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Does a Virtual Trip Evoke Travelers' Nostalgia and Derive Intentions to Visit the

Destination, a Similar Destination, and Share?: Nostalgia-Motivated Tourism

Abstract

By applying the SOR paradigm, this study attempted to investigate how various aspects of a virtual trip enhance travelers' immersion in the virtual trip and arouse nostalgia, which creates their future visit intentions. Findings of the study indicated that authenticity and sensorial components of virtual trips positively influenced travelers' immersion and generated nostalgia, thereby increasing their revisit intention and intention to visit a similar destination. The moderating effects of travel personality between travelers' nostalgia and behavioral intentions were found. This study provides insights on how to utilize virtual trips as a marketing tool.

Keywords: Virtual Trip, Immersion, Nostalgia, Behavioral Intention, Travel Personality, Stimulus-Organism-Response Paradigm

#### 1. Introduction

Destination marketing organizations (DMOs) in the United States have their destinations' virtual trips available on their websites to have potential travelers experience their future travel destinations. Particularly, virtual trips play a critical role in visualizing what the destination contains for potential visitors through an exploration and/or a promotional teaser prior to actual visits (McClanahan & Kamin, 2020). Since virtual trips offer vivid and tangible features of the destination, they have been primarily considered a tool to attract new visitors (Bruce, 2021). Therefore, the key target market of DMOs' virtual trips would be potential travelers who have never visited the destination, rather than returning visitors who already experienced the destination (Stainton, 2020). However, given that many tourism destinations have been at their consolidation/stagnation stages in their destination life cycle and reputable images, their primary target travelers tend to be more returning visitors than first-time visitors (Cooper & Jackson, 1989). Thus, it would be more beneficial for DMOs to appeal their virtual trips to returning visitors for the destinations' economic and financial sustainability. However, even though DMOs might have recognized the importance of returning visitors in their destination sustainability, it seems that most of the DMOs have been targeting first-time visitors than returning ones because of the benefit of a virtual trip in reducing potential travelers' uncertainty by providing a teaser of what they can experience at a destination.

While providing a preview of a destination would be a great promotion, provoking positive memories is also a good way for destination promotion. Travelers have their own subjective perceptions of tourism destinations, and their travel plans can be determined by their memories (Zhang, Wu, & Buhalis, 2018). Hence, it is critical for tourism destinations to be remembered by travelers to increase their revisits. Due to the limited span of human memories, it

would be ideal if tourism destinations could promote travelers' positive feelings about their past memories in the destination in order to increase their revisit intentions. Among many advanced technologies in the current tourism environment, virtual trips can be one of the most dynamic systems to evoke human memories (Oh & Kong, 2021). Specifically, VR has been regarded as a medium that provokes emotional responses (Oh & Kong, 2021). When travelers are completely immersed in VR contents, such as the degree of a virtual trip accurately embodies the destination's characteristics, they may develop positive feelings about their memories at the destination, leading to favorable future behavioral intention (e.g., Zhang, Chen, & Jin, 2021). However, not much has been identified about the role of virtual trips in retrieving travelers' memories, creating nostalgia, and increasing future behavioral intention. This study aims to close the gaps in the current literature to investigate how virtual trips increase travelers' future behavioral intentions by enhancing their immersion into virtual trips and arousing nostalgia. Even though travelers' immersion in the virtual trip evokes strong nostalgia, their future behavioral intention would also be affected by their travel personalities. For example, if a traveler has allocentric characteristics, he/she might not want to revisit the destination despite a strong nostalgia for the destination. On the other hand, if a traveler is a psychocentric person, he/she is more likely to visit the destination again even when he/she does not feel nostalgic about the destination. Therefore, this study seeks to investigate the moderating effect of travel personality in the relationship between nostalgia and future behavioral intention.

### 2. Theoretical Background

## 2.1. Virtual Trip

Virtual reality (VR) refers to a technology that allows individuals to immensely interact with computer-generated features in a simulated virtual environment (Manis & Choi, 2019). As VR gives a preview of their products by creating a computer-generated pseudo-environment, the tourism industry has shown keen interest in VR as a way to promote a vivid and imaginable pretravel experience for potential travelers. Accordingly, many tourism organizations have launched virtual trips, a combination of VR and tourism contents, to promote themselves as a travel destination choice during the post-pandemic era. Various museums in the U.S. offered potential visitors a chance to explore their exhibitions and performances before their visit to the museums using virtual tours (Mendez, 2020). Access to virtual trips is not limited to a specific property, but includes entire cities or destinations. For example, individuals' eager to feel the breeze from a beach can enjoy the entire British Virgin Island by sailing around the island through a virtual trip to the British Virgin Island with their friends (McClanahan & Kamin, 2020).

Virtual trips allow consumers to travel to places they have not thought of before (Immersion VR, 2019). Accordingly, the significant role of virtual trips in attracting travelers to a destination is expected more, primarily focusing on new visitors. However, returning visitors' intentions to visit the destination are greatly influenced by promotional efforts evoking their positive memories or by information about new attractions (Um, Chon, & Ro, 2006). Thus, virtual trips can be used to attract not only new visitors but returning visitors to the destination. Particularly, using virtual trips as a tool to appeal to returning visitors is crucial for many saturated destinations to sustain their competitive edge as a tourism destination (Huang & Hsu, 2009). To effectively utilize virtual trips for bringing travelers back to the destination, it is

imperative to examine which aspects of virtual trips are the key factors affecting their immersion in the virtual trips. Therefore, this study aims to explore the effects of virtual trips on travelers' immersion, nostalgia, and future behavioral intentions.

### 2.2. Stimulus-Organism-Response (SOR) Paradigm

Stimulus-Organism-Response (SOR) paradigm (Mehrabian & Russell, 1974) explained the mechanism of how an individual reacts to environmental stimuli. More specifically, the SOR paradigm proposed that external/environmental stimulus (S: stimulus) influences an individual's internal emotional state (O: organism), which in turn affects his/her behaviors (R: response) (Sun et al., 2020; Viera, 2013). Many studies (e.g., Casaló, Flavián, & Ibáñez-Sánchez, 2020; Hosany & Gilbert, 2010; Sun et al., 2020) have adopted the SOR paradigm for their theoretical backgrounds to develop a comprehensive understanding and accurate prediction of consumer behavior in various contexts. While the SOR paradigm has been considerably employed to understand general consumer behavior (e.g., Casaló et al., De Nisco & Warnaby, 2014; Lee, Ha, & Widdows, 2011), it has also served as a key theoretical background in understanding travelers' behavior due to the experiential nature of the tourism industry. Particularly, tourism products are primarily related to hedonic consumption (Hirschman & Holbrook, 1982), and emotions are the central components of hedonic consumption, explaining travelers' experience and behavior (Hosany & Gilbert, 2010). Accordingly, many tourism studies (e.g., Lin, Zhang, Gursoy, & Fu, 2019; Su & Swanson, 2017; Sun et al., 2020) have focused on investigating the antecedents (e.g., servicescape) and consequences (e.g., intention) of emotions by applying the SOR paradigm. For example, Chen, King, and Suntikul (2019) extended the boundary of the SOR paradigm by

investigating how festivalscape influenced visitors' involvement, thereby leading to cognitive and affective responses and behavioral outcomes.

