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Domestic tourists' experience in protected natural parks: a new trend in pandemic crisis?

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1. Introduction

The Covid-19 outbreak has already had a very significant impact on tourism, triggering important changes in mobility, social behaviour, consumption patterns and leisure (Romagosa, 2020). One of the consequences has been the boosting of proximity tourism, whether within a country (i.e., domestic tourism), in a region, or in some parts of the border areas between one's home country and neighbouring states (Cabello, Navarro-Jurado, Thiel-Ellul, Rodríguez-Díaz, & Ruiz, 2021). Indeed, nearby destinations may be considered less risky by potential tourists because of insecurity and uncertainty, and because their purchasing power may have been affected by the economic crisis resulting from the pandemic. Domestic tourism is a neglected topic in the literature and its importance to the economy has generally been underestimated (Canavan, 2013; Hudson & Ritchie 2002; Stylidis, Belhassen, & Shani, 2017; Yang, Liu, & Qi, 2014; Wynen, 2013). This is especially disappointing given that the target population for European parks was generally domestic tourists from nearby regions, staying in the park for a weekend, a short stay (Canavan, 2013; Jeuring, 2017), or at least 4 hours on a same-day trip (Wynen, 2013). Another major consequence of the pandemic crisis has been the development of active leisure in outdoor spaces less conducive to the spread of the virus during holidays or vacations especially in natural parks nearby to one's home. In this context, what are the experiences of domestic tourists during their stays in natural parks? Can they be considered of the same nature as those of less constrained holidays in more distant destinations?

Managers of many parks need to analyse on-site experiences to develop or adapt offerings in order to succeed in a competitive global context particularly for domestic or proximity visitors (Ghazvini, Timothy, & Sarmiento, 2020; Margaryan & Fredman, 2017). Generally, tourist experiences need to be understood as being highly subjective and variable, marked by primarily affective, hedonic, and symbolic facets (Otto & Ritchie, 1996), eventually leading

to positively-felt arousal and traces in memory (Martin, 2010; Morgan & Xu, 2009).

Experience is defined either as peak or flow (Dodson, 1996; Tumbat & Belk, 2011) and could be more or less intensive due to the personal and intimate nature of experiences (Scott, Gao, & Ma, 2017) and to the specific touristic context (Knobloch, Robertson, & Aitken, 2017). In order to improve or adapt the development of new products in relation to destination or spaces (i.e. natural parks) and type of tourist (i.e. domestic tourists), a comprehensive understanding of why on-site experiences promote arousal (or not) and/or become memorable, is required (Kim, Ritchie, & McCormick, 2012; Kim, Ritchie, & Tung, 2010).

Natural parks offer a rich set of natural, patrimonial, or human resources in rural, mountainous, or maritime contexts, and are usually categorized by their size or localization: national, subnational, or county, urban, etc. They can be protected or not, free or not, with people living inside or not (Authors, 2017), and they can generate high or low arousal (Timonen, Repo, Rask, & Lammi, 2009) linked to the intensity of visitors' participation in the experience. Natural parks are often increasingly used during holidays or weekends for more active activities demanding a high level of intensity such as hiking, cycling, sailing, diving, running, and others (Hardiman & Burgin, 2011; Kaczynski & Henderson, 2007) and more passive activities such as visiting local museums, food or beverage testing, spa, massage, and other amenities. (Loureiro, 2014; Schliephack, Moyle, & Weiler, 2013). In these specific territories, Pine and Gilmore's 4Es theoretical framework (1998, 1999) offers an appropriate model to understand on-site experiences in one or all of the four realms (education, escapism, aesthetics, and entertainment), including visitors' participation (active or passive).

The goal of this article is to better understand the experiences lived by domestic tourists in France when they visited protected and free natural parks during short or long stays in their country. Firstly, the literature review adapts the literature on the general tourism experience for domestic tourists in natural parks. Secondly, with a study preceding the Covid-19

pandemic, the analysis tests Oh, Fiore, & Jeoung' scale (2007) on French tourists in a protected and free natural park in a rural area and, subsequently measures the influences of the four realms of Pine and Gilmore's model (1998, 1999) on arousal and memory outcomes. Finally, findings are discussed, and managerial implications are suggested to help managers of protected natural parks adapt their domestic tourists' experience offer, especially during pandemic crisis. Moreover, scholarship contributions, limitations, and directions for future research, are suggested.

2. Literature review

2.1. Domestic tourism: a new trend in pandemic crisis

Since December 2019, the Covid-19 crisis has led to profound changes around the world with a lot of interdictions or constraints to travel outside one's own country. One of the major consequences has been the development of proximity tourism in outdoor spaces less conducive to the spread of the virus. According to Romagosa (2020) and Cabello and colleagues (2020), the consequences of the Covid-19 crisis has been the boosting of proximity tourism, especially for domestic tourists nearby their region with vacations restricted to a day, a few days or a week, in outdoor territories. However, domestic tourism is a neglected topic in the literature while it is actually more important than inbound tourism for many European countries. Indeed, it accounts for 65% of internal tourism expenditure in the EU28 nations, compared with 35% for inbound tourism (TSA, 2019). In almost every European country, domestic tourism significantly contributes to the economy. According to Eugenio-Martin and Campos-Soria (2014), residents of France and Italy are more likely to travel domestically. Moreover, according to Canavan (2013), domestic tourism is widely acknowledged to induce a redistribution of national income from richer, typically metropolitan areas, to poorer, usually rural and more isolated ones (Pearce, 1990).

According to Jeuring (2017), unlike the international trips that tourists dream about, domestic tourism often takes place in a context that is relatively close to, or even the same as, one's familiar everyday environment. Some researchers do not even use terms like domestic tourist or domestic tourism, even if their sample consists of this type of travellers (Chen & Tsai, 2007; Qu, Kim, & Im, 2011; Wang and Hsu, 2010). A few months ago, domestic holidays might have been considered old-fashioned, yet a revival now seems to be shaping amidst the Covid-19 crisis. Since domestic tourists tend to travel shorter distances (Fennell, 2008), proximity tourists may come from neighbouring areas for a weekend or a short stay (Canavan, 2013; Jeuring, 2017), or an overnight or a same-day trip (at least four hours' duration) (Wynen, 2013).

