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Impact of non-fungible token digital art information on intention to purchase digital collectibles: an extended theory of planned behavior approach

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Background: In recent years, the rise of “AI+arts” has increased public attention towards emerging digital collectibles and garnered significant interest among young adult collectors globally. However, there has been limited investigation into how emerging media effects may influence consumers’ purchase of digital collectibles from the perspective of relevant theories, particularly in collectivistic cultural contexts. To address this gap, the present study is guided by the extended Theory of Planned Behavior (TPB), integrated with ideal self-congruence, and rigorously examines the effect of exposure to Non-Fungible Token digital art information on the intention to purchase digital collectibles among young Chinese adults (aged 18–34).

Methods: A total of 259 responses were obtained through an online survey. Statistical analyses, including direct, indirect, and serial mediation, were conducted using SPSS 25.0 and Jamovi 2.6.24.

Results: The findings indicate that both TPB and ideal self-congruence act as mediators in this relationship. Additionally, a serial mediation process involving ideal self-congruence and attitudes toward intelligence was identified.

Conclusion: These findings provide valuable insights into the complex factors influencing the purchase intention of digital collectibles among young Chinese adults. Furthermore, the findings offer recommendations for digital collectible platforms and relevant stakeholders.

KEYWORDS

non-fungible token digital art, theory of planned behavior, ideal self-congruence, survey, Xiaohongshu

1 Introduction

Non-Fungible Token (NFT) is recognized as a unique digital asset that is enabled by blockchain technology (Scheidt, 2023). This cutting-edge form of digital property is primarily applied in contexts such as digital art and in-game items (Popescu, 2021). NFTs are distinguished by their non-interchangeable nature, providing verifiable ownership and authenticity, and have emerged as a significant innovation within these industries. In addition, NFTs have emerged as a significant sector within the art and collectibles market, attracting considerable attention from digital artists, art collectors, and enthusiasts. This growing interest has further stimulated participation in the evolving marketplace (Allen et al., 2022). In

particular, digital collectibles, such as NFT-based items like Cryptopunks, have gained substantial recognition in the contemporary art market, with trading activities capturing significant attention (Yilmaz et al., 2022). A key milestone in this trend occurred between late 2020 and 2021, when NFTs garnered widespread recognition, notably exemplified by the sale of Beeple's digital artwork for \$69 million, a pivotal moment in the sector's development (Mehr and Shahim, 2023). Furthermore, COVID-19 pandemic played a key role in fostering digital maximization, creating a conducive environment for the proliferation of NFTs (Perez et al., 2023). The increasing popularity of NFTs has also attracted a diverse range of stakeholders, including celebrities, influencers, and investors, who have contributed to the expansion of this nascent market (Pawelzik and Thies, 2022). In addition, NFTs have facilitated the growth of digital media assets across various sectors, including gaming, film, art, and AI design (Perez et al., 2023; Düzenli and Perdahçı, 2024).

In China, NFT discussion platforms have gained significant popularity among Chinese users, partly due to the interactive experiences they offer post-purchase, as well as the presence of social media platforms that facilitate discussions and sharing of digital artwork (QaQ, 2023). Xiaohongshu, in particular, has emerged as one of the leading platforms, attracting considerable attention from Chinese users (Tan, 2024). The present study aims to explore the influence of Xiaohongshu in this context. The platform's role as a critical space for communication can be attributed to two key aspects. First, compared to Alibaba and JD.com (two major Chinese e-commerce platforms), Xiaohongshu consistently releases a higher volume of digital collectibles on a daily basis (Nft College, 2022). Second, Xiaohongshu establishes a direct connection between digital collectibles and their creators, with many artists' posts incorporating links to their personal websites, offering additional information about the collectibles (QaQ, 2023). Given the platform's significant impact on young Chinese adults, this study aims to assess how exposure to NFT digital art information (ENDAI) on Xiaohongshu influences users' behavior, specifically their purchase of NFT digital collectibles.

Recent discussions surrounding NFTs and the exploration of related platforms have steadily increased globally. Specifically, young adults have emerged as a key demographic, demonstrating a higher level of engagement and understanding of NFT digital collectibles. For instance, prior research highlights that consumers aged 24–33 show significant familiarity with the virtual art and collectibles market (Li et al., 2024). Similarly, Generation Z (born 1997–2003) and Millennials (born 1981–1996) have grown up with cutting-edge technologies, which has facilitated their adoption of technological trends and innovations, particularly NFTs (Perez et al., 2023). However, recent studies suggest that older adults face greater challenges in adopting artificial intelligence products due to perceived higher expectation disconfirmation and technology anxiety (Hong et al., 2023). As a result, this may lead to relatively lower engagement with NFT platforms within this age group. Given these demographic trends and the greater exposure of younger individuals to digital collectibles, this study focuses specifically on young Chinese adults aged 18–34.

Although NFT digital collectibles have gained prominence, the factors influencing their purchase remain unclear. While previous research has examined consumer willingness to purchase non-AI-generated designs (Shuqair et al., 2016; Sethna et al., 2017; Geng and Chen, 2021; Mathur et al., 2022), the impact of media exposure on NFT purchases, particularly within collectivistic cultures,

remains underexplored. A pioneering study on NFT purchasing behavior in China (He et al., 2022). However, it was limited by a small sample size and reliance on semi-structured interviews, leaving the relationship between key antecedents and purchase behavior inadequately explored. Furthermore, prior studies have addressed consumer behavior regarding NFTs in contexts such as digital art, virtual trading cards, and in-game items (Trautman, 2021; Vomberg and Von Gegerfelt, 2025), but tend to overlook the type of art or platform motivating purchases. Given these limitations, the current study conceptualizes NFT digital collectibles from the perspectives of trendy films, art, and AI-generated designs, created by both companies and individual designers at comparable price points. Additionally, the intention to purchase (IP) is defined as the tendency of young Chinese adults to acquire these collectibles, with a particular focus on content generated by both corporate and independent designers on Xiaohongshu.

As mentioned above, the current study aims to comprehensively explore whether ENDAI on Xiaohongshu influences IP among young Chinese adults. Building on the TPB, which has been shown to effectively explain social media purchasing behaviors (Liu M. T. et al., 2020), this research extends TPB by incorporating the framework of ideal self-congruence. This extension further examines the nuanced relationships through direct, mediated, and serially mediated effects. Ultimately, the study seeks to provide valuable insights for stakeholders in NFT digital collectibles and contribute to the scholarly understanding of the dynamics underlying digital collectible purchases.

2 Literature review

2.1 The extended TPB model

TPB was developed by Ajzen by extending perceived behavioral control in the Theory of Reasoned Action (TRA) (Ajzen and Madden, 1986). TPB is recognized as one of the most impactful theories specifically applied in the fields of social psychology, health promotion, and consumer behavior studies (Kaiser et al., 2007; Sassen and Sassen, 2018; Rozenkowska, 2023). The theory posits that the higher an individual's intention to engage in a behavior, the more likely he or she is to engage in that behavior (Shah Alam and Mohamed Sayuti, 2011). Furthermore, individuals' intentions are often influenced by three major predictors: attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991; Fishbein and Ajzen, 2010). To date, the TPB has been widely accepted and successfully applied to most phenomena to reveal how individuals perform behaviors (Sommer, 2011).

While the TPB has demonstrated significant and promising applications across various contexts (Sniehotta et al., 2014), studies have questioned whether the original components of TPB alone can fully explain an individual's intention to engage in certain behaviors. Specifically, the model's original constructs may not adequately capture emotions, desires, or aspects of self-identity, which are critical drivers of behavior (Heuckmann et al., 2019). Moreover, research has found that external factors have a significant influence on behavior, comparable to the constructs proposed by TPB (Sniehotta et al., 2014). In response to these limitations, there has been a growing openness to incorporating additional predictors into the TPB framework, which enhances the explanatory power of the original theoretical model, as

evidenced by recent studies (Savari and Gharechae, 2020; Shalender and Sharma, 2021).

The integration of theoretical extensions has been a consistent approach in research. However, identity-related factors have not been thoroughly examined in the context of individuals' purchasing intentions. For instance, ideal self-congruence (ISC) is recognized as a crucial antecedent, defined as the alignment between an individual's perception of their ideal self and their actual self-concept (Sheeraz et al., 2020). This alignment reflects the consistency between one's actions, feelings, and thoughts. ISC has also been recognized as the congruence between product personality traits and consumers' perceived self-images (Yu et al., 2020). In the present study, ISC refers specifically to the congruence between how young Chinese adults envision their ideal selves and how NFT digital art information resonates with their aspirations, subsequently influencing their purchasing decisions.

