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Attention, imagery, and emotions: Understanding tourists' immersive experiences in tourism performing arts through transportation theory

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ABSTRACT

This research examines the attention, imagery, and emotions to understand tourist's immersive experiences in tourism performing arts through transportation theory. Immersive tourism performances have experienced tremendous growth in Mainland China and become a key attraction in many tourist destinations. Despite the prevalence of tourism performing arts (TPA), research on immersive experiences within this context is scarce. Existing literature on TPA experiences has either considered other experiential concepts or focused solely on a single facet of immersive experiences. This research seeks to theoretically and empirically investigate the elements and processes of tourists' immersive experiences in TPA, grounded in transportation theory. This study develops a comprehensive model encompassing focused immersion, transportation, and emotional engagement, as well as their antecedents and consequences. Partially least squares structural equation modeling (PLS-SEM) was used to look at data from 329 participants and judge this model. The results reveal that immersive experience is a structured, gradual process progressing from cognitive to imagery and finally to the emotional stage: focused immersion first leads to transportation, which in turn results in emotional engagement. Additionally, the findings indicate that individuals' immersive tendencies positively and significantly influence their immersive experiences, which subsequently acts as a powerful predictor of satisfaction. Based on these results, industry practitioners are advised to design products that are attention-seeking, imaginative, and emotionally engaging.

Contribution/Originality: This study explores how transportation captures individuals' psychological perceptions and emotional responses to narrative elements in tourism performing arts, thereby providing a more nuanced understanding of the complex dynamics of immersive experiences. Additionally, this research quantifies the impact of personality traits on immersive experiences in tourism performances.

1. INTRODUCTION

Tourism performing arts (TPA) integrate artistic performances and entertainment by utilizing various forms of cultural expression, primarily targeted at tourist audiences (Zhang, Li, & Zhou, 2019). In China, TPAs have become important attractions at many tourist destinations (Wu, Zhang, & Shi, 2024; Zhang et al., 2019). In the past few years, immersive tourism performances have gained considerable popularity in the market as a result of the integration of advanced technology. According to statistical data, in 2023, the number of domestic TPA products reached 150,700, reflecting a 73% increase compared to 2019. Box office revenue surged to 16.64 billion yuan, marking a 125% increase over the same period of 2019, while audience attendance reached 80.55 million person-

times, a 54% increase since 2019 (China Duty Free Group Research Institute, 2024). Among these, immersive tourism performances have remained a popular form of performance since 2018. Utilizing technological effects such as sound, light, and electricity, along with elaborate stage settings and actor performances, immersive TPA products create captivating experiences that transport tourists into specific themed scenes and cultural atmospheres.

Immersive performances often feature multiple themed environments tailored to narrative arcs, allowing visitors to engage as "participants." Tourists could move through different scenes in accordance with plot development, interact with performers, and enter a narrative world, thereby facilitating an immersive dramatic experience. Meanwhile, the immersive experience has emerged as a significant topic for theory-driven empirical tourism research, which has been discussed in various contexts, including museums (Komarac & Ozretić Došen, 2022; Lunardo & Ponsignon, 2020) zoos (Lunardo & Ponsignon, 2020; Moss, Francis, & Esson, 2008) virtual environments (Wu, Shen, & Van Den Hengel, 2019; Zhang & Wang, 2023) and participatory events (Armbrecht, 2020; Chen et al., 2024). The subjective immersive experiences of tourists play a crucial role in shaping their attitudes and behaviors (Li, Shang, & Su, 2023; Rodríguez-Ardura & Meseguer-Artola, 2019). However, the literature has not shown significant interest in tourists' immersive experiences in TPA.

Immersive experience is a dynamic concept that changes depending on different contexts (Agarwal & Karahanna, 2000; Arsenault, 2005). For example, immersive experiences in audiovisual experiences emphasize the shift in individuals' attentional states (Agarwal & Karahanna, 2000) whereas total immersion in games is a sense of presence (Brown & Cairns, 2004). Tourism performances are culturally specialized tourism products, which often highlight historical culture and folk customs of the destination, helping tourists to appreciate and understand the local culture through storytelling (Zhang, Liu, Li, & Tan, 2021). Immersive experiences within TPA are best understood through the concept of transportation, which represents individuals' psychological perceptions and emotional responses to narrative elements (Wu et al., 2024). Transportation, akin to actual journeys, immerses individuals in a story, allowing them to detach from ordinary reality and enter an alternate story world (Irimiás, Mitev, & Michalkó, 2021). However, the extant studies have overlooked the psychological experiences of transportation.

The existing literature on immersive experiences is somewhat limited, as most prior studies have merely examined a specific aspect of the experiences, such as focused immersion (Lunardo & Ponsignon, 2020), the sense of presence (Israel, Zerres, & Tscheulin, 2019; Verhulst, Woods, Whittaker, Bennett, & Dalton, 2021; Wu & Lai, 2021), engagement (Flavián, Ibáñez-Sánchez, & Orús, 2019; Verhulst et al., 2021; Wu & Lai, 2021) or episodes of flow (Shi, Huang, & Zhang, 2021; Zhang et al., 2021). The research that has already been done on the above tourism settings is a good starting point for TPA's immersive experiences. However, there is still a lot to learn about how these internal experiential constructs are connected, how they work, and how they affect tourists' feelings about TPA.

Furthermore, previous literature has qualitatively revealed that individuals' immersive experiences are linked to their ability to immerse themselves (Agrawal, Simon, Bech, Bærentsen, & Forchhammer, 2019; Blumenthal & Jensen, 2019; Dieck, Dieck, & Jung, 2021). For example, immersive tendency refers to an individual's inclination to become engaged in immersive experiences (Agrawal et al., 2019). It is assumed that an individual with higher immersive tendency can achieve immersion more easily than others; this effect has yet to be quantitatively validated with empirical study (Agrawal et al., 2019).

Therefore, this research seeks to enhance the current limited understanding of tourists' immersive experiences within the context of TPA. We investigate three different immersive phenomena in individual TPA experiences: focused immersion, transportation, and emotional engagement. Additionally, we build and test how the relationships between these three immersive experience components, with immersive tendency as an antecedent, and further investigate their impact on tourists' satisfaction. This study of immersive experiences in TPA aims to

provide insights that enhance understanding of tourists' immersion both theoretically and practically. A review of previous literature on transportation theory and immersive experiences in TPA, as well as the hypothesis development and research model, is provided in Sec. 2. Sec. 3 outlines research methods, including research instruments, the sampling and data collection, as well as data analysis. Sec. 4 presents the results related to the sample profile, measurement model, and structural model. Finally, the implications of the research are discussed in Sec. 5, followed by a summary of this study in Sec. 6.

2. LITERATURE REVIEW

2.1. Immersive Experiences in TPA

With the expansion of the experience economy and the rise of engaging technologies, contemporary TPA products have become, to some extent, more "immersive" through the application of new techniques. Immersive experiences originate from the notion of immersion (Sobitan & Vlachos, 2020) which can be understood from two paradigms: as a person's mental state and as an objective feature of technologies or systems (Agrawal et al., 2019; Zhang et al., 2019). Several studies on immersive experiences propose that an audience's experience becomes more immersive as they are exposed to a greater amount of sensory information (Gander, 1999). For instance, previous research has categorized the immersion of experience into three levels: fully immersive, semi-immersive, and non-immersive (Baker, Nam, & Dutt, 2023; Mou, Fan, Ding, & Khan, 2024; Robaina-Calderín, Martín-Santana, & Muñoz-Leiva, 2023). The level of immersiveness denotes the extent to which an experience separates consumers from the real and physical world (Baker et al., 2023). However, this paper aligns with the perspective that immersion is primarily a mental state because immersive experience is the feeling of immersion, not a technological characteristic.

