Value	% below			% above		
		1.3444	7.7434			92.2566		

Table 7

Conditional X*W interaction (Attitude x Perceived Risk) at values of the moderator Z (eWOM)

eWOM	Effect	se	t	p	LLCI	ULCI
1.0000	-0.1115	0.0516	-2.1608	0.0312	-0.2129	-0.0101
1.2000	-0.0979	0.0475	-2.0595	0.0400	-0.1913	-0.0045
1.3444	**-0.0881**	**0.0448**	**-1.9653**	**0.0500**	**-0.1761**	**0.0000**
1.4000	-0.0843	0.0438	-1.9234	0.0551	-0.1704	0.0018
1.6000	-0.0707	0.0406	-1.7422	0.0822	-0.1504	0.0090
1.8000	-0.0570	0.0379	-1.5062	0.1327	-0.1315	0.0174
2.0000	-0.0434	0.0359	-1.2099	0.2270	-0.1139	0.0271
2.2000	-0.0298	0.0347	-0.8580	0.3913	-0.0981	0.0385
2.4000	-0.0162	0.0345	-0.4693	0.6391	-0.0839	0.0516
2.6000	-0.0026	0.0352	-0.0729	0.9419	-0.0717	0.0665
2.8000	0.0111	0.0367	0.3012	0.7634	-0.0611	0.0832
3.0000	0.0247	0.0390	0.6321	0.5276	-0.0520	0.1014
3.2000	0.0383	0.0420	0.9117	0.3624	-0.0443	0.1208
3.4000	0.0519	0.0455	1.1412	0.2544	-0.0375	0.1413
3.6000	0.0655	0.0494	1.3270	0.1852	-0.0315	0.1626
3.8000	0.0791	0.0536	1.4768	0.1404	-0.0262	0.1845
4.0000	0.0928	0.0581	1.5979	0.1108	-0.0213	0.2069
4.2000	0.1064	0.0627	1.6963	0.0905	-0.0169	0.2296
4.4000	0.1200	0.0675	1.7770	0.0763	-0.0127	0.2527
4.6000	0.1336	0.0725	1.8438	0.0659	-0.0088	0.2761
4.8000	0.1472	0.0775	1.8996	0.0581	-0.0051	0.2996
5.0000	0.1609	0.0826	1.9466	0.0522	-0.0015	0.3233

Table 8

Conditional indirect effect (Attitude → Purchase Intention → Actual Purchase Behavior) (Moderated moderated-mediation hypotheses)

Perceived Risk	eWOM	Effect	Boot SE	Boot LLCI	Boot ULCI
3.0000 (Low)	1.4000 (Low)	0.2215	0.0509	0.1238	0.3224
3.0000 (Low)	2.0000 (Medium)	0.2070	0.0488	0.1160	0.3074
3.0000 (Low)	3.1040 (High)	0.1804	0.0492	0.0974	0.2887
4.0000 (Medium)	1.4000 (Low)	0.1968	0.0491	0.1074	0.2979
4.0000 (Medium)	2.0000 (Medium)	0.1943	0.0467	0.1079	0.2896
4.0000 (Medium)	3.1040 (High)	0.1897	0.0462	0.1043	0.2842
4.5000 (High)	1.4000 (Low)	0.1845	0.0505	0.0970	0.2924
4.5000 (High)	2.0000 (Medium)	0.1880	0.0473	0.1020	0.2862
4.5000 (High)	3.1040 (High)	0.1944	0.0479	0.1045	0.2916
Index of moderated moderator-mediation					
Index	Boot SE	Boot LLCI	Boot ULCI		
0.0199	0.0138	-0.0155	0.0396		
Indices of conditional moderator-mediation by Perceived Risk					
eWOM	Index	Boot SE	Boot LLCI	Boot ULCI	
1.4000	-0.0246	0.0174	-0.0515	0.0210	
2.0000	-0.0127	0.0147	-0.0390	0.0215	
3.1040	0.0093	0.0203	-0.0404	0.0410	

Table 9

Testing of Hypothesis 2b (three-way interaction) (Results of moderated moderated-mediation model)

