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This must be the place: A destination-loyalty model for extreme sporting events

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1 Raggiotto, F., & Scarpi, D. (2021). This must be the place: A destination-
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3 104254.

4 **THIS MUST BE THE PLACE: A DESTINATION-LOYALTY MODEL FOR**
5 **EXTREME SPORTING EVENTS**

6 **ABSTRACT**

7 This paper tests a moderated sequential mediation model based on hypothesized relationships
8 in extreme sporting events, addressing what drives participants' destination loyalty. Drawing
9 from edgework theory and sensation-seeking theory, the model accounts for sensation-
10 seeking, event authenticity, self-enhancement, place attachment, and revisit intention. Two
11 opposite paths emerge: a direct, negative relationship between sensation-seeking and
12 destination loyalty, and a positive indirect path mediated by self-enhancement and place
13 attachment. The relationships are explored in two studies: first, Study 1 on 300 individuals
14 attending FISE, the largest freestyle sports event in the world. Then, Study 2, meant to extend
15 the ecological validity of Study 1, based on a panel of 300 attendees of various extreme
16 sporting events in several disciplines. Implications for theory and practice are addressed.

17
18 **Keywords:** edgework theory; sensation-seeking theory; place attachment, destination loyalty:
19 extreme sports

20

21 **1. Introduction**

22 Extreme sports disciplines have developed specific events that represent the core of the
23 extreme sports industry and are the occasion for and context where participants gather to
24 compete. Many of these have grown from niche events to worldwide competitions worth
25 millions, attracting thousands of participants worldwide. For instance, the Ironman is worth
26 US\$730 million and generates revenues of approximately US\$ 1 billion (Advanced
27 Publications, 2020). Today, extreme sports are the bulk of a multi-billion-dollar phenomenon
28 centered on events that attract thousands of visitors. In 2020 the estimated value of extreme
29 sports tourism (also known as action sports or adventure sports tourism) exceeded US\$7
30 trillion (ColeReport, 2020).

31 Participants' destination loyalty for such events is a key factor in guaranteeing future
32 revenues and an event's sustained success (Raggiotto & Scarpi, 2020). The relevance of
33 destination loyalty being witnessed by an abundant volume of research studies (Zhang et al.,
34 2014). However, previous researchers have paid little attention to destination loyalty for
35 sporting events outside of traditional sports (e.g., football; Richelieu & Pons, 2006). Thus,
36 destination loyalty is addressed as the dependent variable in the present research. Focusing on
37 destination loyalty is particularly important, as the success of extreme sporting events
38 depends on their ability to attract repeat participants. Yet, destination loyalty in extreme
39 sports events is particularly difficult because fans of extreme sports are typically high in
40 variety seeking (Monasterio et al., 2016). As they are more easily bored by known situations,
41 hosts, and challenges, they tend not to come back to the same event and location (, 2016).

42 Literature has called for extending the investigation of drivers of behavioral intentions
43 for sporting events outside the domain of traditional sports (Zhou, Chlebosz, Tower, &
44 Morris, 2020). However, to date, these calls remain only partially answered, as studies set in
45 extreme sports are limited both in number (Ko, Park, & Claussen, 2008) and in scope

46 (Brymer & Houge-Mackenzie, 2016). Specifically, the behavioral drivers of individuals who
47 engage in extreme activities (such as extreme sporting events) are different from those who
48 engage in traditional activities (Lyng, 1990; Zuckerman, 1994). Thus, recent literature has
49 suggested conceptualizing participation in extreme sports in terms of sensation-seeking,
50 voluntarily risk-taking, and self-enhancement (Holm, Lugosi, Croes, & Torres, 2017).
51 However, several studies on extreme sport tourism do not account for the psychological
52 specificities of extreme sports participants (Brymer & Houge-MacKenzie, 2016). Instead,
53 they more often address extreme sports tourism in terms of sustainability (Brymer, Downey,
54 & Gray, 2009), environment-related motivations (Giddy & Webb, 2018), or life-style
55 (Buckley, 2019). By not accounting for drivers related to participants' psychology, they might
56 provide an incomplete account of behavioral consequences (Raggiotto & Scarpi, 2020).

57 Thus, the present research examines the relationship between the psychological
58 drivers of participants in extreme sporting events and their behavioral intentions. It adopts the
59 theoretical perspectives of edgework theory and sensation-seeking theory to understand what
60 drives participants' destination loyalty. In doing so, it relates to managerially relevant
61 contexts (e.g., extreme sporting events) and variables (e.g., place attachment and destination
62 loyalty) the behavioral drivers identified by the psychology literature. This makes it possible
63 to hypothesize a novel set of relationships linking sensation-seeking and self-enhancement
64 with place attachment (at the level of event location), event authenticity, and destination
65 loyalty.

66 This research includes two studies. The first is based on the FISE Games
67 (International Extreme Sports Festival) in Montpellier, France, the largest freestyle sports
68 event in the world, encompassing BMX, skateboarding, rollerblading, wakeboarding, and
69 slopestyle mountain biking. FISE powers a huge sporting community and is a major tourist
70 event, attracting over 600,000 spectators, 400,000 digital followers, and 1,800 athletes

71 (VoGo, 2019). In the second study, we test the findings of Study 1 with a panel of people
72 who attended a plethora of other extreme sporting events for different disciplines, from free
73 climbing to wingsuit-flying, from snowboarding to cliff-diving. This procedure allows to
74 increase the ecological validity of the research, and to reflect the heterogeneity of extreme
75 sporting disciplines and events (Keane, 2020).

76 **2. Theoretical Background and Hypotheses**

77

78 Destination loyalty concerns the tourists' commitment regarding the specific destination (Chi
79 & Qu, 2008). Scholars have identified three definitions of destination loyalty, namely:
80 attitudinal, behavioral, and composite loyalty (Zhang et al., 2014). Attitudinal loyalty
81 concerns the tourists' intention to recommend the destination to others; behavioral loyalty
82 concerns re-patronage or revisit intention; composite loyalty combines both behavioral and
83 attitudinal loyalty. Further elaborations on destination loyalty suggest that a mixed
84 measurement approach appears the most appropriate for assessing destination loyalty (e.g.,
85 Bigné et al., 2001; Chi & Qu, 2008; Chen & Rahmsn, 2018; Lv & McCabe, 2020). In
86 particular, destination loyalty is usually conceptualized and measured as encompassing revisit
87 intention and destination suggestion (Zhang et al., 2014; Meleddu et al., 2015; Lv & McCabe,
88 2020). In this research, destination loyalty is the dependent variable and is operationalized
89 according to the combined perspective (i.e., revisit intention and destination suggestion).

90 Destination loyalty is amongst the key constructs in tourism management in general,
91 and holds no less relevance in sport tourism in specific (Meleddu et al., 2015; Almeida-
92 Santana & Moreno-Gil, 2018). Its relevance has stimulated a vivid academic debate,
93 investigating possible drivers of tourist loyalty to a destination. Overall, scholars identify
94 those drivers as tourist-related (e.g., motivation, sociodemographic characteristics, previous

95 experiences, e.g., Almeida-Santana & Moreno-Gil, 2018), destination-related (e.g., service
96 quality, authenticity; Lee, Jeon, & Kim, 2011; Akhoondnejad, 2016; Scarpi et al., 2019), or
97 travel outcome related (e.g., perceived quality, perceived value, satisfaction; e.g., Song et al.,
98 2013). As the next paragraphs detail, based on literature in psychology, we advance a direct
99 path affecting destination loyalty negatively, and an indirect path affecting destination loyalty
100 positively.

101

102 **2.1. Sensation seeking and destination loyalty: the direct relationship**

103 Sensation seeking is a trait defined by the search for experiences and feelings that are
104 varied, novel, and intense, and by the readiness to even take risks for the sake of such
105 experiences (Zuckerman, 1994; 2007). Psychology literature has shown that consumers
106 who seek sensations have “a need for a varied, novel, and exciting environment” (Kass &
107 Vodanovich, 1990, p.7).