Immersive performances represent a new trend that challenges traditional theater formats by engaging audiences in unconventional ways and providing highly interactive experiences (Punpeng & Yodnane, 2023). Specifically, during immersive shows, spectators are able to move freely around the scenes, actively choose how the story unfolds, and even interact deeply with the performers (Punpeng & Yodnane, 2023; Wu et al., 2024). These performances often utilize narrative elements to create a sense of being in another reality (Shi et al., 2021; Wu et al., 2024). Immersion, a key factor in determining the success of both the story and the audience's experience, is closely linked to storytelling (Fu, Baker, Zhang, & Zhang, 2023). Within the context of storytelling, immersion denotes a mental state where individuals become so engrossed that they exclude external distractions and fully focus on experiencing another world (Gander, 1999). Green (2008) and Irimiás et al. (2021) conceptualize this distinctive characteristic of immersive experiences in TPA as transportation.

Although immersion or immersive experiences have been examined in various contexts, the extant measurement of immersion primarily employs univariate and unidimensional scales from 2 items to 7 items (Hudson, Matson-Barkat, Pallamin, & Jegou, 2019; Lunardo & Ponsignon, 2020; Lv, Zhang, Su, & Yang, 2022) which might not fully encompass the complexity of the immersive experiences. The scale of immersion employed by Lunardo and Ponsignon (2020) is frequently cited. However, their measurement scale for immersion is actually focused immersion—a dimension of cognitive absorption described by Agarwal and Karahanna (2000) which merely described the shift of attention and the involvement in the task environment. Similarly, the 4-item immersion of individual adopted by Robaina-Calderín et al. (2023) originated from the construct of presence by De Gauquier, Brengman, Willems, and Van Kerrebroeck (2019) and emotional involvement by Kim, Lee, and Jung (2020). The use of these univariate and unidimensional scales to quantify the immersive experiences in TPA is biased because merely a specific aspect of the experience was measured by these scales.

2.2. Transportation Theory

The concept of transportation into a narrative world, as described by Green (2008) refers to the immersive experience where individuals become fully engrossed in a story while leaving aside the real world. Individuals commonly pursue this phenomenon through activities like reading books and watching movies (Gerrig, 1993). Although transportation has traditionally been viewed as a metaphor for narrative experiences, psychologists have re-conceptualized it as a unique mental process that integrates attention, imagery, and emotions (Gerrig, 1993; Green, 2008; Green & Brock, 2000). This immersive experience serves as a fundamental mechanism that underpins the impact of stories or narratives on individuals' attitudes and beliefs (Green, 2008) and is often employed to explain media enjoyment and the persuasive power of narratives (Green, Brock, & Kaufman, 2004).

Previous literature has applied transportation theory in several contexts, including TV series consumption (Irimiás et al., 2021) and immersive performing arts (Wu et al., 2024). This theory effectively captures the tourists' mental states of immersion in the context of TPA (Wu et al., 2024). Transportation is characterized by the deep engagement in a story and encompasses attentional focus, mental imagery, and emotional involvement (Green & Brock, 2000). The process of immersive experiences, which may be divided into cognitive, imagery, and affective involvement, can thus be better understood using the theoretical framework that transportation theory offers. Therefore, this paper adopts transportation theory to measure immersive experiences in TPA and uses three variables—focused immersion, transportation, and emotional engagement—to respectively represent the three aspects of cognitive, imagery, and affective involvement.

2.3. Hypothesis Development and Research Model

2.3.1. Relationships between Focused Immersion, Transportation, and Emotional Engagement

Focused immersion is considered the cognitive phase of immersive experiences, where participants concentrate their attention on the activity in which they are engaged (Xie & Li, 2023). This state reflects the visitors' focused attention (Lv et al., 2022) indicating that all of the attentional resources of an individual are directed toward a particular task (Agarwal & Karahanna, 2000). Thon (2008) posits that the shift of attention and the creation of mental images in the brain are central to understanding immersive experiences. Thus, focused immersion can be seen as the initial attentional stage in the immersive experiences of tourists (Lv et al., 2022).

Although attention is an important factor, immersive experiences in TPA are caused by more than attention alone (Jennett et al., 2008). Transportation, on the other hand, represents the imagery phase of immersive experiences. It is a common occurrence for individuals who feel they are "going into" a performance, referring to the ability to immerse oneself in a different reality for a few hours or more (Green et al., 2004). Individuals who are transported to a narrative world not only detach from the real world but also set aside their anxieties and public self-awareness (Green et al., 2004). There is a claim that individuals who are transported are fully concentrating on the story, frequently losing track of time or failing to notice what is happening around them due to their focused involvement in the story world (Green et al., 2004). Mainemelis (2001) also posits that an individual who is not self-conscious is because his or her attention is completely absorbed by the task. Based on this, we propose the following hypothesis:

H₁ₐ Focused immersion has a positive relationship with transportation.

Emotional engagement represents the affective phase of immersive experiences. Although the term "engagement" is widely used across multiple fields, the immersive literature lacks a generally accepted definition for this concept (Verhulst et al., 2021). Brown and Cairns (2004) proposed engagement as the initial stage of immersion, which is subsequently followed by engrossment and total immersion. Xiaohong Wu and Lai (2021) argued that engagement transcends mere involvement, as it encompasses an interactive relationship with particular objects and requires individuals to perceive experiential value. The definition proposed by O'Brien, Cairns, and Hall (2018) is adopted in this paper, which refers to the quality of a user's experience based on their cognitive, temporal,

emotional, and behavioral investment while interacting with an environment. This comprehensive definition covers multiple relevant psychological aspects, providing a more holistic understanding of emotional engagement.

One potential pathway is that focused immersion may influence emotional engagement. Drawing from the literature on game immersion (Brown & Cairns, 2004; Ermi & Mäyrä, 2011) when the game becomes central to the players' attention and their emotions are closely tied to the gameplay, players reach this emotional stage and become emotionally engaged. This study suggests that focused immersion could potentially enhance emotional engagement by intensifying the emotional connection between the individual and the immersive content.

Another possible mechanism is that transportation may lead to emotional engagement. Transportation offers the opportunity for identity play, allowing visitors to explore and experience alternative possible selves during TPA. Visitors can vicariously experience another kind of life through the lives of the characters who inhabit the worlds to which they are transported, thereby triggering their emotional responses and enabling them to empathize with the characters. When an audience member resonates with the presented scenario and feels emotionally involved in the narrative, the emotional connection is at its strongest (Agrawal et al., 2019). This process of transportation and identity play may facilitate emotional engagement by providing a deeper level of connection and involvement with the narratives.