	DV= Purchase Intention					
	Coeff	se	t	p	LLCI	ULCI
Constant	-1.6494	1.1115	-1.4839	0.1386	-3.8339	0.5352
Attitude	1.2034	0.3101	3.8806	0.0001	0.5939	1.8128
eWOM	0.9810	0.3798	2.5831	0.0101	0.2346	1.7275
Perceived Behavioral Control	0.9322	0.2982	3.1258	0.0019	0.3461	1.5183
Attitude x eWOM	-0.2697	0.1088	-2.4784	0.0136	-0.4836	-0.0558
Attitude x Perceived Behavioral Control	-0.1661	0.0789	-2.1044	0.0359	-0.3213	-0.0110
eWOM x Perceived Behavioral Control	-0.3111	0.1058	-2.9397	0.0035	-0.5191	-0.1031
Attitude x eWOM x Perceived Behavioral Control **H2b**	**0.0755**	**0.0293**	**2.5804**	**0.0102**	**0.0180**	**0.1331**
R-square	0.556					
F	79.35					
df1	7					
df2	424					
p	0.0000					
R-square change	0.0067					
Δdf1	1					
Δdf2	424					
F-change	5.75					
p	0.0102					
Index of moderated moderator-mediation						
Index	BOOT se	BOOT LLCI	BOOT ULCI			
0.0221	0.0116	0.0005	0.0463			
Index of moderated moderator-mediation by eWOM						
Perceived Behavioral Control	Index	BOOT se	BOOT LLCI	BOOT ULCI		
Low	-0.0200	0.0200	-0.0609	0.0183		
Medium	0.0021	0.0143	-0.0269	0.0309		
High	0.0242	0.0167	-0.0086	0.0584		
	Conditional effects of the focal predictor (Purchase Intention) at values of moderators (eWOM x Perceived Behavioral Control)						
eWOM	Perceived Behavioral Control	Effect	se	t	p	LLCI	ULCI
Low	Low	0.6648	0.0716	9.2792	0.0000	0.5240	0.8056
Low	Medium	0.6044	0.0494	12.2442	0.0000	0.5074	0.7015
Low	High	0.5441	0.0626	8.6884	0.0000	0.4210	0.6671

Medium	Low	0.6238	0.0536	11.6374	0.0000	0.5185	0.7292
Medium	Medium	0.6088	0.0381	15.9662	0.0000	0.5339	0.6838
Medium	High	0.5938	0.0522	11.3814	0.0000	0.4912	0.6963
High	Low	0.5485	0.0481	11.4055	0.0000	0.4540	0.6430
High	Medium	0.6168	0.0463	13.3124	0.0000	0.5258	0.7079
High	High	0.6852	0.0717	9.5509	0.0000	0.5442	0.8262
	Moderator value(s) defining Johnson-Neyman significance region(s)						
		Value	% below			% above	
		2.2028	6.6372			93.3628	

Table 10

Conditional X*W interaction (Attitude x eWOM) at values of the moderator Z (Perceived Behavioral Control)

Perceived Behavioral Control	**Effect**	**se**	**T**	**p**	**LLCI**	**ULCI**
1.0000	-0.1942	0.0818	-2.3740	0.0180	-0.3549	-0.0334
1.2000	-0.1791	0.0766	-2.3381	0.0198	-0.3296	-0.0286
1.4000	-0.1640	0.0715	-2.2938	0.0223	-0.3044	-0.0235
1.6000	-0.1488	0.0665	-2.2385	0.0257	-0.2795	-0.0182
1.8000	-0.1337	0.0617	-2.1689	0.0306	-0.2549	-0.0126
2.0000	-0.1186	0.0570	-2.0804	0.0381	-0.2307	-0.0066
2.2000	-0.1035	0.0526	-1.9671	0.0498	-0.2069	-0.0001
2.2028	**-0.1033**	**0.0526**	**-1.9653**	**0.0500**	**-0.2066**	**0.0000**
2.4000	-0.0884	0.0485	-1.8214	0.0692	-0.1838	0.0070
2.6000	-0.0733	0.0448	-1.6345	0.1029	-0.1614	0.0148
2.8000	-0.0582	0.0417	-1.3971	0.1631	-0.1401	0.0237
3.0000	-0.0431	0.0391	-1.1025	0.2708	-0.1199	0.0337
3.2000	-0.0280	0.0373	-0.7509	0.4531	-0.1012	0.0452
3.4000	-0.0129	0.0363	-0.3545	0.7232	-0.0842	0.0585
3.6000	0.0022	0.0363	0.0619	0.9507	-0.0690	0.0735
3.8000	0.0174	0.0372	0.4668	0.6409	-0.0557	0.0904
4.0000	0.0325	0.0389	0.8335	0.4050	-0.0441	0.1090
4.2000	0.0476	0.0415	1.1468	0.2521	-0.0340	0.1291
4.4000	0.0627	0.0446	1.4041	0.1610	-0.0251	0.1504
4.6000	0.0778	0.0483	1.6103	0.1081	-0.0172	0.1727
4.8000	0.0929	0.0524	1.7737	0.0768	-0.0100	0.1958
5.0000	0.1080	0.0568	1.9031	0.0577	-0.0035	0.2195

