

The impact of Fashion Brand Collaborations in Sandbox Games on Purchase Intention: The Role of Brand Coolness and Self-Avatar Identification

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Abstract

This study examines the impact of fashion brand collaborations in sandbox games on consumer purchase intentions, focusing on brand coolness and self-avatar identification. Through online surveys of U.S. consumers aged 20-40, it finds that aesthetics, scarcity, and familiarity contribute to brand coolness, with only aesthetics directly impacting purchase intentions. Emotional engagement, self-expression, and perceived enjoyment enhance brand coolness, with emotional engagement being the most influential, and all except perceived enjoyment positively affect purchase intentions. Brand coolness from collaborations positively impacts purchase intentions, indicating that positive consumer attitudes drive behavior. Self-avatar identification moderates the relationships between familiarity and brand coolness, self-expression, and purchase intentions, and moderates the mediating effect of brand coolness. The study underscores the importance of self-avatar identification in shaping consumer behavior and calls for further research in diverse industries and new marketing forms.

Keywords : *Sandbox game, Fashion collaboration, Brand coolness, Self-avatar identification, Product attributes, Perceived value of gameplay*

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1. INTRODUCTION

With the onset of the Fourth Industrial Revolution, collaborative marketing between fashion and gaming is gaining attention as means to differentiate brands swiftly by responding to the preferences and emotional demands of Generation MZ consumers [1]. Such collaborations primarily aim to promote brand messages in a less aggressive manner [2]. According to [3], the global number of video game players has already exceeded 3.3 billion, and data from [4] shows that 81.9% of internet users aged 16 to 64 have played video games. Statistics from [5] reveal that eight out of the top 20 PC/MMO games in North America and Europe are sandbox games, underscoring their popularity. Sandbox games offer users virtual worlds for exploration and creation, expanding opportunities for collaborations with fashion brands [6] [7] [8]. Additionally, metaverses can be defined as real-time multiplayer sandboxes [9]. Platforms like Second Life, Fortnite, Minecraft, and Roblox serve as metaverses based on sandbox principles, providing digital spaces that offer users realistic experiences, thereby empowering fashion brands to sell virtual items to young consumers [10] [11].

Current research on collaborations between fashion brands and games has predominantly focused on esports games [6] [7], leaving a gap in studies concerning collaborations between sandbox games and fashion brands. This study will also validate the effects of brand coolness and self-avatar identification. Understanding the roles of these concepts in collaborations between sandbox games and fashion brands is crucial.

2. THEORY

2.1. Sandbox Game

The term "sandbox" originates from the act of freely playing with or destroying sand. Sandbox games encompass a variety of game types including action, adventure, role-playing, and simulation [12]. Players are free to achieve any objective within designated virtual spaces, akin to children freely building and destroying with sand [13]. In contrast to hardcore games with predetermined linear stories or goals, sandbox games lack specific rules or objectives, allowing for the free expression of creative impulses and providing a sense of achievement through the final outcomes [14]. Representative sandbox games include "Minecraft," "Sims," "Garry's Mod," "Grand Theft Auto" (GTA), and "Animal Crossing."

2.2. Fashion Brands' Collaboration Strategies

The term "collaboration" originates from the Latin words "cum" (together) and "laboro" (to work), literally meaning working together and cooperating. It refers to a cooperative relationship between two brands with similar objectives, aimed at achieving synergistic effects through a period of collaboration to generate ultimate benefits [15]. The fashion industry has been profoundly impacted by digital transformation amid the onset of the Fourth Industrial Revolution, a change further accelerated by the COVID-19 pandemic. Increased interest in recent digital trends such as the emergence of social media, the establishment of e-commerce platforms, and the rise of metaverses and gamification has heightened fashion companies' focus on the digital landscape [8] [16]. Collaborative marketing strategies between fashion brands and games are designed to effectively deliver products to Generation MZ consumers and create new added value, attracting significant consumer interest [6].