Therefore, we propose that:

H_{1b}: *Focused immersion has a positive relationship with emotional engagement.*

H_{1c}: *Transportation has a positive relationship with emotional engagement.*

2.3.2. Relationships between Immersive Tendency and Immersive Experiences

The propensity of an individual to achieve immersion is referred to as their immersive tendency. This tendency can be assessed using questionnaires, which help determine whether certain individuals can become immersed more easily than others (Agrawal et al., 2019). Individual traits, abilities, and differences can either improve or diminish the immersive experiences (Weibel, Wissmath, & Mast, 2010; Witmer & Singer, 1998). Diverse people often experience varying levels of immersion in the same environment, and many of these differences can be attributed to individual traits (Zhang et al., 2019).

One trait that stays mostly the same about participants is their immersive tendency, which shows how well they can fit into the intermediary environment (Agrawal et al., 2019; Hou, Nam, Peng, & Lee, 2012; Zhang et al., 2019). Under the same circumstances, individuals with a higher immersive tendency tend to achieve deeper immersion (Zhang et al., 2019). While the relationship between immersive tendencies and immersion has been qualitatively explored in previous studies, few studies have made attempts to test empirically (Hou et al., 2012; Weibel et al., 2010). Therefore, we hypothesize that immersive tendency is a determinant of individuals' immersive experiences:

H_2: *Immersive tendency has a positive relationship with focused immersion.*

2.3.3. Relationships between Immersive Experiences and Satisfaction

The literature has long established that immersion positively contributes to valuable experiences (Hudson et al., 2019; Tussyadiah, Wang, Jung, & Tom Dieck, 2018). Recent research within a tourism context has demonstrated that immersive experiences can lead to positive consequences such as satisfaction and loyalty, particularly in terms of intentions to recommend and revisit. For instance, Hudson et al. (2019) recognized immersion in VR as a significant predictor of visitor satisfaction and loyalty. Similarly, Komarac and Ozretić Došen (2022) found that both dimensions of immersive experiences (including aesthetic and escapist experience) contribute to overall museum satisfaction. Lunardo and Ponsignon (2020) also reported that tourists generally report higher satisfaction when they are fully immersed in their travel experiences.

Moreover, Fu et al. (2023) carried out a qualitative study that identified four categories of immersion, concluding that immersion can foster positive outcomes, including satisfaction within theme parks. Li et al. (2023) further revealed that immersion enhances visitors' satisfaction through perceived happiness and attractiveness. Drawing on the literature presented above, we propose the following hypothesis:

H_3: *Emotional engagement is positively related to satisfaction with the performance.*

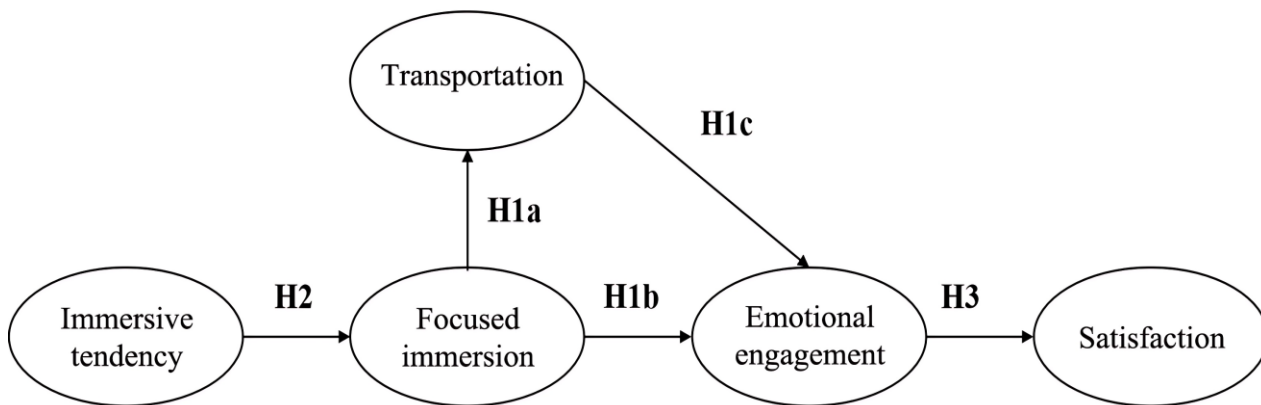Based on the hypotheses, Figure 1 presents the proposed model.

Figure 1. Proposed model.

3. METHODS

3.1. Research Instruments

The questionnaire was composed of five sections (see Appendix A). The first part included questions about the experience of attending immersive performances, which served to screen qualified respondents. The second part comprised the Immersion Tendency Questionnaire (ITQ). The ITQ, proposed by Witmer and Singer (1998) included 18 items divided into three sub-scales: focus (7 items), involvement (7 items), and games (2 items). The remaining two items were not categorized into the subscales. A few researchers have made various modifications to the ITQ after its emergence. According to Weibel et al. (2010) the sub-dimensions of the ITQ put forward by Witmer and Singer were based entirely on theoretical considerations, lacking empirical validation through statistical methods. Weibel et al. (2010) used a factor analysis to look at scale and found that there wasn't enough evidence to support the theoretical or prior classification. They further proposed a two-factor solution which accounted for 25.43% of the variance: the first factor measured emotional involvement with five items, while the second factor, which was absorption, comprised four items (refer to Table 2). The ITQ employed a seven-point rating scale based on the semantic differential principle. Section 2 measured the immersive experiences in TPA, including focused immersion (3 items), transportation (5 items), and emotional engagement (3 items). Section 4 consisted of four items to measure tourists' satisfaction towards tourism performances. All the above mentioned items have a 7-point Likert scale, where 7 indicates strong agreement and 1 indicates strong disagreement. The last section asked participants about their socio-demographic characteristics.

All the questions were conducted in Chinese. The back-translation process was employed for translating the items, as they are originally written in English. The items were initially translated from English to Chinese, and subsequently, an independent translator who was not aware of our study's objectives translated the Chinese version back into English. The two versions were then compared to ensure that the translation process accurately preserved the original meanings of the items.

3.2. Sampling and Data Collection

The questionnaires were gathered through a third-party survey company named Credamo, which is a popular and reliable Chinese online survey platform that has provided scientific data for several previous studies in the tourism and hospitality fields (Shang & Li, 2024; Wang et al., 2024; Yang, Zhao, & Ma, 2024). The questionnaire link was sent by Credamo to potential participants who meet the requirements. They used big data analytics technologies to do a purposeful investigation of registered members' personal information (Shang & Li, 2024). This platform assisted in recruiting participants with diverse TPA experiences from different geographical locations and backgrounds within China. First, we incorporated two screening questions to ensure that participants had previous TPA experiences (e.g., Sleep No More, Zhiyinhao, Unique Henan – Drama City) within the past twelve months. Only when potential respondents could accurately write down the name of the performance they had attended recently were their self-administered questionnaires adopted. To further enhance the reliability and validity of the responses, an attention check question was inserted into the online survey. The sample size is the proportion of participants per item required for conducting a factor analysis.