Table 11

Conditional indirect effect (Attitude → Purchase Intention → Actual Purchase Behavior) (Moderated moderated-mediation hypothesis)

eWOM	Perceived Behavioral Control	Effect	Boot se	Boot LLCI	Boot ULCI
1.4000 (Low)	2.6667 (Low)	0.1944	0.0505	0.1010	0.2982
1.4000 (Low)	3.6667 (Medium)	0.1767	0.0443	0.0947	0.2692
1.4000 (Low)	4.6667 (High)	0.1591	0.0425	0.0820	0.2502
2.0000 (Medium)	2.6667 (Low)	0.1824	0.0467	0.0960	0.2800
2.0000 (Medium)	3.6667 (Medium)	0.1780	0.0430	0.0976	0.2673
2.0000 (Medium)	4.6667 (High)	0.1736	0.0421	0.0956	0.2609
3.1040 (High)	2.6667 (Low)	0.1604	0.0475	0.0784	0.2628
3.1040 (High)	3.6667 (Medium)	0.1804	0.0451	0.0976	0.2747
3.1040 (High)	4.6667 (High)	0.2004	0.0473	0.1119	0.2977
Index of moderated moderator-mediation					
Index	Boot se	Boot LLCI	Boot ULCI		
0.0221	0.0116	0.0005	0.0463		
Indices of conditional moderator-mediation by eWOM					
Perceived Behavioral Control	Index	Boot se	Boot LLCI	Boot ULCI	
2.6667	-0.0200	0.0200	-0.0609	0.0183	
3.6667	0.0021	0.0143	-0.0269	0.0309	
4.6667	0.0242	0.0167	-0.0086	0.0584	