2.3. The Product Attributes of Fashion Collaboration

Consumers purchase not only the product itself but also its various attributes, which can meet physical, social, and psychological needs [17]. [18] identified five perceived characteristics of luxury brand and character animation collaboration products-conspicuousness, scarcity, quality, hedonism, and self-extension

as independent variables influencing brand coolness. [19] found that the uniqueness, symbolism, aesthetics, and scarcity of collaboration products positively affect consumer likability and preference, highlighting product differentiation. Additionally, some studies consider familiarity as a characteristic of fashion collaboration products [7]. The multi-attribute attitude model suggests that individuals evaluate a particular object based on multiple criteria or attributes, forming an attitude towards it [20]. [21] found that higher consumer perception of core product attributes leads to more favorable attitudes towards the product.

Although aesthetics may not directly relate to consumers' initial shopping purposes, consumers can experience aesthetics and enjoyment through the design, color, and other elements of the physical environment. When consumers perceive the positive meanings embedded in the collaboration product's image, they are expected to have a higher attitude toward the product [22]. Scarcity, characterized by reduced supply or increased demand, emphasizes product shortage, which can reinforce consumers' need for the product or brand [23] [24]. The core premise of commodity theory [25] is that individuals assign more extreme value to goods perceived as scarce. Brand familiarity is defined by the time consumers take to process brand information [26], with studies showing that consumers spend less time purchasing familiar brands than unfamiliar ones [27] [28].

2.4. Perceived Value of Gameplay

The Theory of Consumer Values [29], encompassing functional value, conditional value, social value, emotional value, and epistemic value. This theory posits that consumers evaluate these diverse components of value to form positive attitudes and make purchasing decisions [30]. This theory is often employed to explain pleasure issues in gaming environments, such as sustained intent in gaming [31] and willingness to purchase virtual items in online games [32].

Perceived enjoyment in games refers to the degree of joy and pleasure experienced by participants during gameplay, fostering their engagement in gamified experiences and focusing on long-term behaviors [33]. Enjoyment stimulates individuals' intrinsic motivation and autonomy, encouraging continued involvement in gamified activities [34]. Self-expression is a personal desire in social settings to express opinions or build an ideal image [35] [36]. In sandbox game communities, players express themselves, exhibit their identities, and gain superiority by uploading fashion coordinates or new gameplay stories [37]. Moreover, fashion brands consider consumers' self-expression abilities in social environments as a significant factor in decision-making processes [38]. Research indicates that satisfying consumers' desire for self-expression through brand products motivates purchase intentions [39] [40].

Emotional engagement refers to a psychological state where individuals are emotionally connected to a place or event due to past experiences [41]. According to [42], gamified emotional experiences positively influence consumers' brand attitudes, and recent research has explored the relationship between emotional experiences with brands and purchasing decisions [43].

2.5. Brand Coolness

[44] suggested that the concept of "coolness" holds significant importance in marketing, influencing key outcomes such as brand attitude and willingness to pay for a brand [45]. [46] connected coolness with the fashion industry, and [47] analysis revealed common thematic groups that describe "coolness": fashion, surprise, sophistication, uniqueness, fun, attention, and calmness. Among these, the theme of fashion plays a substantial role in defining the meaning of coolness. Similarly, in the case of digital products, coolness has emerged as a powerful differentiator because it aids consumers in product evaluation [48] [49]. In recent years, the transition of luxury brands to digital marketing has been a pioneering and wise choice, creating exceptional

and innovative brand experiences through game collaborations and advergames [45]. This shift helps consumers recognize the sense of coolness in terms of self-expression, originality, enjoyment, trendiness, and fashion sense, thereby fostering a positive attitude towards the brand and increasing purchase intentions [50].

2.6. Self-avatar Identification

In digital games, avatars have been considered the digital visual representation of users [51]. Traditionally, avatars have been understood as virtual representations that merge significant aspects of an individual's real-world characteristics, serving as human substitutes in virtual environments [52].

Identification is an imaginative process that defines how closely users are emotionally and perceptually connected to their avatars [53]. During gameplay, users imagine themselves as the avatar and act from the avatar's perspective [54]. Previous research has shown that identification with avatars is closely related to game experience and enjoyment [55], shapes players' behaviors outside the game [56] and makes players more receptive to persuasive information [57].

3. Research Questions & Hypotheses

Based on literature review, this research proposes the following research hypotheses:

H1: In sandbox games, the products attributes of fashion collaborations—(1) aesthetics, (2) scarcity, and (3) familiarity—have a positive impact on the perception of brand coolness.