Integrating ISC into the TPB is crucial for twofold reasons. First, while TPB effectively simplifies consumers' purchasing behaviors into attitudes, subjective norms, and perceived behavioral control, it overlooks emotional and aspirational factors (Ho et al., 2024). Second, considering the collectivist nature of Chinese society, social culture plays a significant role in shaping individuals' behaviors within socially accepted frameworks (Kawamura, 2012). Consequently, ISC becomes particularly relevant as it reflects the desire to align one's aspirations with societal expectations. This framework will serve as a guidance to examine the intricate influence of ENDAI on purchase intentions among young Chinese adults.

2.2 Trends and impact of NFT digital art information on Xiaohongshu

In China, the innovative social media platform Xiaohongshu has garnered significant popularity, particularly among young adults. It is one of the nation's most actively utilized platforms, featuring an extensive collection of user-generated posts, including reviews, recommendations, and personal experiences (Qin et al., 2024). Distinct from other social media platforms, Xiaohongshu fosters an environment where users are encouraged to actively share, engage with, and discuss their personal experiences (Zhang, 2024). User engagement is particularly notable in popular categories such as cosmetics, travel, and shopping (Wang et al., 2022; Han, 2023; Sun and Ly, 2023).

Recent studies have highlighted the growing influence of NFT-related information on Xiaohongshu users, sparking an increasing interest in cutting-edge and virtual art (AIXZJ, 2023; Xinbang, 2024). For example, a prominent Chinese digital art designer has attracted approximately 25,000 followers on Xiaohongshu by consistently showcasing works that fuse traditional Chinese artistic elements with AI-generated contemporary styles and technologies (YHXY, 2024).

The most-viewed NFT digital art information features unique creations such as cartoons, portraits, and Chinese paintings, many of which are available for purchase through the Jingtan trade market (Collectibles, 2025). Xiaohongshu has also facilitated stronger connections between digital collectible creators and their audiences. Many artists share links to their personal websites on the platform, offering detailed information about their work and fostering greater

user engagement. As a leading platform for the production and dissemination of NFT digital art information in China, Xiaohongshu's role warrants further exploration to assess whether exposure to ENDAI influences IP among young Chinese adult.

2.3 Exposure to NFT digital art information, psychological and cognitive factors

Social science theorists have identified three primary predictors that significantly influence individuals' intentions: attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991; Fishbein and Ajzen, 2010). Among these, PBC has been recognized as a key cognitive factor in predicting an individual's willingness to engage in specific behaviors, including purchase decisions (Yadav and Pathak, 2017). PBC is conceptualized as an individual's perception of the ease or difficulty of performing a particular behavior (La Barbera and Ajzen, 2020). In this study, PBC refers to young Chinese adults' perceived control over their willingness to purchase NFT digital collectibles.

Attitude, another core predictor, reflects the degree to which an individual evaluates a behavior as favorable or unfavorable (Ajzen et al., 2018). In the context of this research, attitude toward intelligence (ATI) is defined as young Chinese adults' composite beliefs and affective responses regarding the functionality and impact of NFT digital collectibles.

Subjective norms, traditionally another significant determinant of behavioral intention, have been further distinguished into two distinct constructs: injunctive norms (IN) and descriptive norms (DN) (Smith-McLallen and Fishbein, 2008). IN pertain to individuals' perceptions of what they believe they ought to do, while descriptive norms reflect individuals' perceptions of the likelihood that others within their social groups engage in a specific behavior (Croson and Konow, 2009). Prior studies have demonstrated that descriptive norms significantly shape behavioral intentions by influencing individuals' reliance on heuristic processing or mental shortcuts. Such cognitive processes often emerge in scenarios where cognitive resources, such as information or mental effort, are constrained. Observing the behavior of others, for example, herd behavior, can therefore act as a catalyst for behavior adoption (Zarouali et al., 2021). This effect has been documented in the context of behaviors such as smoking, vaping, and alcohol consumption (Brooks-Russell et al., 2014). In this study, descriptive norms (DN) are specifically conceptualized as young Chinese adults' perceptions of the likelihood that their peers or cohorts will engage in purchasing NFT digital collectibles.

In the current study, DN were exclusively selected as a key predictor to examine their direct mechanism on IP, rather than subjective norms or a combination of DN and IN, for the following critical reasons. First, DN focus on an individual's perception of others engaging in certain behaviors within a group-oriented society, which has often been identified as a critical antecedent of engagement behaviors in collectivist cultures (Chen and Hong, 2015). For instance, previous research found that individuals from collectivist cultures (such as South Korea) exhibited significantly higher purchase intentions influenced by DN, whereas individuals from individualistic cultures (e.g., the United States) showed a

lesser impact of DN (Han, 2018). Second, empirical evidence suggests that DN have greater significance and stronger path effects compared to IN, which have shown only a weak association with behavior. Furthermore, considering both norms together as subjective norms did not yield significant effects on certain behaviors in the context of China (Gao et al., 2017). Given the key empirical findings from the targeted context, this study specifically aims to investigate whether DN serve as antecedents of IP among young Chinese adults. Abbreviations of key concepts are summarized in Appendix A.

Prior studies have thoroughly confirmed the influence of information exposure on individuals' TPB variables (i.e., perceived behavioral control, attitude, and subjective norms) (Lee, 2011; Leung and Jiang, 2018; Yang et al., 2023). For example, a previous study indicated that exposure to public service announcement information has a significant positive effect on city residents' perceived behavioral control of recycling behavior (Liu et al., 2022). In addition, campaign exposure was found to be an essential predictor that influences individuals' perceived behavioral control of physical activity (Paek et al., 2012). In recent years, there has been a growing body of research examining the relationship between information exposure and attitudes. For example, exposure to user-generated travel-related information increased individuals' attitudes toward a destination (Wang et al., 2017). Similarly, frequent exposure to social media influencers positively influenced British citizens' attitudes toward cervical cancer screening (Fielden and Holch, 2022). Previous studies have also examined the effect of media exposure on consumers' subjective norms. A recent study examined the effect of exposure to information about adolescent substance use (e.g., alcohol use and marijuana use) on individuals' descriptive norms (Cristello et al., 2024). It was found that the greater the exposure to the information, the greater individuals' descriptive norms of alcohol and marijuana use. In addition, exposure to environmental information on social media predicted subjective norms among young people in Hong Kong (Lee, 2011). Therefore, the following hypotheses are proposed:

Hypothesis 1: ENDAI has a significant and positive effect on young Chinese adults' TPB factors (PBC, ATI, and DN).

Previous research on media effects and their influence on congruence factors has attracted considerable scholarly attention (Xu and Pratt, 2018; Zogaj, 2023). Studies examining the role of information exposure in shaping individuals' ISC has become increasingly relevant. For instance, exposure to thin versus non-idealized model images has been found to significantly influence self-evaluation schemas, which align with the concept of ISC (Yu and Jung, 2018). Similarly, exposure to thin ideals in television and magazines has been reported to induce individuals' internalization of ideal self-concepts (Nouri et al., 2011). Building on these empirical findings, the current study posits a direct association between ENDAI and ISC among young Chinese adults. Thus, the following hypotheses are proposed:

Hypothesis 2: ENDAI has a significant and positive effect on young Chinese adults' ISC.

2.4 The mediating roles TPB variables and ideal self-congruence

Previous research has explored the positive influence of information exposure on the three core components of TPB: attitudes, subjective norms, and perceived behavioral control (Lee, 2011; Paek et al., 2012; Wang et al., 2017; Leung and Jiang, 2018; Fielden and Holch, 2022; Yang et al., 2023; Cristello et al., 2024). Furthermore, studies have demonstrated that these components mediate the relationship between information exposure and engagement in various behaviors, including food purchasing, energy conservation, and public transportation usage (De Groot and Steg, 2007; Shah Alam and Mohamed Sayuti, 2011; Liu X. et al., 2020). For example, prior research has indicated that increased exposure to public service information is associated with greater perceived behavioral control over recycling behaviors (Liu et al., 2022). Similarly, perceived behavioral control has been found to positively influence engagement in energy-saving behaviors (Gao et al., 2017).