3.3. Data Analysis

PLS-SEM was utilized to assess the proposed model and hypotheses, which emphasizes prediction while easing the requirements for data and relationship assumptions compared to Covariance-Based Structural Equation Modelling (CB-SEM) (Hair, Sarstedt, Ringle, & Mena, 2012). Applying PLS-SEM aligns more consistently with the objectives of this exploratory research, which examines the facilitators and consequences of immersive experiences in the context of TPA, rather than testing a well-established complex theoretical model. Also, PLS-SEM needs fewer parameters for sample size and residual distributions to assess a model using bootstrapping (Boğan, Saraç, Kiper, & Batman, 2023; Hair et al., 2012). The exploratory nature of this study and the relatively modest sample size of 329 encourage the use of PLS-SEM. Data analysis was conducted using SPSS 26.0, and the structural equations were estimated with SmartPLS 4.0 statistical software.

3.4. Common Method Biases Testing

Many people gave self-reported information, so there is a chance of common method bias (CMB), which means that the relationships between the things in the research model may be stronger than they really are. To address this, our research employs the procedure of Podsakoff, MacKenzie, Lee, and Podsakoff (2003) to test for CMB. Firstly, we ensured survey anonymity by removing all identifiers to reduce evaluation apprehension (Acikgoz & Tasci, 2022). Secondly, Harman's single-factor test was applied to assess CMB. The results indicated that the total variance extracted was 27.31%, which is substantially lower than the commonly accepted threshold of 50%. This indicates that CMB did not pose a significant issue for the current study.

4. RESULTS

4.1. Sample Profile

The data analysis included 329 valid responses in total. After the data screening process, we excluded 41 questionnaires. The sample profile is shown in Table 1. 59.3% of the respondents were female and 40.7% were male. In terms of age distribution, 45.9% were in the 26-35 age group, 31.3% were between 18-25 years old, 17.0% were aged 36-45, 5.2% were in the 46-55 range, and 0.6% were over 55 years old. In terms of education level, 72.0% of the respondents possessed a bachelor's degree. In terms of occupation, 62.0% were enterprise employees, and 17.0% were students. The largest proportion of the respondents reported earning between 5,001 and 10,000RMB (41.0%) or between 10,001 and 15,000RMB (21.6%) per month. Particularly, most of respondents experienced TPA more than once (88.1%). 40.1% of respondents had watched a tourism performance within three months, and 26.1% were within one month.

Table 1. Demographic profile of respondents.

Characteristics		Frequency	Percentage (%)
Gender	Female	195	59.3
	Male	134	40.7
Age	18-25	103	31.3
	26-35	151	45.9
	36-45	56	17.0
	46-55	17	5.2
	>55	2	0.6
Education	Junior high school and below	2	0.6
	High school or technical secondary school	8	2.4
	Junior college	30	9.1
	Undergraduate	237	72.0
	Postgraduate and above	52	15.8
Occupation	Students	56	17.0
	Government/Public sector staff	29	8.8
	Enterprise/Company employees	204	62.0
	Self-employment worker	19	5.8
	Freelancer	19	5.8
	Retiree	1	0.3
	Others	1	0.3
Personal monthly income	≤5,000RMB	75	22.8
	5,001-10,000RMB	135	41.0
	10,001-15,000RMB	71	21.6
	15,001-20,000RMB	32	9.7
	20,001-25,000RMB	13	4.0
	>25,000RMB	3	0.9
Frequency (How many times have ever watched TPAs)	Once	39	11.9
	Twice	134	40.7
	Three times	73	22.2
	Four times and above	83	25.2
Your last time watched a TPA	Within one month	86	26.1
	Within three months	132	40.1
	Within six months	81	24.6
	Within one year	30	9.1

4.2. Measurement Model

The latent variables in our model were all reflective measurements; examining the indicator loadings to determine item reliability was thus the first step in assessing the reflective measurement model (Hair, Risher, Sarstedt, & Ringle, 2019). Reliability should be a minimum of 0.6 for exploratory research (Hair et al., 2019; Hu et al., 2021). Items IT5, IT6, IT7, IT8, and IT9 were removed because their factor loadings were below 0.6. As indicated in Table 2, all remaining items had factor loadings that exceeded the minimum value of 0.6. In the second step, internal consistency reliability was evaluated using Cronbach's alpha, average variance extracted (AVE), and composite reliability (CR). The Cronbach's alpha values for all constructs were above 0.6. The AVE and CR values exceeded the respective thresholds of 0.5 and 0.7. These results suggest that the measurement model demonstrated strong internal consistency. Discriminant validity was evaluated through two distinct methods. The first method examined Fornell and Larcker's criterion, confirming that the AVE values were greater than the squared correlations of latent variables in all cases (see Table 3). Cross-loading, the second method, showed enough discriminant validity by making sure that the loading of each indicator was higher than its cross-loading (see Table 4).

Table 2. Validity and reliability of the constructs.

Construct and items	Loadings	AVE	CR	Cronbach's alpha
Immersive tendency (IT) [1]				
IT1.	0.786			
IT2.	0.799	0.622	0.868	0.797
IT3.	0.785			
IT4.	0.784			
Focused immersion (FI)				
FI1.	0.796			
FI2.	0.809	0.606	0.822	0.676
FI3.	0.728			
Transportation (TP)				
TP1.	0.718			
TP2.	0.695			
TP3.	0.753	0.526	0.847	0.776
TP4.	0.729			
TP5.	0.729			
Emotional engagement (EE)				
EE1.	0.795			
EE2.	0.788	0.575	0.802	0.639
EE3.	0.687			
Satisfaction (SAT)				
SAT1.	0.756			
SAT2.	0.702	0.519	0.812	0.694
SAT3.	0.667			
SAT4.	0.753			

Note: [1] IT5, IT6, IT7, IT8, and IT9 were deleted due to factor loadings $<$ 0.6.

Table 3. Discriminant validity: Fornell-Larcker criterion.

Construct	Immersive tendency	Focused immersion	Transportation	Emotional engagement	Satisfaction
Immersive tendency	0.788				
Focused immersion	0.352	0.779			
Transportation	0.460	0.550	0.725		
Emotional engagement	0.385	0.382	0.498	0.758	
Satisfaction	0.315	0.596	0.571	0.482	0.721

Table 4. Cross loading.

	Immersive tendency	Focused immersion	Transportation	Emotional engagement	Satisfaction
IT1	0.786	0.290	0.417	0.369	0.267
IT2	0.799	0.261	0.331	0.265	0.211
IT3	0.785	0.307	0.392	0.29	0.294
IT4	0.784	0.244	0.301	0.283	0.209
FI1	0.311	0.796	0.414	0.281	0.427
FI2	0.252	0.809	0.480	0.338	0.532
FI3	0.262	0.728	0.381	0.265	0.421
TP1	0.331	0.498	0.718	0.378	0.586
TP2	0.372	0.348	0.695	0.396	0.372
TP3	0.336	0.399	0.753	0.402	0.301
TP4	0.266	0.399	0.729	0.278	0.441
TP5	0.366	0.312	0.729	0.327	0.328
EE1	0.342	0.359	0.444	0.795	0.438
EE2	0.299	0.277	0.369	0.788	0.341
EE3	0.213	0.200	0.291	0.687	0.286
S1	0.165	0.445	0.434	0.338	0.756
S2	0.263	0.393	0.428	0.331	0.702
S3	0.261	0.381	0.429	0.288	0.667
S4	0.228	0.479	0.367	0.409	0.753

4.3. Structural Model

Prior to hypothesis testing, the overall model fit was assessed using two metrics: the coefficient of determination (R^2) and the standardized root mean square residual (SRMR). R^2 values were calculated to assess the explanatory power of the model and the predictive power of the variables. Specifically, R^2 values of approximately 0.190, 0.333, and 0.67 were considered to indicate weak, moderate, and substantial effects (Urbach & Ahlemann, 2010). The explained variance percentages (R^2) for focused immersion, transportation, emotional engagement, and satisfaction, which are 0.228, 0.567, 0.487, and 0.500, respectively. The overall model fit is acceptable, as indicated by the SRMR value of 0.078, which is less than 0.08.