H2: In sandbox games, the products attributes of fashion collaboration—(1) aesthetics, (2) scarcity, and (3) familiarity—have a positive impact on purchase intention.

H3: The perceived values of gameplay—(1) perceived enjoyment, (2) self-expression, and (3) emotional engagement—have a positive impact on the perception of brand coolness towards fashion brands collaborating with sandbox games.

H4: The perceived values of gameplay—(1) perceived enjoyment, (2) self-expression, and (3) emotional engagement—have a positive impact on purchase intention towards fashion brands collaborating with sandbox games.

H5: Perceived brand coolness mediates the relationship between fashion collaboration products attributes—(1) aesthetics, (2) scarcity, and (3) familiarity—and purchase intention in sandbox games.

H6: Perceived brand coolness mediates the relationship between perceived values of gameplay—(1) perceived enjoyment, (2) self-expression, and (3) emotional engagement—and purchase intention in sandbox games.

H7: Self-avatar identification moderates the relationship between fashion collaboration products attributes—(1) aesthetics, (2) scarcity, and (3) familiarity—and perceived brand coolness in sandbox games.

H8: Self-avatar identification moderates the relationship between fashion collaboration products attributes—(1) aesthetics, (2) scarcity, and (3) familiarity—and purchase intention in sandbox games.

H9: Self-avatar identification moderates the relationship between perceived values of gameplay—(1) perceived enjoyment, (2) self-expression, and (3) emotional engagement—and perceived brand coolness in sandbox games.

H10: Self-avatar identification moderates the relationship between perceived values of gameplay—(1) perceived enjoyment, (2) self-expression, and (3) emotional engagement—and purchase intention in sandbox games.

4. Methodology

4.1. Sample and data collection

To test the research model, this study collected data through a online survey. The questionnaire included definitions of fashion games and presented two collaboration cases between fashion brands and sandbox games (A. Gucci x Sims 4; B. Moschino x Sims 4). Data were collected via an online survey conducted on the Amazon Mturk platform in May 2024, targeting American male and female aged 20-40. To ensure a sufficient sample size, a total of 300 responses were gathered. After excluding 10 unclear responses, 290 valid responses were used for the final analysis. There were 171 male participants(59%) and 119 female participants(41%).

4.2. Measures

All scale items were rated on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The questionnaire items were all taken or adapted from the literature. Aesthetics (AE) and scarcity (SC) were distinctly measured by three items adopted from [19]; Familiarity (FA) was measured by three items derived from [58] and [59]; Perceived enjoyment (PE) was measured by three items adopted from [60]; Self-expression (SE) was measured by three items derived from [61]; Emotional engagement (EE) was measured by four items derived from [62]; Brand coolness (BC) was measured by five items adapted from [63] and [45] and self-avatar identification (SAI) was measured by three items derived from [64] and [51]. The scale to measure purchase intention (PI) was adapted and revised from [65]. The items used for measuring each variable are listed in Table I.

4.2.1. The reliability and validity of the measurement model

The validity and reliability of the reflective measurement model were assessed for discriminant validity, average variance extracted (AVE), Cronbach's alpha (α), and composite reliability (CR) based on [66] and [67], with the results summarized in Table I. Composite reliability values exceeded the recommended threshold of 0.7, indicating strong reliability [66]. Convergent validity was confirmed through average variance extracted (AVE) analysis, which surpassed 0.5, signifying sufficient validity. Furthermore, all the constructs had high levels of internal consistency reliability, with Cronbach's α coefficients surpassing the recommended level of 0.70 [68].

Table 1. Results of the assessment of measurement model

Construct	Item	Scale Items	Loading	Cronbach's alpha
Aesthetics (AE) (AVE = 0.761; CR = 0.906)	AE1	The collaboration between the sandbox game and fashion brand is stylish.	0.865	0.905
	AE2	The collaboration between the sandbox game and fashion brand is attractive.	0.868	
	AE3	The collaboration between the sandbox game and fashion brand is cool.	0.885	
Scarcity (SC) (AVE = 0.740; CR = 0.895)	SC1	The collaboration between the sandbox game and fashion brand releases limited edition products.	0.843	0.895
	SC2	There aren't many users who own the collaboration products of the sandbox game and fashion brand.	0.863	
	SC3	The collaboration products of the sandbox game and fashion brand are relatively rare compared to regular items.	0.875	
Familiarity (FA) (AVE = 0.766; CR = 0.908)	FA1	I have heard a lot about the collaboration between the sandbox game and fashion brand.	0.873	0.907
	FA2	I am familiar with the collaboration between the sandbox game and fashion brand.	0.895	
	FA3	I know a lot about the collaboration between the sandbox game and fashion brand.	0.857	
Perceived Enjoyment (PE) (AVE = 0.749; CR = 0.900)	PE1	I like the sandbox game.	0.883	0.900
	PE2	I enjoy playing the sandbox game.	0.835	
	PE3	I feel excited when playing the sandbox game.	0.878	

