

# Are You Impulsively Clicking Your Way to Shopping Ill-Being? Exploring the Link Between Risk-Taking, Apps, and Consumer Behavior

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The growing use of mobile shopping applications has transformed consumer behavior, highlighting the need to better understand the psychological factors that drive digital purchasing and its potential impact on well-being. This study examined the roles of impulsive buying, risk-taking, and shopping ill-being in digital consumer behavior among adult consumers using Structural Equation Modelling and mediation model. Results indicated that impulsive buying was the only consistent factor related to digital shopping engagement, being positively related to both the number of installed applications and openness to new applications. In addition, impulsive buying partially mediated the association between risk-taking and shopping ill-being. These findings underscore the role of impulsive buying behavior in shaping both digital engagement and shopping-related well-being, offering valuable insights into consumer-technology interactions.

**Keywords:** Risk-taking, Impulse Behavior, Shopping Ill-being, Apps Adoption, Usage Patterns.

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## Introduction

### *Risky and Impulsive Behaviors*

Over the past decade, mobile applications have become central to consumers' lives, offering constant access to online shopping platforms and personalized purchase suggestions. While this digital environment increases convenience, it may also intensify impulsive and risk-oriented consumption, particularly among psychologically vulnerable individuals.

Despite the abundance of research on impulsive buying and risk-taking, little is known about the relationship between objective digital behavioral indicators, such as the number of installed applications or openness to installing new apps, and these traits, as well as their connection to shopping-related ill-being. Understanding this relationship is important because mobile app ecosystems may amplify underlying vulnerabilities by continuously exposing users to purchasing opportunities.

The present study examines the associations between impulsivity, risk-taking, shopping ill-being, and digital behavioral indicators. Specifically, we investigate whether digital engagement markers are associated with psychological risk factors and whether impulsivity mediates the relationship between risk-taking and shopping ill-being. The dominant theoretical position in consumer behavior aligns with the idea that we are dealing with a pattern of

behavior adopted by individuals to identify, purchase, use and evaluate products or services that satisfy certain needs (Akram et al., 2018). The analysis of possible risk behaviors within this consumer profile is particularly important because it impacts customer requirements and preferences and contributes to the development of the purchasing process (Iyer et al., 2019).

Consumers perceive a certain level of risk when making a purchase, and this perception is influenced by several variables, such as the type of product or the customer's needs. However, risk perception should be distinguished from risk-taking behavior, as the two processes may not always align. Research has shown that while perceived risk often predicts a lower tendency to engage in risky behavior, people sometimes take risks even when they are aware of potential negative consequences, due to factors such as impulsivity or emotional states (Megías-Robles et al., 2022).

To better understand risk-taking behaviors in the purchasing process, it is important to consider the key dimensions of the consumer profile, including purchasing needs, feedback, purchase intention, consumption habits, buyer attitudes, and brand perception (Banares et al., 2020). Research shows that consumers' attitudes can shape not only their tendency to take risks and buy impulsively, but also how committed they feel to their purchase decisions.

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These consumption-related behaviors, particularly risk-taking and impulsive buying, have been associated with emotion regulation processes, as individuals may use purchasing as a strategy to cope with negative affect and increase momentary satisfaction (Dittmar, 2005; Tifferet & Herstein, 2012; Tran & Nguyen, 2022).

Risk behaviors in the purchasing process highlight choices between alternative courses of action. Based on decision theory, the choice of a risky behavior is based on reason when the choice presents an accumulation of important values and beliefs of the buyer. Within the consumer profile, making “quick decisions” before checking available information or evaluating weaknesses falls into the assumption of risky and impulsive behaviors (Ahn & Kwon, 2022).

Numerous studies highlight the direct relationship between a high level of impulsivity and a risky purchasing process through decreased self-control (Teo et al., 2020). The highlighting of risky behaviors is greater when the customer experiences negative emotions, this leading to the initiation of actions based on increased impulsivity. In the purchasing process, the role of impulsivity as a reaction can be analyzed from the perspective of motor activation, inattention, and lack of planning (Secapramana et al., 2021).

### *Shopping ill-being*

Shopping ill-being refers to the negative psychological and emotional consequences that can arise from shopping activities. It can be understood as the feeling that too much time, energy, or money is being invested in shopping, often accompanied by disapproval or concern expressed by family members, friends, or colleagues regarding one’s shopping behavior (Ekici et al., 2018).