In line with research exploring mediated mechanisms that influence behavioral engagement, congruence factors have also received considerable attention. For example, exposure to information about body types has been identified as an antecedent that significantly and positively influences self-evaluation schemas, which align with the concept of ISC (Yu and Jung, 2018). Furthermore, higher levels of ISC have been associated with greater engagement in purchasing behaviors (Tooray and Oodith, 2017). In addition, a positive relationship has been observed between exposure to thin-ideal information and individuals' internalization of ideal self-concept (Nouri et al., 2011). Internalized ideals have also been shown to influence individuals' engagement in body-shaping behaviors (Guðnadóttir and Garðarsdóttir, 2014). Based on these findings, we propose the following hypotheses:

Hypothesis 3: TPB factors (PBC, ATI, and DN) have a mediating effect on the relationship between ENDAI and young Chinese adults' IP.

Hypothesis 4: ISC has a mediating role in the relationship between ENDAI and young Chinese adults' IP.

While scholars have confirmed the direct effect of ISC on various behaviors, several studies have provided empirical evidence suggesting that ISC not only has a direct effect, but also exerts its effect through serial mediation involving ISC and attitudes. For example, ISC was found to positively influence individuals' attitudes toward functional brands (Zogaj et al., 2021). Furthermore, attitudes have been shown to be positively correlated with online purchase behavior among Malaysian consumers (Sentosa and Mat, 2012). Similarly, congruence with influencers improved individuals' attitudes (Shan et al., 2020), which subsequently increased their willingness to purchase green products (Liu M. T. et al., 2020). Based on these findings, it is proposed that the relationship between ENDAI and young Chinese adults' IP may be serially mediated by ISC and attitudes. This study has developed a hypothesized model to illustrate these relationships (see Figure 1).

Hypothesis 5: The relationship between ENDAI and young Chinese adults' IP is serially mediated by ISC and ATI.

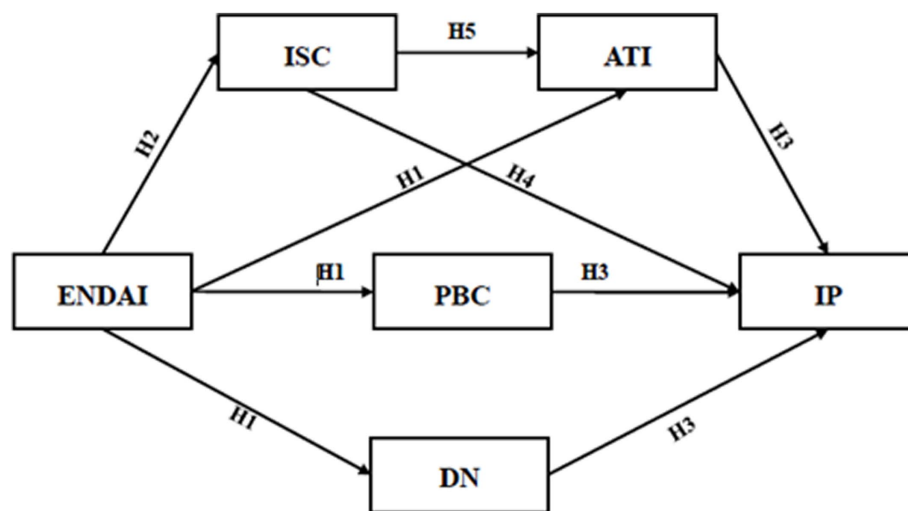


FIGURE 1 Model of predictors of intention to purchase digital collectibles.

3 Methods

3.1 Measurement of variables

The current survey questionnaire was improved based on the previous studies (Ho et al., 2015; Maichum et al., 2016; Shen et al., 2018; Kim et al., 2021; Kılıçaslan and Ekizler, 2022), and included six scales (ENDAI, IP, PBC, ATI, DN and ISC). Given the contextual differences across countries, a few scale items were modified through a three-step process to better align with the current literature (Su et al., 2021; Wheaton et al., 2021; Dai and Wang, 2025). First, two language experts translated the original measures from English into Chinese, and two other experts translated them back to increase validity (Dai and Wang, 2025; Pang and Zhang, 2024). Second, three professional experts in the field of media and consumer behavior were hired to evaluate and revise the measures using content and face validity methods (Jabeen et al., 2023; Rasmussen et al., 2024).

Conducting a pilot study is essential to ensuring the accuracy and validity of modified measurements within different contexts (Kaddourah et al., 2018). Accordingly, a rigorous online pilot study was conducted. Following established methodologies (Puljak et al., 2020; He and Chen, 2024), twenty volunteers from Central China Normal University were recruited on January 8, 2024 to participate and provide feedback on any ambiguous terms. All scales demonstrated acceptable reliability ($\alpha = 0.80-0.90$).

Ethical approval for this study was granted by the School of Journalism and Communication, Beijing Institute of Graphic Communication Academic Committee (SC20231225). Written informed consent was provided at the beginning of the online questionnaire and respondents were promised confidentiality. Therefore, participants who agreed to the informed consent were allowed to receive the link to the online survey. Eligibility criteria for the current study were as follows: (1) 18–34 years of age, (2) currently exposed to NFT digital art information. Recruitment of participants began on January 10 and ended on March 10, 2024. Factor loadings,

Composite Reliability (CR), and Average Variance Extracted (AVE) values for all items are presented in Appendix B.

3.2 Data collection procedures

Following the aforementioned modification methods, the questionnaire underwent careful revision and was then uploaded to Tengxunwenjuan (Tencent survey), which has broadly used online survey platform in China (Weng and Li, 2020; Ding and Wu, 2023). As Tengxunwenjuan has a large sample pool, many industry professionals and researchers use it for market surveys and research. The current study collected data from January 10 to March 10, 2024. Of the 290 respondents invited to participate, 265 ultimately completed the survey. After careful data cleaning to eliminate abnormal samples such as straight answers and speeders, the final valid sample size was 259 respondents.

The required sample size was assessed using G-Power 3.1, a popular tool among scholars in various contexts (Cho et al., 2022). Following Cho et al. (2022), the present study set a statistical significance level of 0.05, a power of 0.8, and an effect size of 0.15 with five predictors (Cho et al., 2022). The results recommended a minimum sample size of 92. To further confirm the required sample size for the mediated hypothesis model, a Monte Carlo power analysis was performed. This analysis was run with a target power of 0.8, 1,000 replications, and a 95% confidence interval. The results indicated that the minimum required sample size was 101. Therefore, the current sample size ($N = 259$) meets the recommended sample size.

Considering that the present study was conducted as a cross-sectional study, it is crucial to confirm the common method bias (CMB) before testing the hypotheses. Specifically, this confirmation will determine whether systematic error occurs when similar methods are used across multiple variables. Therefore, the current study applied Harman’s one-factor test to address CMB. The results demonstrated that a single factor accounted for 46.93% of the variance, which is

TABLE 1 Fornell-Larcker criterion for discriminant validity.

Variables	1	2	3	4	5
ENDAI	0.84				
IP	0.58**	0.87			
PBC	0.52**	0.71**	0.91		
ATI	0.43**	0.54**	0.45**	0.71	
DN	0.51**	0.84**	0.67**	0.46**	0.85
ISC	0.56**	0.75**	0.66**	0.55**	0.69**

***p* < 0.01, ENDAI = exposure to NFT digital art information, IP = intention to purchase, PBC = perceived behavioral control, ATI = attitude toward intelligence, DN = descriptive norms, ISC = ideal self-congruence.

below the critical value of 50%. Therefore, CMB was not evident in this research.

Examining discriminant validity is critical to confirming that measurement constructs are distinct and accurately capture unique concepts (Henseler et al., 2015). The Fornell-Larcker criterion was chosen, as it has been widely applied in previous studies. As demonstrated in Table 1, the square root of each AVE score exceeded the corresponding correlations with other factors. Thus, the measurements exhibited satisfactory discriminant validity.

A confirmatory factor analysis (CFA) is a widely used method to assess whether items are measuring a single underlying factor. Consistent with the analysis methods employed in prior studies, this study conducted a one-factor model to evaluate the model fit for each key variable. CFA was performed using Jamovi 2.6.24. Following established procedures, all variables were treated as a single common factor in the one-factor model (Zhang et al., 2024). The goodness-of-fit indices for the model indicated the following: $\chi^2/df = 3.02$, CFI = 0.91, TLI = 0.89, RMSEA = 0.08, with a 90% confidence interval of 0.07 to 0.09. Overall, the results suggest an adequate model fit.