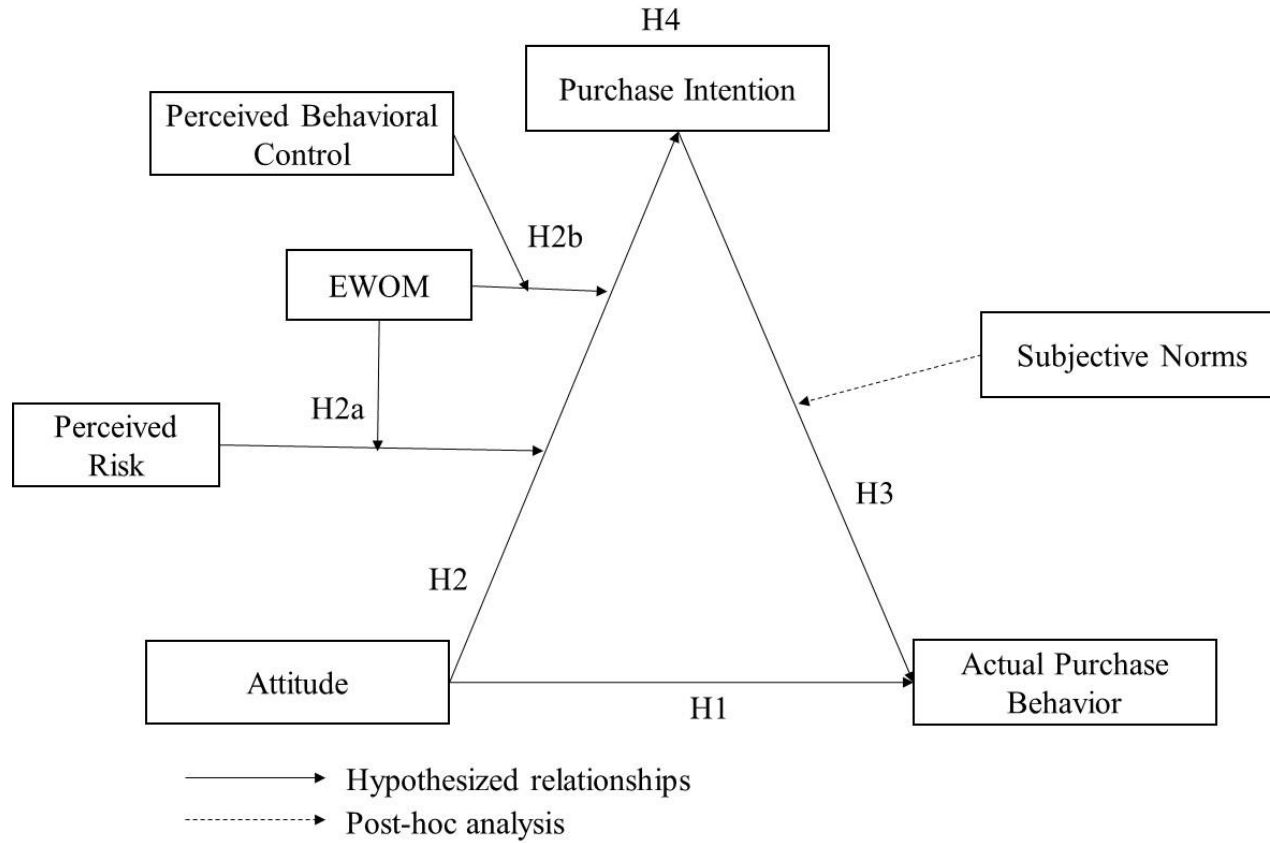**Figure 1** Conceptual Model (Adapted from Fishbein and Ajzen, 1975)

Figure 2
Three-way interaction: Relationship between attitude, perceived risk, and purchase intention at low and high levels of EWOM
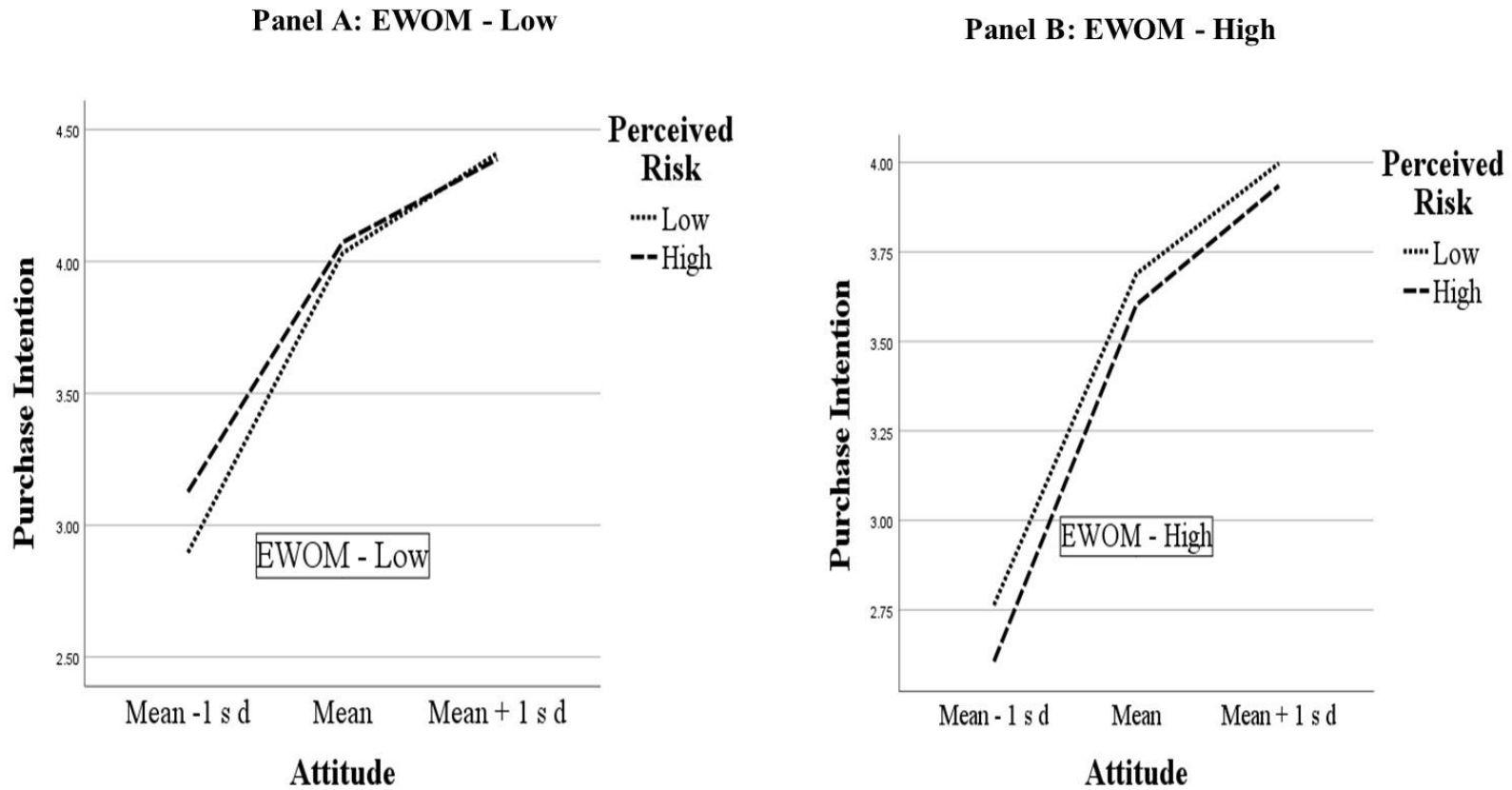