2.2. Protected natural parks and domestic tourism

'Understand[ing] the nature of specific kinds of tourism experiences' (Ritchie & Hudson, 2009, p. 111) has become a challenge for managers of diverse touristic contexts: theme parks, museums, and festivals (Mehmetoglu & Engen, 2011), cruises (Hosany & Witham, 2010), temple stays (Song, Lee, Park, Hwang, & Reisinger, 2015), rural territories (Kastenholz, Carneiro, Marques, & Loureiro, 2018), nature-based tourism (Su, Lebrun, Bouchet, Wang, Lorgnier, & Yang, 2018), and wine destinations (Quadri-Felitti & Fiore, 2016). As part of this trend, park managers strive to promote their resources, such as providing opportunities to live arousal and memorable experiences in order to improve ultimate satisfaction for visitors or the quality of their products (Grisseemann & Stokburger-Sauer, 2012; Ritchie & Hudson, 2009; Tung & Ritchie, 2011). Most recently, a few studies have analysed the experiential context of natural parks (Kang & Gretzel, 2012; Sorakunnas, 2020) considering these nature-based destinations as geographically and culturally delimited. In protected natural park settings, tourists experience a specific place (Rice, Taff, Miller, Newman, Zipp, Pan, Newton, &

D'Antonio, 2020) in which the experience is multidimensional and unique for each situation and consumer (Walls, Okumus, Wang, & Kwun, 2011).

Park visitor studies indicate that visitors are usually proximity tourists from neighbouring areas who stay in the park for a weekend, a short stay (Canavan, 2012; Jeurig, 2017), or at least 4 hours on a same-day trip (Wynen, 2013). This definition of proximity tourism is shared by the English Tourism Society (<http://www.tourismsociety.org/>) which defines leisure-day visitors as people spending less than 3 hours away from home but outside their usual environment, for general leisure, and recreational or social purposes, while it defines same-day visitors as those spending at least 3 hours away from home outside their usual environment as tourist day visitors. In this paper, the word 'visitor' is used to simultaneously define domestic tourists in protected natural parks in France making overnight trips or those spending at least 4 hours on a same-day trip (Wynen, 2013). Yet, little is known about how experiences are concretely lived in natural parks in relation to a set of possible activities involving both passive and active participation, and the kinds of links that may exist between visitors' arousal and memorable outcomes.

2.3. 4Es model, arousal and memorable outcomes for domestic tourists

According to Tung and Ritchie (2011), the tourism industry was a pioneer in adopting the experience economy approach (Volo, 2009) due, in particular, to an increasing demand for more participative and interactive experiences (Mathisen, 2013) in an immersion or absorption physical environment (Carù & Cova 2007). Pine and Gilmore's theoretical framework (1998, 1999) offers a model on how experiences are categorized in four realms, including consumers' participation (active or passive). Previous research outlined the importance and value of the four realms as a general integrating framework in tourism and hospitality studies. The validity of this model depends on the experiential context as explained

in previous tourism studies that examine how the 4Es model (Pine & Gilmore, 1998, 1999) affects excitation and memory (Table 1).

[Table 1 near here]

However, despite the noteworthy work done, more research on this topic is necessary in order to confirm the 4Es model related to arousal and memorable outcomes, in relation to the nature of the experience offered and/or lived. Recently, Duerden, Lundberg, Ward, Taniguchi, Hill, Widmer, and Zabriskie (2018) subdivided conscious experiences into ordinary (producing subjective reactions lacking strong emotions) and extraordinary (producing strong subjective reactions exhibiting emotion, discovery, and change). These experiences may be perceived as positive or negative. Melton (2017) also identified novelty as the key variable when differentiating between core (i.e., ordinary and routine) and balance (i.e., extraordinary and flow) family leisure activities. In this vein, Timonen, Repo, Rask, & Lammi (2009) differentiate high arousal and hedonistic experiences and low arousal, repetitive, and mundane experiences which depend on dedicated context with more new and unique experiences, such as amusement parks, versus non-dedicated context with more creative and repetitive experiences, such as Nordic walking in natural areas. Generally, the link between the 4Es model and arousal and memory outcomes (Table 1) does not distinguish between or compare the kinds of experiences lived by tourists (ordinary and routine or extraordinary and flow) and their intensity (high or low arousal and memory), except to differentiate between it being their first visit or not. In particular, to the authors' knowledge, there is no study using Pine and Gilmore's model (1998, 1999) with arousal and memory outcomes applied to natural parks which are more familiar and mundane than other settings for domestic tourists who live in proximity of the parks.

The findings of much research (Table 1) suggest that Pine and Gilmore's (1998, 1999) four realms of experience are likely to have a positive or differential impact on arousal and

memory. Arousal is a state of heightened activation (Finn, 2005; Oliver, Rust, & Varki, 1997; Vanhamme, 2000), the extent to which a person feels enthused and active during the consumption experience (e.g., Baker, Levy, & Grewal, 1992; Kaltcheva & Weitz, 2006; Menon & Kahn, 2002). In rural tourism, Loureiro and Kastenholtz (2011) highlighted that rural tourists need to have an experience that provides arousal to lead to positive affect. As Kim et al. (2012) reinforced, individuals tend to recall positive experiences more easily than negative ones. A tourism experience may refer to events that lead to positive or negative emotions, which in turn contribute to creating memories (e.g., Dolcos & Cabeza, 2002; Oh et al., 2007). Memory of past tourism experiences, which is another experience outcome, is an important element for bad or pleasant recollection as well as the construction of affective expectations, which, in turn, conditions future evaluation and memory (Goossens, 2000; Klaaren, Hodges, & Wilson, 1994; Tung & Ritchie, 2011). These memories will influence the intention to return and willingness to recommend the destinations or places, or even sharing post-visit experiences with family and friends (Martin, 2010).