When discussing shopping-ill being, it is particularly important to pay attention to the consequences of this type of behavior in the psycho-emotional area and on the quality of life (Ekici et al., 2018). At the same time, the concept of shopping-ill being has implications for the development of compulsive buying tendencies, thus leading to a decrease in the level of satisfaction with life (Ekici et al., 2018; Olsen et al., 2021). The behavior of the buyer is also influenced by previous shopping experiences. For example, customers who have negative attitudes towards the shopping process will be more likely to develop compulsive shopping behaviors (Ekici et al., 2018; Flight et al., 2012).

Studies in the field of consumer psychology show a direct relationship between a low level of satisfaction with the shopping experience and the formation of a negative attitude towards general well-being (Dreves et al., 2020). Shopping ill-being is also shaped by an individual’s lifestyle and the extent to which shopping is approached impulsively, often marked by poor management of time, energy, and financial resources. The way people allocate these personal resources and the effort they invest in the shopping process can significantly affect their quality of life, leading to lower well-being and an imbalance between personal satisfaction and dissatisfaction. Compulsive shopping further impacts multiple areas of life, resulting in wasted energy and financial strain that may extend to social and family relationships (Vijay & Kumar, 2020).

### *Mobile Applications: Attitudes and Numbers*

The openness to online applications has become increasingly evident in consumer behavior, being directly related to the rapid development of digital technology. Applications designed to enhance consumer experience aim to meet users’ needs by offering attractive, user-friendly

services and interactive features that stimulate engagement (Kasilingam, 2020; Stocchi et al., 2021). One of the main advantages of such applications is that they create an accessible and personalized environment, helping to bridge the gap between consumers and the “virtual store” (Liu et al., 2016). Consumer satisfaction also derives from the ease and speed with which users can access relevant information, compare products, and make decisions efficiently. Moreover, the availability of simple and transparent return procedures has further strengthened consumer trust and loyalty in digital platforms (Zhang et al., 2010).

Technology has become embedded in daily life, influencing multiple domains, including shopping and consumption-related activities. Applications grounded in consumer psychology thus represent valuable tools for improving quality of life and for educating more self-aware, informed consumers (Kazancoglu & Demir, 2021). Digital resources not only facilitate purchasing processes but also encourage openness to innovative forms of product acquisition and management, contributing to a more adaptive use of technology in everyday life (Venkatesh et al., 2012).

In the present context, two indicators of digital engagement can be considered: users’ openness to new applications and the number of applications installed on their devices. Both were measured in this study using single self-report items, capturing individual differences in curiosity toward digital tools and the degree of technological involvement in daily routines.

Previous research has highlighted that mobile app usage is influenced not only by individual attitudes but also by demographic, socio-economic, and cultural factors (Peltonen et al., 2018). Age, education, occupation, and country of residence all shape the diversity and frequency of app use, while cultural values can determine preferences for certain categories of applications. Personality traits also play a role. Extraversion and Agreeableness are strongly associated with communication apps, while traits such as Conscientiousness and Emotional Stability influence engagement with certain types of games. Popular categories like Entertainment, Lifestyle, Music and Audio, and Travel show minimal association with personality traits, highlighting that app usage reflects both individual differences and broader contextual factors (Peltonen et al., 2020).

Previous research has examined several aspects of maladaptive shopping behavior, including the role of self-control in compulsive shopping (Jain et al., 2023), the impact of impulsive and compulsive online shopping on life satisfaction (Olsen et al., 2022), and situational factors contributing to shopping-related discomfort (Nanda et al., 2023). However, there remains a knowledge gap regarding how psychological traits such as impulsivity and risk-taking tendencies relate to digital behavior, particularly in terms of the number of apps installed and openness to new apps.

Furthermore, although impulsivity has been studied in relation to impulsive or compulsive buying behaviors (Williams & Grisham, 2012), no studies have been identified that specifically explore whether impulsivity is associated with the relationship between risk-taking tendencies and shopping ill-being in the current digital context. The present study seeks to address this gap by examining associations between psychological factors (impulsivity, risk-taking, and shopping ill-being) and digital behavioral indicators (number of installed applications and openness to new applications) within a correlational framework.