3.3 Data analysis methods

Data analysis was conducted using SPSS 25.0 and Jamovi 2.6.24. SPSS was employed to perform the following procedures: (1) Cronbach's alpha reliability test, (2) CMB assessment, (3) Fornell-Larcker criterion, (4) descriptive analysis, and (5) serial mediation analysis. Jamovi was solely used for (1) CFA and (2) structural equation modeling (SEM). Furthermore, the goodness-of-fit indices, including χ^2/df (chi-square divided by degrees of freedom), CFI (comparative fit index), RMSEA (root mean square error of approximation), and TLI (Tucker-Lewis Index), were applied to determine the extent to which the hypothesized models fit the data.

4 Results

4.1 Descriptive data

A total of 259 valid respondent' responses were collected. Table 2 shows the key demographic characteristics of the respondents.

They were mostly female (*N* = 146, 56.4%). The majority were either undergraduates (*N* = 163, 62.9%) or high school students (*N* = 75, 29.0%). Additionally, the majority of respondents were

TABLE 2 Key demographic characteristics of the survey participants.

Variables	Item	Count	Percentage
Sex	Female	146	56.4%
	Male	113	43.6%
Education level	High school	75	29.0%
	Undergraduate	163	62.9%
	Postgraduates	21	8.2%
Age	18–23 years old	104	40.2%
	24–28 years old	85	32.8%
	29–34 years old	70	27.0%
Monthly household income (RMB)	1,000–3,999	38	14.6%
	4,000 and 8,999	75	28.9%
	9,000 and 13,999	80	30.8%
	14,000 < RMB	66	25.5%
	Total	259	100%

between 18 and 23 years old (*N* = 104, 40.2%), followed by 24 to 28 years old (*N* = 85, 32.8%). Lastly, their monthly incomes showed that the majority earned between 9,000 and 13,999 RMB (*N* = 80, 30.8%) and between 4,000 and 8,999 RMB (*N* = 75, 28.9%).

4.2 Path analysis tests

To test Hypotheses 1 and 2, path analysis was performed using Jamovi 2.6.24. In the analysis, PBC, ATI, and DN were set as endogenous variables, while ENDAI was entered as an exogenous variable. The model fit indices were as follows: $\chi^2/df = 3.22$, TLI = 0.94, CFI = 0.98, and RMSEA = 0.09, indicating an adequate fit. The results for the first direct pathway (Hypothesis 1) revealed that ENDAI explained 23% of the variance in PBC ($R^2 = 0.23$, $p < 0.001$), with a significant positive relationship ($B = 0.47$, $z = 8.61$, $p < 0.001$). Similarly, ENDAI explained 18% of the variance in ATI ($R^2 = 0.18$, $p < 0.001$), with a positive association ($B = 0.36$, $z = 7.56$, $p < 0.001$). Additionally, ENDAI explained 30% of the variance in DN ($R^2 = 0.30$, $p < 0.001$), with a positive relationship ($B = 0.52$, $z = 9.56$, $p < 0.001$). Therefore, Hypothesis 1 was supported. For the second direct pathway (Hypothesis 2), the results indicated that ENDAI explained 32% of the variance in ISC ($R^2 = 0.32$, $p < 0.001$), with a significant positive effect ($B = 0.60$, $z = 10.81$, $p < 0.001$). Thus, Hypothesis 2 was also supported. A summary of each path analysis test is presented in Table 3.

Bootstrapping was performed to obtain bias-corrected 95% confidence intervals, with 2000 resamples used to estimate indirect effects (Zhao and Wu, 2021). ENDAI was a significant predictor of PBC ($B = 0.47$, $z = 8.73$, $p < 0.001$). PBC positively predicted IP ($B = 0.51$, $z = 10.10$, $p < 0.001$), and the indirect effect was significant ($B = 0.25$, $z = 6.61$, $p < 0.001$, 95% CI [0.16, 0.34]). The results of the second indirect effect indicated that ENDAI was a significant predictor of ATI ($B = 0.36$, $z = 7.56$, $p < 0.001$). ATI positively predicted IP ($B = 0.43$, $z = 6.85$, $p < 0.001$), and the indirect effect was significant ($B = 0.16$, $z = 5.08$, $p < 0.001$, 95% CI [0.10, 0.22]). The third indirect effect also showed a positive association. ENDAI was a significant predictor of DN ($B = 0.52$, $z = 9.66$, $p < 0.001$), and DN positively predicted IP ($B = 0.76$, $z = 20.16$, $p < 0.001$). The indirect effect was

TABLE 3 Summary of the path analysis tests.

Direct effect on TPB variables							Results
ENDAI → PBC							
R ²	Effect	se	z	p	LLCI	ULCI	Supported
0.23	0.47	0.05	8.61	***	0.36	0.57	
ENDAI → ATI							
R ² 5,000	Effect	se	z	p	LLCI	ULCI	Supported
0.18	0.36	0.04	7.56	***	0.26	0.45	
ENDAI → DN							
R ²	Effect	Se	z	p	LLCI	ULCI	Supported
0.30	0.52	0.05	9.65	***	0.41	0.62	
Direct effect on ISC							
ENDAI → ISC							
R ²	Effect	se	z	p	LLCI	ULCI	Supported
0.32	0.60	0.06	10.81	***	0.49	0.71	

*** $p < 0.001$, ENDAI = exposure to NFT digital art information, PBC = perceived behavioral control, ATI = attitude toward intelligence, DN = descriptive norms, ISC = ideal self-congruence.

significant ($B = 0.39, z = 8.71, p < 0.001, 95\% \text{ CI } [0.31, 0.49]$). Therefore, hypothesis 3 was fully supported. Furthermore, in the fourth indirect effect, ENDAI was a significant predictor of ISC ($B = 0.60, z = 10.81, p < 0.001$). ISC positively predicted IP ($B = 0.59, z = 13.09, p < 0.001$), and the indirect effect was significant ($B = 0.36, z = 8.34, p < 0.001, 95\% \text{ CI } [0.27, 0.45]$). Thus, hypothesis 4 was supported.

The serial mediated effect of ISC and ATI on the relationship between ENDAI and IP in young Chinese adults was tested using the PROCESS macro (model 6). The results indicated that ENDAI positively predicted ISC ($B = 0.60, t = 10.77, p < 0.001$) and ATI ($B = 0.15, t = 2.83, p < 0.01$). ISC positively predicted ATI ($B = 0.35, t = 7.18, p < 0.001$) and IP ($B = 0.54, t = 10.81, p < 0.001$). Moreover, ATI positively predicted IP ($B = 0.18, t = 3.06, p < 0.01$). The serial mediation effect was significant ($B = 0.37, t = 11.38, p < 0.001, 95\% \text{ CI } [0.01, 0.06]$). Therefore, hypothesis 5 was fully supported. Table 4 provides a summary of the mediated hypotheses, proposed relationships, and hypothesis testing results.

In addition, Figure 2 presents the comprehensive research findings for all respondents.

5 Discussion

This study is guided by the Theory of Planned Behavior (TPB), integration of the model with ideal self-congruence as a framework. It aims to explore the effectiveness of exposure to NFT digital art information in fostering the intention to purchase digital collectibles among young Chinese adults (aged 18–34). Furthermore, a key objective of this study is to rigorously examine the nuanced effects within this relationship, specifically exploring the mediated mechanisms of psychological and congruence factors.

5.1 The influence of exposure to NFT digital art information

In terms of direct effects, the current study found that exposure to NFT digital art information influences young Chinese adults' TPB

factors (Hypothesis 1). These findings are consistent with previous studies, which suggest that increased exposure to health and travel related information enhances individuals' perceived behavioral control, attitudes, and subjective norms (Lee, 2011; Leung and Jiang, 2018; Liu et al., 2022; Fielden and Holch, 2022; Yang et al., 2023). This suggests that the findings also shed light on the strong direct mechanisms of media exposure on TPB factors within the context of collectivist cultures (e.g., China). Furthermore, with regard to the second direct effect (Hypothesis 2), the results indicated that exposure to NFT digital art information was positively associated with young Chinese adults' ideal self-congruence. In other words, frequent exposure to NFT digital art information on Xiaohongshu is likely to foster the internalization of their ideal self, as well as the envisioning of their ideal selves and aspirations through NFT digital art. This finding aligns with prior empirical research, which shows that greater exposure to idealized versus non-idealized model information is associated with higher levels of ideal self-congruence (Nouri et al., 2011; Yu and Jung, 2018).