Finally, considering that arousal and memory are significant outcomes in tourism experience (Bigné, Andreu, & Gnoth, 2005; Ulusoy, 2016), it is necessary to measure the effectiveness of the 4Es model of arousal and memory outcomes in a nature-based destination such as a protected natural park where diverse experiences (extraordinary or ordinary) co-exist in a single space to respond to the different preferences of domestic tourists living nearby.

3. Research model and hypotheses

Based on Pine and Gilmore's model (1998, 1999) and arousal and memory outcomes, a research model and hypotheses were developed and applied to protected natural parks for domestic tourists in France (Figure 1).

[Figure 1 near here]

3.1. Testing the influence of the four realms of experience on arousal and memory

outcomes

Tourism is an experiential area in which customers look for pleasurable experiences above everything else (Sørensen & Jensen, 2012). Since the most commonly recognized tourism experience scopes are the emotional ones (Otto & Ritchie, 1996; Vittersø, Vorkinn, Vistad, & Vaagland, 2000), a touristic experience can induce a memorable and emotionally aroused state (Oh et al., 2007) according to the experiential context. Considering that the fundamental outcomes of experiences are pleasure and memory of the experience (Andersson, 2007; Larsen, 2007; Sundbo & Sørensen, 2013), some scholars (Oh et al., 2007; Hosany & Witham, 2010; Su et al., 2018) show that the four realms of experience positively influence arousal and memory. Using the four experience dimensions and both outcomes – arousal and memory – the following hypotheses can be formulated:

H1.A. Education – A1, Escapism – A2, Entertainment – A3, Aesthetics – A4 positively influence Arousal.

H1.B. Education – B1, Escapism – B2, Entertainment – B3, Aesthetics – B4 positively influence Memory.

3.2. Comparing active and passive tourists' participation in arousal and memory

In Pine and Gilmore's (1998, 1999) model, the nature of tourists' participation – a) active participation linked to the dimensions 'education' and 'escapism' and b) passive participation linked to the dimensions 'entertainment' and 'aesthetics' during the experience – is fundamental to the way they live (arousal) and remember (memory) it, including in a protected natural park (Su et al., 2018). The two dimensions referred to as passive experiences could be applied to the protected natural park context: in the aesthetics dimension, visitors

enjoy the act of simply being in the destination space and only react to the geophysical environment around them. In the entertainment dimension, visitors engage in reactive participation and are just looking at others' activities in a passive manner. The two dimensions that refer to active experiences could be applied to the protected natural park context: an escapism dimension where visitors engage in an experience to escape the routine of daily life and to revitalize their lives, and the education dimension which relates to a nature-based context where providers produce intellectual education related to flora, fauna, and geophysical characteristics in order to increase visitors' knowledge or skills. The active participation experiences (education and escapism) are more positively related than passive participation experiences (entertainment and aesthetics) to pleasure and memorability (Su et al., 2018). The following hypotheses can be formulated:

H2.A. Active participation (Education, Escapism) is higher than passive participation (Entertainment, Aesthetics) for Arousal (A1: Education>Entertainment; A2: Education>Aesthetics; A3: Escapism>Entertainment; A4: Escapism>Aesthetics)

H2.B. Active participation (Education, Escapism) is higher than passive participation (Entertainment, Aesthetics) for Memory (B1: Education>Entertainment; B2: Education>Aesthetics; B3: Escapism>Entertainment; B4: Escapism>Aesthetics).

4. Methods

4.1. Data collection and sample design

A survey was conducted in Morvan Park (MP), which is one of the 51 regional protected natural parks (PNR) in France. Created in 1970, MP is located 30 kilometres south of the regional capital (Dijon) in the region of Burgundy and spreads over four Departments (Yonne, Nièvre, Saône-et-Loire, and Côte-d'Or) with an area of 2,999 km² including 117 cities. MP is readily accessible by national and county roads from all directions and can be reached from

Paris in two hours. Historically speaking, MP was the economic, political, and religious centre of Gaul. Two historical sites are well-known: Bibracte, where Vercingetorix was proclaimed head of the Gaulish coalition in 52 BC, and more recently, Château-Chinon, which was the electoral fief of former President François Mitterrand. MP is defined as a rural area with a strong identity and a rich natural and cultural heritage.

With the exception of the protected wildlife areas, MP boasts a hilly terrain in which visitors find clean air and fresh water lakes and rivers. A park house educates visitors about the problems faced in the development of sustainable tourism, biodiversity, forestry, renewable energy, and cultural activities. Inside the park, many vacation homes are located in the 117 cities and towns, together with providers of accommodation (hotels, campsites, and bed & breakfast establishments) and restaurants (gastronomic and fast food), as well as providers of active leisure activities. MP is also renowned for its coniferous forests (producing Christmas trees sold throughout France). The park features regular and seasonal cultural and gastronomic attractions, landscaped and marked trails, primarily for the practice of hiking (whether by day or by night) and cycling (road and mountain biking), as well as lakes and rivers for water sports (sailing, windsurfing, canoeing, and fishing). Very little of the area is supervised by the police, despite the existence of regulations and the presence of many homeowners and farmers (grain and cattle).

The information necessary for this empirical study was collected by the convenient sampling method in MP through random face-to-face interviews in September and October 2013 and in April, May, and June 2014. This area was selected because the target population of MP was domestic tourists from neighbouring areas staying in the park for a weekend, a short vacation (Canavan, 2013; Jeurig, 2017), or at least 4 hours on a same-day trip (Wynen, 2013). If interviewees did not qualify as domestic tourists (overnight trips or at least 4 hours on a same-day trip) or were not willing to participate in the study, the next available person would be

interviewed. A total of 543 questionnaires was obtained, yet only 500 responses were usable, meaning complete and without missing values. A large percentage of respondents were repeat visitors (95%). The sample was divided almost equally between overnight and same-day tourists and between males and females. A sample profile is summarized in Table 2.