The skyrocketing importance of technology has channeled researchers' attention in examining how technological aspects of tourism products/services play as external stimuli. For instance, Bigne, Chatzipanagiotou, and Ruiz (2020) found how pictorial contents in online reviews affect online review platforms and users' cognitive and affective states, thereby influencing their behavioral intentions. Hew, Leong, Tan, Lee, and Ooi, (2018) found the mediating effect of inner organism states in the relationship between mobile social tourism platforms and heritage site visitors' intention to use the platform. As gamification has been grafted in the tourism industry (e.g., Pokemon Go) (Xu & Buhalis, 2021), Hsiao and Tang (2021) examined how social and media stimuli influence game players' visit intention via their internal states. With the growing popularity of VR, Kim, Lee, and Jung (2020) investigated how travelers' cognitive and affective perceptions mediate the relationship between VR and their visit intention. As the SOR paradigm has been frequently used to examine how external stimuli of technologies (e.g., VR) shape travelers' behaviors through their emotional states, this study seeks to investigate the relationships among aspects of virtual trips, immersion, nostalgia, and future behavioral intentions by extending the SOR paradigm.

### 3. Hypotheses Development

### 3.1. The Relationship between Aspects of Virtual Trip and Immersion

### 3.1.1. Virtual Trip Immersion

Due to the experiential nature of the tourism industry, the concept of the experience economy led to much attention from researchers on the concept of immersion (Wu, Ai, & Cheng

2019). Particularly, as VR itself was developed to get users immersed in the envisioned environment, an individual's perception of VR was commonly explained in terms of his/her immersion in the virtual environment (Perez-Marcos, 2018). When VR is applied to the context of tourism, a traveler's immersion indicates the degree of his/her deep involvement in the virtual trip (Hudson, Matson-Barkat, Pallamin, & Jegou, 2019). Witmer and Singer (1988) argued that when an individual is affected by VR stimuli, his/her immersion in the virtual environment increases. Thus, the relationship between VR and immersion has been considerably examined by previous literature (e.g., Lee, Lee, Jeong, & Oh, 2020).

## 3.1.2. Aspects of a Virtual Trip

VR comprises two main components: contents and technological features. As Delone and McLean (2003) purported the quality of technology contents and system quality have strong impacts on user experience, studies (e.g., Tussyadiah, Wang, Jung, & tom Dieck, 2018) examined the effects of contents and system qualities on consumers' immersion in the virtual environment. Particularly, Kim *et al.* (2020) discovered the authenticity of VR on travelers' involvement in virtual trip. In a similar vein, Wei, Chi, and Zhang (2019) also found the significantly positive impacts of both system and content qualities of VR on presence, leading to intentions. Building upon previous studies, this study investigates how travelers' perceived contents quality and system quality of virtual trips influence their immersion in the virtual trip. Focusing on a virtual trip's main feature, showcasing the destination's unique atmosphere, this study examined how the contents of a virtual trip were associated with a destination and how precisely the virtual trip reflected the destination. Therefore, this study considered a virtual trip's authenticity as the quality of the contents and technological aspects of VR are a key player in

increasing users' immersion (Coelho, Tichon, Hine, Wallis, & Riva, 2006). Thus, this study included three technological aspects of a virtual trip: interactivity, usability, and sensorial appeal.

3.1.2.1. Authenticity. A virtual trip's authenticity indicates how accurately the virtual trip reflects or reproduces the actual place (Park, Choi, & Lee, 2019). Authenticity is a crucial aspect of a virtual trip that strongly associates users' immersion because of its replication of the real place for the promotional purpose (Gilbert, 2016). Since a virtual trip can offer a realistic preview of a destination, it would be imperative to attract potential visitors. However, it should be noted that a virtual trip's authenticity is highly related to how closely the virtual trip resembles the destination (Wang et al., 2021). Accordingly, the degree of authenticity is more critical for travelers who had visited the destination before because their expectations for the virtual trip have been developed based on their actual experiences. Due to returning travelers' specific expectations from their previous experiences, if a virtual trip failed to accurately portray the destination up to their expectations, they would feel gaps between what they experienced physically before and what they experienced virtually, which can weaken their immersion in the virtual trip. Thus, the following hypothesis was developed.

H1: Authenticity of a virtual trip positively influences travelers' immersion in their virtual trip.

**3.1.2.2. Interactivity.** A virtual trip's interactivity refers to the degree of active interactions between the virtual environment and user as well as the quality of response from the virtual trip (Shin & Jeong, 2020). Studies (e.g., Yim, Chu, & Sauer, 2017) revealed that an individual's immersion and flow are highly dependent on his/her interaction with the

environment. As virtual trips are a type of virtual environment where travelers are brought to a different world. Thus, when a traveler is able to interact with the objects in the virtual environment, he/she is more likely to be engaged and immersed in the virtual trip, compared to when he/she passively observes the virtual trip (Mütterlein, 2018). For instance, when a traveler can explore different places at a destination, and the objects of the virtual trip respond to the traveler's movement, his/her immersion would be amplified as the virtual trip reacts to his/her actions. As previous studies (e.g., Hudson *et al.*, 2019) supported, there has been a positive link between VR's interactivity and user immersion. Hence, the following hypothesis was developed.

H2: A virtual trip's interactivity with travelers positively influences their immersion in their virtual trip.

3.1.2.3. Usability. A virtual trip's usability is defined as the degree of an individual's perceived use of the VR technology (Venkatesh, Morris, Davis, & Davis, 2003). When an individual has difficulty in using technology, he/she is more likely to give up rather than deeply immersed in the experience (e.g., Nayyar, Mahapatra, Le, & Suseendran, 2018). In a similar vein, travelers would give up their virtual trips if the virtual trip were not user-friendly. Particularly, not many travelers use VR technology before their virtual trip because VR is somewhat disruptive to people's perceptions and still at an early diffusion stage. Accordingly, travelers who are not comfortable using advanced technologies, including VR, might be overwhelmed when the virtual trip is difficult to navigate, which in turn prevents them from immersion. On the other hand, travelers who feel comfortable navigating technological platforms

would fully enjoy the virtual trip by being deeply involved in the virtual environment. Therefore, the following hypothesis was developed.

H3: Usability of a virtual trip positively influences travelers' immersion in their virtual trip.

**3.1.2.4. Sensorial Appeal.** Virtual trips provide various sensory modalities in order to immerse users in the virtual environment (Laukkanen, Xi, Hallikainen, Ruusunen, & Hamari, 2021). Thus, the sensorial appeal of a virtual trip should not be neglected as a critical technological aspect. A virtual trip's sensorial appeal refers to the extent to which the virtual trip stimulates users' senses (Yung, Khoo-Lattimore, & Potter, 2020). According to Suh and Lee (2005), the key difference among direct, indirect, and virtual experiences lies in the degree of involvement of the human senses. Furthermore, experiential attributes, such as tourism experience, are the best with direct experiences due to the inclusion of one or more human senses (Nelson, 1975), suggesting that a virtual trip can yield a higher degree of immersion when it involves more or stronger human senses by reducing the gap between direct experience and virtual experience. Particularly, individuals can experience where they are and what they are doing in the virtual environment through their senses, increasing their immersion (Kim et al., 2017). For example, a vivid 360-degree ocean view with wave sounds would enhance travelers' involvement and immersion in the virtual trip because of the enhanced visual and auditory appeals. As the positive association between VR's sensorial appeal and user immersion has been much demonstrated, the following hypothesis was developed.

H4: Sensorial appeal of a virtual trip positively influences travelers' immersion in their virtual trip.