108 Sensation seeking has been addressed often by tourism researchers, and
109 considered one of the main drivers for travel and exploration (for a review, see Pizam et
110 al., 2004 and Park & Stangl, 2020), affecting travel behavior and destination choice
111 (Lepp & Gibson, 2008) because it is related to variety seeking and exploratory
112 tendencies (Jang & Feng, 2007; Park & Stangl, 2020; Pizam, Reichel, & Uriely, 2001;
113 Sharma et al., 2010).

114 Overall, the literature agrees on a negative direct relationship between sensation
115 seeking and loyalty. High sensation seekers “may gain more from brand switching
116 behavior because they derive more value (...) from the excitement of experiencing the
117 new and unknown” (Lee, 2006, p.70). In this vein, Niininen, Szivas, and Riley (2004;
118 p.442) advanced that sensation-seeking tourists “may want to repeat the same type of
119 holiday but do not wish to return back to the same destination”. Indeed, tourism scholars

120 found that sensation seeking is positively correlated with the tendency to avoid repetition
121 of a destination, as repetitive situations lead them to boredom (Galloway and Lopez
122 1999; Gilchrist, Povey, Dickinson, and Povey 1995). In this vein, for instance, Lee
123 (2006) found that satisfied tourists low in sensation seeking were more loyal than equally
124 satisfied tourists high in sensation seeking. Similarly, Leone & D'ariento (2000)
125 suggested that destination loyalty would be difficult to attain among sensation-seekers,
126 and Assaker, Vinzi, and O'Connor (2011) reached similar conclusions examining the
127 effect of sensation seeking on tourists' return pattern. Hence, extant literature supports that
128 sensation-seeking hampers loyalty.

129 Furthermore, Zuckerman (2007), the father of sensation seeking theory, found
130 high levels of sensation seeking among enthusiasts of extreme sports (also known as
131 action sports, adventure sports, freestyle sports; Brymer & Houge-McKenzie, 2017), that
132 we address here as tourists. High scores on sensation seeking for extreme sports
133 enthusiasts were also documented in the tourism literature (e.g., Pizam, Reichel &
134 Uriley, 2001; Lepp & Gibson, 2008).

135 Based on these considerations, we expect a negative direct relationship between
136 sensation seeking and destination loyalty:

137 **Hypothesis 1:** Sensation-seeking negatively impacts loyalty to the event host destination.

138

139 **2.2. Sensation seeking and destination loyalty: the indirect relationship**

140 Several scholars have shown that sensation seeking is useful in that it can trigger the
141 desire to travel, and therefore is at the very foundation of tourism and exploration (e.g.,
142 Galloway & Lopez, 1999; Lepp & Gibson, 2008; Park & Stangl, 2020). However, as
143 shown in the previous paragraph, one could say that sensation seeking is also harmful
144 to tourism, as it lowers loyalty.

145 The reason for this apparent contradiction about the nature of sensation seeking might
146 be explained in light of the fact that –to the best of the authors’ knowledge– previous
147 studies have focused on the direct relationship with destination loyalty. Instead, we
148 argue that the relationship between sensation seeking and destination loyalty may be
149 more complex if it is treated as an indirect relationship.

150 Specifically, literature in psychology has documented that individuals high in
151 sensation seeking might behave according to different psychological drivers than those
152 with low sensation seeking. Those drivers are explained more in detail by edgework
153 theory (Lyng, 1990). Edgework theory explains why sensation seekers engage in
154 extreme or fearful behaviors in the first person (e.g., as athletes doing extreme sports,
155 Brymer & Schweitzer, 2017), or in the third person, as spectators (Raggiotto, Scarpi &
156 Moretti, 2019). Those individuals are fully aware of the potential negative emotions
157 and consequences that such sensational activities entail (Milovanovic, 2005; Raggiotto,
158 Scarpi, & Mason, 2019). They use those activities to quench their thirst for sensations
159 by challenging their physical and psychological limits. They step outside of the comfort
160 zone by seeking rather than avoiding danger and by new experiences. For instance,
161 some individuals seek strong emotions such as fear, through watching horror movies
162 (Hoffner & Levine, 2007), or violence, through playing videogames (Konijn, Nije
163 Bijvank, & Bushman, 2007).

164 According to edgework theory, watching or taking part in action-oriented,
165 sensational events satisfies individuals’ sensation-seeking tendency (Lyng, 1990;
166 Zuckerman, 1994) and elicits sensations that can be mentally structured into cathartic
167 steps toward a feeling of self-enhancement (Brymer & Schweitzer, 2017; Lyng, 1990).
168 Ultimately, people engage in highly sensational activities (such as, for instance,
169 extreme sports; Keane, 2020) to push forward their physical and psychological limits

170 (Lyng, 2014), to improve themselves, and get closer to an ideal self (Lyng, 2014;
171 Raggiotto & Scarpi, 2020). Sensation seeking, this is to say, is a purposeful
172 experimentation and exploration functional to self-growth (Martens, 2007; Shoham,
173 Rose, & Kahle, 2000; Zuckerman, 2006).

174 Self-enhancement is a positive feeling that is achieved when an experience
175 makes participants feel better about themselves (Shoham et al., 2000; Verchère, 2017):
176 dopamine is released in the brain, as witnessed, for instance, in individuals doing
177 extreme sports (Jozkow, 2017; Self et al., 2007). Experiences that lead to rewards (such
178 as, for instance, dopamine-release from doing extreme sports; Heirene et al., 2016)
179 increase the probability of response repetition and the brain will develop positive
180 associations to those experiences (Wise & Rompre, 1989). The reward-repetition
181 mechanism has been found in and applied to tourism as well, for instance, to explain
182 destination loyalty in tourism (Goodbey & Graefe, 1991) and pleasure travels (Fennel,
183 2009), though not in relation to sensation seeking.

184 Accordingly, as the next paragraphs will detail, we advance the possibility of a
185 positive, indirect path from sensation seeking to destination loyalty, through a reward-
186 repetition mechanism triggered by self-enhancement. This is a new and different
187 conceptualization in the domain of tourism, based on the tenets of edgework theory and
188 sensation seeking theory.

189 Thus, we posit that, on the one hand, sensation seeking can lead to getting
190 accustomed to (and bored by) already known experiences and places, negatively
191 affecting destination loyalty. Yet, on the other hand, if sensation seeking leads to self-
192 enhancement, then it can also activate a parallel, positive indirect path based on reward-
193 repetition through self-enhancement. This indirect path should make individuals willing
194 to try a tourism experience again, thus positively contributing to destination loyalty.

195 In summary, we posit that two mechanisms might be at work: a negative direct
196 effect of sensation-seeking on destination loyalty (H1), and a positive indirect effect
197 through self-enhancement (as will be discussed in H2 to H5).

198

199 *2.3. From sensation-seeking to self-enhancement*

200 As posed by edgework theory, the search for risks and fears is motivated by an inner striving
201 for self-enhancement (Gyimóthy & Mykletun, 2004), a need to approach an ideal self through
202 facing threats, challenges, and fears (Lyng, 2014). To that end, extreme sporting event
203 experiences assume a relevant, symbolic meaning in terms of occasions for self-
204 enhancement. During events, participants are highly motivated to push forward their personal
205 limits (Shoham, Rose, & Kahle, 2000; Verchère, 2017), and these events assume a cathartic
206 significance, evoking mental associations with concepts like freedom or self-improvement
207 (Holm et al., 2017; Lyng, 2014).

208 Research has reported that individuals who actively seek strong sensations are often
209 motivated by self-enhancing purposes (Gyimóthy & Mykletun, 2004). This highlights the
210 linkage between sensation-seeking and the need for self-enhancement. For instance, Cestac et
211 al. (2011) and Johnston (1995) showed that individuals engaging in sensation-seeking
212 behaviors such as driving fast or watching fearful, gory programs do so because it enhances
213 their sense of self. They want to feel in “control all situations, including the most exceptional
214 ones” (Cestac et al., 2011, p. 424) and “to feel brave” (Johnston, 1995, p. 536). Such
215 experiences leave them “feeling wild, powerful, excited, and good” (Johnston, 1995, p. 538).

216 In summary, edgework individuals channel sensation-seeking to reduce “the
217 discrepancy between the self one currently is and the self one would ideally like [to be]”
218 (Sedikides & Gregg, 2008, p. 103). Thus, there appears to be a psychological process driven

219 by sensation-seeking and aimed at reaching and pushing forward one's limits (Lyng, 2014).