[Table 2 near here]

4.2. Questionnaire design

The survey questionnaire was composed of four sections. The first section includes questions regarding visits, such as the first visit or multiple visits to the park, and the visitors' source of information regarding MP. The second section measures the experience in the experiential context by means of a four-dimension scale referring to the four realms of experience adapted from Pine and Gilmore (1998, 1999): education, aesthetics, entertainment, and escapism. The construction of this experience scale is based on previous research and adapted to fit the natural park experience (Hosany & Witham, 2010; Oh et al., 2007; Pine & Gilmore, 1998, 1999; Su et al., 2018). The scale includes 16 experience items evaluated on a 7-point Likert-type scale. The third section measures arousal and memorable experience as outcomes of the emotional experience induced by MP (Andersson, 2007; Bigné et al., 2005; Kim & Ritchie, 2014; Larsen, 2007; Martin, 2010; Ulusoy, 2016; Oh et al., 2007). The construct of arousal and memorable experience was estimated with two items for each, evaluated on a 7-point Likert-type scale based on previous research (Hosany & Witham, 2010; Oh et al., 2007). The fourth section collects demographic information including gender, age, marital status, and education background.

4.3. Analyses

The descriptive statistics, the Exploratory Factorial Analyses (EFA), and the correlation table were compiled using SPSS 22.0. The Exploratory Factor Analysis using the PCA (principal component analysis) method with Varimax rotation was conducted for the study. The number of factors was determined by using an eigenvalue greater than 1, and the percentage of variance was explained. In both cases, KMO is greater than 0.7 and Bartlett's test is significant. The confirmatory factor analyses to validate the scale of protected natural park experience and the structural equations required to address the hypotheses were carried out using AMOS 22.0 (Arbuckle, 2013), taking into account the recommendations of Hair, Black, Babin, and Anderson (2009).

In order to validate the approach and the two hypothesis groups, a structural equation model was used, including relationships between the dimensions of experience and the two outcomes, arousal and memory. According to Andersson (2007), Larsen (2007), and Oh et al. (2007), arousal and memory are the hedonic and sensorial dimensions of actual visitors' experience in the conceptual framework.

5. Results

5.1. Validity and reliability of the measures

First, the sample was analysed to see if all indicators were significant. Preliminary analyses confirmed the absence of missing values (500 questionnaires without missing values were selected from the 543 initial questionnaires). Accordingly, responses of four dimensions for experience were factor analysed with Varimax rotation. An eigenvalue of 1.0 was used as factor extraction criterion, and factor loadings of at least .70 were accepted for item inclusion (Hair et al., 2009; Hair, Babin & Krey, 2017). Neither loadings (less than 0.7) nor Cronbach's alphas of the aesthetics dimension were significant. The four items from the aesthetics dimension were excluded from the analysis. Consequently, the Varimax exploratory factor

analysis (EFA) resulted in three factors. The reliabilities of the three dimensions of the scale were determined by means of Cronbach's alpha. The three factors explained 82.4% of the total variance and had eigenvalues higher than 1 (Appendix 1). With the deletion of the aesthetics dimension, the experience scales for the park sample achieved structurally reliable measurement properties. All indicators of the three dimensions showed significant extractions higher than 0.5 and factor loadings higher than 0.7. The Cronbach's alpha of the three dimensions was between .90 and .95 (Hair et al. 2009). We carried out a confirmatory factor analysis (CFA) to establish the psychometric qualities of the scale. Jackson, Gillaspy, and Purc-Stephenson (2009) recommended limiting the reporting of fit indices to three types of indicators: (i) the Chi-squared test and its associated p-value; (ii) an incremental index (TLI, CFI); and (iii) a residual index (RMSEA). We considered the recommendations of Hair et al. (2009; 2017) and those of Hooper, Coughlan, and Mullen (2008): TLI and CFI > 0.9; RMSEA < 0.08; Chi2/df is acceptable if its value is between 2 and 5. The four indicators showed a good fit ($\chi^2 = 203.123$; $df = 51$, $\chi^2/df = 3.98$, TLI = .963, CFI = .97, RMSEA = .077) based on the selected approximation fit indices. The average variance extracted (AVE) for each factor was well above the recommended threshold levels of 0.50. All square roots of AVE are greater than the construct's highest squared correlation with any other latent construct, indicating that all aspects of experience were specific and distinct, thus confirming discriminant validity (Fornell & Larcker, 1981). The construct reliability (CR) ranged from 0.90 for escapism to 0.95 for entertainment, all well above the recommended threshold level of 0.70 (Hair et al., 2009; 2017).

Only three dimensions were validated (education, escapism, and entertainment) by the EFA. This result is not consistent with previous studies using the 4Es model (Table 1), which showed that the aesthetics dimension is highly important in an outdoor context (Kastenholz et al., 2018; Louriero, 2014; Su et al., 2018) and in a dedicated and/or artificial context, even if

sometimes aesthetics is measured on a formative scale (Antón, Camarero, & Laguna-García, 2017) or is not measured at the same level as the three other experience dimensions (Tom Dieck, Jung, & Rauschnabel, 2018). This result can be explained either by the sample in which 95% of the respondents were repeat visitors, or by the items that were not adapted to the aesthetics experience of a rural and French natural park. Most of the studies that employed the four dimensions of experience scale (Table 1) used CFA to validate the four dimensions but did not use EFA before the CFA. When articles used an EFA they did not always find the four dimensions, for example, Radder and Han (2015) who found only three factors because education and entertainment were combined into one factor (edutainment, escapism, and aesthetics).

5.2. Final model

We assessed the measurement model (Table 3) based on the recommendations of Jackson et al. (2009). We considered the recommendations of Hair et al. (2009) and those of Hooper, Coughlan, and Mullen (2008): TLI and CFI > 0.9; RMSEA < 0.08; Chi2/df is acceptable if its value is between 2 and 5. In this study, the global model indicates a correct adjustment to data with the following indices: Chi2 (χ^2) = 438.632, df = 125, Chi2/df = 3.509, $p < 0.001$, RMSEA = 0.070, CFI = 0.962 and TLI = 0.954. All squared correlations are lower than the value of the rho convergent validity index, indicating that all aspects of identity are specific and distinct, thus confirming discriminant validity, as seen in Table 4 (Fornell & Larcker, 1981). Like most previous research (Table 1), these results validated the model. In Table 3, the MP descriptive statistics (means) of the items are similarly ranked as a rural context Ed>Ent>Esc (Kastenholz et al., 2018) and lower than those for/in a nature-based context (Su et al., 2018).

