



UNIVERSITÀ  
DEGLI STUDI  
DI UDINE

## Università degli studi di Udine

Faster! More! Better! Drivers of upgrading among participants in extreme sports events

*Original*

*Availability:*

This version is available <http://hdl.handle.net/11390/1149676> since 2021-03-22T16:33:06Z

*Publisher:*

*Published*

DOI:10.1016/j.jbusres.2019.04.047

*Terms of use:*

The institutional repository of the University of Udine (<http://air.uniud.it>) is provided by ARIC services. The aim is to enable open access to all the world.

*Publisher copyright*

(Article begins on next page)

## **Faster! More! Better! Drivers of Upgrading among Participants in Extreme Sports Events**

FRANCESCO RAGGIOTTO<sup>1</sup>

Ph.D. Candidate

Department of Economics and Statistics – University of Udine

Via Tomadini, 30

33100 UDINE

ITALY

Phone: +39 051-2098087

Email: [francesco.raggiotto@uniud.it](mailto:francesco.raggiotto@uniud.it)

DANIELE SCARPI

Associate Professor of Marketing

Department of Management – University of Bologna

Via Capo di Lucca, 34

40126 BOLOGNA

ITALY

Phone: +39 051-2098087

Email: [daniele.scarpi@unibo.it](mailto:daniele.scarpi@unibo.it)

MICHELA MASON

Associate Professor of Marketing

Department of Economics and Statistics – University of Udine

Via Tomadini, 30

33100 UDINE

ITALY

Phone: +39 0432-249223

Email: [michela.mason@uniud.it](mailto:michela.mason@uniud.it)

---

<sup>1</sup> Corresponding author

**Author post-print version**

**Link to the published version:**

<https://www.sciencedirect.com/science/article/abs/pii/S0148296319303005>

**Abstract**

Merchandising expenditures in extreme sports are a multi-billion dollar market, but contrary to most traditional sports revenue comes mainly from active consumers-athletes rather than from (passive) spectators as in traditional sport. We focus on consumers participating in extreme sports to identify the determinants of their intention to upgrade the relationship with the sports brand. A model is developed that addresses psychological theories of extreme behaviors and voluntary risk-seeking on one side, but also marketing drivers of consumers' upgrading on the other side. The model is tested on 580 active participants in two major extreme sports events. The results show that consumers-athletes upgrading is driven not only by loyalty-related marketing variables, but also, and significantly, by self-enhancement-related factors that are specific to the psychology of extreme individuals. This study contributes to the understanding of the determinants of extreme consumers' intention to upgrade, and provides important implications for future research and managers.

**Keywords:** consumers upgrade, self-enhancement, loyalty, extreme sports

## **Faster! More! Better! Drivers of Upgrading among Participants in Extreme Sports Events**

### **1 Introduction**

*“The world of extreme sports is also one of big business. Kids might think that snowboarding is the ultimate freedom, but this freedom is being marketed to them” (Walker, 2013, Interview scene).*

In marketing literature, the decision to enhance the relationship (through higher merchandise spending, more equipment expenditures, higher purchase frequency, etc.) is referred to as “upgrading”. It comprises up-selling, cross-selling and, in general, an upgrade to the relationship with the partner or brand (Visentin & Scarpi, 2012). The present research focuses on extreme sports and aims to identify the determinants of participants’ intention to upgrade the relationship with the sports brand. To do so, this research draws from psychological theories suggesting that consumers who engage in extreme activities act and think differently than those who do not, and display a different mindset when facing risks and challenges. As a consequence, we develop a model that includes specific psychological drivers derived from cognitive adaptation theory and edgework theory next to variables already established by marketing literature. Results show that consumers’ intention to upgrade the relationship with the sports brand stems both from marketing-related variables such as event image, brand trust, satisfaction, loyalty, and from psychological-related variables regarding how individuals envision themselves and risky situations, such as self-enhancement, risk-taking tendency, perceived control and self-image congruence.

Extreme sports are activities where the participant is subjected to great physical and mental challenges such as speed, height, depth and natural forces, where often risks and/or

extreme endurance are involved (Allman, Mittelstaedt, Martin, & Goldenberg, 2009). They are characterized by the involvement in physical prowess and a particular attitude towards the world and the self. Examples are BMX, skydiving, base jumping, snowboarding, cliff jumping and ice climbing (Brymer & Mackenzie, 2016), but also bungee jumping and caving (Bentley, Page, & Laird, 2001) and long-distance triathlon (Atkinson, 2008).