Bootstrapping with 5000 subsamples was utilized to evaluate the research model. Standardized path coefficients (β), t-test (t-values), and significance (p-values) were used to judge the structural model, as shown in Table 5. Figure 2 displays the estimates obtained from the PLS-SEM analysis. This research confirmed the transportation process of immersive experiences within the context of TPA. Focused immersion has a significant and positive influence on tourists' perceptions of transportation (β=0.753, p<0.001). Transportation also has a significant and positive influence on emotional engagement (β=0.615, p<0.001). However, focused immersion does not significantly impact emotional engagement (β=0.105, p=0.027). Consequently, the related hypotheses H1a and H1c were both supported, while H1b was not supported. The relationship between immersive tendency and focused immersion is also significant and positive (β=0.477, p<0.001), thus supporting H2. Finally, tourists' emotional engagement contributes to satisfaction with the performance (β=0.707, p<0.001), which supported H3.

Table 5. Direct effects in the model.

The hypothesized path	Original sample	Sample mean	Standard deviation	t-values	p-values
FI→TP (H1a)	0.753	0.756	0.056	12.035	0.000***
FI→EE (H1b)	0.105	0.109	0.201	2.184	0.027
TP→EE (H1c)	0.615	0.617	0.189	6.338	0.000***
IT→FI (H2)	0.477	0.483	0.082	5.873	0.000***
EE→SAT (H3)	0.707	0.716	0.073	8.639	0.001***

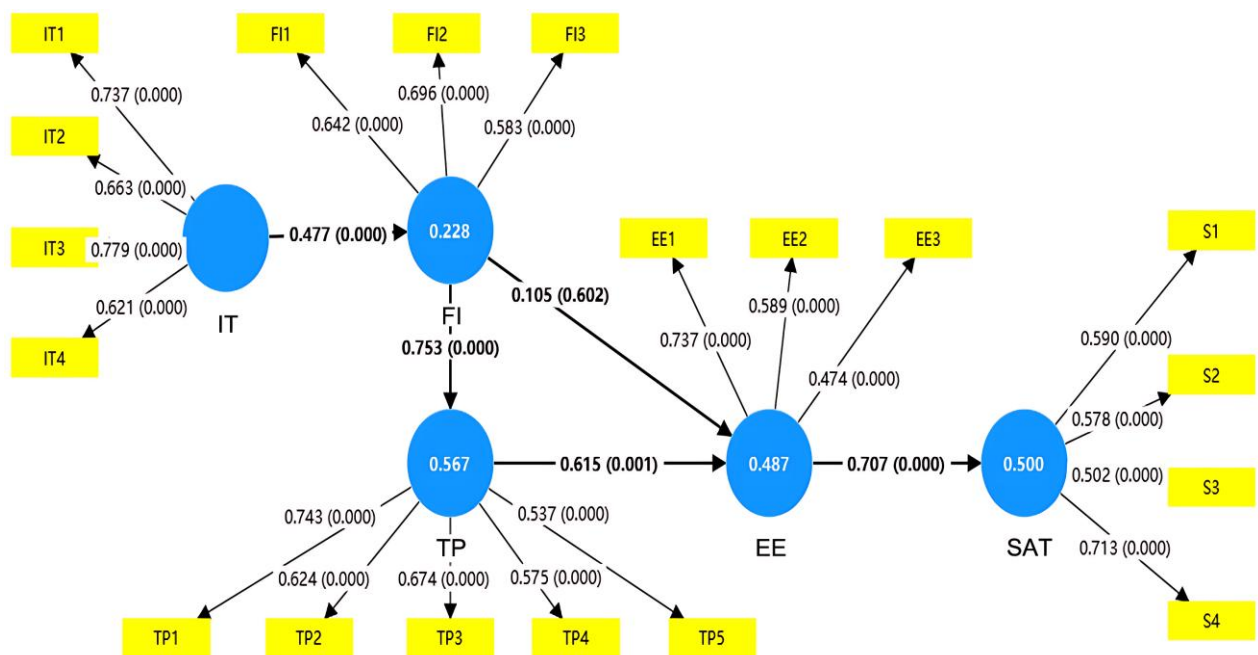**Note:** *** refers to p≤0.001.

Figure 2. The structural model and results.

5. DISCUSSION

5.1. Theoretical Implications

The current study makes several key contributions to the literature on TPA and immersive experiences in tourism. Firstly, literature on TPA experiences has largely considered other experiential concepts such as flow experience (Shi et al., 2021; Zhang et al., 2021) and interactive experience (Wu et al., 2024). This study focuses on tourists' immersive experiences in TPA, an area that hasn't been looked into much in the past, even though immersive tourism performances are becoming more popular.

Second, prior research on tourist immersion has predominantly centered on isolated dimensions of immersive experiences. Existing literature examining non-digital environments has largely focused on immersion in museums and zoos (Lunardo & Ponsignon, 2020) theme parks (Wei, Zheng, Zhang, & Line, 2022) general tourism destinations (Li et al., 2023) and budget travels (Jiang & Tu, 2023) but neglected the imaginative and affective dimensions of immersion. Similarly, studies in virtual tourism contexts (e.g., (Li et al., 2023; Vishwakarma, Mukherjee, & Datta, 2020a, 2020b)) have primarily emphasized immersion at the imagery level as a feeling of "being there," overlooking the role of cognitive and emotional interplay. In contrast, this study adds to the conversation by carefully breaking down the three parts of immersive experiences in TPA: cognitive (focused immersion), narrative (transportation), and affective (emotional engagement). We further demonstrate their dynamic interplay—how cognitive absorption serves as a precursor to narrative transportation, which in turn amplifies emotional resonance. This reductionist view of immersion as a single concept is thrown into question by this framework, which also shows that immersion is context-dependent and multidimensional.

Thirdly, this study reveals that transportation serves as a critical characteristic of immersive experiences in TPA. The research findings, Hypothesis H1a is supported, whereas H1b is not, indicating that transportation constitutes an essential component of immersive experiences. It functions as a necessary transitional stage from focused attention to emotional connection. Specifically, focused attention alone does not directly elicit strong emotional responses from the audience. These results show how immersive experiences in TPA are different from other research that has mostly been done on gaming or virtual environments (Arsenault, 2005; Brown & Cairns, 2004; Ermi & Mäyrä, 2011). For instance, Brown and Cairns (2004) presented a three-stage model of game immersion: engagement, engrossment, and total immersion, which are respectively characterized by concentration, emotional investment, and presence. The observed discrepancy primarily stems from contextual differences. Unlike gamers interacting through screens or wearable devices, TPA immerses audiences through embodied experience, integrating multi-sensory effects, narrative engagement, and actor-audience interactions. This empirical study also gives strong support to the idea that immersion is a fluid concept that can mean different things depending on the situation (Agrawal et al., 2019; Arsenault, 2005).