[Table 3 near here]

[Table 4 near here]

5.3. Hypothesis testing

5.3.1. Testing H1A and H1B: influence of the 4E on memory and arousal

To respond to H1A and H1B, the first step of the study tested the positive influence of the three dimensions of experience in the model on arousal and memory for the whole sample (n = 500). The measurement model (Figure 2) first showed that the three dimensions of experience positively influenced arousal (education: $\gamma = 0.521$, $p < 0.001$; entertainment: $\gamma = 0.227$, $p < 0.001$; escapism: $\gamma = 0.047$, $p < 0.05$) and memory (education: $\gamma = 0.468$, $p < 0.001$; entertainment: $\gamma = 0.245$, $p < 0.001$; escapism: $\gamma = 0.121$, $p < 0.01$). These results validated H1.A1 to H1.A3 and H1.B1 to H1.B3, yet did not validate H1.A4 and H1.B4, which was not consistent with six previous research studies measuring the influence of the 4Es on memory and arousal (Table 1). Except Su et al. (2018) in a natural park in Taiwan and Loureiro (2014), using a second order construct for rural experience, the four other studies did not validate the influence of each experience dimension on arousal and memory outcomes: Ed=>Ar and Est=>Mem (Oh et al., 2007); Est, Ent, Ed=>Ar and Est, Ed=>Mem (Hosany & Witham, 2010); Est, Ent, Ed=>Ar and Est, Ent, Ed=>Mem (Song et al., 2019); Est, Ed=>Ar and Est, Esc=>Mem (Kastenholtz et al., 2018). As described before, MP is a rural and forested area that does not differ from the surrounding rural landscape for the domestic tourists living nearby. Consequently, the lack of aesthetic dimension for these tourists could be explained either by this specific context or by mismatching of items in Oh et al.'s (2007) scale.

[Figure 2 near here]

5.3.2. Testing H2A and H2B: Comparing the importance of 4E on memory and arousal

To answer H2A and H2B, the study tested model 1, which is an unconstrained model. In the second step, three models for arousal and three models for memory were tested by comparing nested models. Each model was estimated by constraining two factor loadings while allowing the construct means of the indicators to be equal across two dimensions. All nested SEM models were compared based on a chi-square difference statistic. Table 5 compares the unconstrained model with three constrained models for both outcomes. All models were found to have good overall fit to the data (Table 5). Considering that the aesthetics dimension was not confirmed, four hypotheses were not validated. Results showed that there was a change in the χ^2 value between an unconstrained model (model 1) and the four other models for models 1.1 and 1.2 for arousal and for models 2.1 and 2.2 for memory. Education is a higher experience dimension than entertainment (Ed>Ent) regarding arousal and memory. These results validated H2.A1 and H2.B1. Entertainment is a higher experience dimension than escapism (Ent>Esc) regarding arousal and memory, which did not validate H2.A3 and H2.B3. Finally, this research paper presents the rank of the 4Es on arousal and memory outcomes (path coefficients) which is the same as the rank of means: Ed>Ent>Esc. Upon the six research papers measuring the influence of the 4Es on memory and arousal, only two research papers compared the importance using regression analyses (Table 1). Hosany and Witham (2009) found Est>Ent>Ed for arousal and Est>Ed for memory while Su et al. (2018) found Ed, Esc>Ent, Est for pleasure and memory. Due to the fact that MP is a nature-based experiential context and an outdoor playground, education and entertainment are the two most important experience dimensions.

[Table 5 near here]

6. Discussion and conclusion

These final discussion and conclusion highlight the managerial implications of this research especially for a context of pandemic crisis, the main theoretical and methodological contributions related to the results, as well as the limitations and recommendations for future research.

6.1. Managerial implications

The finding of this research can help managers better understand domestic tourists' experience and implement specific marketing strategies in the natural park sector, especially in a pandemic crisis context with more domestic tourists. In most tourist locations, the development of domestic travel since 2020 will probably lead the way to more proximity tourism next year, especially if countries continue imposing strict health measures and limiting international travel. Beyond the usual visits to friends or family nearby, it would be interesting for protected natural parks to promote further authentic and/or more specific local holidays with services developing nature or outdoor activities and ecotourism (Wen et al. 2005). Such a strategy might include the offer of even more original stays to enable domestic tourists (re-) discover the richness of their local territories (nature, culture, leisure, heritage, gastronomy...) with guides or local greeters capable of providing information and experiences that are really authentic and better adapted to the needs of domestic holidaymakers because they can help them optimize these enjoyable and memorable experiences (Hosany & Witham, 2010; Su et al., 2018; Wong & Lee, 2012; Wong & Wang, 2009; Yim, Chan, & Lam, 2012) in protected natural parks.

For instance, such as in rural areas (Campos, Mendes, Valle, & Scott, 2018), park managers can promote services with low arousal and more ordinary experiences in a more mundane environment. These more familiar experiences can provide domestic tourists with creative and

repetitive pleasure through the discovery of their own limits, new sensations, or new playgrounds.

Thus, the value of the product or service offered is co-created by domestic tourists and park managers, visitor knowledge and skills becoming an integral part of product development.

More specifically, park managers must allow higher active visitor participation by emphasizing the educational and escapist elements underlying nature park experiences. They can create specific areas such as playful visits or event spaces in which tourists can co-produce and co-create experiences more easily and based on their own intellectual and physical resources. Whether the natural park is free or controlled, or protected or not, the experience is not the same for all visitors (Kim & Fesenmaier, 2015; Volo, 2009), depending on their participation (active or passive) and their level of immersion in the environment (Carù & Cova, 2007). Despite the maintenance of strict sanitary conditions, deeply local and sustainable tourism, in which encounters, culture and leisure activities will have a prominent place, would allow domestic visitors to seldom travel, go nearer, yet in better and safer conditions. To take the experience co-production process one step further, park managers can use an official website, an on-site platform, or a mobile app to create a trusted interface increasing mutual participation between service providers and visitors (Yim et al., 2012).