### 3.2. The Relationship between Immersion and Nostalgia

Nostalgia is an individual's intense and positive feelings about their past memories (Kim et al., 2019). Nostalgia can be easily found in individuals' daily lives and triggered by many factors, such as events and occasions. Particularly, tourism has been recognized as a crucial source of nostalgia because what the tourism industry entails is 'experience', which creates 'memories', rather than providing tangible evidence of travelers' consumption. Accordingly, literature (e.g., Lin et al., 2020) has stressed that nostalgia should be thoroughly examined because 'past memories' are too broad to provide a concrete understanding of travelers' complicated psychological states.

Fairley and Gammon (2005) proposed that nostalgia can be categorized into object-based nostalgia (e.g., place) and interpersonal relationship-based nostalgia (e.g., social experiences). However, object-based nostalgia might still be too broad to understand the individual's complex psychological states. For example, an individual might have nostalgic feelings toward an actual object (e.g., places, events) and/or toward past times. Previous literature (e.g., Cho, Joo, & Chi, 2019) also divided the concept of nostalgia into several types based on the objects of nostalgia. For example, Cho, Chiu, and Tan (2021) divided the concept of nostalgia based on the objects (e.g., sport team, environment, socialization, personal identity, group identity). Therefore, this study divided nostalgia into three types: destination, past lives, and social activities, following the study of Christou (2020). Nostalgia for being in the destination refers to a traveler's emotional, mental state related to his/her previous travel experience in the destination. Nostalgia

for destination is closely related to the nostalgia for the environment (Cho *et al.*, 2021). Nostalgia for their past lives indicates travelers' psychological state that they want to relive their past lives, which is highly associated with anticipatory theme of nostalgia (Christou, 2020). Lastly, nostalgia for their social activities refers to travelers' emotional state based on their memories about their travel experiences with others, as in nostalgia for socialization (Cho *et al.*, 2021).

Although these three types of nostalgia are toward different objects, they might occur simultaneously. When travelers look back on their past memories of previous trips, they might feel the nostalgic moods of a particular destination, tourism activities there, good old times, not tired from the present day-to-day life, and their social activities with their travel companions. For instance, when a person thought about his/her trip to Orlando, FL, in 2018, he/she would feel nostalgic about (1) how pleasant his/her trip to Orlando, FL, was, (2) his/her life as a student who could travel to Orlando, FL, during the spring break, and (3) how great it was to spend his/her time on traveling with travel companions. While tourism activities offer crucial intrinsic sources for travelers' nostalgia, nostalgia can be aroused without actual tourism activities (Wu *et al.*, 2020). When travelers are deeply immersed, their emotional responses become stronger (Visch, Tan, & Molenaar, 2010). Thus, the following hypothesis was developed.

H5: Travelers' immersion in a virtual trip positively influences their nostalgia (a) for the destination, (b) for their past life, and (c) for their social activities.

### 3.3. The Relationship between Nostalgia and Behavioral Intention

Travelers' interests in tourism destinations are a key predictor of their future behavioral intentions. (Papadimitriou, Kaplanidou, & Apostolopoulou, 2018). The SOR paradigm posited

how affective response leads to behavioral intention. As an affective response, nostalgia has been considered an important antecedent of travelers' behavioral intentions (Cho, Lee, Moore, Norman, & Ramshaw, 2017). However, previous studies (e.g., Lee *et al.*, 2020; Kim *et al.*, 2020) have focused on potential travelers' intentions to visit a specific destination as an outcome of their psychological states. Whereas, research in post-experience aspects of travel has mainly investigated the relationship between cognitive evaluation and future behavioral intentions, such as revisit intention and intention to share their experience. Travelers' behavioral intention was predominantly from a specific point of view, leaving an important question of the impact of nostalgia on different types of behavioral intentions unanswered. Therefore, this study divided behavioral intention into visit intention and intention to share their experience with others. Then, visit intention was further divided into revisit intention and intention to visit a similar destination.

Travelers who have already visited the destination are more likely to visit the destination again because their previous experience removed uncertainties and reduced perceived risks (e.g., Mazursky, 1989). Due to the sense of delight from nostalgic memories, travelers are more likely to have a favorable behavioral intention toward the specific destination they visited through their virtual trips (Kim *et al.*, 2019). Since travelers' revisit intention is strongly affected by their positive memories, they might want to visit other similar destinations where they could feel nostalgic. Travelers might have a strong intention to visit a similar destination because they can expect what it would be like to visit the destination based on their memories about the previous destination. For example, suppose that a traveler felt nostalgia about Orlando, FL. In that case, the person might want to visit Anaheim, CA, because of its similarities to Orlando.

Another important behavioral intention associated with tourism is travelers' intention to share positive memories with others, which also reflects their favorable attitude (Papadimitriou *et al.*, 2018). Intention to share positive memories with others is particularly important to travelers whose primary purpose is exploration and discovery because they are not likely to revisit the destination but more likely to spread positive word-of-mouth about the destination (Ekinci & Hosany, 2006). As the positive relationship between travelers' affective response and intention to share positive memories with others has been much supported, the following hypotheses were derived.

- H6: Travelers' nostalgia (a) for the destination, (b) for their past life, and (c) for their social activities positively influences their intention to revisit the destination.
- H7: Travelers' nostalgia (a) for the destination, (b) for their past life, and (c) for their social activities positively influences their intention to visit a similar destination.
- H8: Travelers' nostalgia (a) for the destination, (b) for their past life, and (c) for their social activities positively influences their intention to share their memories with others.

## 3.4. The Moderating Effect of Travel Personality

In the tourism industry, psychographic market segmentation has been much adopted since it helps the researchers further understand travelers' cognitive, affective, and behavioral responses (Stylidis, Kokho Sit, & Biran, 2018). While there are many psychographic variables that differentiate travelers' behavioral outcomes, travel personality has been abundantly studied due to its significant effect on destination selection (Masiero, Qiu, & Zoltan, 2020). Travel personality is an individual's travel patterns and preferences, such as conservative and

adventurous travel preferences (Poon & Huang, 2017). As an important psychographic variable for market segmentation (Galloway 2002; Griffith & Albanese 1996; Lepp & Gibson 2008; Masiero, Qiu, and Zoltan 2020), travel personality has been recognized as a strong indicator for travelers' destination selection. Thus, travel personality should be included in the present study to identify how it affects travelers' intention to visit the same or similar destination in relation to nostalgia.

The explanatory power of travel personality suggests travelers' divergent destination selections even with strong nostalgia evoked from their immersion in a virtual trip (Lepp & Gibson, 2008). For example, psychocentric travelers might consider revisiting the destination even with a low degree of nostalgia, since they prefer familiar destinations rather than enjoy a sense of discovery (Apostolopoulou & Papadimitriou, 2015). Therefore, investigating the moderating effect of travel personality in the relationship between nostalgia and intention is imperative to provide a more comprehensive understanding and accurate prediction of travelers' destination selection (Reisinger, Mostafa, & Hayes, 2019). Therefore, the following hypotheses were developed.

- H9: Travelers' travel personality moderates the relationships between their nostalgia (a) for the destination, (b) for their past life, and (c) for their social activities, and intention to revisit the destination.
- H10: Travelers' travel personality moderates the relationships between their nostalgia (a) for the destination, (b) for their past life, and (c) for their social activities, and intention to visit a similar destination.

### 3.5. Proposed Research Framework

Based on the discussion above, a research framework was developed to investigate the mechanism of how various aspects of a virtual trip influence travelers' immersion in the virtual trip, arousing nostalgia, which in turn affects their behavioral intention (see Figure 1).