220 We hence posit the following:

221 ***Hypothesis 2:** Sensation-seeking has a positive impact on self-enhancement.*

222

223 **2.4. The role of event authenticity**

224 Authenticity is a concept "that encapsulates what is genuine, real, and/or true"

225 (Castéran & Roederer, 2013; p.153). It can be operationalized as an attribute of an object or,

226 instead, as the result of tourists' perceptions and interpretation of an object. We

227 operationalize authenticity according to this last perspective, which envisions authenticity as

228 "socially constructed and depends on tourists' viewpoints and perspectives (...) [and] reliant

229 on the situation and context" (Akhoondnejad, 2016; p.469).

230 Authenticity, as the result of a perceptual process of interpretation, refers to the extent

231 to which tourists perceive experiences as true (Castéran & Roederer, 2013). In sports tourism,

232 authenticity reflects the perception that an athlete, team, or sporting event retains its true

233 character and spirit, its true self, and is faithful to its internal ideas (Hinch & Higham, 2005;

234 Tsotsou, 2012). Accordingly, we operationalize the perceptions of authenticity as a visitor

235 experience-related phenomenon (Park, Choi, and Lee, 2019), in terms of faithfulness to

236 internal rather than external ideas, retention of one's own character despite external forces

237 (Tsotsou, 2012).

238 Authenticity is an important element influencing tourist behavior (Poria, Reichel, &

239 Cohen, 2013; Meng & Choi, 2016; Park, Choi, & Lee, 2019), particularly extreme sport

240 tourist behavior (Hinch & Higham, 2005). When extreme sport tourists perceive an event as

241 authentic, they are more willing to participate and more satisfied (Brymer & Schweitzer,

242 2017). Yet, the rapid growth in popularity of extreme sports events might make them lose

243 their original spirit and succumb to external forces (e.g., pressure from the sponsors),
244 threatening their authenticity (Tsiotsou, 2012).

245 Indeed, authenticity is one of the most crucial issues for extreme sports events as they
246 are inherently about delivering individuals an “experience of authenticity” (Lyng, 2014, p.
247 456). Thanks to feelings of authenticity in extreme sporting events, participants can imbue
248 extreme sporting events with the psychological meanings of death-defying experience and
249 self-improvement (Lyng, 1990, 2014).

250 Based on these considerations, we posit that the authenticity of an extreme sporting
251 event could help participants develop feelings of self-enhancement. In other words,
252 authenticity could act as a positive moderator in the relationship between sensation-seeking
253 and self-enhancement hypothesized in H1. Hence:

254 ***Hypothesis 3:** Event authenticity positively moderates the relationship between*
255 *sensation-seeking and self-enhancement.*

256

257 ***2.5. From self-enhancement to place attachment***

258 Furthermore, and more importantly, according to edgework theory, the ultimate
259 experience of extreme sports is the reaching of a feeling of self-enhancement (Shoham et al.,
260 2000). Extreme sporting events hold unique potential to channel and drive attitudinal and
261 behavioral outcomes like satisfaction, behavioral intentions, and loyalty (Raggiotto et al.,
262 2019a). In participants’ quest for self-enhancement, extreme sporting events represent unique
263 occasions for satisfying the search for sensations and reducing the discrepancy between the
264 perceived and the desired self (Sedikides & Gregg, 2008). Based on edgework theory and
265 sensation-seeking theory, successful extreme sporting experiences are those that make
266 participants feel better about themselves, increase self-esteem, and provide feelings of self-
267 enhancement overall (Shoham, Rose, & Kahle, 2000; Verchère, 2017).

268 We posit that feelings of self-enhancement provided by competing in an event lead to the
269 development of positive attitudes and meanings also in relation to the place where the event
270 takes place, allowing the self to reflect on the place. Indeed, the literature on traditional sports
271 has documented that hosting sports events can result in the development of place attachment
272 (Brown, Smith, & Assaker, 2016; Kirkup & Surtheland, 2017). This should hold no less for
273 extreme sports, especially as they usually take place in open spaces and often involve the
274 whole location (e.g., the Ironman competitions unfold in several miles of territory).

275 Furthermore, the literature on environmental psychology has envisioned place
276 attachment as a psychological connection (Lewicka, 2011). Tourism literature on non-
277 extreme events has shown that they can have a positive impact on destination perceptions and
278 attachment (Chalip & Xing, 2006). And, if the experience was positive (Kaplanidou et al.,
279 2012), they can lead to the transfer of positive imagery from the event to the destination
280 hosting it (Chalip & Xing, 2006). By analogy, we posit for extreme sporting events a transfer
281 of positive imagery to the event location when the event is perceived as having helped one
282 reach and push further personal limits. In other words, we posit that extreme sports events,
283 due to their cathartic psychological significance, are likely to shape a psychological
284 connection between the participants and the location. We further posit that the strength of the
285 connection is proportional to the extent to which the event is perceived as having positively
286 contributed to one's self-enhancement. Accordingly:

287 ***Hypothesis 4: Self-enhancement positively impacts place attachment.***

288

289 ***2.6. From place attachment to destination loyalty***

290 Previous studies have shown that strong bonds between event participants and the
291 event location produce stronger reactions to the event location, reinforcing positive outcomes
292 such as destination loyalty (Brown et al., 2016). In this vein, there is empirical support for the

293 fact that re-patronage for traditional sporting events is influenced by participants' experience
294 in the hosting location (Kaplanidou et al., 2012).

295 Developing destination loyalty is a key strategic goal for tourism practitioners.
296 Acquiring loyal visitors is a strategic goal, as they cost less to attract, stay longer and spend
297 more money (Zhang, Fu, Cai, & Lu, 2014), produce positive word of mouth, and are more
298 involved with the destination (Lehto, O'Leary, & Morrison, 2004). Thus, it is no surprise that
299 place attachment holds a central relevance in tourism research and practice (see Brown et al.,
300 2016, for a review). Scholars agree in defining place attachment as the cognitive/emotional
301 connection one feels with a place resulting from the combination of affect, emotion,
302 knowledge, beliefs, and behaviors concerning that place (Low & Altman, 1992). Yet, the
303 literature remains ambiguous about the exact influences that place attachment exerts on
304 tourists. For instance, some scholars suggest place attachment as a direct predictor of
305 destination loyalty (Ramkissoon, Smith, & Weiler, 2013). Instead, others consider it a
306 consequence rather than an antecedent (Lee, Kyle, & Scott, 2012). This ambiguity has been
307 addressed in recent studies (e.g., Scarpi, Mason, & Raggiotto, 2019) that suggested
308 examining place attachment as a mediator in relationships involving destination loyalty, in
309 line with Lee et al. (2012) and Brown et al. (2016). As noticed by Zhao, Lynch, and Chen
310 (2010), older studies have often not addressed place attachment as a mediator because only
311 full mediation was the gold standard.

312 Further, at least for events, there is empirical evidence of the impact of place
313 attachment on future loyalty (Alexandris, Kouthouris, & Meligdis, 2006; Brown et al., 2016).