Self-Expression (SE) (AVE = 0.755; CR = 0.902)	SE1	Playing the sandbox game makes me feel different from others.	0.879	0.902
	SE2	Playing the sandbox game can make me stand out from others.	0.853	
	SE3	Playing the sandbox game allows me to showcase my image well.	0.874	
Emotional Engagement (EE) (AVE = 0.726; CR = 0.914)	EE1	The sandbox game are not just simple games to me.	0.86	0.913
	EE2	I think a lot while playing the sandbox game.	0.846	
	EE3	I always feel curious when playing the sandbox game.	0.858	
	EE4	The sandbox game makes me think about real life.	0.843	
Brand Coolness (BC) (AVE = 0.751; CR = 0.938)	BC1	The unique designs and creative styles of the fashion brand in this sandbox game reflect a cool and innovative brand image.	0.878	0.938
	BC2	Seeing my avatar dressed in this fashion brand's clothes in the sandbox game enhances my perception of the brand as dynamic and energetic.	0.859	
	BC3	Playing the sandbox game with a character wearing the fashion brand collaboration outfits will make me look cool	0.88	
	BC4	In a sandbox game, trying out various clothes from this fashion brand demonstrates the brand's ability to lead new trends and maintain a stylish status.	0.859	
	BC5	In a sandbox game, seeing an avatar wearing collaboration clothes from a fashion brand always makes me think, "That's cool!"	0.857	
Self-avatar Identification (SAI) (AVE = 0.750; CR = 0.900)	SAI1	I feel that the avatar in the sandbox game is like my alter ego.	0.888	0.900
	SAI2	I take compliments about my in-game avatar as compliments about myself.	0.849	
	SAI3	When playing the sandbox game, I feel like I am my avatar.	0.86	
Purchase Intention (PI) (AVE = 0.737; CR = 0.894)	PI1	I will purchase collaboration products of this fashion brand and sandbox game in the near future.	0.872	0.894
	PI2	Whenever I need buy fashion products, I am highly likely to consider this fashion brand which collaborated with the sandbox game.	0.852	
	PI3	I want to purchase products from this fashion brand which collaborated with the sandbox game.	0.852	

Discriminant validity measures how well different latent variables, representing distinct concepts, are differentiated. High discriminant validity is indicated by low inter-correlations among latent variables. It can be assessed by comparing the Average Variance Extracted (AVE) of two variables with the square of their correlation. If the AVE is greater, discriminant validity is confirmed [69]. The AVE values exceed the squared correlations between latent variables, demonstrating the model's discriminant validity.

5. RESULTS

5.1. Structural model assessment

This study tested the hypotheses using regression analysis with bootstrap sampling, employing SPSS and PROCESS Macro's model 8.

Hypothesis 1: "Product attributes of fashion collaborations in sandbox games positively impact brand coolness." was supported ($\beta = 0.477, t = 6.379, p < 0.001$). Sub-hypotheses regarding product attribute sub-

factors AE, SC, and FA also positively impacting brand coolness were supported: H1-1 ($\beta = 0.248, t = 4.284$), H1-2 ($\beta = 0.218, t = 3.868$), and H1-3 ($\beta = 0.256, t = 4.800$), all with $p < 0.001$.

Hypothesis 2: "Product attributes of fashion collaborations in sandbox games positively impact purchase intention." was rejected as the confidence interval (-0.032 to 0.270) included 0. Additionally, SC and FA showed no significant impact on purchase intention, rejecting hypotheses 2-2 and 2-3 ($\beta_{SC} = 0.022, p > .05$; $\beta_{FA} = 0.022, p > .05$). However, AE did positively impact purchase intention ($\beta = 0.114, t = 2.069, p < 0.05$), supporting hypothesis 2-1.