In view of the health constraints imposed by the pandemic, the establishment of an effective communication system and digital services will contribute to the recovery of the domestic tourist market. A diversified communication strategy must be deployed by targeting the main networks (Facebook, Snapchat, YouTube and Instagram) and identifying social media influencers as endorsers to promote domestic tourism destinations and their services (Belleau et al., 2007; Yussof et al., 2018). With the Covid-19 crisis and its mid to long-term consequences, new innovations and digital services should be offered in protected natural parks (Atout France 2020): new individual or collective protection equipment enabling

compliance with health regulations while facilitating exchanges, visits and experiences; creation of innovative solutions for digitizing events, monuments, museums and sites with virtual or augmented reality services; digital, geolocalized, verified promotion of tourists, leisure and cultural services.

6.2. Contributions to scholarship

Theoretically speaking, this study analytically extended the 4Es model (Pine & Gilmore, 1998, 1999) in the direction of low arousal and mundane experiences for domestic tourists in a protected natural park. Involving domestic visitors in the creation or testing of products is a potential way of introducing mundane and repetitive experiences in tourism and leisure development (Duerden et al., 2018; Timonen et al., 2009). By using a nested SEM model, results showed that the dimensions of tourists' experiences are hierarchic in relation to arousal and memory outcomes: 1) education, 2) entertainment, and 3) escapism. Su et al. (2018) also showed, in a natural park in Taiwan, that the education and escape dimensions of the tourism experience are more strongly related to arousal and memory outcomes than the entertainment and aesthetics dimensions. In contrast to Su et al. (2018), the results of this study could be explained by the characteristics of Morvan Park which are based on historical and gastronomic elements linked to Gaul, recreational opportunities (sports and cultural activities) in forests and lakes, and the possibility for domestic visitors to be entertained.

Methodologically speaking, this study questions the scale of Oh and colleagues (2007) for natural parks with domestic tourists through the number of items, the use of EFA and the removal of the aesthetics dimension. Indeed, a critical review (Table 1) showed that the number of items is not regularly the same in the studies (fluctuating from 12 to 20) and that this scale is not always validated by an EFA before the CFA in the different studies.

According to Bandalos and Finney (2019), when a scale is adapted from previous research, it should be validated with EFA, and not just CFA, to ensure the validity of the results for topics

other than B&Bs and cruises. The first step of the methodology was to remove the aesthetic dimension because MP is a rural and forested area that is very similar to the French rural landscape for domestic tourists. Since this context is different from other parks, it would be advisable to modify and adapt the aesthetics dimension, specifically two items ('I felt a real sense of harmony' and 'Just being here was very pleasant') less linked to the aesthetics characteristics of natural parks, especially those including forests and lakes in a rural area.

6.3. Limitations and recommendations for future research

This study has limitations that point to directions for future research. New studies should be conducted on other types of natural parks, such as forested, rural, etc., to provide external validity of these results and also to confirm the interest in re-establishing Pine & Gilmore's model (1998, 1999) and its applied scale (Oh et al., 2007) in the analysis of visitors' experiences and in predicting arousal and memory outcomes. It could also be interesting to explore how individual environment connectedness in the experience process (i.e., absorption *versus* immersion, Pine & Gilmore, 1998) interacts with two main characteristics of the experiential contexts: firstly, the natural park could be more managed, being company-driven or co-driven (Carù & Cova, 2007; Sorakunnas, 2020), and secondly, it could be perceived as being more extraordinary or ordinary for the tourists (Duerden et al., 2018).

Thus, it would be beneficial to better identify the influences of the more active *versus* the more passive (reactive) axis on visitors' participation with impact of physical involvement and also mental (intellectual) involvement inside natural parks, or the leisure sports *mania* notion (Lee & Jeong, 2018, Rice et al., 2020). Understanding or approaching the experience as a whole with physical and mental involvement (Hwang & Lyu, 2015) would be consistent with the research of Pine and Gilmore (1998, 1999). Indeed, physical activities were mentioned in the educational dimension, yet the role of physical involvement for some

visitors who want to practice physical outdoor activities in connection with the context is not taken into account by the scale of Oh and colleagues (2007). By using Walls et al.'s (2011) consumers' experience framework, it would be possible to include the social and physical dimensions as well as extraordinary versus ordinary experiences, including the influence of other people on visitors' experiences.

Finally, it would be interesting to compare the results of this research in other natural parks in the same or other countries in the context of a pandemic crisis for domestic tourists and to analyse the managerial strategies to adapt or not their actions beyond the respect of health risk management rules.

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Figure 1. Proposed research model