### Hypotheses

H1. *Impulsive buying, risk taking, and shopping ill-being are associated with (1) the number of installed applications and (2) openness to applications*

Mobile app ecosystems play an increasingly central role in shaping consumer behavior, particularly by offering continuous access to online marketplaces and features designed to trigger rapid, unreflective purchases. Prior research has shown that the frequency of app notifications is associated with personality traits such as extraversion (Exler, Hornberger, & Beigl, 2021), which in turn is a well-established predictor of impulsive buying tendencies and emotional distress in shopping contexts (Verplanken & Herabadi, 2001). Given this connection, individuals with more apps, especially shopping-related ones, are likely to encounter more frequent cues for spending, thereby increasing the likelihood of impulsive and risky consumption. Moreover, a high level of openness to installing new applications may reflect a greater responsiveness to digital persuasion tactics, such as targeted advertising and frictionless purchasing experiences. Together, these factors are expected to intensify shopping ill-being by reinforcing patterns of unplanned, emotionally driven purchasing.

H2. *Impulse behavior mediates the relationship between risk-taking and shopping ill-being*

We propose that impulsivity mediates the relationship between risk-taking and shopping ill-being, shaping consumers' purchasing behaviors. Risk-takers, driven by a preference for uncertainty, are more prone to impulsive decisions (Rosenbaum & Hartley, 2019), including compulsive behavior (Billieux et al., 2008). Impulsive individuals, seeking immediate gratification, are more likely to engage in unplanned spending (Baumeister, 2002), which can lead to financial distress and negative emotional outcomes. As impulsivity reduces self-control in purchasing decisions, it amplifies the negative effects of risk-taking on shopping ill-being, reinforcing a cycle of excessive consumption and regret (Strack & Deutsch, 2004).

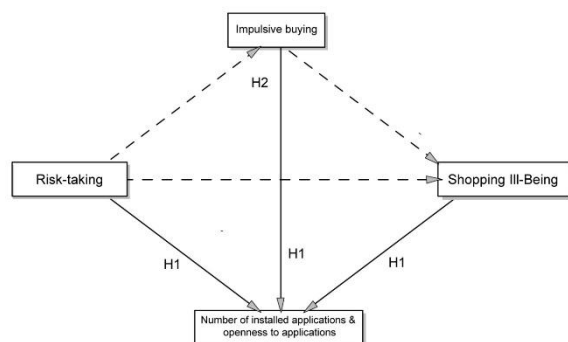


Figure 1. Research Conceptual Model

## Methods

### Participants and procedure

The study utilized questionnaires developed using Google Forms, and participation was entirely voluntary. Data were collected through sharing the study link via social media platforms and email with targeted respondents, and through the snowball sampling method. Demographic details, including gender, age and education were recorded. Participants were fully informed about the study's purpose, procedures, and instructions and assured that their responses

would remain confidential. Before completing the questionnaires, participants signed a written informed consent form (Form No. 94/08.12.2021).

The final sample included 331 respondents, all of whom provided fully completed and valid responses, resulting in a 100% response rate. The majority of respondents were female (82.2%), while 17.2% were male, and only a small percentage (0.6%) preferred not to disclose their gender. In terms of age ( $M = 2.18$ ,  $SD = 1.14$ ), the largest groups were individuals aged 21-30 (34.1%) and those under 20 years old (33.8%), together comprising nearly 68% of the sample. The remaining participants were aged 31-40 (17.2%), 41-50 (10.6%), 51-60 (3.9%), and 60+ (0.3%). Regarding education levels, 38.4% of respondents held a bachelor's degree, while 33.2% had completed high school education. Additionally, 18.6% had obtained a master's degree, 5.5% had a doctoral degree, and a small proportion (4.3%) had completed specialized courses or secondary studies.

### Instruments

#### Consumer Impulse Buying Behavior

To assess consumer impulse buying behavior we used the Consumer Impulse Buying Behavior Questionnaire (Karbasiyar & Yarahmadi, 2011), which comprises four factors: Impulse Buying, Credit Card, Promotional Approaches, and Window Display. For the purpose of this research, the Impulse Buying factor was selected to assess impulsive behaviors. This factor was measured using seven items, with responses recorded on a 5-point Likert scale. Example items include "I buy only what is on my shopping list" and "I tend to buy clothing if I really like it". The reliability of this factor, as indicated by Cronbach's Alpha, was .604. This value represents the lower limit of acceptability and was retained given its adequacy for exploratory research (Hair et al., 2019). CFA fit indices were as follows:  $\chi^2 = 44.4$  ( $df = 14$ ), CFI = 0.934, TLI = 0.901, RMSEA = 0.081, SRMR = .047, AIC = 7696, BIC = 6876 indicating a good model fit.