Merchandising is a fundamental source of revenue in the sports industry overall (Correia & Esteves, 2007), but is even more so in extreme sports, where over 50% of the revenue comes from expenditures on merchandising (TBI, 2014). Yet, contrary to traditional sports, over 70% of revenue comes from active consumers-athletes rather than from the (passive) spectators (ISPO, 2016; NerdWallet, 2015; Nielsen Scarborough, 2017). And, the number of consumers-athletes in extreme sports is large and fast growing: more than 22 million people per year regularly participate in extreme sports such as BMX riding and snowboarding (TBI, 2014). Wakeboarding has surged 32% from 1999 in the U.S. alone (3.5 million people) and snowboarding claims 7.2 million U.S. participants (up 51% from 1999) (Xtremesports, 2008). In addition, the average income of extreme sports consumers-athletes is significantly higher than the national average (ChronReport, 2011), making them a large and appealing target market, with a huge potential.

Despite the relevance of the extreme sports market, merchandising consumption has been considered by scholars mostly in the domain of traditional sports (e.g., football) (Richelieu & Pons, 2006). Significantly less attention has been paid to merchandising consumption in extreme contexts, probably because extreme sports have gained momentum only in relatively recent times: for instance, the X-Games were held in 1994 for the first time. Thus, the present analysis addresses the context of extreme sports to understand consumers' intention to upgrade, as it is a relatively new, fast-growing market and a global phenomenon (Nielsen Scarborough, 2017; TBI,

2014; Xtremesports, 2008). Extreme sports constitute a highly relevant domain also from a theoretical point of view, as classic marketing-related aspects might work differently here (Puchan, 2005; Self, Henry, Findley, & Reilly, 2007). In this vein, literature in psychology has shown that behavioral drivers in extreme contexts work in a different way than they do in traditional ones (Laurendeau, 2006). Specifically, in extreme sports risks are sought rather than avoided (Milovanovic, 2005) and consumers voluntarily undergo extenuating or life-threatening ordeals to push forward their physical and psychological limits (Brymer & Mackenzie, 2016), feeding the idea of belonging to of an elite group of “superior” men/women (Lyng & Matthews, 2007).

In summary, literature in psychology agrees that consumers into extreme sports act and think differently than those in traditional sports, displaying a different mindset when facing risks and challenges. To understand this mindset, the present research is based on cognitive adaptation and edgework theory that address drivers, motivations and psychological dynamics of individuals that face extreme, or even threatening, situations and challenges (Lyng, 1990). The authors relate those psychological considerations to managerially relevant behaviors and propose that, in extreme marketing contexts, those behaviors could be driven by other aspects than in traditional contexts.

Furthermore, past research has generally considered the likelihood-to-repurchase a product or service as a positive outcome of the consumer–brand relationship. However, that consumers do repurchase does not necessarily signal virtuous management and could severely underexploit consumers’ spending power (Bolton, Lemon, & Verhoef, 2008; Visentin & Scarpi, 2012). Instead, it is often the decision to upgrade that signals a positive outcome of management of the relationship and increases value for the seller. Yet, despite its relevance, upgrading in

sports marketing, and in extreme sports in particular, has been largely neglected; most studies focus instead on mere repetition of purchase as is. To fill this gap, the present research considers as the main dependent variable the intention to upgrade rather than mere repurchase.

The paper is organized as follows: the next section relates some considerations from cognitive adaptation (Taylor, 1983) and edgework theory (Lyng, 1990) to upgrade intention of participants in extreme sports events. Specific hypotheses are formulated and then combined in a theoretical model. Next, we describe the method and test the model on data collected from participants in extreme sports events. Results are then presented for the model and for multi-group comparisons based on consumers' age and distance travelled to reach the event. The conclusions discuss the findings, providing managerial implications, limitations and directions for further research.

## **2 Theoretical background and hypotheses**

In this section, the authors address two theories in psychology that help explain the behavior of extreme individuals: cognitive adaptation theory (Taylor, 1983) and edgework theory (Lyng, 1990). From these theories, we derive some key constructs that we then link to managerially relevant outcomes and translate into specific hypotheses. The combined hypothesized relationships among the constructs build our theoretical model, which is presented at the end of this section.

### **2.1 *Cognitive adaptation- and edgework- based drivers of upgrade***

Cognitive adaptation theory (Taylor, 1983) is a theory in psychology that posits that after experiencing adversity, individuals attempt to regain perceptions of control over their own life.