314 Accordingly, the present research posits place attachment as a predictor of destination
315 loyalty. Furthermore, place attachment mediates the relationship between self-enhancement
316 and destination loyalty. In doing so, we acknowledge the findings by Alexandris et al. (2006)

317 and Brown et al. (2016) and incorporates the suggestions by Zhao et al. (2010) and Scarpi et
318 al. (2019). Hence:

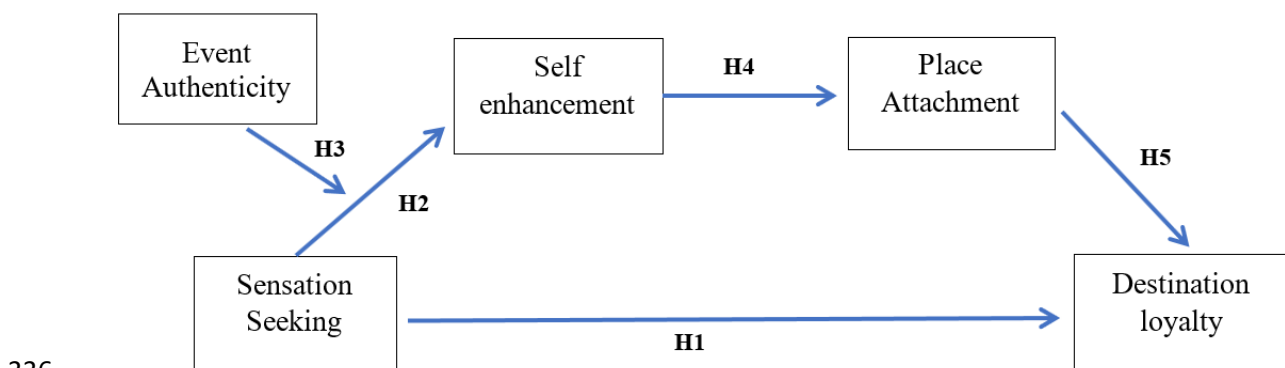
319 **Hypothesis 5:** *Place attachment has a direct impact on loyalty to the host destination.*

320

321 **2.7. The conceptual model**

322 Overall, our hypotheses link the psychological literature on edgework theory and sensation-
323 seeking theory with the tourism literature. We build on these two related theories to provide a
324 psychology-based explanation for individuals' loyalty to a destination hosting extreme
325 sporting events, using insights from these theories to better understand extreme consumers'
326 behavioral intentions.

327 Essentially, we hypothesize that participants of extreme sporting events have a high
328 sensation-seeking tendency. They are driven by a desire for self-enhancement, which happens
329 particularly when they perceive that the event they are taking part in is authentic. In turn, the
330 positive feeling of self-enhancement leads to greater attachment to the place that made such
331 achievement possible, which ultimately leads to destination loyalty. In summary, we develop
332 a moderated sequential mediation model, where self-enhancement and place attachment
333 mediate the relationship between sensation-seeking attitude and destination loyalty.
334 Furthermore, we posit event authenticity as a moderator of the relationship between
335 sensation-seeking and self-enhancement (Fig.1).



337 **Fig. 1.** The conceptual model.

338

339 As Fig. 1 shows, the upper part of the model posits a sequential chain of effects whose
340 overall impact on destination loyalty is positive. In contrast, the lower part of the figure posits
341 a counter-balancing negative direct effect of sensation-seeking on destination loyalty. As a
342 consequence, practitioners would need to help participants in extreme sporting events
343 develop feelings of self-enhancement by providing authentic events. Further, managers
344 should work on building place attachment to transform participants' sensation-seeking from a
345 threat to loyalty into an opportunity.

346 **3. Study 1**

347 **3.1. Setting**

348 France is one of the most important countries in the industry of traditional sports (Nielsen
349 Sports, 2016) and a pioneer of extreme sports since the earliest days. For instance, its
350 triathlon federation, founded in 1989, is one of the oldest, and wingsuit flying was invented in
351 France by the tailor Francois Reichelt in 1912, pre-dating the boom of that extreme discipline
352 by nearly a century. Since the dawn of extreme sports, France has developed into one of the
353 most relevant countries for these disciplines, offering extreme athletes more than 3,000
354 events per year, 800 clubs, and 50,000 fellow participants (FFTRI, 2018). Thus, it is no
355 surprise that France is often addressed in the study of extreme sports (e.g., Le Breton, 2000;
356 Brymer & Oades, 2009; Raggiotto et al., 2019a). Indeed, France has powered a huge
357 community for extreme sports, featuring numerous events. For instance, to ice-climbers, free
358 climbers, and paragliders (Brymer & Houge-Mackenzie, 2016), France's Mont Blanc – the
359 highest mountain on the European continent – offers unique opportunities. And to extreme
360 endurance athletes, France offers one of the largest Ironman events in Europe (EU-Ironman,
361 2018).

362 Thus, it is understandable why FISE (International Extreme Sports Festival), the
363 largest freestyle extreme sports event in the world, was born in France, in 1997, from an idea
364 of Hervé André-Benoit, a sports enthusiast and student at the Montpellier Business School.
365 One of the most established, continuously held extreme sports events, FISE encompasses
366 BMX, skateboarding, roller-blading, and extreme biking. About 1,800 athletes exhibit during
367 FISE, which attracts 600,000 visitors and 400,000 digital followers (VoGo, 2019) to the
368 natural steps of the Lez's river banks in Montpellier, a city of 250,000 inhabitants in southern
369 France and the capital of the Hérault department in the Occitanie region.

370 Despite its eleven centuries-long history, Montpellier is one of the youngest cities in
371 France: roughly one-third of its population are students of its three universities. There is no
372 doubt that FISE is a massive extreme sporting event, being one of the largest events
373 worldwide for both passive (spectators) and active (athletes) participation. It greatly benefits
374 the local economy, both directly and indirectly, helping the city's development through
375 networks of countless stakeholders, and reinforcing tourism as a strategic industry for the city
376 (Midilibre, 2014).

377 In 2003 the first international partnerships of FISE were developed, with Dubai,
378 Tunisia, Kuwait, and Costa Rica. In 2007, FISE grew into an international tour under the
379 name FISE Xperience. Finally, in 2014 the FISE concept was internationalized in the form of
380 the FISE World Series (Cochet, 2018). It is a world tour of freestyle sports bringing together
381 professional and amateur athletes in BMX, skateboarding, mountain biking, rollerblading,
382 and wakeboarding, with the support of IMG media for television distribution. Since 2016
383 FISE has hosted the BMX Freestyle World Cup.

384

385 **3.2. *Sample and measurements***

386 A total sample of 300 amateurs attending the event as tourists was collected through a paper-
387 and-pencil questionnaire in 2018. Respondents' overall mean age was 26.9 years (median 25
388 years), and 69% were males. These demographics reflect the population of the sampled sports
389 according to reports from media coverage (The New York Times, 2015) and to the extant
390 literature (Raggiotto & Scarpi, 2020).

391 The questionnaire was pretested with a sample of 40 respondents (not included in the
392 analysis) to ensure clarity of the questions, and following Podsakoff, MacKenzie, Lee, and
393 Podsakoff (2003) to avoid method biases. To reduce social desirability bias, respondents were
394 ensured that there were no right or wrong answers, that their answers would not have been
395 shared with anyone, and personal details would not have been disclosed (Podsakoff et al.,
396 2003). These reassurances were read to respondents before starting the questionnaire.

397 The questionnaire asked respondents for information corresponding to the dependent
398 and independent variables. It adapted extant scales for sensation-seeking (Shoham, Rose, &
399 Kahle, 2000; 5 items), self-enhancement (Shoham, Rose, & Kahle, 2000, 4 items), event
400 authenticity (Tsiotsou, 2012; 3 items), place attachment (Kaplanidou et al., 2012; 5 items),
401 and destination loyalty (Chen & Phou, 2013; 2 items). Survey items were measured using 7-
402 point Likert scales. Further, respondents were asked how many other times (if any) they had
403 participated in an event in previous years. Then, respondents reported their demographics and
404 were thanked and debriefed.

405 To test for the absence of common method bias, following Kock (2015), we run the
406 collinearity diagnostic in SPSS. All VIF values were below the threshold of 3, ranging
407 between 1.01 and 2.36. Accordingly, the model can be considered free of common method
408 bias (Kock, 2015). Secondly, following Martinez-Martinez (2019), we run Harman's one-
409 factor test. The results show a worse fit for the one-factor model. Specifically, it yielded a

410 Satorra-Bentler $\chi^2(152) = 3711.07$; $\chi^2/d.f. = 24.41$ (compared with the Satorra-Bentler $\chi^2(142)$
411 $= 375.30$; $\chi/d.f. = 2.64$ for the measurement model). The significantly worse fit for the one-
412 factor model than for the measurement model ensures against common method bias.

413 Social desirability –as measured by the shortened scale by Fischer and Fick (1993)–
414 was entered as a covariate in the model. Its coefficients were not significant (p-values ranging
415 between .54 and .82), which ensures against social desirability bias (Holbrook and Krosnick
416 (2010).