Panel A: EWOM - Low

Panel B: EWOM - High

Figure 3
Three-way interaction: Relationship between attitude, eWOM and purchase intention at low and high levels of perceived behavioral control

Panel A: Perceived Behavioral Control - Low

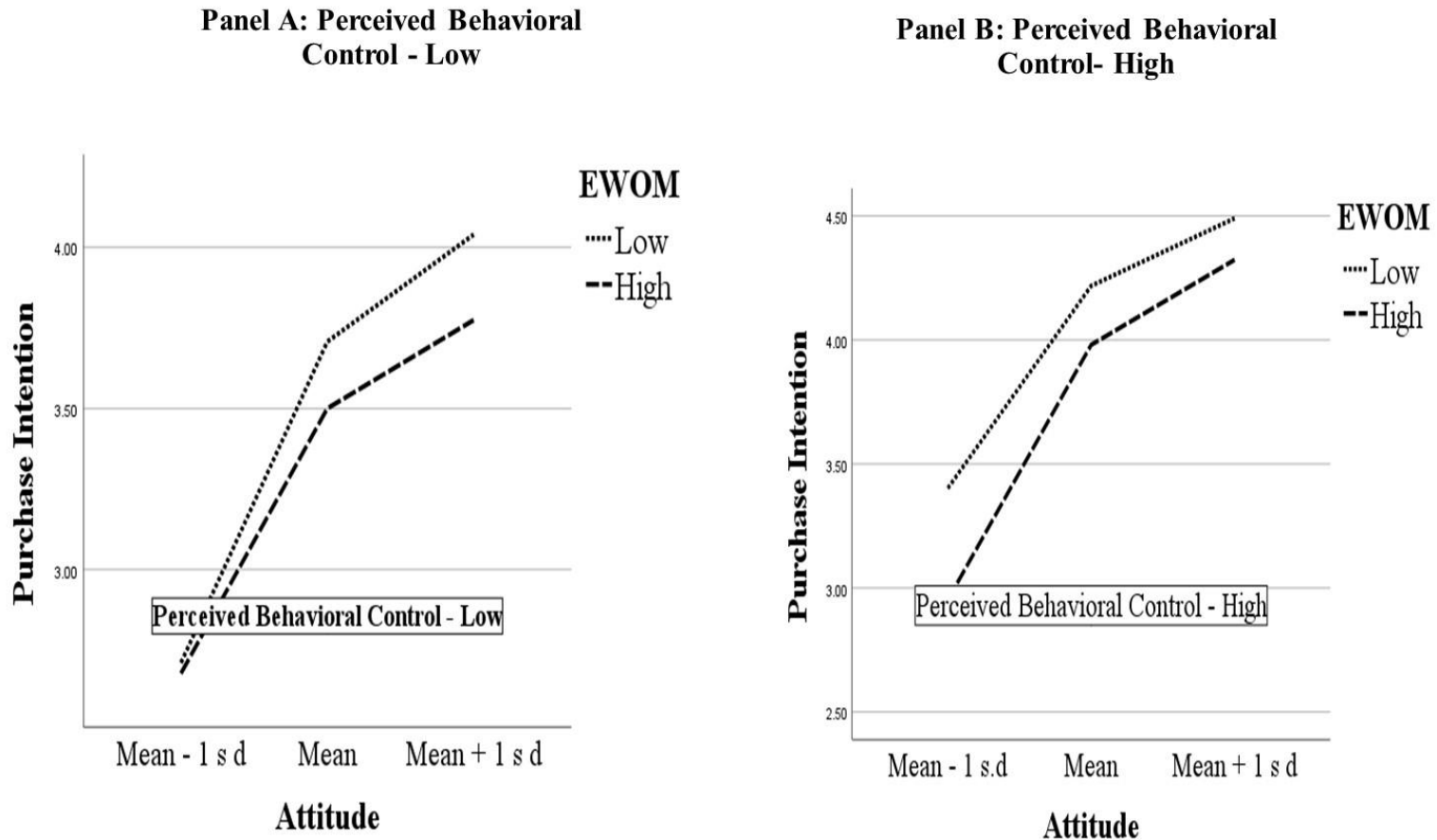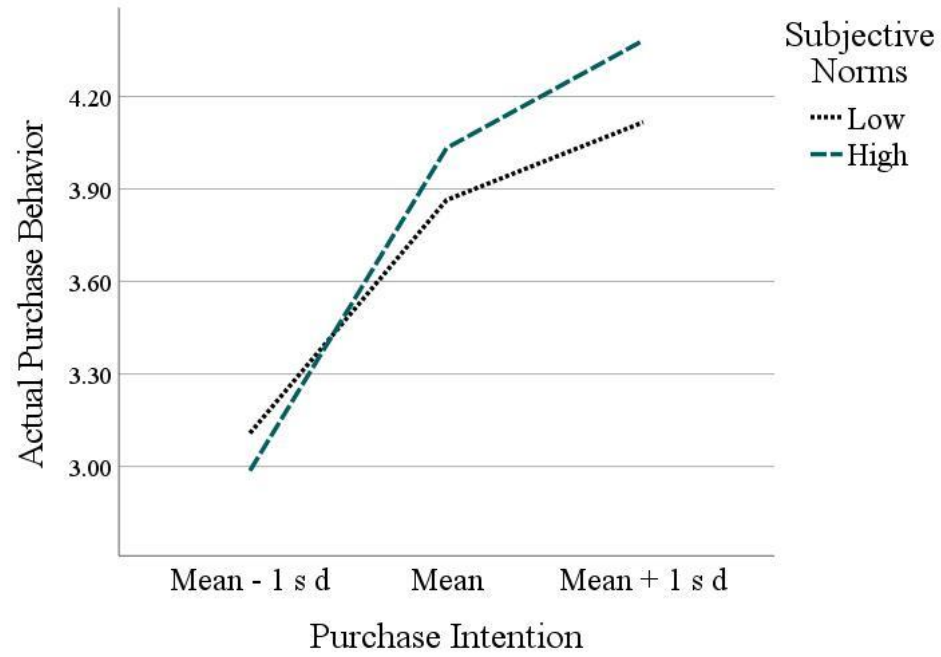Panel B: Perceived Behavioral Control - High

Figure 4: Two-way interaction [subjective norms as a moderator in the relationship between purchase intention and actual purchase behavior

behavior

Figure 5: Empirical model

0.2049
(Boot LLCI: Boot ULCI)
(0.1137: 0.3077)

Purchase Intention

Perceived Behavioral Control

0.075*

EWOM

0.069*

Subjective Norms

0.068*

Perceived Risk

0.292***

0.700***

Attitude

Actual Purchase Behavior

0.650***

→ Hypothesized relationships
----→ Post-hoc analysis

*** p < .001; * p < 0.05