## [Figure 1]

### 4. Methodology

#### 4.1. Data Collection and Instrument

As the capital of theme park, Orlando, FL, has been one of the most visited tourism destinations (Law, 2020). Thus, Orlando, FL, was selected as the study site as it has been one of the most popular tourist destinations in the U.S. This study employed a self-administered online survey, developed on Qualtrics. After obtaining the Orlando DMO's permission to use its virtual tour for the current study, this study contacted Amazon Mechanical Turk (MTurk) to recruit individuals who have traveled to Orlando, FL, since 2015. The survey was conducted during the first week of February 2021. The survey consisted of six sections. The first section included a brief study description, a consent form, and a screening question asking the respondents whether they had traveled to Orlando, FL, since 2015. The second section contained items asking respondents' previous trip to Orlando, FL. In the third section, a series of questions were asked to examine the respondents' travel perspectives. The fourth section asked the respondents to visit the virtual trip to Orlando, FL, through a given link. The fifth section included the key measurement items for the constructs of the interests. The last section contained items asking the respondents' socio-demographic information. For quality assurance purposes, there were several

attention check questions. Those who incorrectly answered the attention check questions and/or who explored the virtual trip less than 3 minutes were not included in the data analysis.

All constructs were measured with multiple items adopted from previous studies and modified to fit the context of this study. Authenticity was measured with seven items (Domínguez-Quintero, González-Rodríguez, & Paddison, 2020; Lu, Chi, & Liu, 2015; Park et al., 2019). Four items adopted from Jung, Chung, and Leue (2015) and Wu et al. (2019) were used to measure interactivity. Usability was measured with four items from Lee et al. (2020), and sensorial appeal was measured with three items from Ahn and Back (2019). Four items from Vorderer et al. (2004) were used to measure travelers' immersion in the virtual trip. Nostalgia for the destination (5 items), past life (7 items), and social activity (5 items) was modified based on Cho et al. (2017) and Phau, Quintal, Marchegiani, and Lee (2016). Items to measure behavioral intention were adopted from Kim et al. (2019) and refined to fit the three different types of intentions. Six items were used to measure the respondents' travel personality from Morakabati and Kapuściński (2016). All items were measured on a 7-point Likert scale. To ascertain the clarity of wordings and content validity of the items, a pilot test was performed with 106 panels of MTurk. As the pilot test showed satisfactory results in terms of reliability and validity, the main dataset was collected.

# 4.2. Data Analysis

This study used the two-step approach (Anderson & Gerbing, 1988) to analyze the data. Using R 3.6.2. with multiple packages, partial least square structural equation modeling (PLS-SEM) was performed because of the prediction-oriented nature of this study (Hair, Ringle, & Sarstedt, 2011). A component-based path estimation with bootstrapping technique (N = 5,000)

was performed to test the proposed hypotheses by examining path coefficients and path significance. To test the moderating effects of travel personality, this study conducted multigroup analysis (MGA) by dividing respondents into two groups using k-means cluster analysis.

#### 5. Results

### 5.1. Respondents' Profile

A total of 303 complete responses were collected. Table 1 describes the respondents' profile. About half (52%) of the respondents were male. About 42% of the respondents were born in 1980s, followed by those born in or later than 1990 (23%). The majority (73%) of the respondents held Bachelor's degree or higher. More than three-quarters (76%) of the respondents were working full-time. About half (51%) of them had household income greater than \$70,001, consistent with the U.S. average household income (Backman, 2020). Approximately four-fifths (82%) of the respondents were Caucasian. About two-thirds (66%) of them had visited Orlando, FL, once or twice. Approximately 23% of the respondents never used VR before. About 94% of the respondents used their computers to explore Orlando, FL, through the virtual trip.

### [Table 1]

#### 5.2. Measurement Model Test

As shown in Table 2, the standardized factor loadings were equal to or greater than .742, demonstrating the measured variance was greater than the error variance (Gefen, Straub, & Boudreau, 2000). The average variance explained (AVE) ranged from .685 to .868, showing the

shared variance was greater than the error variance (Fornell & Larker, 1981), establishing convergent validity. As illustrated in Table 3, the bivariate correlation between any two constructs were less than the square root of AVE, showing sufficient discriminant validity (Fornell & Larker, 1981). Furthermore, heterotrait-monotrait ratio of correlations (HTMT) was less than the acceptable threshold (.85) for discriminant validity (Henseler *et al.*, 2014). Composite reliability was equal to or greater than .897, confirming sufficient internal consistency (Nunnally & Bernstein, 1978). Due to the data collection method and length of the survey, common method bias was assessed, and the results revealed the absence of common method bias as the variance explained by a single factor without rotation was less than .50 (Eichhorn, 2014).

## [Tables 2 & 3]

#### 5.3. Structural Model Test

The adjusted R<sup>2</sup> was .57 for immersion, .49 for nostalgia for the destination, .39 for nostalgia for past life, .27 for nostalgia for social activity, .51 for revisit intention, .47 for intention to visit a similar destination, and .49 for intention to share their memories, exhibiting that a substantial amount of variance in the endogenous constructs was explained by the proposed research model and the high predictive accuracy of the model. A post hoc power analysis was conducted using the minimum R<sup>2</sup> and the maximum number of items to measure one latent construct in order to assess whether the sample size can provide sufficient statistical power. With a minimum R<sup>2</sup> of .27 and the maximum number of items for one construct of eight for 80% statistical power, the minimum sample size was 73 when the alpha level was .01 (Hair, Hult, Ringle, & Sarstedt 2013). Thus, the sample size for the research framework was sufficient

to make statistical inferences. Authenticity of a virtual trip had a positive impact ( $\beta = .37$ , t =4.72, p < .001,  $f^2 = .10$ ) on travelers' immersion in the virtual trip, supporting H1. On the other hand, the interactivity ( $\beta = .05$ , t = .64, p > .05) and usability ( $\beta = .00$ , t = .01, p > .05) of a virtual trip did not influence travelers' immersion. Thus, H2 and H3 were rejected. Sensory aspects of a virtual trip had a significantly positive effect on travelers' immersion ( $\beta = .40$ , t =5.03, p < .001,  $f^2 = .14$ ), supporting H4. Travelers' immersion in the virtual trip was a significant predictor of their nostalgia, supporting H5. More specifically, when travelers were immersed in the virtual trip, their positive memories about their last trip to the destination were evoked ( $\beta$  = .70, t = 18.57, p < .001,  $f^2 = .95$ ) (H5a). In addition, travelers' immersion in the virtual trip revived their memories about their past lives ( $\beta = .62$ , t = 14.63, p < .001,  $t^2 = .63$ ), such as good times from their past, their life as a traveler, and the time they could travel (H5b). Travelers' immersion in the virtual trip also made them think about their positive memories of traveling with others ( $\beta = .520$ , t = 9.379, p < .001, t = .376) (H5c). The results showed that travelers' intention to revisit the destination was significantly influenced by their nostalgia for the destination ( $\beta = .48$ , t = 4.41, p < .001,  $f^2 = .13$ ) (H6a). On the other hand, travelers' nostalgia for their past life ( $\beta = .15$ , t = 1.20, p > .05) and social activity ( $\beta = .05$ , t = .56 p > .05) had no influence on their intention to revisit the destination, rejecting H6b and H6c. Travelers' intention to visit a similar destination was positively affected by their nostalgia for the destination ( $\beta = .42$ ,  $t = 4.24, p < .001, f^2 = .09$ ), supporting H7a. Travelers' nostalgia for their past life also positively influenced their intention to visit a similar destination ( $\beta = .34$ , t = 2.90, p < .01,  $f^2 = .06$ ). Thus, H7b was supported. However, travelers' nostalgia for social activity did not influence their intention to visit a similar destination ( $\beta = -.12$ , t = -1.32, p > .05), rejecting H7c. Travelers' intention to share their travel memories with others was only influenced by their nostalgia for the

destination ( $\beta = .37$ , t = 3.36, p < .001,  $f^2 = .09$ ), indicating H8a was supported. H8b and H8c were rejected, suggesting that travelers did not want to share their memories with others although they had nostalgia for past life ( $\beta = .18$ , t = 1.36, p > .05) and social activity ( $\beta = .14$ , t = 1.16, p > .05).