417

418 **3.3. Procedure**

419 A moderated sequential mediation analysis was run to test the theoretical model illustrated in
420 Fig. 1 using the PROCESS macro for SPSS (Hayes, 2018; model 6, customized w-matrix).
421 Based on the confirmatory factor analysis (CFA) results, the mean composite scores on the
422 items for each construct were used in the multiple moderated mediation model (Hayes, 2018).
423 Event authenticity was entered as a moderator of the relationship between sensation-seeking
424 and self-enhancement. Self-enhancement and place attachment were entered as sequential
425 mediators of the relationship between sensation-seeking and destination loyalty. The analysis
426 combined mediation and moderation to assess (1) the effects of sensation-seeking on
427 destination loyalty (both directly and indirectly, through self-enhancement and place
428 attachment), (2) the effect of sensation-seeking on self-enhancement (as moderated by event
429 authenticity), (3) the effect of self-enhancement on place attachment, and (4) the effect of
430 place attachment on destination loyalty. Effects significance was evaluated by means of
431 10,000 bootstrap samples to create bias-corrected confidence intervals (CIs; 95%) with
432 heteroscedasticity-consistent SEs (Hayes, 2018).

433 .

434

435 **3.4. Results**

436 Results from a CFA with AMOS 18 ($\chi^2/df < 3$; RMSEA = .06; CFI = .96) and
437 Cronbach's alpha ranging between .87 and .95 provide support for the validity of the
438 measures. Questionnaire items, means, and standard deviations are reported in Appendix
439 Table A.1

440 Results of the moderated sequential mediation show that the index of multiple
441 moderated mediation was significant (Effect = .01, 95% CI [.00, .03]), as the 95% CI
442 interval does not include zero (Hayes, 2018). This evidence supports that the conceptual
443 model is robust. Specifically, sensation-seeking led to higher feelings of self-enhancement
444 (Effect = .33, $t = 2.02$, $p = .04$), providing support for Hypothesis 2. Furthermore, as
445 advanced in Hypothesis 3, event authenticity significantly and positively moderated the effect
446 of sensation-seeking on self-enhancement (Effect = .06, $t = 1.95$, $p = .05$). This finding
447 suggests that when perceived event authenticity is higher, the effect of sensation-seeking is
448 strengthened. As in Hypothesis 3, the differences in self-enhancement between individuals
449 with higher and lower sensation-seeking are increased (effects at the values of the moderator:
450 $Authenticity_{low} = .57$, $95 t = 11.94$, $p < .001$; $Authenticity_{high} = .69$, $t = 14.36$, $p < .001$).
451 In line with Hypothesis 4, feelings of self-enhancement were positively related to consumers'
452 place attachment (Effect = .64, $t = 11.51$, $p < .001$). In turn, as advanced in Hypothesis 5,
453 place attachment positively affected destination-loyalty intentions (Effect = .34, $t = 5.31$, p
454 $< .001$). These indirect effects through self-enhancement and place attachment are all positive
455 in sign. Instead, as advanced in Hypothesis 1, a significant and negative direct effect emerges
456 for sensation-seeking on destination loyalty (Effect = $-.18$, $t = -2.74$, $p = .01$).

457 Overall, this evidence supports self-enhancement and place attachment as partial
458 mediators of the relationship between sensation-seeking and destination loyalty. Overall, the
459 highest destination loyalty was observed for individuals who sought sensations in events

460 perceived as highly authentic, reaching self-enhancement, and developing place attachment.
461 Results suggest that individuals with higher sensation-seeking tendency developed a stronger
462 feeling of self-enhancement. This is especially true when they felt the event to be authentic,
463 and thus also had a higher attachment to the place that led to higher destination loyalty.

464 Instead, low destination loyalty emerged for individuals high in sensation-seeking
465 who did not develop feelings of self-enhancement in the event and attachment to the place.

466 The results of the PROCESS macro are illustrated in Fig. 2 and summarized in
467 Appendix Tables A.1 and A.2.

468

469 **3.5. Results from further analyses: types of visitors**

470 Similar to Fu, Yi, Okumus, & Jin (2019), attendees were split between repeat and first-time
471 visitors, based on whether they had or had not previously participated in at least one edition
472 of the event. Also, we compared the answers of newly loyal visitors (whose loyalty to the
473 event was gained from participating in the previous year for the first time) and old-loyal
474 visitors (who were loyal to the event for more than one year).

475 Results of a MANOVA with repeat visiting as independent variable show significant
476 differences at the multivariate level (Wilks $\lambda = .92$, $F = 5.07$, $df = 5; 294$, $p < .001$, $\eta^2 =$
477 $.08$). Univariate follow-up comparisons reveal a significant effect on place attachment only,
478 with first-time visitors displaying significantly less place attachment than repeat visitors
479 ($M_{\text{first}} = 3.72$ vs. $M_{\text{repeat}} = 4.41$, $F = 19.93$, $df = 1; 298$, $p < .001$, $\eta^2 = .06$), in line with
480 recent findings from tourism studies in domains other than extreme sports (Fu et al., 2019).

481 Previous literature suggested that positive and negative drivers of place attachment
482 might have an impact slowly decreasing in time with aging (e.g., Shao & Liu, 2017).

483 However, we can ascertain that at least on a few years' basis the positive contribution of self-
484 enhancement to place attachment remains stable. Specifically, a moderation test further

485 reveals that the strength of the relationship between self-enhancement and place attachment is
486 left unaffected by being a first-time or a repeat visitor (Moderation by repeat visiting = .02,
487 $se = .11, t = .18, p = .86$).

488 No difference emerges from the univariate comparisons for sensation-seeking
489 between first-time and repeat visitors ($M_{\text{first}} = 5.46$ vs. $M_{\text{repeat}} = 5.64, F = 1.37, df = 1;$
490 $298, p = .24, \eta^2 = .00$). This is a valuable result in that it tells us that sensation-
491 seeking does not wear out from multiple participation. Such evidence is in line with the
492 postulates of sensation-seeking theory (Zuckerman, 1994) that envision a decay of sensation-
493 seeking only over a decades-long span. Furthermore, first-time visitors have no personal
494 experience of the challenges they will face in the event, contrary to repeat visitors. Thus, one
495 might argue that first-time visitors could be more likely to feel frustrated and unprepared.
496 However, one could also argue the opposite, as repeat visitors could have already exhausted
497 the potential for self-enhancement of the event, having already participated in it.

498 Our data show that no difference emerges for self-enhancement between first-time
499 and repeat visitors ($M_{\text{first}} = 4.60$ vs. $M_{\text{repeat}} = 4.76, F = 1.31, df = 1; 298, p = .25, \eta^2 =$
500 $.00$). This result is relevant for two reasons: first, it translates into a tourism-management
501 domain previous suggestions from psychology about the lack of habituation of emotional
502 effects (Herbert, Junghofer, & Kissler, 2008). Second, it shows how reaching feelings of self-
503 enhancement is not made harder or easier by previous participation, but more likely depends
504 on an inner spark that individuals carry in their souls, an ancestral awareness of mortality (Le
505 Breton, 2000).

506 However, destination loyalty was (slightly) higher among repeat visitors, which
507 highlights a virtuous circle whereby maintaining loyal customers is relatively easier. This
508 might appear unsurprising in light of numerous studies showing the “superiority” of loyal
509 customers ($M_{\text{first}} = 4.44$ vs. $M_{\text{repeat}} = 4.78, F = 4.37, df = 1; 298, p = .04, \eta^2 = .01$).

510 Instead, it is surprising if one considers the particular context of analysis. In fact, in extreme
511 sports, seeking novelties, new sensations, and new challenges is a powerful driver embedded
512 in the psychology of individuals (Marengo, Monaci, & Miceli, 2017). Thus, it is a relevant
513 finding that repeat visitors still display higher levels of intention to return to an event
514 compared with first-time visitors. More good news for the organizers of extreme sporting
515 events is that repeated visits did not significantly diminish feelings of authenticity ($M_{\text{first}} =$
516 5.30 vs. $M_{\text{repeat}} = 5.13$, $F = 1.57$, $df = 1; 298$, $p = .21$, $\eta^2 = .00$).