5.2 The key mediating factors and behavioral outcomes

The mediated effect was examined rigorously. The first mediated effect of the TPB factors, namely, perceived behavioral control, attitudes toward intelligence, and descriptive norms, were found to be significant in the relationship between exposure to NFT digital art information and young Chinese adults' intention to purchase digital collectibles (Hypothesis 3). These findings are consistent with prior research indicating that information exposure enhances individuals' TPB constructs (Lee, 2011; Leung and Jiang, 2018; Yang et al., 2023). Additionally, these TPB factors have been shown to influence a variety of behaviors, including food purchasing, energy conservation, and public transportation usage (De Groot and Steg, 2007; Shah Alam and Mohamed Sayuti, 2011; Liu X. et al., 2020). Furthermore, the extended factor of ideal self-congruence was also examined to determine whether it played a mediating role in this relationship (Hypothesis 4). The results indicated that exposure to NFT digital art information positively influenced ideal self-congruence among young Chinese adults, which,

TABLE 4 Summary of mediated hypothesis testing results.

Indirect effects	Effect	P	LLCI	ULCI	Results
ENDAI → PBC → IP	0.25	***	0.16	0.34	Supported
ENDAI → ATI → IP	0.16	***	0.10	0.22	Supported
ENDAI → DN → IP	0.39	***	0.31	0.49	Supported
ENDAI → ISC → ATI → IP	0.37	***	0.01	0.06	Supported

****p* < 0.001, ENDAI = exposure to NFT digital art information, IP = intention to purchase, PBC = perceived behavioral control, ATI = attitude toward intelligence, DN = descriptive norms, ISC = ideal self-congruence.

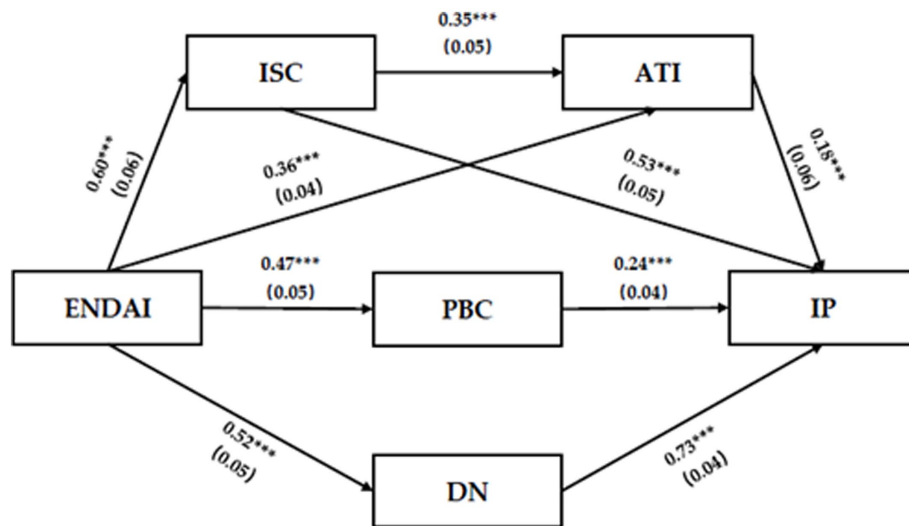


FIGURE 2 The effects of predictors of intention to purchase digital collectibles.

in turn, increased their intention to purchase digital collectibles. Consistent with prior empirical evidence, ideal self-congruence was found to be a critical mediator in the relationship between exposure to ideal images and individuals’ willingness to engage in body-shaping behaviors (Nouri et al., 2011; Guðnadóttir and Garðarsdóttir, 2014). Lastly, Hypothesis 5 of the study, which confirmed the serial mediated mechanism involving ideal self-congruence and attitudes toward intelligence, yielded significant results. The findings demonstrated that ideal self-congruence is positively associated with young Chinese adults’ attitudes toward intelligence. Furthermore, higher levels of attitudes toward intelligence were found to lead to a greater intention to purchase digital collectibles. These results support previous empirical evidence suggesting that ideal self-congruence influences individuals’ attitudes toward functional brands (Zogaj et al., 2021). Additionally, attitudes have been shown to have a positive effect on the intention to purchase green products (Sentosa and Mat, 2012). Similarly, congruence with influencers has been shown to have a positive association with individuals’ attitudes (Shan et al., 2020), which, in turn, enhances their willingness to purchase green products (Liu M. T. et al., 2020).

5.3 Theoretical and empirical contributions

This study makes three significant theoretical contributions. First, consistent with previous research, the integration of theoretical frameworks has been a common approach in prior research (Savari

and Gharechae, 2020; Shalender and Sharma, 2021). Specifically, ideal self-congruence, considered in parallel with the constructs of the TPB, has been explored for its mediating role in the exposure to NFT digital art information and its influence on the intention to purchase digital collectibles among young Chinese adults. This aspect has been largely overlooked in prior research. Therefore, this study provides valuable insights by incorporating ideal self-congruence into the TPB framework. Second, this research is among the first to examine young Chinese adults’ intention to purchase digital collectibles, addressing the existing gap wherein theoretical frameworks have been predominantly applied in Western contexts. By shedding light on this phenomenon within a collectivistic cultural setting, this study contributes to the explanatory power of the theory in such contexts. Finally, this study offers a foundation for future research to further develop and refine the integration of TPB. Future studies could continue exploring key factors, such as contextual influences, that may extend the original theoretical model and enhance its applicability in diverse cultural settings.

The practical implications of this study are threefold. Firstly, it recommends the utilization of interactive social media strategies, such as live streaming, to enhance Chinese consumers’ intention to purchase digital collectibles. Existing research suggests that live streaming effectively provides credible product information, thereby positively influencing purchasing decisions (Zhang et al., 2020). Additionally, short-form video content on Xiaohongshu, particularly that produced by celebrity creators, has the potential to enhance user engagement and perceived attractiveness (Qin et al., 2024). Given this

influence, digital collectible platforms can strategically collaborate with content creators to develop diverse NFT digital art content, ultimately fostering greater consumer purchase intentions. Secondly, it is important to strengthen the brand identification of NFT digital art information, which can further increase brand loyalty. Furthermore, this will lead to their continued purchase of products. A previous study suggested that the application of practical media effect (such as the implementation of advertising and promotion strategies) can significantly enhance the brand image to consumers, which would lead to their willingness to purchase fashion-related products (Ihzaturrahma and Kusumawati, 2021). Finally, enhancing customer participation in NFT digital art themes may also increase their engagement with AIGC artwork, brands, and related content. Previous research on consumer behavior suggests that higher levels of user participation contribute to greater recognition of product attributes and brand perception, which, in turn, can enhance the willingness to purchase products promoted through social media (Jokinen, 2016). These mechanisms can also be practically applied in the context of NFT digital art information and the purchase of digital collectibles.

6 Limitations and conclusions

The following limitations should be noted for future studies. First, this study used a cross-sectional design, which limits the ability to establish causal effects of exposure to NFT digital art information on young Chinese adults' intention to purchase digital collectibles. To more comprehensively investigate the mechanisms in this relationship, longitudinal and experimental designs are recommended for future research. Second, the current study does not examine whether social factors mediate the effect of information exposure on the purchase behavior of young Chinese adults. Therefore, further investigation is needed to explore the additional critical antecedents of purchase behavior. Third, the sample size of this study is limited. Therefore, future research should aim to collect a larger and more diverse sample to enhance the generalizability of the findings. Finally, self-selection bias commonly occurs in online survey methods due to varying levels of respondent interest in the survey topic and differences in their decision-making processes. Specifically, individuals may carefully evaluate their decision to participate through multiple steps or make this decision more spontaneously (Donzowa et al., 2023). Therefore, future research should carefully consider effective strategies to mitigate such bias, such as the application of incentives.

The present study was grounded in the extended TPB, integrated with the concept of ideal self-congruence, and rigorously examined the combined effect of exposure to NFT digital art information on the intention to purchase digital collectibles among young Chinese adults (ages 18–34). A total of 259 responses were collected through an online survey using carefully designed measures. Statistical analyses, including direct, indirect, and serial mediation, were performed using SPSS 25.0 and Jamovi 2.6.24. The findings indicated that all five hypotheses were supported. This study concluded that TPB factors demonstrate strong mediated mechanisms in this relationship. Additionally, ideal self-congruence was found to have significant explanatory power when integrated with the TPB model. These findings provide valuable insights into collectivistic cultural settings, which have been overlooked in prior studies. Furthermore, the study recommends that digital collectible

platforms and stakeholders strategically collaborate with content creators to develop diverse NFT digital art content, thereby enhancing brand image among consumers. Ultimately, these implications may lead to fostering greater consumer purchase intentions.