### [Table 4 & 5]

In order to investigate the moderating effect of travel personality in the relationships between travelers' nostalgia and behavioral intention, the respondents were divided into two groups based on their travel personality (N<sub>Allocentric</sub> = 138, N<sub>Psychocentric</sub> = 166) using k-means cluster analysis, then MGA was performed. While the positive impact of nostalgia for the destination on revisit intention was significant for both allocentric ( $\beta = .48$ , t = 2.73, p < .01) and psychocentric ( $\beta$  = .54, t = 5.68, p < .001) travelers, there was a significant difference between the two types of travelers ( $Diff_{A-P} = -.06$ , z = -3.60, p < .01). More specifically, the effect of destination-specific nostalgia on travelers' revisit intention was moderate for psychocentric travelers ( $f^2 = .18$ ), while it was small-medium for allocentric travelers ( $f^2 = .11$ ) (Cohen, 1988). Psychocentric travelers were more likely to revisit the destination when they felt nostalgia about the destination after their virtual trip. The influence of travelers' nostalgia for past life on revisit intention was insignificant for both allocentric ( $\beta = .14$ , t = .87, p > .05) and psychocentric travelers ( $\beta = .09$ , t = 1.01, p > .05). Travelers' intention to revisit the destination was not influenced by their nostalgia for social activity for both allocentric ( $\beta = .02$ , t = .09, p > .05) and psychocentric travelers ( $\beta = .04$ , t = .33, p > .05). The positive impact of travelers' nostalgia for the destination on their intention to revisit a similar destination was significant for both

allocentric ( $\beta$  = .36, t = 2.13, p < .01) and psychocentric ( $\beta$  = .54, t = 5.63, p < .001) travelers. Specifically, the positive impact of nostalgia for the destination on travelers' intention to revisit a similar destination was notably stronger for psychocentric travelers than allocentric ones ( $Diff_{A-P}$  = -.18, z = -12.72, p < .001). As allocentric travelers' nostalgia for the destination had a significant impact on their intention to revisit the destination, they were also willing to visit a similar destination. However, the effect size was small for allocentric travelers ( $f^2$  = .05), whereas it was moderate for psychocentric travelers ( $f^2$  = .16). When travelers feel nostalgia for their past life, their intention to visit a similar destination was enhanced regardless of their travel personality. Particularly, the impact of nostalgia for past life was stronger for allocentric travelers ( $Diff_{A-P}$  = .22, z = 11.40, p < .001), which might be attributed by their preference for exploring new places and tendency to enjoy discovery. The impact of nostalgia for social activity on travelers' intention to visit a similar destination was insignificant for both allocentric ( $\beta$  = -.18, t = -1.31, p > .05) and psychocentric travelers ( $\beta$  = -.14, t = -1.38, p > .05).

# [Table 6]

#### 6. Discussions and Conclusions

The tourism industry has paid much attention to the role of VR in the tourism context. Particularly, with the outbreak of COVID-19, many tourism destinations have introduced virtual trips to promote themselves to potential travelers. However, previous studies mainly investigated the factors affecting potential first-time visitors' intention to visit a destination after their experience with virtual trips. Accordingly, how virtual trips increase travelers' revisit intention has been overlooked. Given that many tourism destinations are at the maturity stage of their life

cycle, understanding the impact of virtual trips on travelers' revisit intention is of the utmost importance because attracting returning visitors is much efficient in terms of return on investment. Therefore, employing the SOR paradigm, this study attempted to offer a comprehensive understanding of how the aspects of a virtual trip enhance travelers' immersion in the virtual trip, thereby arousing nostalgia, which in turn creates favorable behavioral intention. Furthermore, this study also examined how travel personality moderates the relationship between nostalgia and behavioral intention.

#### 6.1. Discussions

The results revealed that authenticity and sensorial appeal of a virtual trip significantly influence travelers' immersion in the virtual trip. As travelers had already been to the destination prior to their virtual trip, they were more likely to be immersed in the virtual trip when the virtual trip precisely reflected the destination. The findings also illustrated that the more a virtual trip appeals to travelers' senses, the greater their senses are engaged in the virtual trip, leading to higher immersion. The effect size also revealed that sensorial appeal was stronger than authenticity in enhancing travelers' immersion. On the other hand, the insignificant impacts of interactivity and usability on immersion might be explained by the two-factor theory. As indicated in Herzberg's two-factor theory, due to the quick development of technology, the interactivity and usability of technology might become hygiene factors, which do not have a significant impact on their perceived value (Park et al., 2020). Travelers might take the interactivity and usability of a virtual trip for granted, making themselves indifferent to those aspects of the virtual trip. The positive effects of immersion on three different types of travelers'

nostalgia were considerably large (Cohen, 1988), proposing a significant role of immersion in generating positive emotional states.

The findings revealed that travelers' intention to revisit the destination was only influenced by their nostalgia for the destination. Perhaps, the insignificant impacts of nostalgia for past life and social activities on travelers' intention to revisit the destination might be attributed to the fact that the same destination is not necessary to re-experience their past lives or social activities. Assume that an individual went to a destination with his/her college best friends during their sophomore year's spring break, and the person feels very nostalgic about his/her sophomore year when he/she could travel with friends after the virtual trip. Revisiting the destination would not be a necessary condition to re-experience his/her sophomore trip with friends since it might be just a part of past life and/or social activities. The positive impact of nostalgia for the destination on travelers' intention to visit a similar destination suggested that travelers seek a similar atmosphere or mood to recall their memorable travel experience due to their emotional states stimulated by the virtual trip. Also, travelers seemed to enjoy their previous trip to a destination by talking with their travel companions who went to the destination together. However, even though the virtual trip evoked travelers' memories about their past lives and their previous trip with someone, they did not want to share their memories with others. Due to COVID-19, people might not need or want to talk about their past travel experiences during these challenging times because they have been overwhelmed by many things at their hands (e.g., economic instability, disrupted work routine). Another possible explanation for these results might be that not sharing their travel experience would be their coping behavior for travel restrictions due to the current COVID-19 pandemic. As the Center for Disease Control and Prevention (CDC) has restricted travel, many people have suppressed their desire to travel and

struggled with uncertainty, anxiety, and stress. Under such stressful situations, individuals try to reduce psychological stress in different ways, and avoidance is a type of human coping process (Holahan & Moos, 1987). While travelers' desire to travel remains the same or even escalates, they have no choice but to stay home. This stressful period might keep travelers from talking about their travel experiences as their cognitive-behavioral avoidance coping method.