517 Finally, we compared participants of newer and older loyalty. Specifically, we
518 compared those visiting for the first time in 2017 and again in 2018 (newly acquired loyalty)
519 with those who in 2018 were visiting for the second time or more (old loyalty). Results from
520 a MANOVA show no significant difference between these two groups (Wilks $\lambda = .98$, $F =$
521 1.37 , $df = 5; 294$, $p = .23$, $\eta^2 = .02$), which suggests that the divide is between first-time
522 and repeat visitors, rather than between older and newer repeat visitors.

523 **4. Study 2**

524 To further validate the results from Study 1 and to generate external validity, we conducted
525 Study 2 on events unrelated to FISE. A panel of 300 participants was purchased from a
526 market research company in summer 2019 to answer a Qualtrics-implemented questionnaire,
527 under the condition that participants had attended an extreme sporting event during the last 12
528 months. Respondents' mean age was 27.1 years (median 25 years), and 62% were males. As
529 for Study 1, these demographics align with the figures for extreme sporting events from
530 practitioners (Action Sports, 2009; Crouse, 2015) and academic sources (Raggiotto & Scarpi,
531 2020). The sampled events range from free climbing to wingsuit-flying, from snowboarding
532 to cliff-diving, overall fully reflecting the varied world of extreme sports as defined and
533 exemplified by Keane (2020).

534 The questionnaire was the same as in Study 1. Further, it asked respondents what
535 event they had participated in and whether they did so as spectators or as athletes. The same
536 procedure as in Study 1 was implemented to test the conceptual model in Fig. 1.

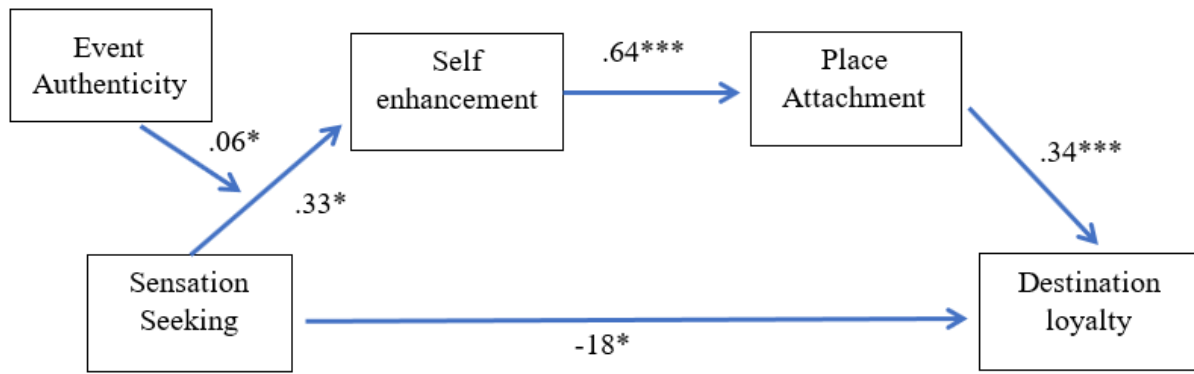
537

538 **4.1. Results from the moderated sequential mediation**

539 As for Study 1, results from a CFA with AMOS 18 ($\chi^2/df < 3$; RMSEA = .07; CFI = .95)
540 and Cronbach's alpha ranging between .73 and .90 provide support for the validity of the
541 measures.

542 The results from Study 2 fully support those of Study 1 and hypotheses 1 through 5.
543 They provide ecological validity of the findings in light of the heterogeneity of the sampled
544 events. In detail, the index of multiple moderated mediation was significant (Effect = .09,
545 95% CI [.01, .20]), as the 95% CI interval does not include zero (Hayes, 2018). As in Study
546 1, sensation-seeking led to self-enhancement (Effect = .37, $t = 3.53$, $p < .001$), with a
547 positive moderation by event authenticity (Effect = .39, $t = 2.20$, $p = .03$). Specifically,
548 higher levels of event authenticity enhanced the relationship between sensation-seeking and
549 self-enhancement (effects at the values of the moderator: $Authenticity_{low} = .37$, $t = 3.53$,
550 $p < .001$; $Authenticity_{high} = .74$, $t = 5.33$, $p < .001$). In turn, self-enhancement increased
551 place attachment (Effect = .54, $t = 11.34$, $p < .001$), which positively reflected on
552 destination loyalty (Effect = .44, $t = 8.39$, $p < .001$). As in Study 1, the direct effect of
553 sensation-seeking on destination loyalty was negative (Effect = $-.32$, $t = -4.09$, $p <$
554 $.001$).

555 The results of the PROCESS macro for Study 2 are illustrated in Fig. 2 and
556 summarized in Appendix Tables A.1 and A.2.



557

558 **Fig. 2.** The model with estimates.

559

560 **4.2. Results from further analyses: types of visitors**

561 As in Study 1, attendees in Study 2 were split between first-time and repeat visitors. We
 562 compared newly loyal visitors (whose loyalty to the event was gained from participating in
 563 the previous year for the first time) and old-loyal visitors (who were loyal to the event for
 564 more than one year). Further, the data in Study 2 allow us to run comparisons between active
 565 (athletes) and passive (spectators) participants.

566 Results of a MANOVA with repeat visiting as independent variable confirm
 567 significant differences at the multivariate level (Wilks $\lambda = .95$, $F = 2.87$, $df = 5$; 286 , $p =$
 568 $.01$, $\eta^2 = .05$), as found in Study 1. Univariate follow-up comparisons show that first-time
 569 visitors display less place attachment than repeat visitors ($M_{\text{first}} = 4.11$ vs. $M_{\text{repeat}} = 4.68$, F
 570 $= 8.59$, $df = 1$; 293 , $p = .004$, $\eta^2 = .03$). No significant differences emerged in sensation-
 571 seeking ($M_{\text{first}} = 5.34$ vs. $M_{\text{repeat}} = 5.54$, $F = 1.31$, $df = 1$; 293 , $p = .25$, $\eta^2 = .00$) or self-
 572 enhancement ($M_{\text{first}} = 4.36$ vs. $M_{\text{repeat}} = 4.57$, $F = .48$, $df = 1$; 293 , $p = .49$, $\eta^2 = .00$).
 573 However, the difference in loyalty between first-time and repeat visitors that emerged from
 574 Study 1 was only marginal in Study 2 ($M_{\text{first}} = 5.29$ vs. $M_{\text{repeat}} = 5.57$, $F = 2.71$, $df = 1$;
 575 293 , $p = .10$, $\eta^2 = .01$).

576 Comparing participants of newer and older loyalty, as in Study 1, no effects emerged
577 for the dependent variables (Wilks $\lambda = .95$, $F = 1.02$, $df = 5$; 90, $p = .44$, $\eta^2 = .05$).
578 Finally, in Study 2, we also compare those participating as spectators (207 = 70%) and as
579 athletes (89 = 30%). Results of the MANOVA with participation type as independent
580 variable show significant differences at the multivariate level (Wilks $\lambda = .95$, $F = 2.87$, df
581 $= 5$; 286, $p = .01$, $\eta^2 = .05$). Univariate follow-up comparisons reveal only one significant
582 difference in self-enhancement, which is higher for active participants ($M_{\text{spectators}} = 4.14$ vs.
583 $M_{\text{athletes}} = 5.08$, $F = 25.85$, $df = 1$; 293, $p < .001$, $\eta^2 = .08$).

584 Note that no significant differences emerge in sensation-seeking ($M_{\text{spectators}} = 5.33$ vs.
585 $M_{\text{athletes}} = 5.59$, $F = .95$, $df = 1$; 293, $p = .33$, $\eta^2 = .00$). This result is in line with the
586 extant literature suggesting that the sensation-seeking can be equally satisfied by participating
587 actively (Brymer & Houge-Mackenzie, 2016) and passively in edgework activities (Raggiotto
588 et al., 2019b). Indeed, literature agrees that it is not the nature of the activity that matters but
589 rather the intensity with which one experiences the stimulation (Hoffner & Levine, 2007).