#### Shopping Ill-being

Shopping ill-being was measured using the Shopping Ill-Being (SHIB) Questionnaire (Ekici, Sirgy, Lee, Grace, & Bosnjak, 2017), comprising 15 items rated on a 5-point Likert scale divided in 3 components: time, money, energy. Example items include: "Our family and close friends often complain that I spend too much time shopping and not enough time with the family" and "Our family and close friends often complain that I spend too much time shopping and not enough time for work". Internal consistency for this questionnaire was excellent, with Cronbach's  $\alpha = .971$ . However, overall model fit was not entirely satisfactory,  $\chi^2(90) = 1013.28$ , CFI = .852, TLI = .827, RMSEA = .176, SRMR = .049, AIC = 9831, BIC = 10002, suggesting that although the scale is highly reliable, the one-factor structure does not fully capture the covariance among items.

#### Risk-taking

Risk-taking was assessed using the Risk-Taking Scale (Goldberg, 2006), which was translated into Romanian by D. Iliescu (2015). This scale consists of 10 items, with responses recorded on a 5-point Likert scale. Examples of items include "Take risks.", "Seek danger". Internal consistency for this questionnaire was good, with Cronbach's  $\alpha = .819$ , but model fit was inadequate,  $\chi^2(35) = 384$ , CFI = .713, TLI = .631, RMSEA = .174, SRMR = .102, AIC = 9616, BIC = 9730.

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## Openness to applications

Openness to applications was assessed using a single-item measure on a 6-point Likert scale. Participants responded to the question: "If a store were to introduce a new application, how open would you be to using it? (1 = Not at all open, 6 = Totally open)."

## Number of shopping applications installed

The number of applications used was assessed through a single-item question: "How many shopping applications do you have downloaded on your phone?" Participants selected from predefined response options: "More than 5 applications," "2-3 applications," "I go directly to the website," and "I do not download applications." For the purpose of this study, the responses "I go directly to the website" and "I do not download applications" were categorized as having "0 applications installed."

## Data analysis

The final dataset was imported into Jamovi 2.3.28 for analysis. Descriptive statistics, including percentages, means, and standard deviations, were computed to summarize demographic characteristics. Pearson's correlation coefficients were calculated to examine associations between the study variables. Hierarchical regression analyses were conducted in R (using the lavaan package for Structural Equation Modeling) in order to explore the strength and nature of these relationships while accounting for potential confounding variables. Mediation analyses were also performed in Jamovi to assess whether certain variables statistically accounted for observed associations.

## Results

**Table 1.** Relationships between variables

| Variable          | <i>n</i> | <i>M</i> | <i>SD</i> | 1    | 2       | 3      | 4      | 5     | 6      | 7 |
|-------------------|----------|----------|-----------|------|---------|--------|--------|-------|--------|---|
| 1. Gender         | 331      | 1.82     | .40       | —    |         |        |        |       |        |   |
| 2. Age categories | 331      | 2.18     | 1.14      | .07  | —       |        |        |       |        |   |
| 3. IB             | 331      | 2.85     | .55       | .15  | -.18*** | —      |        |       |        |   |
| 4. RT             | 331      | 24.4     | 7.45      | -.08 | -.32*** | .24*** | —      |       |        |   |
| 5. SILL           | 331      | 1.55     | .95       | -.01 | -.15**  | .27*** | .19*** | —     |        |   |
| 6. NO APPS        | 331      | 1.93     | .73       | .10  | -.05    | .22*** | .05    | 0.12* | —      |   |
| 7. APP OPEN       | 331      | 4.02     | 1.14      | .09  | -.02    | .24*** | .09    | 0.06  | .37*** | — |

Notes: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

IB – Impulsive Buying, RT – Risk-Taking, SILL – Shopping Ill-being, NO APPS – Number of apps installed, APP OPEN – Openness to applications

## Structural Equation Modelling (SEM)

A hierarchical SEM was estimated using robust maximum likelihood (MLR) with FIML for missing data. In Block 1, the outcomes (number of shopping apps and openness toward shopping applications) were regressed only on the control variables (age and gender). In Block 2, the three latent variables (Shopping Ill-Being, Risk-Taking, and Impulsive Buying) were added as factors related to both outcomes.