Fourth, while prior studies have acknowledged the potential influence of tourists' personal characteristics on immersive experiences (Agrawal et al., 2019; Jiang & Tu, 2023; Li et al., 2023) this study advances the findings by offering the first empirical evidence identifying immersive tendency as a critical driver of focused immersion in TPA. Furthermore, we extend prior work by uncovering the downstream consequences of immersive experiences, demonstrating their significant predictive power for customer satisfaction—a finding that aligns with Hudson et al. (2019); Lunardo and Ponsignon (2020) and Manchanda and Deb (2022).

5.2. Practical Implications

The prevalence of TPA products and consumption encourages practitioners to attempt to comprehend the immersive experiences and mental processes of tourists. Our study offers a comprehensive understanding of this complex phenomenon, which aligns with the practical implications. First, our findings reveal that immersive experiences significantly influence tourists' evaluations of their satisfaction with the performance. This underscores

the need for industry practitioners to prioritize the creation of immersive experiences that can captivate tourists from the outset.

Second, the results from this research can support practitioners in grasping the nuances of tourists' immersive experiences in TPA experiences. Immersive experiences are composed of a multitude of experiential elements and represent a progressive process that spans from cognitive and imagery to emotional engagement. This realization can inform the design and development of performance products. Specifically, an immersive show should be designed to initially capture the audience's attention from the outset. The scenarios, storyline, and character development within the performance must be imaginative and engaging enough to sustain interest. And the narrative and thematic elements of the performance should be crafted to evoke emotional responses at key moments.

5.3. Limitations and Further Research

The research has certain limitations, which also present opportunities for further investigation. First, an operational construct of the tourists' immersive experiences in TPA as a whole has not been defined. Alternatively, a more conservative approach was adopted to investigate the validity and interactions of the three immersive experiences—focused immersion, transportation, and emotional engagement—that had already been discovered in pertinent immersion literature within other contexts. In order to achieve the goal of establishing a validated construct of the immersive TPA experiences, we therefore take our model as a first step. Further investigations are also encouraged to involve different theories to frame TPA's immersive experiences from diverse perspectives.

Second, the findings' predictive generalization is limited by the relatively small sample size as well as the focus on participants from Chinese culture. To test the model's cross-cultural validity, bigger and more varied participant groups should be used in future studies. This would help prove that it works for a wide range of tourist groups.

A further limitation is that the research exclusively examined the direct effects among experiential constructs; however, future investigations could further explore the external facilitators of immersive experiences in TPA and incorporate the moderating effects of personality traits between simulations and inner experiences. Also, this study only investigated satisfaction as the consequence of immersive experiences; future studies could consider other pertinent outcome variables such as word-of-mouth intentions and revisit intentions that may be impacted by tourists' immersive experiences in order to uncover the underlying mechanism on the antecedents and consequences of TPA experiences.

6. CONCLUSIONS

This research investigates the mental process of immersive experiences in TPA using the transportation theory as a basis. This investigation is among the initial endeavors to delve into tourists' immersive experiences in TPA contexts at an individual level. The findings are particularly significant as they provide a detailed examination of the individual's inner experiences of focused immersion, transportation, and emotional engagement, as well as how these experiences interact with one another. The empirical test confirms the model's prediction that these three immersive experiences increase customer satisfaction with TPA products. The study also shows that having an immersive tendency as a personality trait makes immersive experiences more likely to happen at the cognitive stage. More research will be required in the future to develop and validate a high-order integrative construct that psychologically captures the essential elements of immersive experiences in TPA context.

REFERENCES

Acikgoz, F., & Tasci, A. D. (2022). Brand cocreation and immersion: The link between sense of brand community and attitude toward a brand. *Journal of Hospitality and Tourism Insights, 5*(2), 465-500. https://doi.org/10.1108/JHTI-08-2020-0154

Agarwal, R., & Karahanna, E. (2000). Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS Quarterly, 24*(4), 665-694. https://doi.org/10.2307/3250951

Agrawal, S., Simon, A., Bech, S., Bærentsen, K., & Forchhammer, S. (2019). Defining immersion: Literature review and implications for research on immersive audiovisual experiences. *Journal of Audio Engineering Society, 68*(6), 404-417.

Armbrecht, J. (2020). An event quality scale for participatory running events. *Event Management, 24*(1), 139-152. https://doi.org/10.3727/152599518X15403853721358

Arsenault, D. (2005). *Dark waters: Spotlight on immersion.* Paper presented at the GAMEON-NA International Conference, Montréal.

Baker, J., Nam, K., & Dutt, C. S. (2023). A user experience perspective on heritage tourism in the metaverse: Empirical evidence and design dilemmas for VR. *Information Technology & Tourism, 25*(3), 265-306. https://doi.org/10.1007/s40558-023-00256-x

Blumenthal, V., & Jensen, Ø. (2019). Consumer immersion in the experiencescape of managed visitor attractions: The nature of the immersion process and the role of involvement. *Tourism Management Perspectives, 30*, 159-170. https://doi.org/10.1016/j.tmp.2019.02.008

Boğan, E., Saraç, Ö., Kiper, V. O., & Batman, O. (2023). Exploring halal tourism-related factors that mitigate employees' job pursuit intention in halal hotels: The moderating roles of age and gender. *Journal of Hospitality and Tourism Management, 55*, 368-379. https://doi.org/10.1016/j.jhtm.2023.05.012

Brown, E., & Cairns, P. (2004). *A grounded investigation of game immersion.* Paper presented at the CHI '04 Extended Abstracts on Human Factors in Computing Systems. New York, 1297–1300.

Busselle, R., & Bilandzic, H. (2009). Measuring narrative engagement. *Media Psychology, 12*(4), 321-347. https://doi.org/10.1080/15213260903287259

Chen, J., Yao, D., Lin, S., Yuan, S., Wang, M., Wu, H., & Zhang, Q. (2024). Application of the community-based participatory research in autism spectrum disorder: A scoping review. *Review Journal of Autism and Developmental Disorders*, 1-10.

China Duty Free Group Research Institute. (2024). *Research on tourism performance models and trends.* Retrieved from https://mp.weixin.qq.com/s/cZRTD5Bv7IMWlp1bYufKFA

De Gauquier, L., Brengman, M., Willems, K., & Van Kerrebroeck, H. (2019). Leveraging advertising to a higher dimension: Experimental research on the impact of virtual reality on brand personality impressions. *Virtual Reality, 23*, 235-253. https://doi.org/10.1007/s10055-018-0344-5

Del Bosque, I. R., & San Martín, H. (2008). Tourist satisfaction a cognitive-affective model. *Annals of Tourism Research, 35*(2), 551-573. https://doi.org/10.1016/j.annals.2008.02.006

Dieck, M., Dieck, D. T., & Jung, T. (2021). Exploring usability and gratifications for virtual reality applications at festivals. *Event Management, 25*(6), 585-599. https://doi.org/10.3727/152599521X16106577965152

Ermi, L., & Mäyrä, F. (2011). Fundamental components of the gameplay experience: Analysing immersion. *Digarec Series, 6*, 88–115.