590 Further, no differences emerge for destination loyalty ($M_{\text{spectators}} = 5.31$ vs. M_{athletes}
591 $= 5.69$, $F = 1.06$, $df = 1$; 293, $p = .30$, $\eta^2 = .00$).

592

593 **4.3. Summary of the results**

594 Hypotheses 1 through 5 are supported in Study 1 as well as in Study 2. We investigated what
595 makes individuals participating in extreme sporting events develop destination loyalty. On
596 the one hand, destination loyalty is key to the success of subsequent editions of an event, and
597 therefore key to profit. On the other hand, participants in extreme sporting events are high in
598 seeking sensations, variety, and novelty (Keane, 2020). Thus, it could be difficult to attract
599 them to a place where (and an event in which) they had already competed. Addressing
600 sensation-seeking jointly with self-enhancement, event authenticity, and place attachment, we

601 showed that all these variables help drive destination loyalty. It is self-enhancement that
602 affects destination loyalty through place attachment, and reaching self-enhancement is
603 facilitated by event authenticity. Otherwise, their sensation-seeking tendency would lead
604 them to search for new challenges and places, and loyalty would be a chimera. One
605 consequence of these findings is that when participants benefit, because they feel good about
606 themselves and their self-esteem increases, managers also benefit, as they gain those
607 consumers' loyalty and thereby ensure the success of the next edition of their event.

608 Furthermore, returning visitors do not display a diminished enthusiasm for an event
609 compared with first-time visitors, despite the variety-seeking tendency embedded in
610 sensation-seeking. Instead, they show increased place attachment and intention to return
611 again.

612 **5. Discussion**

613 In the present study, we investigate what drives the destination loyalty of consumers
614 participating in extreme sporting events. In doing so, we draw both from psychology
615 literature about edgework individuals and from tourism literature, developing a conceptual
616 model of sequential moderated mediation. We posit self-enhancement and place attachment
617 as mediators of the relationship between sensation-seeking and destination loyalty, and event
618 authenticity as a moderator of the relationship between sensation-seeking and self-
619 enhancement. The research hypotheses are tested in two separate studies with independent
620 samples that reflect the heterogeneity of extreme sports disciplines and whose participants
621 closely reflect the demographics of the target population. Results convergence in the two
622 studies reinforces the external validity of the findings.

623 Previous analyses of extreme sporting events are limited not only in number (Ko,
624 Park, & Claussen, 2008) but in scope, as they largely ignore the key motives of edgework

625 individuals (Brymer & Houge-Mackenzie, 2016). Several previous studies on sports and
626 sports tourism did not separate between traditional and extreme sports participants (Brymer &
627 Houge-McKenzie, 2016). Yet, psychology has suggested that individuals practicing extreme
628 sports have mindsets and motives different from participants in traditional sports (e.g.,
629 Milovanovic, 2005; Lyng, 2014; Raggiotto et al., 2019a). Recent studies have shown that
630 those differences in motives and mindsets also translate into different behaviors (Keane et al.,
631 2020). By explicitly incorporating edgework theory and sensation-seeking theory into the
632 theoretical framework, we capture the diversity of extreme sports tourists and account for
633 what drives their destination loyalty.

634 This research contributes to the tourism literature in several ways: first, by addressing
635 extreme sporting events rather than traditional ones, answering calls from literature
636 (Raggiotto & Scarpi, 2020; Zhou et al., 2020). Second, by acknowledging and investigating
637 the specific behavioral drivers that characterize extreme sport tourists. To do so, we interpret
638 their behavior with the theoretical lenses of edgework theory and sensation-seeking theory.
639 Our results contribute to the tourism literature by adding insights from psychology and by
640 showing that those constructs matter, as they help explain tourism-related outcomes, such as
641 place attachment and destination loyalty, and are affected by variables controlled by
642 managers, such as event authenticity. Specifically, we acknowledge that, for edgework
643 individuals, limits-pushing fears are instrumental in their constant pursuit of self-
644 enhancement (Lyng, 2014), whether directly as athletes (Raggiotto & Scarpi 2020) or through
645 transfer mechanisms as spectators (Fischer et al., 2011). As a result, theoretical
646 considerations developed for events in traditional sports do not fully reflect the psychology
647 and behavioral drivers of edgework individuals (Brymer & Houge-MacKenzie, 2016). Thus,
648 from a theoretical viewpoint, we contribute by explicitly addressing those psychological

649 drivers, showing that they work together with tourism-related variables and outcomes in a
650 single consistent model and are significant predictors of visitors' destination loyalty.

651 Explicitly incorporating edgework theory and sensation-seeking theory into our
652 theoretical framework helps us overcome the limitations of previous studies that were unable
653 to capture the diversity of extreme sports tourists (Brymer & Houge-MacKenzie, 2016).

654 Our results suggest that it is the interplay between the psychology of extreme tourists
655 with both place-related and event-related factors that ultimately builds destination loyalty. In
656 doing so, the results validate findings from tourism research about the ability of place
657 attachment to lead to destination loyalty (e.g., Brown et al., 2016). Yet, they add
658 considerations from edgework theory, showing that also self-enhancement comes into play.
659 In doing so, results corroborate the literature in psychology in showing the centrality of
660 sensation-seeking for extreme sports participants (Cestac et al., 2011; Lyng, 2014; Marengo
661 et al., 2017; Pizam et al., 2001). However, results also show that the psychological
662 considerations from edgework theory develop into marketing relevant behaviors, and allow to
663 quantify their impact.

664 Furthermore, our findings show that individuals' tendency to seek sensations, taken
665 alone, hinders the development of destination loyalty. This evidence aligns with previous
666 studies in tourism that showed a negative relationship between sensation-seeking and loyalty
667 (Assaker et al., 2011; Jang & Feng, 2007; Niininen et al., 2004). However, we add that, when
668 event managers channel sensation-seeking in a way that contributes to the development of
669 visitors' self-enhancement, this also helps build place attachment, which ultimately leads to
670 higher destination loyalty. Overall, we contribute to the literature by proposing and showing a
671 positive indirect path from sensation seeking to destination loyalty through self-enhancement,
672 based on the tenets of edgework theory, next to the negative direct path from sensation
673 seeking to destination loyalty.

674 Finally, in line with previous research in tourism, we find evidence for the centrality
675 of authenticity (Akhoondnejad, 2016; Park et al., 2019), and show that it also holds in the
676 case of sport tourism. However, we show that the mechanism through which authenticity
677 works in the context of extreme sporting events is to help channel sensation-seeking into self-
678 enhancement. Otherwise, tourists' thirst for sensations and novelty, taken alone, might
679 hamper their revisit intentions (Lv et al., 2020).

680 Moreover, through comparison of first-time and repeat visitors, and comparison of
681 tourists of newer and older loyalty, we tested the strength of the relationships across different
682 segments. Results show that the magnitude of sensation-seeking remains unvaried, meaning
683 that the inner value or emotional charge of an event persists after repeated participation. This
684 evidence aligns with the theorization in psychology that sensation-seeking is an inner,
685 constantly driving force for individuals who love extreme activities (Zuckerman, 1994).
686 Furthermore, we found a differential pattern for place attachment for first-time and repeat
687 participants, the former exhibiting significantly less place attachment and destination loyalty
688 than the latter. This evidence aligns with previous studies documenting that repeat
689 participants rated attachment higher than did first-timers (Fu et al., 2019; Hwang, Lee, &
690 Chen, 2005) in contexts different from extreme sporting events. Overall, findings for the split
691 models positively relate to suggestions in extant tourism management literature, but extend
692 them to the domain of extreme sporting events and dig deeper into the generic "psychological
693 meanings" of attendees (Fu et al., 2019, p. 100).

694 In summary, from a theoretical viewpoint, our research translates, to the domain of
695 tourism management, concepts from psychological theories addressing extreme contexts. It
696 allows to understand the drivers of place attachment and destination loyalty, and finds
697 relevant differences in the model patterns that are due to different tourists' characteristics.