Hypothesis 3: "Perceived value of gameplay positively impacts brand coolness in fashion collaborations within sandbox games." was supported ($\beta = 0.438, t = 6.106, p < 0.001$). Sub-hypotheses regarding the sub-factors PE, SE, and EE also showed positive impacts, supporting hypotheses 3-1, 3-2, and 3-3 ($\beta_{PE} = 0.208, p < 0.001$; $\beta_{SE} = 0.267, p < 0.001$; $\beta_{EE} = 0.272, p < 0.001$).

Hypothesis 4: "Perceived value of gameplay positively impacts purchase intention in fashion collaborations within sandbox games." was supported ($\beta = 0.232, t = 3.219, p < 0.001$). Sub-hypotheses regarding the sub-factors SE and EE also showed positive impacts, supporting hypotheses 4-2 and 4-3 ($\beta_{SE} = 0.108, p < 0.05$; $\beta_{EE} = 0.168, p < 0.01$). However, PE did not significantly impact purchase intention, leading to the rejection of hypothesis 4-1 ($\beta_{PE} = 0.095, p > 0.05$).

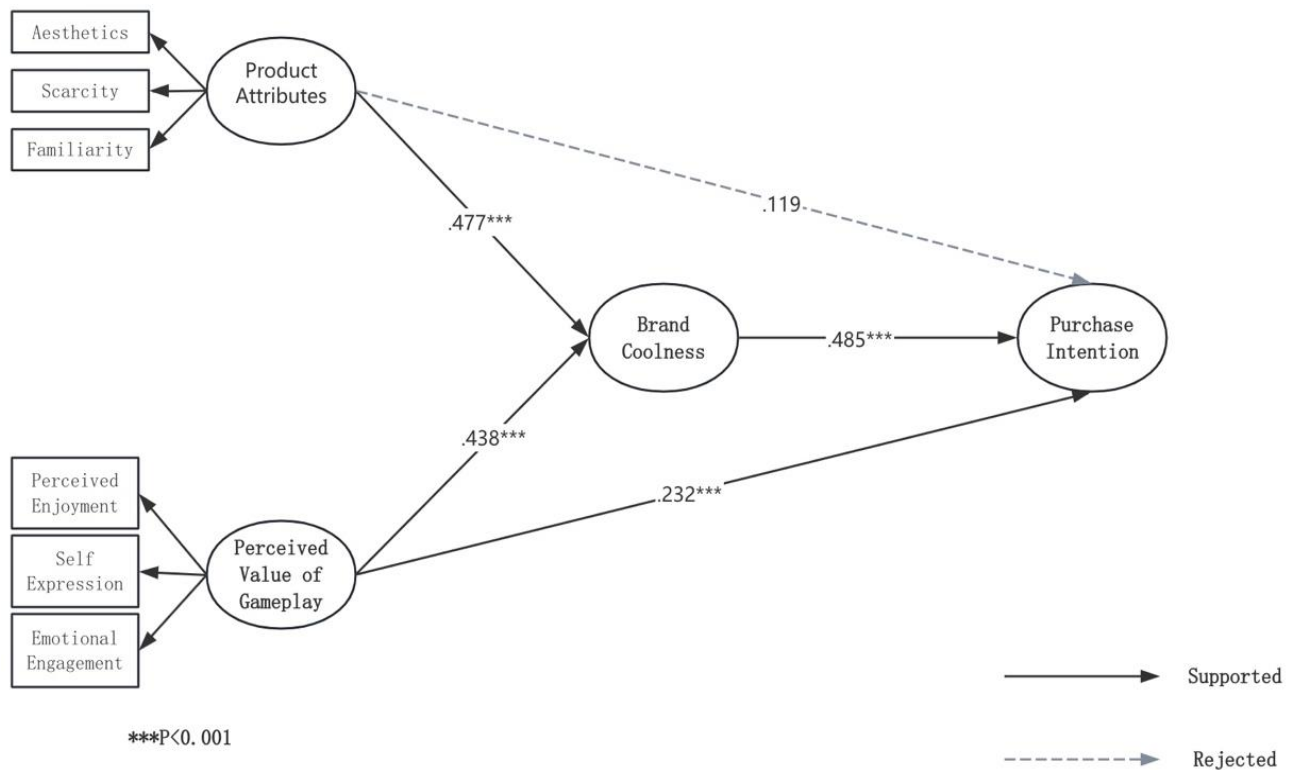


Figure 1. Structural Equation Model for the entire sample

Table 2. Summary of direct relationship tests

H	PATH	Path Coefficient(β)	SE	t	LLCI-ULCI (95% CI)	Result
H1	PA \rightarrow BC	0.477	0.075	6.379***	.330/.625	Supported
H1-1	AE \rightarrow BC	0.248	0.058	4.284***	.134/.362	Supported
H1-2	SC \rightarrow BC	0.218	0.056	3.868***	.107/.329	Supported
H1-3	FA \rightarrow BC	0.256	0.053	4.800***	.151/.361	Supported
H2	PA \rightarrow PI	0.119	0.077	1.549	-.032/.270	Rejected
H2-1	AE \rightarrow PI	0.114	0.055	2.069*	.006/.223	Supported
H2-2	SC \rightarrow PI	0.022	0.053	0.407	-.083/.127	Rejected
H2-3	FA \rightarrow PI	0.022	0.052	0.414	-.082/.125	Rejected
H3	PV \rightarrow BC	0.438	0.072	6.106***	.297/.579	Supported
H3-1	PE \rightarrow BC	0.208	0.055	3.748***	.099/.317	Supported
H3-2	SE \rightarrow BC	0.267	0.055	4.840***	.158/.376	Supported
H3-3	EE \rightarrow BC	0.272	0.057	4.783***	.160/.384	Supported
H4	PV \rightarrow PI	0.232	0.072	3.219***	.090/.374	Supported
H4-1	PE \rightarrow PI	0.095	0.053	1.794	-.009/.199	Rejected
H4-2	SE \rightarrow PI	0.108	0.053	2.028*	.003/.214	Supported
H4-3	EE \rightarrow PI	0.163	0.055	2.994**	.056/.271	Supported