Flavián, C., Ibáñez-Sánchez, S., & Orús, C. (2019). Integrating virtual reality devices into the body: Effects of technological embodiment on customer engagement and behavioral intentions toward the destination. *Journal of Travel & Tourism Marketing, 36*(7), 847-863 https://doi.org/10.1080/10548408.2019.1618781

Fu, X., Baker, C., Zhang, W., & Zhang, R. (2023). Theme park storytelling: Deconstructing immersion in Chinese theme parks. *Journal of Travel Research, 62*(4), 893-906. https://doi.org/10.1177/00472875221098933

Gander, P. (1999). *Two myths about immersion in new storytelling media.* Unpublished master's Thesis, Lund University, Sweden.

Gerrig, R. (1993). *Experiencing narrative worlds. On the psychological activities of reading.* New Haven, CT: Yale University Press.

Green, M. C. (2008). Transportation theory. In Wolfgang Donsbach. The International Encyclopedia of Communication. In (pp. 1-7). Malden, MA: Wiley.

Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology, 79*(5), 701–721. https://doi.org/10.1037//0022-3514.79.5.701

Green, M. C., Brock, T. C., & Kaufman, G. F. (2004). Understanding media enjoyment: The role of transportation into narrative worlds. *Communication Theory, 14*(4), 311-327. https://doi.org/10.1111/j.1468-2885.2004.tb00317.x

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science, 40*(3), 414-433. https://doi.org/10.1007/s11747-011-0261-6

Hou, J., Nam, Y., Peng, W., & Lee, K. M. (2012). Effects of screen size, viewing angle, and players' immersion tendencies on game experience. *Computers in Human Behavior, 28*(2), 617-623. https://doi.org/10.1016/j.chb.2011.11.007

Hu, R., Wang, C., Zhang, T., Nguyen, T., Shapoval, V., & Zhai, L. (2021). Applying augmented reality (AR) technologies in theatrical performances in theme parks: A transcendent experience perspective. *Tourism Management Perspectives, 40*, 100889. https://doi.org/10.1016/j.tmp.2021.100889

Hudson, S., Matson-Barkat, S., Pallamin, N., & Jegou, G. (2019). With or without you? Interaction and immersion in a virtual reality experience. *Journal of Business Research, 100*, 459-468. https://doi.org/10.1016/j.jbusres.2018.10.062

Irimiás, A., Mitev, A. Z., & Michalkó, G. (2021). Narrative transportation and travel: The mediating role of escapism and immersion. *Tourism Management Perspectives, 38*, 100793. https://doi.org/10.1016/j.tmp.2021.100793

Israel, K., Zerres, C., & Tscheulin, D. K. (2019). Presenting hotels in virtual reality: Does it influence the booking intention? *Journal of Hospitality and Tourism Technology, 10*(3), 443-463. https://doi.org/10.1108/JHTT-03-2018-0020

Jennett, C., Cox, A. L., Cairns, P., Dhoparee, S., Epps, A., Tijs, T., & Walton, A. (2008). Measuring and defining the experience of immersion in games. *International Journal of Human-Computer Studies, 66*(9), 641-661. https://doi.org/10.1016/j.ijhcs.2008.04.004

Jiang, Z., & Tu, H. (2023). Does sincere social interaction stimulate tourist immersion? A conservation of resources perspective. *Journal of Travel Research, 62*(2), 469-487. https://doi.org/10.1177/00472875211067549

Kim, M. J., Lee, C.-K., & Jung, T. (2020). Exploring consumer behavior in virtual reality tourism using an extended stimulus-organism-response model. *Journal of Travel Research, 59*(1), 69-89. https://doi.org/10.1177/0047287518818915

Komarac, T., & Ozretić Došen, Đ. (2022). Discovering the determinants of museum visitors' immersion into experience: The impact of interactivity, expectations, and skepticism. *Current Issues in Tourism, 25*(22), 3675-3693. https://doi.org/10.1080/13683500.2021.1952941

Li, F., Shang, Y., & Su, Q. (2023). The influence of immersion on tourists' satisfaction via perceived attractiveness and happiness. *Tourism Review, 78*(1), 122-141. https://doi.org/10.1108/TR-02-2022-0078

Lunardo, R., & Ponsignon, F. (2020). Achieving immersion in the tourism experience: The role of autonomy, temporal dissociation, and reactance. *Journal of Travel Research, 59*(7), 1151-1167. https://doi.org/10.1177/0047287519878509

Lv, X., Zhang, R., Su, Y., & Yang, Y. (2022). Exploring how live streaming affects immediate buying behavior and continuous watching intention: A multigroup analysis. *Journal of Travel & Tourism Marketing*, *39*(1), 109-135. https://doi.org/10.1080/10548408.2022.2052227

Mainemelis, C. (2001). When the muse takes it all: A model for the experience of timelessness in organizations. *Academy of Management Review*, *26*(4), 548-565. https://doi.org/10.5465/amr.2001.5393891

Manchanda, M., & Deb, M. (2022). Effects of multisensory virtual reality on virtual and physical tourism during the COVID-19 pandemic. *Current Issues in Tourism*, *25*(11), 1748-1766. https://doi.org/10.1080/13683500.2021.1978953

Moss, A., Francis, D., & Esson, M. (2008). The relationship between viewing area size and visitor behavior in an immersive Asian elephant exhibit. *Visitor Studies*, *11*(1), 26-40. https://doi.org/10.1080/10645570801938418

Mou, Y., Fan, J., Ding, Z., & Khan, I. (2024). Impact of virtual reality immersion on customer experience: Moderating effect of cross-sensory compensation and social interaction. *Asia Pacific Journal of Marketing and Logistics*, *36*(1), 26-47. https://doi.org/10.1108/APJML-11-2022-0920

O'Brien, H. L., Cairns, P., & Hall, M. (2018). A practical approach to measuring user engagement with the refined user engagement scale (UES) and new UES short form. *International Journal of Human-Computer Studies*, *112*, 28-39. https://doi.org/10.1016/j.ijhcs.2018.01.004

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879. https://doi.org/10.1037/0021-9010.88.5.879

Punpeng, G., & Yodnane, P. (2023). The route to immersion: A conceptual framework for cross-disciplinary immersive theatre and experiences. *Humanities and Social Sciences Communications*, *10*(1), 1-9. https://doi.org/10.1057/s41599-023-02485-1

Robaina-Calderín, L., Martín-Santana, J. D., & Muñoz-Leiva, F. (2023). Immersive experiences as a resource for promoting museum tourism in the Z and millennials generations. *Journal of Destination Marketing & Management*, *29*, 100795. https://doi.org/10.1016/j.jdmm.2023.100795

Rodríguez-Ardura, I., & Meseguer-Artola, A. (2019). Imagine, feel "there", and flow! Immersive experiences on m-Facebook, and their affective and behavioural effects. *Information Technology & People*, *32*(4), 921-947. https://doi.org/10.1108/ITP-10-2017-0358

Shang, Y., & Li, F. S. (2024). How does ritualistic service increase brand evangelism through E2C interaction quality and memory? The moderating role of social phobia. *International Journal of Hospitality Management*, *116*, 103624. https://doi.org/10.1016/j.ijhm.2023.103624

Shi, S., Huang, X., & Zhang, M. (2021). Is immersion enough? Research on the influence of flow experience and meaningful experience on tourist satisfaction in tourism performing arts. *Tourism Tribune*, *36*(9), 46–59. https://doi.org/10.19765/j.cnki.1002-5006.2021.09.009

Sobitan, A., & Vlachos, P. (2020). Immersive event experience and attendee motivation: A quantitative analysis using sensory, localisation, and participatory factors. *Journal of Policy Research in Tourism, Leisure and Events*, *12*(3), 437-456. https://doi.org/10.1080/19407963.2020.1721638

Thon, J. (2008). *Immersion revisited: On the value of a contested concept. In O. Leino, H. Wirman, A. Fernandez, Extending experiences: structure, analysis and design of computer game player experience*. Rovaniemi, Finland: Lapland University Press.