## **6.2. Theoretical Implications**

The findings of this study offer theoretical implications. To the authors' best knowledge, this study is the first attempt to understand the effect of a virtual trip on returning visitors' various behavioral intentions. Different from previous studies that were interested in potential first-time visitors' intention to visit a destination as a result of exploring a virtual trip (e.g., Kim et al., 2020; Lee et al., 2020), this study concentrated on the returning visitors. As the population of interest was travelers who had been to the destination before their virtual trip, it was possible to investigate how a virtual trip's ability to accurately represent the unique atmosphere of the destination (authenticity) influences travelers' immersion in the virtual trip. Particularly, authenticity of a virtual trip was a significant determinant of a traveler's immersion in the virtual trip. In contrast, a virtual trip's interactivity and usability had no noticeable effects on immersion, suggesting the importance of contents quality (i.e., authenticity) of technology in deepening travelers' immersion in a virtual trip. The strong impact of authenticity on travelers' immersion and nostalgia further strengthened the argument of Oh and Kong (2021) that the quality of contents is more critical than advanced technology. In addition, the insignificant effects of interactivity and usability also proposed that the system quality of technology might

have become hygiene factors or that travelers could have become indifferent to the system quality of technology as they take it for granted.

Second, this study contributes to the literature by providing an in-depth understanding of how the aspects of a virtual trip influence travelers' behavioral intentions. While the findings of this study provide support for previous studies that proposed that a virtual trip should holistically integrates both contents and technological aspects (e.g., Oh & Kang, 2021), this study additionally offers new insights. Specifically, unlike previous studies that focused on the impacts of the aspects of a virtual trip on travelers' attitudes toward the virtual trip itself (e.g., virtual trip satisfaction, intention to use a virtual trip), this study examined how aspects of a virtual trip play as a trigger for travelers' immersion and nostalgia, thereby leading to their future behavioral intentions. Particularly, this study examined the effect of virtual trips on three different behavioral intentions (i.e., revisit, visit a similar destination, and share their memories with others), the critical indicators of travelers' favorable attitude. By investigating both intentions to revisit the destination and intention to visit a similar destination, this study uncovered the role of the virtual trip in attracting returning visitors to the destination shown in the virtual trip and/or new visitors to destinations which have similar destination images/characteristics. The findings of this study suggested that travelers who have a positive emotional state toward a certain destination are likely to shape favorable behavioral intention toward another destination that has a similar destination image. Thus, this study established further support for tourism coopetition, which involves both competitions and collaborations between destinations with similar characteristics (Czakon & Czernek-Marszałek, 2021).

Third, this study also demonstrated the role of travel personality in travelers' destination selection process in conjunction with the effect of aspects of a virtual trip. In other words, this

study established a theoretical foundation for the impacts of both external (i.e., virtual trip aspects) and internal (i.e., travel personality) factors on travelers' behavioral outcomes not only for their future travel destination (i.e., the same destination, similar destinations) but also sharing their memories with others. Furthermore, this study investigated the moderating effect of travel personality in the relationships between nostalgia and intention. Although the positive impact of nostalgia for the destination on travelers' revisit intention was much stronger for psychocentric travelers than allocentric travelers, the findings indicated that even allocentric travelers were willing to revisit the destination after their virtual trip because of their nostalgia for the destination. Therefore, this study strengthens the critical role of travelers' affective responses, including nostalgia, in shaping favorable behavioral intentions regardless their travel personality. Lastly, this study extended the boundary of the SOR paradigm by including four aspects of a virtual trip (i.e., authenticity, interactivity, usability, and sensorial appeal) as stimuli, immersion and nostalgia as organism, and behavioral intention as response in the context of tourism. Thus, this study provides an in-depth understanding of how the aspects of a virtual trip influence travelers' behavioral intentions via immersion and nostalgia.

## **6.3. Practical Implications**

The findings of the study provide practical implications for the tourism industry. The findings showed that authenticity and sensorial appeals of a virtual trip positively influenced travelers' immersion in the virtual environment. In contrast, interactivity and usability did not have significant impacts on immersion. Thus, the findings of the study suggest tourism destinations to invest in two parts when developing virtual trips in order to deepen travelers' immersion: (1) more accurately portraying their unique atmospheres and moods, and (2)

involving more strong sensorial appeals. By increasing travelers' immersion in virtual trips, destinations will be able to arouse nostalgia for the destination, generating travelers' intention to revisit the destination. Furthermore, the results of this study also strongly encourage destinations, which have not introduced virtual trips, to develop virtual trips that will describe the destination's atmosphere with vivid sensorial appeals to attract returning visitors.

Second, the findings of the present study would benefit the tourism industry in attracting returning visitors to the destination staged in the virtual trip and first-time visitors to destinations which share similar destination images/characteristics with the destination in the virtual trip. Specifically, the results suggested that when travelers feel nostalgic about the destination due to their deep immersion in the virtual trip, they are more likely to visit the destination again as well as a similar destination. Thus, the tourism industry is suggested to consider coopetition, as one of their marketing strategies in order to create a win-win situation. In other words, tourism destinations are strongly encouraged to form strategic alliance, the inter-organization arrangement to utilize resources in a cooperative way (Fatehi & Choi, 2019). Particularly, it would be beneficial to form a strategic alliance with destinations which share similar destination characteristics so that they can offer virtual trips about the destination and partner destinations in order to attract potential visitors. For example, popular theme park destinations (e.g., Orlando, FL and Los Angeles, CA) might form a strategic alliance to increase potential visitors who visited one of the destinations. Placing virtual trips to those two similar destinations on the same website (e.g., Xplorit) would encourage travelers to revisit the destination and attract potential visitors who have been to similar destinations and feel nostalgic, thereby looking for another similar destination. Furthermore, destinations would collaborate with hospitality organizations other than third-party virtual trip platforms (e.g., Xplorit). For example, destinations with Disney

theme parks (e.g., Orlando, FL; Anaheim, CA) might collaborate with Walt Disney Travel Company so that their virtual trips can be placed together on Disney's official website.

The findings showed that travelers are more likely to share their positive experiences at the destination when they feel nostalgic about their trip to the destination. Since sharing positive experiences is more powerful to attract potential visitors in the tourism industry due to its intangibility and experiential nature, the impact of a virtual trip on travelers' word-of-mouth would be a great tool for tourism destinations to attract potential travelers who have not visited the destination. For example, if tourism destinations successfully arouse travelers' nostalgia using their virtual trip, the travelers would spread positive word-of-mouth to others about the destination.

### 6.4. Limitations and Future Studies

There are several limitations of this study. The first limitation is associated with the current pandemic. Since the outbreak of COVID-19, people have been prohibited from traveling. As the travel restriction has continued, travelers' intention to travel might be strengthened due to their reduced self-control, as Wegner's (1994) ironic process theory suggested. The findings could be different if there were no travel restrictions. Thus, future studies are encouraged to replicate this study in an effort to investigate the potential effect of ironic process theory.

Second, this study selected one of the most popular leisure destinations whose target market is broad in its range. Because of the study setting, the findings of this study might be limited to certain types of leisure destinations. Accordingly, the findings of this study might be divergent in other settings, such as leisure destinations focusing on natural resources. Future

studies are recommended to test multiple leisure destinations with their diverse competitive edges (e.g., natural resources) in order to increase the generalizability of the findings.

Lastly, this study only investigated travelers' affective responses to their virtual trips.

Although the tourism industry is closely associated with hedonic consumption, exploring a destination where travelers had already been to might also generate their cognitive responses.

Therefore, this study could be further extended by incorporating cognitive responses and comparing the effect size differences between affective and cognitive responses after their virtual trip.