Data availability statement

The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving humans were approved by ethical approval for this study was granted by the School of Journalism and Communication, Beijing Institute of Graphic Communication Academic Committee (SC20231225). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

DC: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. YM: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. JW: Data curation, Formal analysis, Investigation, Methodology, Software, Writing – original draft, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that Gen AI was used in the creation of this manuscript. Generative AI (i.e., ChatGPT-4) was used for proofreading the manuscript and improving readability, but it was not used in any part of the manuscript's generation.

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Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fcomm.2025.1592446/full#supplementary-material>

References

- AIXZJ (2023). In just three days, the first AIGC players have enjoyed a "bonus" [online]. The Paper: Beijing, China. Available at: https://www.thepaper.cn/newsDetail_forward_22492968 (Accessed 30 March 2023).
- Ajzen, I. (1991). The theory of planned behavior. *Organ. Behav. Hum. Decis. Process.* 50, 179–211. doi: 10.1016/0749-5978(91)90020-T
- Ajzen, I., Fishbein, M., Lohmann, S., and Albarracín, D. (2018). The influence of attitudes on behavior. In D. Albarracín & B. T. Johnson (Eds.) 2nd ed. The handbook of attitudes. Routledge. 1. 197–255.
- Ajzen, I., and Madden, T. J. (1986). Prediction of goal-directed behavior: attitudes, intentions, and perceived behavioral control. *J. Exp. Soc. Psychol.* 22, 453–474. doi: 10.1016/0022-1031(86)90045-4
- Allen, S., Juels, A., Khaire, M., Kell, T., and Shrivastava, S. (2022). NFTs for art and collectibles: Primer and outlook. Available online at: <https://osf.io/preprints/socarxiv/gwzd7>.
- Brooks-Russell, A., Simons-Morton, B., Haynie, D., Farhat, T., and Wang, J. (2014). Longitudinal relationship between drinking with peers, descriptive norms, and adolescent alcohol use. *Prev. Sci.* 15, 497–505. doi: 10.1007/s11121-013-0391-9
- Chen, Y.-Y., and Hong, Y.-Y. (2015). Different ways to resolve discrepancy between descriptive and injunctive norms across cultures. *J. Cross-Cult. Psychol.* 46, 1316–1319. doi: 10.1177/0022022115600265
- Cho, O.-H., Hong, I., and Kim, H. (2022). Effect of uncertainty in illness and fatigue on health-related quality of life of patients on Dialysis: a cross-sectional correlation study. *Healthcare* 10:2043. doi: 10.3390/healthcare10102043
- Collectibles, C. U. (2025). From Blockchain digital Collectibles to the Metaverse, a complete guide for beginners [online]. WeChat Official Account Crypto U Collectibles: Coin U Collectibles. Available online at: <https://mp.weixin.qq.com/s/JG0xUF7BD6g4ZYZ-2hFBHw> [Accessed 11 January 2025].
- Cristello, J. V., Litt, D. M., Sutherland, M. T., and Trucco, E. M. (2024). Subjective norms as a mediator between exposure to online alcohol and marijuana content and offline use among adolescents. *Drug Alcohol Rev.* 43, 111–121. doi: 10.1111/dar.13620
- Crosno, R., and Konow, J. (2009). Social preferences and moral biases. *J. Econ. Behav. Organ.* 69, 201–212. doi: 10.1016/j.jebo.2008.10.007
- Dai, K., and Wang, Y. (2025). Investigating the interplay of Chinese EFL teachers' proactive personality, flow, and work engagement. *J. Multiling. Multicult. Dev.* 46, 209–223. doi: 10.1080/01434632.2023.2174128
- De Groot, J., and Steg, L. (2007). General beliefs and the theory of planned behavior: the role of environmental concerns in the TPB. *J. Appl. Soc. Psychol.* 37, 1817–1836. doi: 10.1111/j.1559-1816.2007.00239.x
- Ding, J., and Wu, Z. (2023). Using a Mobile game to help students learning the market economy: preparation of camera-ready contributions to SCITEPRESS proceedings. *J. Educ. Human. Soc. Sci.* 9, 52–57. doi: 10.54097/ehss.v9i.6411
- Donzowa, J., Perrotta, D., and Zagheni, E. (2023). Assessing self-selection biases in online surveys: Evidence from the COVID-19 health behavior survey. Max Planck Institute for Demographic Research: Rostock, Germany.
- Düzenli, K., and Perdaçlı, N. Z. (2024). The role of digitalization in today's art: a perspective from NFT and artificial intelligence. *J. Arts* 7, 43–59. doi: 10.31566/arts.2291
- Fielden, N., and Holch, P. (2022). Exploring the influence of social media influencers on intention to attend cervical screening in the UK: utilising the theory of planned behaviour. *Cancer Control* 29:10732748221079480. doi: 10.1177/10732748221079480
- Fishbein, M., and Ajzen, I. (2010). Predicting and changing behavior: the reasoned action approach. Psychology press: New York.
- Gao, L., Wang, S., Li, J., and Li, H. (2017). Application of the extended theory of planned behavior to understand individual's energy saving behavior in workplaces. *Resour. Conserv. Recycl.* 127, 107–113. doi: 10.1016/j.resconrec.2017.08.030
- Geng, R., and Chen, J. (2021). The influencing mechanism of interaction quality of UGC on consumers' purchase intention—an empirical analysis. *Front. Psychol.* 12:697382. doi: 10.3389/fpsyg.2021.697382
- Guðnadóttir, U., and Garðarsdóttir, R. B. (2014). The influence of materialism and ideal body internalization on body-dissatisfaction and body-shaping behaviors of young men and women: support for the consumer culture impact model. *Scand. J. Psychol.* 55, 151–159. doi: 10.1111/sjop.12101
- Han, T.-I. (2018). Determinants of organic cotton apparel purchase: a comparison of young consumers in the USA and South Korea. *Sustain. For.* 10:2025. doi: 10.3390/su10062025
- Han, Y. (2023). Analysis on the creative communication strategy of Xiaohongshu beauty cosmetics from the media: take Xiaohongshu's network marketing as an example. *Front. Business Econ. Manag.* 7, 61–64. doi: 10.54097/fbem.v7i2.4791
- He, Z., and Chen, M. (2024). How online social support enhances individual resilience in the public health crisis: testing a dual-process serial mediation model. *Comput. Hum. Behav.* 158:108276. doi: 10.1016/j.chb.2024.108276
- He, D., Liu, Z., Yang, Q., and Ma, L. (2022). The development of digital collection platform under responsible innovation framework: a study on China's non-fungible token (NFT) industry. *J. Open Innov. Technol. Mark. Complex.* 8:203. doi: 10.3390/joitmc8040203
- Henseler, J., Ringle, C. M., and Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci.* 43, 115–135. doi: 10.1007/s11747-014-0403-8
- Heuckmann, B., Hammann, M., and Asshoff, R. (2019). Advantages and disadvantages of modeling beliefs by single item and scale models in the context of the theory of planned behavior. *Educ. Sci.* 9:268. doi: 10.3390/educsci9040268
- Ho, V. C., Berman, A. H., Andrade, J., Kavanagh, D. J., Branche, S. L., May, J., et al. (2024). Assessing immediate emotions in the theory of planned behavior can substantially contribute to increases in pro-environmental behavior. *Front. Clim.* 6:1344899. doi: 10.3389/fclim.2024.1344899
- Ho, S. S., Liao, Y., and Rosenthal, S. (2015). Applying the theory of planned behavior and media dependency theory: predictors of public pro-environmental behavioral intentions in Singapore. *Environ. Commun.* 9, 77–99. doi: 10.1080/17524032.2014.932819
- Hong, W., Liang, C., Ma, Y., and Zhu, J. (2023). Why do older adults feel negatively about artificial intelligence products? An empirical study based on the perspectives of mismatches. *Systems* 11:551. doi: 10.3390/systems11110551
- Ihzaturrahma, N., and Kusumawati, N. (2021). Influence of integrated marketing communication to brand awareness and brand image toward purchase intention of local fashion product. *Int. J. Entrep. Manag. Pract.* 4, 23–41. doi: 10.35631/IJEMP.415002
- Jabeen, F., Tandon, A., Sithipolvanichgul, J., Srivastava, S., and Dhir, A. (2023). Social media-induced fear of missing out (FoMO) and social media fatigue: the role of narcissism, comparison and disclosure. *J. Bus. Res.* 159:113693. doi: 10.1016/j.jbusres.2023.113693
- Jokinen, T. (2016). Branding in social media and the impact of social media on brand image. (Bachelor's thesis, Seinäjoki University of Applied Sciences, School of Business and Culture). Theseus. Available at: <https://www.theseus.fi/handle/10024/105658>
- Kaddourah, B., Abu-Shaheen, A. K., and Al-Tannir, M. (2018). Quality of nursing work life and turnover intention among nurses of tertiary care hospitals in Riyadh: a cross-sectional survey. *BMC Nurs.* 17, 1–7. doi: 10.1186/s12912-018-0312-0
- Kaiser, F. G., Schultz, P. W., and Scheuthle, H. (2007). The theory of planned behavior without compatibility? Beyond method bias and past trivial associations I. *J. Appl. Soc. Psychol.* 37, 1522–1544. doi: 10.1111/j.1559-1816.2007.00225.x
- Kawamura, K. (2012). "Body image among Asian Americans" in Encyclopedia of body image and human appearance. Elsevier: Oxford, UK. 95–102.
- Kılıçlaşan, F., and Ekizler, H. (2022). Factors effecting purchase intention in blockchain and NFT (non-fungible token) technologies. *J. Res. Business* 7, 604–623. doi: 10.54452/jrb.1177600