Tussyadiah, I. P., Wang, D., Jung, T. H., & Tom Dieck, M. C. (2018). Virtual reality, presence, and attitude change: Empirical evidence from tourism. *Tourism management*, *66*, 140-154. https://doi.org/10.1016/j.tourman.2017.12.003

Urbach, N., & Ahlemann, F. (2010). Structural equation modeling in information systems research using partial least squares. *Journal of Information Technology Theory and Application*, *11*(2), 5-40.

Verhulst, I., Woods, A., Whittaker, L., Bennett, J., & Dalton, P. (2021). Do VR and AR versions of an immersive cultural experience engender different user experiences? *Computers in Human Behavior*, *125*, 106951. https://doi.org/10.1016/j.chb.2021.106951

Vishwakarma, P., Mukherjee, S., & Datta, B. (2020a). Antecedents of adoption of virtual reality in experiencing destination: A study on the Indian consumers. *Tourism Recreation Research, 45*(1), 42-56. https://doi.org/10.1080/02508281.2019.1638565

Vishwakarma, P., Mukherjee, S., & Datta, B. (2020b). Travelers' intention to adopt virtual reality: A consumer value perspective. *Journal of Destination Marketing & Management, 17*, 100456. https://doi.org/10.1016/j.jdmm.2020.100456

Wang, J., Sun, Y., Zhang, L., Zhang, S., Feng, L., & Morrison, A. M. (2024). Effect of display methods on intentions to use virtual reality in museum tourism. *Journal of Travel Research, 63*(2), 314-334. https://doi.org/10.1177/00472875231164987

Wei, W., Zheng, Y., Zhang, L., & Line, N. (2022). Leveraging customer-to-customer interactions to create immersive and memorable theme park experiences. *Journal of Hospitality and Tourism Insights, 5*(3), 647-662. https://doi.org/10.1108/JHTI-10-2020-0205

Weibel, D., Wissmath, B., & Mast, F. W. (2010). Immersion in mediated environments: The role of personality traits. *Cyberpsychology, Behavior, and Social Networking, 13*(3), 251-256. https://doi.org/10.1089/cyber.2009.0171

Witmer, B. G., & Singer, M. J. (1998). Measuring presence in virtual environments: A presence questionnaire. *Presence, 7*(3), 225-240. https://doi.org/10.1162/105474698565686

Wu, X., & Lai, I. K. W. (2021). Identifying the response factors in the formation of a sense of presence and a destination image from a 360-degree virtual tour. *Journal of Destination Marketing & Management, 21*, 100640. https://doi.org/10.1016/j.jdmm.2021.100640

Wu, X., Zhang, M., & Shi, S. (2024). Understanding customers' interactive experience in immersive performing art: A narrative transportation perspective. *Nankai Business Review International, 15*(2), 177-206.

Wu, Z., Shen, C., & Van Den Hengel, A. (2019). Wider or deeper: Revisiting the resnet model for visual recognition. *Pattern Recognition, 90*, 119-133.

Xie, J., & Li, X. (2023). From theatrical elements to festival attendees' perceived emotional synchrony: The perspective of interaction ritual chain theory. *Journal of Hospitality and Tourism Management, 56*, 83-93. https://doi.org/10.1016/j.jhtm.2023.06.016

Yang, H., Zhao, X. R., & Ma, E. (2024). A dual-path model of work-family conflict and hospitality employees' job and life satisfaction. *Journal of Hospitality and Tourism Management, 58*, 154-163. https://doi.org/10.1016/j.jhtm.2023.12.008

Zhang, Q., Liu, X., Li, Z., & Tan, Z. (2021). Multi-experiences in the art performance tourism: Integrating experience economy model with flow theory. *Journal of Travel & Tourism Marketing, 38*(5), 491-510. https://doi.org/10.1080/10548408.2021.1952148

Zhang, W., & Wang, Y. (2023). An empirical study of the impact of metaverse storytelling on intentions to visit. *Information Technology & Tourism, 25*(3), 411-432. https://doi.org/10.1007/s40558-023-00261-0

Zhang, Z., Li, K., & Zhou, J. (2019). *Analyzing the relationship between media usage and immersive tendency.* Paper presented at the 2019 International Joint Conference on Information, Media and Engineering (IJCIME), Osaka, 256–261.

Appendix A. The measurement items of questionnaire.

Constructs	Abbreviation	Measurement items	Reference	Mean	Standard deviation
Immersive tendency	IT1.	I have ever been so involved in a movie that I am not aware of things happening around me.	Weibel et al. (2010)	4.93	1.012
	IT2.	I have ever been so involved in a TV program or book that people have problems getting my attention.		5.22	1.043
	IT3.	I am good at blocking out external distractions when I am involved in something.		5.44	1.032
	IT4.	I have ever been so involved in doing something that I lose all track of time.		5.15	1.096
	IT5.	I have ever been so involved in a daydream that I am not aware of things happening around me.		3.97	1.393
	IT6.	I have ever had dreams that are so real that I feel disoriented.		4.06	1.312
	IT7.	I have ever gotten scared by something happening on a TV show or in a movie.		4.42	1.267
	IT8.	I have ever remained apprehensive or fearful long after watching a scary movie.		4.33	1.421
	IT9.	I have ever gotten excited during a chase or fight scene on TV or in the movies.		5.07	1.198
Focused immersion	FI1.	I was able to block out most other distractions.	Lunardo and Ponsignon (2020)	5.72	1.105
	FI2.	I was absorbed in what I am doing.		6.06	0.953
	FI3.	My attention did not get diverted very easily.		5.66	1.049
Transportation	TP1.	I could picture myself in the scene of the events shown in the show.	Green and Brock (2000)	5.92	1.009
	TP2.	I feel like I was separated from my real-world environment.		5.07	1.291
	TP3.	I felt that the show was something I was experiencing, rather than something I was just watching.		5.23	1.255
	TP4.	My sense of being in the environment shown in the show stronger than my sense of being in the real world.		5.52	1.147
	TP5.	I found myself become so involved that I wanted to speak to the show directly.		5.31	1.268
Emotional engagement	EE1.	The story affected me emotionally.	Busselle and Bilandzic (2009)	5.77	0.991
	EE2.	During the show, when a main character succeeded, I felt happy, and when they suffered in some way, I felt sad.		5.86	0.987
	EE3.	I felt sorry for some of the characters in the show.		5.62	1.056
Satisfaction	S1.	I have really enjoyed.	Del Bosque and San Martín (2008)	6.22	0.920
	S2.	My choice is a wise one.		6.07	0.888
	S3.	It is exactly what I need.		5.81	0.952
	S4.	Overall satisfaction with the show.		6.12	0.822