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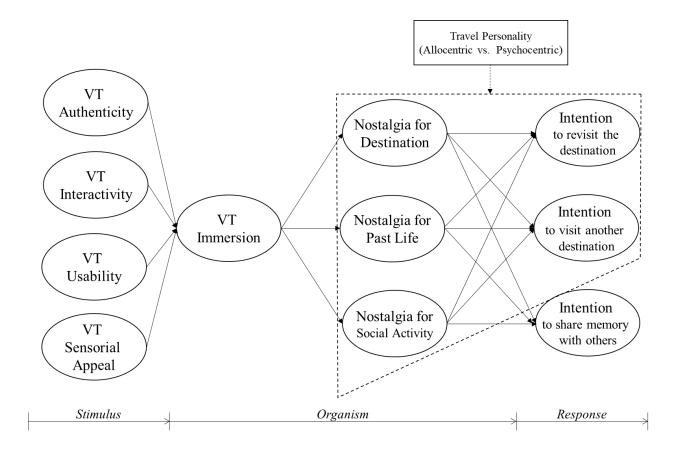
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## **Figures**

Figure 1. Research Framework



**Tables** 

Table 1. Respondents' Profile

Table 1. Respondents' Profile		
Demographic Profile (N = 304)	N	%
Gender		
Male	157	51.6%
Female	147	48.4%
Year of Birth		
Born before 1950	3	1.0%
1950 - 1959	15	4.9%
1960 - 1969	29	9.5%
1970 - 1979	61	20.1%
1980 - 1989	127	41.8%
1990 or later	69	22.7%
Education Level		
Less than high school	3	1.0%
High school graduate	38	12.5%
Associate degree	39	12.8%
Bachelor's degree	159	52.3%
Postgraduate Degree	64	21.1%
Others	1	0.3%
Employment Status		
Employed full time	230	75.7%
Employed part time	22	7.2%
Self-employed or business owner	21	6.9%
Unemployed	16	5.3%
Retired/Others	15	5.0%
Household Income		
\$30,000 or less	33	10.9%
\$30,001 to \$50,000	56	18.4%
\$50,001 to \$70,000	60	19.7%
\$70,001 to \$90,000	54	17.8%
\$90,001 to \$110,000	40	13.2%
More than \$110,000	61	20.1%
Ethnicity		
Caucasian	249	81.9%
African American	20	6.6%
Asian	21	6.9%
Others	14	4.6%
Previous VR Experience		
Never	69	22.7%
1 - 2 times	143	47.0%
3 times or more	92	30.3%

Table 2. Constructs Descriptive Statistics

Construct/Items	Mean	Std	Std. Loading	CR	AVE
Virtual Trip Authenticity				0.95	0.73
The virtual trip to Orlando, FL, well reflected actual places in Orlando, FL.	5.83	1.03	0.80		
I felt the unique personalities of Orlando, FL, in the virtual trip to Orlando, FL.	5.50	1.25	0.80		
The virtual trip to Orlando, FL, presented the atmosphere of Orlando, FL, very well.	5.63	1.25	0.86		
The virtual trip to Orlando, FL, accurately portrayed the scenery of Orlando, FL.	5.83	1.14	0.87		
The virtual trip to Orlando, FL, restored the atmosphere of Orlando, FL, very well.	5.60	1.18	0.87		
The virtual trip to Orlando, FL, precisely projected the city of Orlando, FL.	5.55	1.29	0.88		
The virtual trip realistically represented the city of Orlando, FL.	5.66	1.27	0.89		
Virtual Trip Interactivity				0.90	0.69
I was able to interact with the virtual trip to Orlando, FL.	5.82	1.19	0.79		
The virtual trip to Orlando, FL, helped me personalize my virtual trip to Orlando, FL.	5.47	1.23	0.88		
The virtual trip to Orlando, FL, allowed me to explore tour options Orlando, FL, based on my preference.	5.81	1.10	0.79		
The virtual trip to Orlando, FL, was highly interactive with viewers like me.	5.65	1.29	0.85		
Virtual Trip Usability				0.91	0.71
The virtual trip to Orlando, FL, was easy to navigate.	5.77	1.17	0.89		
The interface of the virtual trip to Orlando, FL, was user friendly.	5.80	1.19	0.90		
Using the virtual trip to Orlando, FL, required little effort.	5.59	1.29	0.78		
The virtual trip to Orlando, FL, was error-free.	5.72	1.24	0.78		
Virtual Trip Sensorial Appeal				0.94	0.83
The virtual trip to Orlando, FL, appealed to my senses.	5.69	1.25	0.90		
The virtual trip to Orlando, FL, was impressive in its design.	5.84	1.25	0.91		
I found the virtual trip to Orlando, FL, interesting in a sensory way.	5.82	1.25	0.93		
Virtual Trip Immersion (Adjusted $R^2 = 0.57$ )				0.96	0.84
I felt as if I was a part of the environment in Orlando, FL.	5.19	1.47	0.91		
I felt as if I was actually there in Orlando, FL.	5.02	1.68	0.93		
I felt as if the objects in the virtual trip to Orlando, FL, surrounded me.	5.14	1.58	0.93		
I felt as if my true location had shifted into Orlando, FL.	4.73	1.77	0.91		

Nostalgia for Destination (Adjusted $R^2 = 0.49$ )				0.94	0.75
The virtual trip to Orlando, FL, evoked positive memories about my last trip to Orlando.	5.82	1.25	0.86		
The virtual trip to Orlando, FL, evoked memories about my travel experiences in Orlando.	5.83	1.25	0.86		
The virtual trip to Orlando, FL, evoked memories about the landscape and scenery of Orlando.	5.81	1.17	0.87		
The virtual trip to Orlando, FL, evoked memories about the local culture of Orlando.	5.37	1.45	0.83		
The virtual trip to Orlando, FL, evoked memories about the mood of Orlando.	5.61	1.27	0.89		
Nostalgia for Past Life (Adjusted $R^2 = 0.39$ )				0.95	0.72
The virtual trip to Orlando, FL, revived memories of my less exhausted life.	4.95	1.48	0.74		
The virtual trip to Orlando, FL, revived good times from my past.	5.55	1.31	0.85		
The virtual trip to Orlando, FL, revived memories of my past life when I could travel.	5.52	1.29	0.87		
The virtual trip to Orlando, FL, revived my memories of being a traveler in the past.	5.57	1.25	0.85		
Through the virtual trip to Orlando, FL, I experienced positive feelings about when I had enough time to travel.	5.92	1.16	0.85		
Through the virtual trip to Orlando, FL, I experienced pleasant reminders of my past.	5.98	1.13	0.88		
Through the virtual trip to Orlando, FL, I experienced the good old days when I traveled.	5.88	1.19	0.86		
Nostalgia for Social Activity (Adjusted $R^2 = 0.27$ )				0.97	0.87
The virtual trip to Orlando, FL, evoked positive memories of traveling with someone.	5.85	1.25	0.92		
The virtual trip to Orlando, FL, evoked positive memories of sharing my travel experience with someone.	5.82	1.29	0.93		
The virtual trip to Orlando, FL, revived memories of traveling with someone.	5.83	1.29	0.93		
The virtual trip to Orlando, FL, revived good times with someone during my previous trip to Orlando, FL.	5.86	1.23	0.93		
The virtual trip to Orlando, FL, was a pleasant reminder of my past trip with someone.	5.90	1.24	0.94		
Intention to Revisit (Adjusted $R^2 = 0.51$ )				0.92	0.79
After my virtual trip to Orlando, FL, I would like to visit Orlando, FL again.	5.99	1.16	0.84		
After my virtual trip to Orlando, FL, Orlando, FL will be my first choice for my next trip.	4.77	1.83	0.89		
After my virtual trip to Orlando, FL, I would like to consider Orlando, FL, for my next trip.	5.50	1.50	0.93		
Intention to Visit A Similar Destination (Adjusted $R^2 = 0.47$ )				0.94	0.83
After my virtual trip to Orlando, FL, I would like to visit some places like Orlando, FL.	5.79	1.18	0.89		
After my virtual trip to Orlando, FL, Some places like Orlando, FL, will be my first choice for my next trip.	4.98	1.68	0.90		