- Kim, J.-S., Kim, G. S., Kang, S.-M., and Chu, S. H. (2021). Symptom experience as a predictor of cardiac rehabilitation education programme attendance after percutaneous coronary intervention: a prospective questionnaire survey. *Eur. J. Cardiovasc. Nurs.* 20, 183–191. doi: 10.1177/1474515120940534
- La Barbera, F., and Ajzen, I. (2020). Control interactions in the theory of planned behavior: Rethinking the role of subjective norm. *Eur. J. Psychol.* 16, 401–417. doi: 10.5964/ejop.v16i3.2056
- Lee, K. (2011). Understanding Hong Kong adolescents' environmental intention: the roles of media exposure, subjective norm, and perceived behavioral control. *Appl. Environ. Educ. Commun.* 10, 116–125. doi: 10.1080/1533015X.2011.575733
- Leung, X. Y., and Jiang, L. (2018). How do destination Facebook pages work? An extended TPB model of fans' visit intention. *J. Hosp. Tour. Technol.* 9, 397–416. doi: 10.1108/JHTT-09-2017-0088
- Li, J., Zhang, J., Yue, R., Yang, Y., and Gu, Q. (2024). Why people purchase NFT digital collectible: an integrated model. *J. Comput. Methods Sci. Eng.* 14727978241308700. doi: 10.1177/14727978241308700
- Liu, M. T., Liu, Y., and Mo, Z. (2020). Moral norm is the key: an extension of the theory of planned behavior (TPB) on Chinese consumers' green purchase intention. *Asia Pac. J. Mark. Logist.* 32, 1823–1841. doi: 10.1108/APJML-05-2019-0285
- Liu, X., Wang, Q., Wei, H.-H., Chi, H.-L., Ma, Y., and Jian, I. Y. (2020). Psychological and demographic factors affecting household energy-saving intentions: a TPB-based study in Northwest China. *Sustain. For.* 12:836. doi: 10.3390/su12030836
- Liu, Z., Yang, J. Z., Clark, S. S., and Shelly, M. A. (2022). Recycling as a planned behavior: the moderating role of perceived behavioral control. *Environ. Dev. Sustain.* 24, 11011–11026. doi: 10.1007/s10668-021-01894-z
- Maichum, K., Parichatnon, S., and Peng, K.-C. (2016). Application of the extended theory of planned behavior model to investigate purchase intention of green products among Thai consumers. *Sustain. For.* 8:1077. doi: 10.3390/su8101077
- Mathur, S., Tewari, A., and Singh, A. (2022). Modeling the factors affecting online purchase intention: the mediating effect of consumer's attitude towards user-generated content. *J. Mark. Commun.* 28, 725–744. doi: 10.1080/13527266.2021.1936126
- Mehr, A. A., and Shahim, A. (2023). NFTs and the art world: understanding the role of social Media in the Emergence of digital collections. *Br. J. Arts Humanit* 5, 277–290. doi: 10.34104/bjah.02302770290
- Nft College (2022). The advantages of Xiaohongshu's strategy in digital collectibles are as follows. [Online]. NetEase. Available online at: <https://www.163.com/dy/article/HBE9N9HS0552D8SE.html> [Accessed 4 July 2022 2022].
- Nouri, M., Hill, L. G., and Orrell-Valente, J. K. (2011). Media exposure, internalization of the thin ideal, and body dissatisfaction: comparing Asian American and European American college females. *Body Image* 8, 366–372. doi: 10.1016/j.bodyim.2011.05.008
- Paek, H.-J., Oh, H. J., and Hove, T. (2012). How media campaigns influence children's physical activity: expanding the normative mechanisms of the theory of planned behavior. *J. Health Commun.* 17, 869–885. doi: 10.1080/10810730.2011.650832
- Pang, H., and Zhang, K. (2024). Determining influence of service quality on user identification, belongingness, and satisfaction on mobile social media: insight from emotional attachment perspective. *J. Retail. Consum. Serv.* 77:103688. doi: 10.1016/j.jretconser.2023.103688
- Pawelzik, L., and Thies, F. (2022). Selling digital art for millions—a qualitative analysis of NFT art marketplaces. In ECIS, Timisoara, Romania.
- Perez, W. D. D., Prasetyo, Y. T., Cahigas, M. M. L., Persada, S. F., Young, M. N., and Nadlifatin, R. (2023). Factors influencing non-fungible tokens (NFT) game engagement during the COVID-19 pandemic: the theory of planned behavior (TPB) and hedonic motivation system adoption model (HMSAM) approach. *Heliyon* 9, 1–20. doi: 10.1016/j.heliyon.2023.e19184
- Popescu, A.-D. (2021). "Non-fungible tokens (nft)—innovation beyond the craze", in: 5th International Conference on Innovation in Business, Economics and Marketing Research), 26–30.
- Puljak, L., Čivljak, M., Haramina, A., Mališa, S., Čavić, D., Klinec, D., et al. (2020). Attitudes and concerns of undergraduate university health sciences students in Croatia regarding complete switch to e-learning during COVID-19 pandemic: a survey. *BMC Med. Educ.* 20, 1–11. doi: 10.1186/s12909-020-02343-7
- QaQ (2023). Xiaohongshu users can directly display digital collectibles on their personal homepage. [online]. UAIRI: QaQ. Available online at: https://mp.weixin.qq.com/s/2ZwPO_pXspqxulzdSn4NA (Accessed 1 February 2023).
- Qin, M., Qiu, S., Zhao, Y., Zhu, W., and Li, S. (2024). Graphic or short video? The influence mechanism of UGC types on consumers' purchase intention—take Xiaohongshu as an example. *Electron. Commer. Res. Appl.* 65:101402. doi: 10.1016/j.elerap.2024.101402
- Rasmussen, S. H. R., Bor, A., Osmundsen, M., and Petersen, M. B. (2024). 'Supervised classification for labelling text: online political hostility as an illustration. *Br. J. Polit. Sci.* 54, 179–200. doi: 10.1017/S0007123423000042
- Rozenkowska, K. (2023). Theory of planned behavior in consumer behavior research: a systematic literature review. *Int. J. Consum. Stud.* 47, 2670–2700. doi: 10.1111/ijcs.12970
- Sassen, B., and Sassen, B. (2018). "Health promotion and health education: improving patients' health status" In B. Sassen (Ed.), in *Nursing: Health education and improving patient self-management*, Springer, Switzerland. 81–140.
- Savari, M., and Gharechae, H. (2020). Application of the extended theory of planned behavior to predict Iranian farmers' intention for safe use of chemical fertilizers. *J. Clean. Prod.* 263:121512. doi: 10.1016/j.jclepro.2020.121512
- Scheiding, R. (2023). Designing the future? The metaverse, NFTs, & the future as defined by unity users. *Games Cult.* 18, 804–820. doi: 10.1177/15554120221139218
- Sentosa, I., and Mat, N. K. N. (2012). Examining a theory of planned behavior (TPB) and technology acceptance model (TAM) in internet purchasing using structural equation modeling. *Res. World* 3:62.
- Sethna, B. N., Hazari, S., and Bergiel, B. (2017). Influence of user generated content in online shopping: impact of gender on purchase behaviour, trust, and intention to purchase. *Int. J. Electr. Market. Retail.* 8, 344–371. doi: 10.1504/IJEMR.2017.087719
- Shah Alam, S., and Mohamed Sayuti, N. (2011). Applying the theory of planned behavior (TPB) in halal food purchasing. *Int. J. Commer. Manag.* 21, 8–20. doi: 10.1108/10569211111111676
- Shalender, K., and Sharma, N. (2021). Using extended theory of planned behaviour (TPB) to predict adoption intention of electric vehicles in India. *Environ. Dev. Sustain.* 23, 665–681. doi: 10.1007/s10668-020-00602-7
- Shan, Y., Chen, K.-J., and Lin, J.-S. (2020). When social media influencers endorse brands: the effects of self-influencer congruence, parasocial identification, and perceived endorser motive. *Int. J. Advert.* 39, 590–610. doi: 10.1080/02650487.2019.1678322
- Sheeraz, M., Qadeer, F., Khan, K. I., and Mahmood, S. (2020). What I am, what I want to be: the role of brand experience in the relationship of self-congruence facets and orientation toward happiness. *J. Busin. Econ.* 12, 43–61.
- Shen, C., Wang, M. P., Wan, A., Viswanath, K., Chan, S. S. C., and Lam, T. H. (2018). Health information exposure from information and communication technologies and its associations with health behaviors: population-based survey. *Prev. Med.* 113, 140–146. doi: 10.1016/j.ypmed.2018.05.018
- Shuqair, S., Cragg, P., Zaidan, A., and Mitchell, T. (2016). The influence of users generated content on attitude towards brand and purchase intentions—case of Bahrain. *Int. J. Business Market. Manag.* 1, 9–20.
- Smith-McLallen, A., and Fishbein, M. (2008). Predictors of intentions to perform six cancer-related behaviours: roles for injunctive and descriptive norms. *Psychol. Health Med.* 13, 389–401. doi: 10.1080/13548500701842933
- Snihotta, F. F., Presseau, J., and Araújo-Soares, V. (2014). Time to retire the theory of planned behaviour. *Health Psychol. Rev.* 8, 1–7. doi: 10.1080/17437199.2013.869710
- Sommer, L. (2011). The theory of planned behaviour and the impact of past behaviour. *Int. Busin. Econ. Res. J.* 10, 91–110. doi: 10.19030/iber.v10i1.930
- Su, Y., Zhu, Z., Chen, J., Jin, Y., Wang, T., Lin, C.-L., et al. (2021). Factors influencing entrepreneurial intention of university students in China: integrating the perceived university support and theory of planned behavior. *Sustain. For.* 13:4519. doi: 10.3390/su13084519
- Sun, Y., and Ly, T. P. (2023). The influence of word-of-web on customers' purchasing process: the case of Xiaohongshu. *J. China Tour. Res.* 19, 221–244. doi: 10.1080/19388160.2022.2057378
- Tan, J. (2024). A critical research on Xiaohongshu for information sharing for Chinese teenagers. *Prof. de la información* 33, 1–15. doi: 10.3145/epi.2024.0017
- Tooray, J., and Oodith, D. (2017). The influence of actual and ideal self-congruity on consumers' purchase intentions. *J. Econ. Behav. Stud.* 9, 107–121. doi: 10.22610/jeb.v9i4(j).1826
- Trautman, L. J. (2021). Virtual art and non-fungible tokens. *Hofstra L. Rev.* 50:361. doi: 10.2139/ssrn.3814087
- Vomberg, A., and Von Gegerfelt, M. (2025). Unveiling investment vs. ownership perspectives among NFT buyers: a segmentation study exploring engagement patterns in NFT markets. *Int. J. Res. Mark.* doi: 10.1016/j.ijresmar.2025.01.005
- Wang, Z., Huang, W.-J., and Liu-Lastres, B. (2022). Impact of user-generated travel posts on travel decisions: a comparative study on Weibo and Xiaohongshu. *Ann. Touri. Res. Empir. Insig.* 3:100064. doi: 10.1016/j.annale.2022.100064
- Wang, S., Kirillova, K., and Lehto, X. (2017). Reconciling unsatisfying tourism experiences: message type effectiveness and the role of counterfactual thinking. *Tour. Manag.* 60, 233–243. doi: 10.1016/j.tourman.2016.12.008
- Weng, J., and Li, H. (2020). Early technology education in China: a case study of Shanghai. *Early Child Dev. Care* 190, 1574–1585. doi: 10.1080/03004430.2018.1542383
- Wheaton, M. G., Prikhidko, A., and Messner, G. R. (2021). Is fear of COVID-19 contagious? The effects of emotion contagion and social media use on anxiety in response to the coronavirus pandemic. *Front. Psychol.* 11:567379. doi: 10.3389/fpsyg.2020.567379
- Xinbang (2024). Cure department AI illustration became popular, the little red book was praised 26,000|AI a week hot. Zhihu: Xinbang.
- Xu, X., and Pratt, S. (2018). Social media influencers as endorsers to promote travel destinations: an application of self-congruence theory to the Chinese generation Y. *J. Travel Tour. Mark.* 35, 958–972. doi: 10.1080/10548408.2018.1468851
- Yadav, R., and Pathak, G. S. (2017). Determinants of consumers' green purchase behavior in a developing nation: applying and extending the theory of planned behavior. *Ecol. Econ.* 134, 114–122. doi: 10.1016/j.ecolecon.2016.12.019