698

699 **5.1. Managerial implications**

700 Developing participants' destination loyalty is crucial for enduring event success (Raggiotto
701 & Scarpi, 2020). In this study, we show that self-enhancement affects destination loyalty
702 through place attachment, and that self-enhancement perceptions are facilitated by event
703 authenticity. Our findings suggest that if participants in an extreme sporting event benefit
704 from participating in that event (through reinforcement of their self-esteem), managers
705 benefit as well, as they gain loyal customers, which is crucial to ensuring the success of the
706 event over time. Accordingly, managers must direct their efforts toward helping participants
707 develop such feelings. Event managers may emphasize the provision of messages working as
708 positive reinforcements to participants, helping them establish favorable, constructive
709 comparisons by reporting, for instance, inspiring information about the best performances
710 and records.

711 Managers need to satisfy extreme sport tourists' thirst for challenges, excitement, and
712 sensations. One way could be to add new facilities for managing the competition. For
713 instance, the International Triathlon event in Bardolino, Italy, added a unique two-floor
714 grandstand, where up to 1400 participants can switch simultaneously from swimming to
715 cycling (Triathlete, 2019). Managers could also change the event from year to year. For
716 instance, new training programs, categories, and awards were introduced for the BMX
717 championship in 2020 (UEC, 2020). Furthermore, event managers could partner with sports
718 equipment brands to develop new gear for further challenges. For instance, phoenix-fly
719 partnered with skydiving's organizers to innovate wingsuits, to allow unprecedented
720 movement freedom during the competition.

721 Our results suggest that -to succeed in achieving destination loyalty- managers should
722 channel their actions in a way to satisfy the tourists' desire for self-improvement while
723 preserving the perceived authenticity of the event. In this vein, recent research suggests that

724 practitioners should offer participants the opportunity to customize their event-participation
725 experience as a way to enhance perceptions of self-enhancement (Keane et al., 2020). For
726 instance, in 2019, Ironman Triathlon partnered with the sports equipment brand Santini to
727 offer Ironman participants the opportunity to customize their triathlon and cycling gear
728 during the sporting event. Notably, providing opportunities to customize the event experience
729 might, on the one hand, enhance participants' feelings of self-enhancement, and, on the other
730 hand, it may boost revenues and destination loyalty.

731 Notably, increasing event authenticity positively contributes to building perceptions
732 of self-enhancement, thus crucially contributing to delivering a unique tourist experience.
733 Accordingly, managers should be aware of the need to foster increasing levels of experience
734 authenticity by devising and communicating events consistently. Conveying a sense of the
735 authenticity of the extreme sport experience is key to delivering uniqueness.

736 Finally, practitioners should be aware that targeting sensation-seekers is not enough
737 for success. It is only when consumers derive self-enhancement through event authenticity
738 from their sport-touristic experience that a positive relationship with the hosting destination
739 occurs and becomes destination loyalty.

740

741 **5.2. *Limitations and future research***

742 The present study is not meant to be conclusive. Yet, we believe our results are of interest
743 to practitioners and might stimulate future research that embeds different theoretical
744 perspectives on extreme sports. Future analyses could address further mediators and
745 moderators, and provide qualitative data reinforcing quantitative research insights. In this
746 vein, future studies might additionally consider further measures addressing extreme sports
747 tourists' emotions. Those emotions could be linked to the perceptions of a certain destination
748 and the fit between destination image and event image. By doing so, future studies could

749 assess, simultaneously, possible linkages between emotional responses, destination–event
750 image fit, and destination attachment and loyalty.

751 Furthermore, respondents had similar sociodemographic characteristics, being mostly
752 young males. On the one hand, this represents the target population. On the other hand,
753 extreme sports events are evolving to include a broader public. Thus, future research could
754 examine the influence of respondent heterogeneity on the hypothesized relationships. For
755 instance, by looking at disciplines such as triathlon, where ages are already more mixed and
756 females more present (Raggiotto et al., 2019a).

757 Further, future studies could address the phenomenon from a longitudinal perspective:
758 does sensation-seeking decrease over time as a natural consequence of aging (Zuckerman,
759 1994)? Does it fade due to habituation instead of age (LaRowe, Patrick, Curtin, & Kline,
760 2006)? Or does it, instead, build up like a sort of addiction? (Heirene et al., 2016).

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989

990 **Appendix**

991

992 **Table A.1**

993 Moderated sequential mediation analysis

Hypothesis		Study	<i>Effect</i>	<i>se</i>	<i>t</i>	<i>p</i>	LLCI	ULCI
H1	Direct effect of sensation-seeking on destination loyalty	S1	-0.18	0.07	-2.74	0.01	-0.31	-0.05
		S2	-.32	0.08	4.09	0.00	0.16	0.47
H2	Sensation-seeking on self-enhancement	S1	0.33	0.16	2.02	0.04	0.08	0.64
		S2	0.37	0.10	3.53	0.00	0.16	0.57
H3	Moderation of event authenticity	S1	0.06	0.03	1.95	0.05	0.00	0.12
		S2	0.38	0.18	2.20	.03	0.04	0.73
H4	Self-enhancement on place attachment	S1	0.64	0.06	11.51	0.00	0.53	0.75
		S2	0.54	0.05	11.34	0.00	0.44	0.63
H5	Place attachment on destination loyalty	S1	0.34	0.06	5.31	0.00	0.21	0.46
		S2	0.44	0.05	8.39	0.00	0.34	0.55

994 Note. LLCI/ULLCI = lower/upper limit of the 95% confidence interval

995

996 **Table A.2**

997 Moderator analysis, conditional indirect effect of X on Y at values of the moderator

Hypothesis		Moderator: Authenticity	Study	<i>Effect</i>	se	<i>t</i>	<i>p</i>	LLCI	ULCI
H3	Self-enhancement	Low	S1	0.57	0.05	11.94	0.00	0.48	0.67
			S2	0.37	0.10	3.53	0.00	0.16	0.57
	Self-enhancement	High	S1	0.69	0.05	14.35	0.00	0.60	0.79
			S2	0.75	0.14	5.33	0.00	0.48	1.00

998 Note. Values for the moderator are plus/minus one SD from mean; LLCI/ULCI = lower/upper limit of the 95% confidence interval

999

1000 **Table A.3**

1001 Questionnaire items, means, and standard deviations

	Mean		S.D.		Cronbach alpha	
	S1	S2	<i>SI</i>	<i>S2</i>	S1	S2
SENSATION-SEEKING	5.56	5.41	1.34	.94	.95	.80
1. I like challenges.	5.43	5.64	1.39	1.12		
2. I like very thrilling experiences.	5.46	5.65	1.42	1.13		
3. I like feeling the adrenaline flowing.	5.53	5.73	1.45	1.20		
4. I prefer things who are excitingly unpredictable	5.41	5.05	1.47	1.36		
5. Every day is an adventure.	5.47	4.97	1.50	1.51		
PLACE ATTACHMENT	4.10	4.30	1.38	1.38	.94	.90
1. I enjoy participating in this place more than any other place	4.86	4.73	1.62	1.39		
2. No other place can compare with this place for this event	4.71	4.25	1.54	1.55		
3. This place is the best place for extreme sporting events	4.54	4.45	1.61	1.54		
4. I am very attached to this place	4.69	4.10	1.49	1.77		
5. I feel like this place is part of me	4.62	3.95	1.42	1.86		

	Mean		S.D.		Cronbach alpha	
	S1	S2	S1	S2	S1	S2
SELF-ENHANCEMENT	4.69	4.43	1.30	1.42	.93	.89
1. I am a better person than I was when I came to this event.	4.67	4.23	1.29	1.67		
2. I think more highly of me since I came to this event.	4.55	4.43	1.34	1.64		
3. This event has changed my perspective	4.75	4.57	1.22	1.57		
4. This event helps me become better.	4.74	4.47	1.26	1.63		
EVENT AUTHENTICITY	5.20	5.79	1.20	.98	.87	.73
1. Unique	5.23	5.90	1.32	1.28		
2. Faithful to internal rather than external ideas	5.16	5.65	1.44	1.19		
3. Retains its spirit and character despite external forces	5.18	5.82	1.29	1.18		
DESTINATION LOYALTY	4.63	5.39	1.42	1.36	.89	.84
1. It's likely that I will to revisit this event next year	4.61	5.29	1.50	1.54		
2. It's likely that I will recommend this event to my family and friends	4.54	5.48	1.45	1.39		