Note: PI, Purchase Intention BC, Brand Coolness; SAI, Self-avatar Identification; EE, Emotional Engagement; SE, Self-Expression; PE, Perceived Enjoyment; PV, Perceived Value; FA, Familiarity; SC, Scarcity AE: Aesthetics; PA, Product Attributes

5.2. Mediation analysis

This study used the PROCESS Macro with 5,000 bootstrap samples and a 95% confidence interval to analyze mediation effects. The results in Table 3 indicate that PA and its sub-variables (AE, SC, FA) indirectly influence PI through BC. Similarly, PV and its sub-variables (PE, SE, EE) also show indirect effects on PI through BC.

The findings, supported by significant standardized coefficients (β) such as PA ($\beta = 0.177$), AE ($\beta = 0.093$), SC ($\beta = 0.089$), FA ($\beta = 0.102$), PV ($\beta = 0.143$), PE ($\beta = 0.077$), SE ($\beta = 0.100$), and EE ($\beta = 0.097$), confirm our hypothesis that H5, H5-1, H5-2, H5-3 and H6, H6-1, H6-2, H6-3.

Table 3. Summary of mediation relationship tests

H	PATH	Path Coefficient(β)	BootSE	BootLLCI-BootULCI	Result
H5	PA \rightarrow BC \rightarrow PI	0.177	0.036	.110/.249	Supported
H5-1	AE \rightarrow BC \rightarrow PI	0.093	0.025	.048/.147	Supported
H5-2	SC \rightarrow BC \rightarrow PI	0.089	0.025	.044/.139	Supported
H5-3	FA \rightarrow BC \rightarrow PI	0.102	0.027	.054/.159	Supported
H6	PV \rightarrow BC \rightarrow PI	0.143	0.033	.083/.211	Supported
H6-1	PE \rightarrow BC \rightarrow PI	0.077	0.024	.035/.130	Supported
H6-2	SE \rightarrow BC \rightarrow PI	0.100	0.024	.057/.151	Supported
H6-3	EE \rightarrow BC \rightarrow PI	0.097	0.025	.052/.150	Supported

5.3. Moderation analysis

Based on the analysis using SPSS Model 8, The research examined the moderating effects of SAI on both direct and indirect paths. The results shown in Table 4 show that SAI significantly moderates the direct effects of PA on PI (H8), and PV on PI (H10), as well as the results in Table 4 indicate that SAI significantly moderates the indirect effects of PA on PI through BC (H7) and PV on PI through BC (H9). Specifically, the supported hypotheses include H8, H10, H10-1, H10-3 for direct effects, and H7, H7-3, H9, H9-1 for indirect effects. The rejected hypotheses include H8-1, H8-2, H8-3, H10-2 for direct effects, and H7-1, H7-2, H9-2, H9-3 for indirect effects.