Model fit was acceptable but below conventional thresholds for incremental fit indices. Block 1 fit was CFI = .805, TLI = .791, RMSEA = .091, SRMR = .085. Block 2 fit was very similar with CFI = .807, TLI = .792, RMSEA = .091, SRMR = .081. Despite the modest improvement in global fit indices, the chi-square difference test indicated that adding latent variables significantly improved the model:  $\Delta\chi^2(6) = 21.27$ ,  $p < .01$ . In terms of explained variance, Block 1 accounted for little variance in the outcomes ( $R^2 = .015$  for

Pearson correlation coefficients were calculated to examine the relationships between demographic variables (gender and age), impulsive buying, risk taking, shopping ill-being, number of installed applications and openness to applications. Impulsive buying was positively correlated with both the number of installed applications ( $r = 0.22$ ,  $p < .001$ ) and openness to applications ( $r = 0.24$ ,  $p < .001$ ), suggesting that individuals who exhibit higher impulsivity in the buying process tend to have more apps installed and are more open to using new applications. Shopping ill-being also showed a significant positive correlation with the number of installed applications ( $r = 0.12$ ,  $p < 0.05$ ), although its correlation with openness to applications was not significant ( $r = 0.06$ ,  $p = 0.27$ ). Openness to applications showed a moderately positive correlation with the number of installed applications ( $r = 0.37$ ,  $p < .001$ ), highlighting a meaningful association between self-reported openness and actual behavior. Impulsive buying showed a positive correlation with both risk-taking ( $r = 0.24$ ,  $p < .001$ ) and shopping ill-being ( $r = 0.27$ ,  $p < .001$ ), suggesting that individuals who engage in impulsive purchases are more likely to exhibit risky behaviors and also tend to experience negative shopping outcomes. Age demonstrated a significant negative correlation with impulse buying ( $r = -0.18$ ,  $p < .001$ ), risk taking ( $r = -0.32$ ,  $p < .001$ ) and shopping ill-being ( $r = -0.15$ ,  $p < .01$ ), implying that younger individuals reported higher levels of risk-taking, more impulse buying tendencies and a higher level of ill-being related to shoppings. Other demographic associations, such as those between gender and the psychological or outcome variables, were not statistically significant.

number of installed applications and  $R^2 = .011$  for openness to applications). After adding the latent variables, explained variance increased to  $R^2 = .054$  for number of applications and  $R^2 = .064$  for openness to applications, corresponding to  $\Delta R^2 = .040$  and  $\Delta R^2 = .053$ , respectively.

Regarding the structural paths in Block 2, impulse buying emerged as the only consistent significant variable. Impulse buying was positively related to the number of shopping applications ( $\beta = .210$ ,  $p < .01$ ) and openness toward shopping applications ( $\beta = .194$ ,  $p < .01$ ). Risk-taking and shopping ill-being were not significant factors related to either outcome and neither age nor gender were not significantly related to the outcomes. Overall, the results suggest that individual differences in impulsive buying behavior are linked to stronger openness to shopping applications, while risk-taking and shopping ill-being did not contribute uniquely beyond the latent covariance structure and controls.

**Tabel 2.** Standardized structural path coefficients for the SEM Model

| DV       | IV     | Estimate | SE    | z      | p    | β       |
|----------|--------|----------|-------|--------|------|---------|
| NO APPS  | Age    | -0.015   | 0.038 | -0.386 | .699 | -0.023  |
|          | Gender | 0.146    | 0.105 | 1.387  | .166 | 0.076   |
|          | IB     | 0.152    | 0.050 | 3.029  | .002 | 0.210** |
|          | RT     | -0.022   | 0.051 | -0.443 | .657 | -0.031  |
|          | SILL   | 0.029    | 0.051 | 0.575  | .565 | 0.040   |
| APP OPEN | Age    | 0.041    | 0.064 | 0.642  | .521 | 0.041   |
|          | Gender | 0.237    | 0.163 | 1.450  | .147 | 0.079   |
|          | IB     | 0.220    | 0.073 | 3.037  | .002 | 0.194** |
|          | RT     | 0.120    | 0.077 | 1.566  | .117 | 0.105   |
|          | SILL   | -0.034   | 0.055 | -0.617 | .537 | -0.030  |

Notes: \*\*p < .01

NO APPS – Number of applications installed, APP OPEN – Openness to applications, RT – Risk-Taking, IB – Impulse Buying, SILL – Shopping Ill-being