- Yang, Y., Ma, X., and Myrick, J. G. (2023). Social media exposure, interpersonal network, and tampon use intention: a multigroup comparison based on network structure. *J. Health Psychol.* 28, 343–355. doi: 10.1177/13591053221120332
- YHXY (2024). AI design drawing, actually came from her hand? [Online]. Available online at: https://www.sohu.com/a/764629267_121124707 [Accessed 16 March 2024].
- Yilmaz, M., Hacıoğlu, T., and Clarke, P. (2022). "Examining the use of non-fungible tokens (NFTs) as a trading mechanism for the metaverse". In M. Yilmaz, P. Clarke, R. Messnarz, & B. Wöran (Eds.), *Systems, software and services process improvement: EuroSPI 2022 (Communications in Computer and Information Science, Vol. 1646, pp. 18–28)*. Springer, Switzerland.
- Yu, U. J., and Jung, J. (2018). Effects of self-discrepancy and self-schema on young women's body image and self-esteem after media image exposure. *Fam. Consum. Sci. Res. J.* 47, 142–160. doi: 10.1111/fcsr.12284
- Yu, B., Xu, H., and Emery, B. (2020). How to better motivate customers to participate in the self-design process: a conceptual model in underlying self-congruence mechanism. *Front. Psychol.* 11:1995. doi: 10.3389/fpsyg.2020.01995
- Zarouali, B., Poels, K., Ponnet, K., and Walrave, M. (2021). The influence of a descriptive norm label on adolescents' persuasion knowledge and privacy-protective behavior on social networking sites. *Commun. Monogr.* 88, 5–25. doi: 10.1080/03637751.2020.1809686
- Zhang, C. (2024). Body image and social media in China: Examining body image discourses among young Chinese women on the Xiaohongshu platform. *J. Int. Crisis Risk Commun. Research*, 7, 1193.
- Zhang, L., Bai, D., Song, P., and Zhang, J. (2024). Effects of physical health beliefs on college students' physical exercise behavior intention: mediating effects of exercise imagery. *BMC Psychol.* 12:99. doi: 10.1186/s40359-024-01558-3
- Zhang, M., Qin, F., Wang, G. A., and Luo, C. (2020). The impact of live video streaming on online purchase intention. *Serv. Ind. J.* 40, 656–681. doi: 10.1080/02642069.2019.1576642
- Zhao, S., and Wu, X. (2021). From information exposure to protective behaviors: investigating the underlying mechanism in COVID-19 outbreak using social amplification theory and extended parallel process model. *Front. Psychol.* 12:631116. doi: 10.3389/fpsyg.2021.631116
- Zogaj, A. (2023). Nonprofit organizations, social media, and trust: how self-congruence can help organizations choose the right social media endorsers. *J. Nonprofit Publ. Sect. Market.* 35, 568–588. doi: 10.1080/10495142.2022.2130496
- Zogaj, A., Tschulin, D. K., Lindenmeier, J., and Olk, S. (2021). Linking actual self-congruence, ideal self-congruence, and functional congruence to donor loyalty: the moderating role of issue involvement. *J. Bus. Econ.* 91, 379–400. doi: 10.1007/s11573-020-01006-9