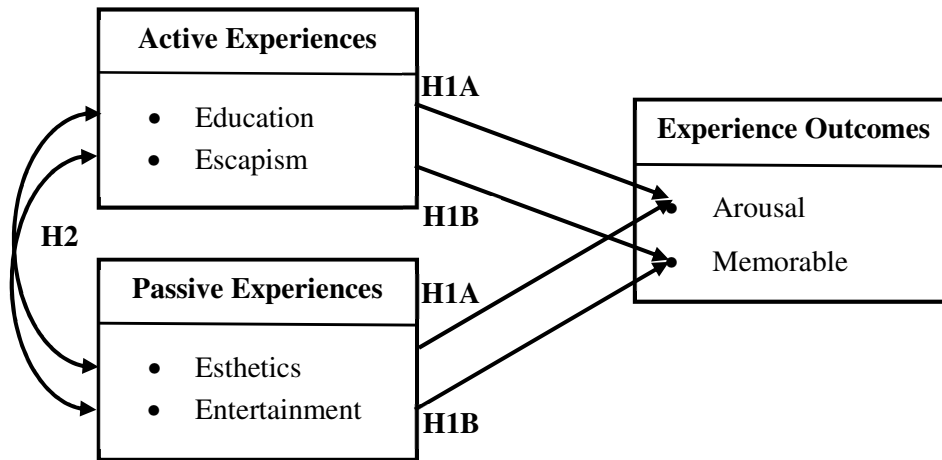


Figure 2: Final model

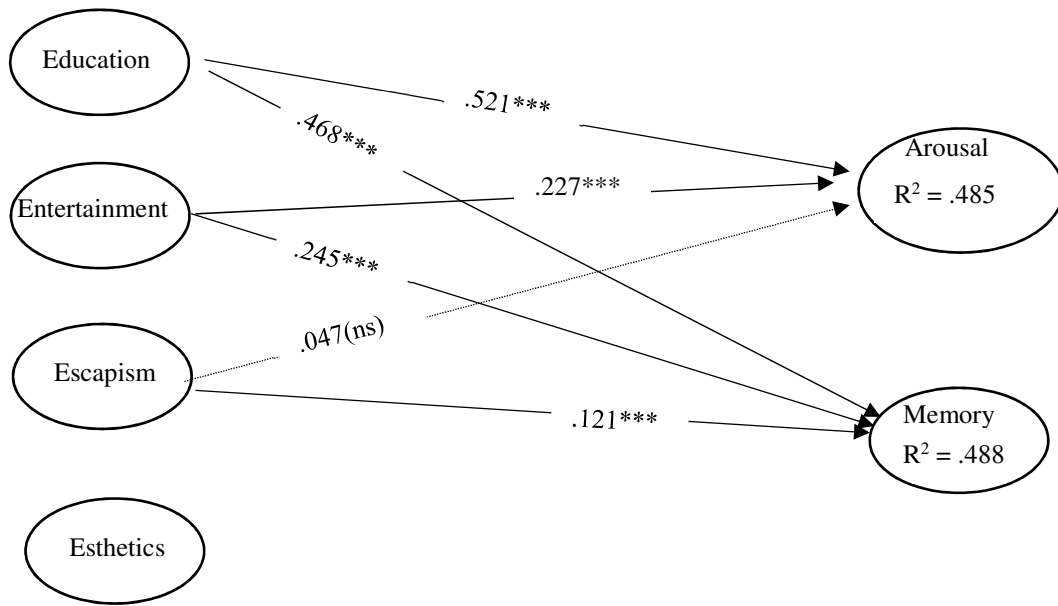


Table 1 : •Critical review on the use and the validation of Oh et al.'s scale (2007) in the tourism context

STUDY	Context	Sample and method	4 ^E Scale validation	Outcomes	Findings
Oh et al. (2007)	B&B industry	N=419, CFA, SEM	24 items (development of a scale) Validation 16 items No EFA are presented 1 st and 2 nd order	Arousal (A) Memory (M) Satisfaction (S) Overall Quality (OQ)	Ed → A Est → S, OQ, M, A
Hosany & Witham (2009)	Cruise Tourism	N=169, CFA and regression analysis (MRA)	16 items adapted (Oh et al., 2007). Validation 14 items No EFA	Arousal (A) Memory (M) Overall Quality (OQ) Satisfaction (S) Intention Recom (IR)	Est>Ent>Ed → A Est>Ed → M Est>Ent>Esc>Ed → OQ Est>Ent → S Est>Ent → IR Ent>Est → S (part) → IR
Mehmetoglu & Engen (2011)	Museum and Festival	N=75 and N=117, PLS SEM,	8 items (development of a scale)	Overall Satisfaction festival 1 (OSF1) Overall Satisfaction festival 2 (OSF2)	Est, Esc → OSF1 Est, Ed → OSF2
Loureiro (2014)	Rural tourism	N=222, PLS	16 items adapted (Oh et al., 2007). No EFA Rural experience economy (RE) second order constructs, Formative dimensions	Pleasant Arousal (Mediator) Memory (Mediator) Place attachment B Intention	Est, Ed, Esc, Ent result as RE RE → Pleasant Arousal RE → Memory
Manthiou et al. (2014)	Festival Marketing	Pretest N=50, N= 338 CFA, Regression analysis, SEM	16 items (Oh et al., 2007). No EFA Optimal Experience (OE) second order Construct Reflexive dim	Vivid Memory (VM) Loyalty (Lo) Overall experience	Est, Ent, Ed, Esc, → VM Est, Ent → Lo Est, Esc, Ed, Ent, result as OE OE → VM → Lo
Song et al. (2014)	Temple stay	Pretest N=20 and N=30; N=289 EFA, CFA, SEM	16 items adapted (Oh et al., 2007; Hosany and Witham, 2010; Mehmetoglu and Engen, 2011). Validation 14 items and 4 factors	Functional value (FV) Emotional value (EV) Satisfaction (S)	Esc, Ent, Ed → FV Est, Esc, Ent → EV EV, FV → S
Radder and Han (2015)	Museum	N=212 EFA, CFA MRA, ANOVA	20 items adapted (Oh et al., 2007). 3 factors: edutainment, escapism and esthetics	Overall Satisfaction Intention to Revisit Intention WOM	Edutainment>Est → OS Edutainment → IR Edutainment → IWOM
Chang and Lin (2015)	Creative life industry	N=992 CFA, SEM	12 items adapted (Oh et al., 2007) and (Hosany and Witham, 2010) – No EFA No information but looks like Experience Dimension (ED) second order	Subjective norm (SN) Experience process clue (EPC) Experiential value (EV)	Est, Ed, Ent, Esc result as ED ED → SN ED → EPC ED → EV
Hwang and Lyu (2015)	Golf tourism	N=230 CFA and SEM	16 items (Hosany and Witham, 2010) and Oh et al. (2007) - NO EFA	Well-Being (WB) (mod) Brand identification (BI) Revisit intention (RI) Golf Involvement (GI) (mod)	Ed, Esc, Ent → WB WB → BI BI → RI GI mod WB → BI
Quadri-Felliti and Fiore (2016)	Wine tourism	N=37 students test N=159 suppliers N=970 visitors CFA and ANOVA	16 items (Hosany and Witham, 2010) and Oh et al. (2007) - NO EFA Validation : 12 items for suppliers and 14 items for visitors	Supplier perception Supplier priority Visitor evaluation	