#### Mediation analysis

To test this hypothesis, a mediation analysis using the medmod module in Jamovi was conducted, with impulsive behavior as the mediator, risk-taking as the independent variable, and shopping ill-being as the dependent variable. The results provided evidence for partial mediation. The total effect of risky behaviors on shopping ill-being was significant (Estimate = 0.024, SE = 0.007, 95% CI [0.011, 0.038],  $p < .001$ ), indicating a positive relationship. The indirect effect via impulsive behaviors was also significant (Estimate = 0.007, SE = 0.002, 95% CI [0.003, 0.012],  $p < .01$ ), accounting for 29.5% of the total effect. However, the direct effect remained significant (Estimate = 0.017, SE = 0.007, 95% CI [0.004, 0.031],  $p < .05$ ), suggesting that risk-

taking is also related to shopping ill-being independently of impulse behaviors (70.5% direct effect). The path estimates further supported this model, showing that risk-taking has a significant relationship with impulsive buying behaviors (Estimate = 0.020, SE = 0.004, 95% CI [0.011, 0.029],  $p < .001$ ), and impulsive buying behaviors are strongly related to shopping ill-being (Estimate = 0.357, SE = 0.082, 95% CI [0.197, 0.517],  $p < .001$ ). These findings suggest that individuals with higher risk-taking scores are more prone to impulsivity, which, in turn, increases their likelihood of experiencing shopping ill-being. However, the significant direct effect implies that additional mechanisms may also contribute to this relationship.

**Tabel 3.** Indirect effects and path estimates in the proposed model

| Table 1. Indirect effects and path estimates in the proposed model. |          |      |        |      |       |
|---------------------------------------------------------------------|----------|------|--------|------|-------|
| Relationships between variables                                     | Estimate | SE   | 95% CI |      | p     |
|                                                                     |          |      | LL     | UL   |       |
| <i>Indirect effects</i>                                             |          |      |        |      |       |
| RT → SILL (VMed = IB)                                               | .007     | .002 | .003   | .012 | <.01  |
| <i>Path estimates</i>                                               |          |      |        |      |       |
| RT → IB                                                             | .020     | .004 | .011   | .029 | <.001 |
| IB → SILL                                                           | .357     | .082 | .197   | .517 | <.001 |
| RT → SILL                                                           | .017     | .007 | .004   | .031 | <.05  |

Notes: SILL - Shopping Ill-being, IB - Impulse buying, RT - Risk-taking

#### Discussion and conclusions

In relation to the first hypothesis, our findings indicate that psychological variables (impulsive buying, risk-taking, and shopping ill-being) relate differently to digital behavior outcomes, such as the number of installed applications and openness to new applications.

With regard to the number of installed applications, only impulsive buying has shown a significant positive association. Risk-taking and shopping ill-being did not emerge as meaningful factors. This pattern suggests that the quantity of installed applications may capture individual differences in impulsive tendencies, but not the

other psychological traits tested. These findings are in line with previous research showing that impulsivity is a robust predictor of problematic smartphone and mobile phone use (Billieux, Van der Linden, & Rochat, 2008; Kim et al., 2024; Park, Jeong & Rho, 2021; Rasool & Farooq, 2023). Similarly, Mei et al. (2018) reported that mobile phone dependence among Chinese university students was more strongly linked to impulsivity than to demographic factors or social support.

On the other hand, openness to new applications was also significantly associated with impulsive buying. This link suggests that people with impulsive tendencies show

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greater openness to digital innovations and may be more receptive to exploring and adopting new applications, possibly due to a desire for quick stimulation or a greater sensitivity to new experiences (Jain et al., 2023; Zheng et al., 2024). In contrast, risk-taking and shopping ill-being did not show a significant association with this openness, which may indicate that these psychological traits do not directly influence technology adoption behavior.

A possible explanation for the non-significant role of risk-taking for both outcomes is that it becomes relevant mainly in situations involving uncertainty, potential loss, or meaningful consequences, whereas the behaviors examined in the present study are generally perceived as low-consequence actions. Personality research indicates that the expression of risk-taking is context-dependent (Weber, Blais & Betz, 2002; Nicholson et al., 2005). In digital environments, perceived uncertainty is further reduced through trust, prior experience, and platform standardization (Pavlou, 2003; Kim, Ferrin, & Rao, 2008), which may lead to similar engagement across individuals regardless of their risk propensity. In contrast, traits linked to immediate gratification, such as impulsivity, appear more closely aligned with these low-effort, routine digital behaviors (Billieux et al., 2008; Verplanken & Herabadi, 2001).