After my virtual trip to Orlando, FL, I would like to consider some places like Orlando, FL, for my next place.	5.37	1.46	0.94		
Intention to Share (Adjusted $R^2 = 0.49$ )				0.95	0.85
After my virtual trip to Orlando, FL, I would like to talk to others about my memories in Orlando.	5.32	1.50	0.96		
After my virtual trip to Orlando, FL, I would like to share my memories with others.	5.32	1.48	0.95		
After my virtual trip to Orlando, FL, I would like to share my memories in Orlando, FL, using my social media.	4.70	1.87	0.85		
Travel Personality				0.87	0.69
When traveling, I prefer familiar destinations.	3.43	1.49	0.87		
When traveling, I prefer the usual comforts.	4.04	1.36	0.83		
When traveling, I prefer to socialize with the same culture.	3.45	1.41	0.79		

Note. All items were measured on a 7-point Likert scale.

Table 3. Fornell & Larker's (1981) Discriminant Validity

	1	2	3	4	5	6	7	8	9	10	11
VT Authenticity	0.856										
VT Interactivity	0.723	0.828									
VT System Usability	0.630	0.689	0.840								
VT Sensorial Appeal	0.764	0.668	0.604	0.913							
VT Immersion	0.708	0.581	0.507	0.714	0.919						
Nostalgia for Destination	0.692	0.609	0.513	0.664	0.698	0.864					
Nostalgia for Past Life	0.553	0.467	0.389	0.652	0.622	0.771	0.846				
Nostalgia for Social Activity	0.450	0.401	0.298	0.493	0.523	0.715	0.798	0.932			
Intention to Revisit	0.537	0.421	0.386	0.597	0.583	0.635	0.569	0.519	0.887		
Intention to Visit a Similar Destination	0.527	0.422	0.389	0.573	0.559	0.595	0.574	0.454	0.850	0.911	
Intention to Share	0.460	0.372	0.362	0.448	0.587	0.610	0.578	0.549	0.699	0.676	0.923

Table 4. Hypothesis Testing

	Hypothesis	(Boo	tstrap N = 5000)	est	se	t	p	f	Result
H1	VT Authenticity	$\rightarrow$	VT Immersion	0.370	0.078	4.727	< 0.001***	0.104	Supported
H2	VT Interactivity	$\rightarrow$	VT Immersion	0.047	0.071	0.644	> 0.05	0.002	Not Supported
Н3	VT System Usability	$\rightarrow$	VT Immersion	0.001	0.069	0.011	> 0.05	0.000	Not Supported
H4	VT Sensorial Appeal	$\rightarrow$	VT Immersion	0.399	0.080	5.030	< 0.001***	0.144	Supported
H5a	VT Immersion	$\rightarrow$	Nostalgia for Destination	0.697	0.038	18.571	< 0.001***	0.951	Supported
H5b	VT Immersion	$\rightarrow$	Nostalgia for Past Life	0.622	0.043	14.633	< 0.001***	0.632	Supported
H5c	VT Immersion	$\rightarrow$	Nostalgia for Social Activity	0.520	0.056	9.379	< 0.001***	0.376	Supported
H6a	Nostalgia for Destination	$\rightarrow$	Intention to Revisit	0.482	0.107	4.412	< 0.001***	0.132	Supported
H6b	Nostalgia for Past Life	$\rightarrow$	Intention to Revisit	0.153	0.139	1.203	> 0.05	0.015	Not Supported
Н6с	Nostalgia for Social Activity	$\rightarrow$	Intention to Revisit	0.054	0.088	0.563	> 0.05	0.002	Not Supported
H7a	Nostalgia for Destination	$\rightarrow$	Intention to Visit A Similar Destination	0.422	0.096	4.242	< 0.001***	0.094	Supported
H7b	Nostalgia for Past Life	$\rightarrow$	Intention to Visit A Similar Destination	0.340	0.123	2.904	< 0.01**	0.062	Supported
Н7с	Nostalgia for Social Activity	$\rightarrow$	Intention to Visit A Similar Destination	-0.120	0.093	-1.318	> 0.05	0.008	Not Supported
H8a	Nostalgia for Destination	$\rightarrow$	Intention to Share	0.374	0.111	3.359	< 0.001***	0.086	Supported
H8b	Nostalgia for Past Life	$\rightarrow$	Intention to Share	0.182	0.132	1.363	> 0.05	0.015	Not Supported
Н8с	Nostalgia for Social Activity	$\rightarrow$	Intention to Share	0.139	0.121	1.156	> 0.05	0.012	Not Supported

Table 5. Mediation Testing

Mediation Path $(N = 5000)$	β	se	t	p	Result
VR Immersion → Nostalgia for Destination → Intention to Revisit	0.328	0.081	4.079	< 0.001***	Supported
VR Authenticity → VR Immersion → Nostalgia for Destination → Intention to Revisit	0.121	0.041	2.969	< 0.01**	Supported
VR Sensorial Appeal → VR Immersion → Nostalgia for Destination  → Intention to Revisit	0.132	0.045	2.968	< 0.01**	Supported
VR Immersion → Nostalgia for Destination → Intention to Visit A Similar Destination	0.283	0.070	4.021	< 0.001***	Supported
VR Authenticity → VR Immersion → Nostalgia for Destination  → Intention to Visit A Similar Destination	0.104	0.035	2.988	< 0.01**	Supported
VR Sensorial Appeal → VR Immersion → Nostalgia for Destination  → Intention to Visit A Similar Destination	0.114	0.040	2.871	< 0.01**	Supported
VR Immersion → Nostalgia for Past Life → Intention to Visit A Similar Destination	0.223	0.077	2.884	< 0.01**	Supported
VR Authenticity → VR Immersion → Nostalgia for Past Life → Intention to Visit A Similar Destination	0.082	0.035	2.365	< 0.05*	Supported
VR Sensorial Appeal → VR Immersion → Nostalgia for Past Life  → Intention to Visit A Similar Destination	0.090	0.033	2.681	< 0.01**	Supported

Table 6. Results of Hypotheses 9 and 10 (Multi-Group Analysis)

	Н	Diff(A - P)	Z	p		
Н9а	Nostalgia for Destination	$\rightarrow$	Intention to Revisit	-0.06	-3.60	< 0.01**
H9b	Nostalgia for Past Life	$\rightarrow$	Intention to Revisit	0.08	3.64	< 0.01**
Н9с	Nostalgia for Social Activity	$\rightarrow$	Intention to Revisit	-0.02	-1.45	> 0.05
H10a	Nostalgia for Destination	$\rightarrow$	Intention to Visit A Similar Destination	-0.18	-12.72	< 0.001***
H10b	Nostalgia for Past Life	$\rightarrow$	Intention to Visit A Similar Destination	0.22	11.40	< 0.001***
H10c	Nostalgia for Social Activity	$\rightarrow$	Intention to Visit A Similar Destination	-0.04	-2.54	< 0.05*

Note. Diff. indicates the path coefficients difference between allocentric and psychocentric.