Anton et al. (2017)	Cocreation museum	N=175 PLS	12 items adapted (Mathwick et al., 2001; Oh et al., 2007). Ed, Ent, and Esc were measured as reflective scales, Est was measured on a formative scale. Participation (Pa) Interaction (In) Knowledge (K) Planning (Pl)	Intensification (I) Content Generation (CG)	Pa → Esc, Ed, Ent In → Ed K → Ed, Ent, Esc, Est Pl → ∅ Esc, Ed → I Esc, Ed → CG
Sipe and Testa (2017)	Hospitality ind (dining, lodging, events, attractions)	N=217 Correlation, Regression, MANOVA	12 items adapted (Oh et al., 2007) for experience Technical Service (TS) Expressive Service (ES)	Satisfaction (S) Memory (M) Service Quality (SQ)	Est, TS → S ES, Est, TS, Esc → M TS, ES → SQ Difference between the 4 types of context
Hwang and Han (2018)	Cruise	N=312 CFA, SEM	16 items (Hosany and Witham, 2010; Oh et al., 2007) -	Brand Prestige (BP) (med) Social Value (SV) Brand Attachment (BA) Brand Loyalty (BL)	Ed, Est, Ent, Esc, → BP BP → SV, BA, BL SV → BA BA → BL
Kastenholz et al. (2018)	Rural tourism	N=252 EFA, CFA, PLS	16 items adapted (Oh et al., 2007)	Arousal (A) (med) Memory (M) (med) Satisfaction (S)	Est, Ed → A Est, Esc → M A, M → S Ind effect: Est → S & Ed → S
Su et al. (2018)	Nature-based tourism	N=500 CFA, Hierarchical regression	16 items adapted (Oh et al., 2007) Validation 15 items	Pleasure (P) Memory (M) New Env Paradigm (NEP) (mod)	Ed, Esc > Ent, Est → P Ed, Esc > Est, Ent → M NEP moderates the relations
Tom Dieck et al. (2018)	Virtual reality	N=220 CFA, SEM	14 items adapted (Loureiro, 2014; Manthiou et al., 2014; Mehmetoglu & Engen, 2011; Oh et al., 2007; Quadri-Felitti & Fiore, 2013). No EFA are presented. 2 levels: Est Ed, Esc, Ent (med)	Satisfaction (S) (med) Memory (M) (med) Visitor Engagement (VE)	Est → Ed, Esc, Ent Ed, Ent → S Ed, Ent, Esc → M Est → Ed → M Est → Esc → M Est → Ent → M Est → Ed → S Est → Ent → S S → VE
Song et al. (2019)	Mega events	N=402 CFA, SEM	12 items adapted (Oh et al., 2007) for experience	Pleasure (P) (med) Arousal (A) (med) Dominance (D) (med) Satisfaction	Est, Ed, Ent → P Ed, Est, Ent → A Ed, Est → D P, A → S

In bold : Measure of the influence of 4Es on arousal and memory

Table 2: Profile of survey respondents

Variables	Frequency	Variables	Frequency
First Visit		Age	
Yes	5%	- 20	13%
No	95%	21/30	33%
		31/40	15%
Gender		41/50	17%
Male	51%	51/60	16%
Female	49%	61 and more	6%
Education level		Marital status	
Less than high school	14%	Single	52%
High school	23%	Married	48%
Associate degree	28%		
Bachelor degree	22%		
Master degree or more	13%		

Table 3: Results for the measurement model.

	means	Item loading	CR	AVE	Alpha
EDUCATION			0.927	0.760	.926
The experience has made me more knowledgeable	4.55	.898			
I learned a lot	4.51	.937			
It stimulated my curiosity to learn new things	4.60	.825			
It was a real learning experience	4.71	.822			
ENTERTAINMENT			0.949	0.824	.949
Activities of others were amusing to watch	4.27	.869			
Watching others perform was captivating	4.15	.954			
I really enjoyed watching what others were doing	4.18	.925			
Activities of others were fun to watch	4.00	.881			
ESCAPE			0.907	0.709	.903
I felt I played a different character here	3.32	.865			
I felt like I was living in a different time or place	3.38	.896			
The experience here let me imagine being someone else	3.12	.879			
I completely escaped from reality	3.83	.717			
AROUSAL			0.896	0.743	0.889
My stay at this park was interesting	5.21	.882			
My stay at this park was stimulating	5.05	.924			
My stay at this park was exciting	4.69	.772			
MEMORY			0.925	0.805	0.924
I will have wonderful memories about this park	5.09	.876			
I will remember many positive things about this park	5.15	.919			
I won't forget my experience at this park	4.98	.896			

Table 4: Validity of the construct model

	CR	AVE	MSV	MaxR(H)	Escape	Entertainment	Memory	Arousal	Education
Escape	0,907	0,709	0,158	0,920	0,842				
Entertainment	0,949	0,824	0,308	0,958	0,398	0,908			
Memory	0,925	0,805	0,682	0,928	0,389	0,555	0,897		
Arousal	0,896	0,743	0,682	0,915	0,327	0,539	0,826	0,862	
Education	0,927	0,760	0,415	0,940	0,337	0,527	0,636	0,644	0,872

Table 5: Chi-square comparison nested models

	Description	χ^2	CFI	TLI	RMS EA	$\Delta\chi^2$	Δdf	pvalue	Path estimate Experience A (unconst/equal)	Path estimate Experience B (unconst/equal)
Model 1	non constraint model	353.044	.972	.965	.062					
Model 1.1 H2.A1Arousal.	Constraint model Ed->Ent equal	369.171	.970	.963	.063	16.127	1	p<0.001	<u>0.453 (Ed)</u> /0.294	0.172 (Ent)/0.294
Model 1.2 H2.A3Arousal	Constraint model Ent->Esc equal	360.087	.972	.965	.062	7.043	1	p<0.01	<u>0.172 (Ent)</u> /0.092	0.033 (Esc)/0.092
Model 2.1 H2.B1Memory.	Constraint model Ed->Ent equal	363.324	.971	.964	.063	10.281	1	P<0.05	<u>0.421 (Ed)</u> /0.293	0.192 (Ent)/0.293
Model 2.2 H2.B3Memory	Constraint model Ent->Esc equal	356.845	.972	.965	.062	3.801	1	p<0.05	<u>0.192 (Ent)</u> /0.132	0.088 (Esc)/0.132