Shopping ill-being may also be understood through its underlying components. Prior research suggests that compulsive buying tendency represents a core component of shopping ill-being, reflecting maladaptive and excessive consumption patterns (Ekici et al., 2017; Olsen, Khoi, & Tuu, 2021). In this context, compulsive buying has been consistently associated with negative post-consumption outcomes, including regret, guilt, and financial strain (Lee & Workman, 2018; Olsen & Tuu, 2025; She et al. 2021). This distinction suggests that shopping ill-being reflects the consequences of repeated or excessive consumption, rather than factors that shape early-stage digital behaviors such as installing applications or exploring new platforms. As such, its role may become more evident at later stages of the consumption process, rather than in low-effort, routine digital actions.

These results partially confirm our hypothesis and contribute to our complex understanding of the interplay between psychological traits and digital behaviors. They indicate that to capture the relevant correlations, it is important to choose behavioral variables that reflect both frequency or quantity (such as number of apps) and the attitudes and predispositions towards technology (such as openness to new apps).

Regarding the second hypothesis, the results indicate that impulsive behavior partially mediates the relationship between risk-taking and shopping ill-being. This finding aligns with previous research suggesting that impulsivity plays an important role in maladaptive consumer behaviors (Billieux et al., 2008; Nicolai et al., 2016). Specifically, individuals who engage in risk-taking behaviors are more likely to experience shopping ill-

being, in part due to their tendency toward impulsivity. However, the significant direct effect of risk-taking on shopping ill-being implies that other mechanisms may also contribute to this relationship, which is consistent with studies highlighting the multifaceted nature of compulsive shopping (Darrat et al., 2016; Rose & Segrist, 2014). These findings underscore the need for interventions aimed at reducing impulsive tendencies, such as promoting self-control strategies and financial awareness, to mitigate the negative consequences of excessive risk-taking on shopping behaviors.

## Limitations

This study has several limitations that should be acknowledged. First, the sampling procedure relied on voluntary participation and snowball recruitment via social media and email. While efficient, this method may have introduced self-selection bias and limits the generalizability of findings to the broader population, as participants were predominantly young and female.

Second, the cross-sectional design prevents causal inferences. Although significant associations were found between psychological traits and digital behaviors, the predictive relationship cannot be established. Longitudinal or experimental designs would be necessary to determine causality.

Third, while impulsive buying emerged as a significant factor influencing the number of installed shopping applications, the explained variance was relatively modest, indicating that additional factors not accounted for in the current model may also influence this behavior.

Fourth, some of the constructs were measured with single-item indicators (for example, openness to applications and the number of installed applications). While these items provided useful exploratory insights, single-item measures may not fully capture the complexity of the constructs. Future research could benefit from multi-item validated scales to ensure greater measurement precision.

Fifth, although the proposed structural model demonstrated statistically significant pathways and meaningful increases in explained variance, some global fit indices fell below conventional thresholds for optimal model fit. In particular, incremental fit indices (CFI and TLI) indicated moderate rather than excellent fit. These results suggest that, while the model captures substantive relationships among the constructs, the underlying structure may not fully account for all sources of covariance in the data.

Finally, the study relied on a simplified three-point scale to assess the number of installed applications, where a score of 1 denoted no shopping apps installed and a score of 3 denoted more than five apps installed. The use of such a restricted response scale may have constrained variability, thereby overlooking individual differences in application use and potentially obscuring stronger effects.

## Future directions

Future research could explore other factors that influence shopping ill-being and openness to new applications, such as emotional self-regulation or social influences. It would also be useful to examine the psychological and motivational mechanisms that mediate the observed relationships, such as the desire for reward or the avoidance of emotional discomfort. Also, longitudinal studies could examine whether the effects of impulsivity and risk-taking are constant over time or vary with life experiences. Educational interventions to help impulsive individuals regulate their buying behavior and self-management techniques could also be explored. Moreover, future research could examine cultural and demographic differences to understand whether these behaviors are universal or specific to certain groups. These findings could be useful in the development of more effective strategies for the prevention of impulse buying and the adoption of new technologies.

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