Table 4. Summary of Moderating Effect on Direct Paths

H	PATH	Path			LLCI-ULCI		Result
		Coefficient(β)	SE	t	(95% CI)		
H8	PA*SAI → PI	0.197	0.079	2.481*	.041/.353		Supported
H8-1	AE*SAI → PI	0.080	0.049	1.633	-.016/.177		Rejected
H8-2	SC*SAI → PI	0.045	0.048	0.929	-.050/.139		Rejected
H8-3	FA*SAI → PI	0.057	0.046	1.256	-.032/.147		Rejected
H10	PV*SAI → PI	0.260	0.071	3.667***	.121/.400		Supported
H10-1	PE*SAI → PI	0.142	0.046	3.100**	.052/.232		Supported
H10-2	SE*SAI → PI	0.069	0.046	1.493	-.022/.160		Rejected
H10-3	EE*SAI → PI	0.112	0.048	2.347*	.018/.207		Supported

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

Table 5. Summary of Moderating Effect on Indirect Paths

H	PATH	Index	BootSE	BootLLCI-BootULCI		Result
H7	PA*SAI → BC → PI	0.066	0.034	.006/.141		Supported
H7-1	AE*SAI → BC → PI	0.028	0.021	-.011/.072		Rejected
H7-2	SC*SAI → BC → PI	-0.014	0.021	-.056/.029		Rejected
H7-3	FA*SAI → BC → PI	0.040	0.021	.003/.084		Supported
H9	PV*SAI → BC → PI	0.073	0.030	.021/.140		Supported
H9-1	PE*SAI → BC → PI	0.060	0.021	.024/.105		Supported
H9-2	SE*SAI → BC → PI	0.017	0.019	-.017/.060		Rejected
H9-3	EE*SAI → BC → PI	0.035	0.020	-.010/.067		Rejected

6. CONCLUSION AND DISCUSSION

This study investigated how collaboration products between fashion brands and sandbox games are perceived by MZ generation consumers in terms of product attributes and gameplay value, and how these perceptions influence brand coolness and consumer behavior intentions. The findings are summarized as follows:

First, analysis using SPSS Process Macro revealed that attributes of fashion collaboration products, such as aesthetics, scarcity, and familiarity, positively influence brand coolness. However, only aesthetics had a direct positive impact on purchase intention. Second, the perceived value of gameplay, encompassing emotional engagement, self-expression, and perceived enjoyment, positively influenced brand coolness. Emotional engagement and self-expression also positively affected purchase intention, whereas perceived enjoyment did not. Third, self-avatar identification moderated the relationship between product attributes and purchase intention, and also between perceived gameplay value and purchase intention. It further influenced the mediating effect of brand coolness on these relationships. The results indicate that collaborations between fashion brands and sandbox game platforms enhance brand coolness and purchase intentions among consumers. Self-avatar identification amplifies the impact of product attributes and gameplay value on brand coolness and purchase intention. Fashion brand managers should consider partnerships with familiar games, design aesthetically pleasing items, and employ limited edition strategies. Additionally, prioritizing games with customization features allows players to personalize their in-game avatars and equipment, further enhancing brand perception.

While this study offers a multifaceted analysis of the impact of fashion brand collaboration products within sandbox games on consumers and provides practical implications, several limitations exist. The study was confined to a specific age group and game users, limiting the generalizability of the results. Future research should include a broader age range and diverse game users. Furthermore, this study integrated brand coolness as a single dimension. The study used only two cases, Gucci x Sims 4 and Moschino x Sims 4, which may not fully represent all brand and sandbox game collaborations. Thus, applying these findings to other brand and game collaborations may be challenging. Lastly, it is essential to analyze the impact of cultural differences on the results through studies involving consumers from diverse cultural backgrounds.

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