To do so, they activate self-affirmation processes to preserve their identity, to avoid that the adversity compromises their self-image (Steele, 1988). This can be the case, for instance, of an adversity that might disfigure individuals or compromise their self-sufficiency (Schulz & Decker, 1985). In summary, in those cases individuals attempt to feel in control again over their own life, eventually acquiring stronger self-esteem and reaching self-enhancement (Davis, Campbell, Hildon, Hobbs, & Michie, 2015). Although threatening events can occur unexpectedly, a psychological pattern in line with the one predicted by cognitive adaptation theory can be found also when adversities are instead actively sought by individuals, as in extreme sports.

In this vein, edgework theory is another psychological theory that explains how individuals cope with adversities (Lyng, 1990), but it specifically addresses the case where risks are actively sought. Edgework theory rotates around the concept of voluntary risk-taking, that refers to undertaking risky activities without coercion and with the acknowledgement that risks are being confronted (Milovanovic, 2005). Voluntary risk-taking is at the base of the willingness to explore and push one's own limits, both physically and psychologically (Brymer & Mackenzie, 2016), and characterizes extreme consumers-athletes (Gyimóthy & Mykletun, 2004).

Consumer behavior results from the combination of internal and external factors (Kolesar & Galbraith, 2000). Internal factors account for the influence of internal stimuli, such as the psychological characteristics of individuals, while external factors account for the influence of external stimuli that come from marketers' activities (event design, brand image, etc.). Cognitive adaptation theory and edgework theory help capture the internal factors related to the psychology of extreme individuals, highlighting the importance of self-image congruence and perceived control (cognitive adaptation theory), attitude toward risk-taking (edgework theory) and self-

enhancement (both theories). Accordingly, we read the context of extreme sports through the lenses of cognitive adaptation and edgework theories to understand the drivers of upgrade. In particular, from cognitive adaptation theory and edgework theory, we derive the constructs of self-image, risk-taking tendency, perceived control, and congruence between the image of the event and the image of the self. These constructs are addressed in the following sections and are the building blocks of the theoretical model we present at the end of this section. However, whereas previous literature investigated what leads a person to become an edgework individual and to cognitively adapt to extreme situations, mostly from a psychological perspective, we focus on the managerial consequences of addressing a customer base of extreme individuals. Thus, our dependent variable is the intention to upgrade the relationship with the sports brand.

### *2.1.1 Self-enhancement*

The outcome sought (consciously or unconsciously) both by extreme athletes (Gyimóthy & Mykletun, 2004) and by individuals facing threatening events (Gupta & Bonanno, 2010) is self-enhancement, the coming closer to an ideal self. Coherently, words such as independence, ideal self, self-fulfillment, and self-realization were used by individuals to describe extreme sports events (Brymer & Mackenzie, 2016; Hardie-Bick & Bonner, 2016), where athletes are motivated to perform incremental efforts (e.g., in terms of distance covered) on a path to reaching personal limits (Shoham, Rose, & Kahle, 2000; Verchère, 2017).

Sports consumption carries relevant symbolic meanings for individuals' self-image (Kang, Bagozzi, & Oh, 2011). For example, purchase of branded merchandise is highly symbolic and entails meanings related to self-enhancement (Kwak & Kang, 2009). Also sports participation is a vehicle for self-expression, which individuals see as functional to getting closer

to the ideal self (Gyimóthy & Mykletun, 2004). Though this evidence stems mostly from analyses set in the context of traditional (i.e. not extreme) activities, it appears reasonable to expect that also in extreme contexts feelings and desires for self-enhancement drive the decision to upgrade the relationship with the brand/event. Accordingly, we advance the following:

**H1.** Self-enhancement has a positive impact on intention to upgrade.

### *2.1.2 Perceived control*

Self-enhancement is driven both in extreme sports and in extreme life events by the need to (re)acquire the perception of being in control, of being able to overcome an apparently invincible obstacle (Yan & Bonanno, 2015). The literature highlighted the preeminent role of perceived control in edgework theory (Milovanovic, 2005), as individuals push themselves to the limit of their ability to maintain control over a specific activity or challenge (Lyng, 2008) and continuously negotiate the edge of their competence and control over the activities they perform (Brymer & Mackenzie, 2016). Overall, the perception of control provides the mindset for successfully facing a challenge, for feeling able to conquer dangerous activities, which in turn leads to feelings of being blessed by a “survival instinct” (Laurendeau, 2006) that helps successfully negotiate the edge (Lyng, 1990). Nonetheless, control not only helps extreme sports practitioners face risks but also is key to enjoying the leisure experience (Csikszentmihalyi, 2002; Hardie-Bick & Bonner, 2016). Furthermore, perceived control can be manipulated by external, contextual cues, making it potentially relevant not only from the psychological perception of individuals but also from the managerial perspective. For instance, Laurendeau (2006) found that better-organized edgework activities lead to stronger feelings of control. Based on these considerations from edgework theory, we advance the following hypothesis:

**H2.** Perceived control has a positive impact on self-enhancement.

### *2.1.3 Risk-taking attitude*

According to edgework theory, voluntary risk-taking attitude is a characteristic of extreme athletes (Laurendeau, 2006), although various studies explain it differently. Dewhirst and Sparks (2003) suggested that risk-taking attitude is a way to reach self-enhancement (e.g., people deciding to start smoking to be perceived as cool). Taylor and Hamilton (1997) conceptualized risk-taking attitude as a way to escape uncomfortable personal states (e.g., depression). Other studies suggested that voluntary risk-taking has social-symbolic meanings and helps one become part of an ideal group of “sophisticated people” (Allman et al., 2009, p. 239). In summary, despite the different perspectives or aims, one might see a consistent underlying link in the literature between risk-taking attitude and self-enhancement. Accordingly, we advance the following hypothesis:

**H3.** Risk-taking attitude has a positive impact on self-enhancement.

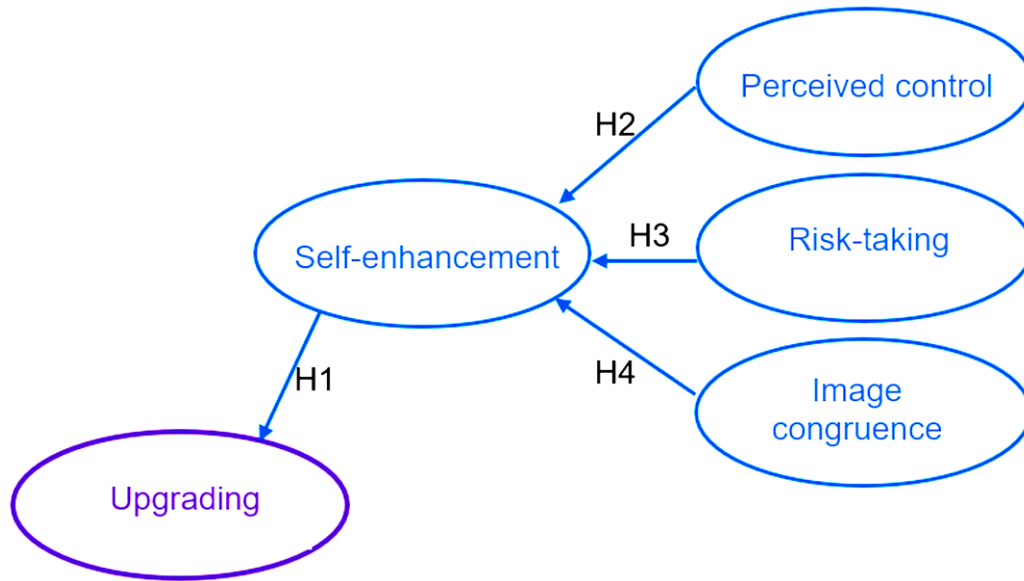
### *2.1.4 Image congruence*

Finally, research in the context of traditional sports has dedicated much attention to the image congruence (or fit) between an event and the brand sponsoring/organizing it (Du, Jordan, & Funk, 2015; Papadimitriou, Kaplanidou, & Papacharalampous, 2016), identifying image congruence as relevant in affecting purchase intention (Koo, Quarterman, & Flynn, 2006). Extreme athletes have been found to be more innovative and energetic than ordinary consumers (Schreier, Oberhauser, & Prügler, 2007) and to have an intense inner life (Coffey, 2008). Yet, extant contributions appear limited in number and scope when it comes to congruity between the

event and the image of the consumer rather than of the brand (with some noticeable exceptions, such as Kwak & Kang, 2009), even more in the context of extreme sports. Nonetheless, congruence with consumer image is a core concept in marketing (Hosany & Martin, 2012; Shamah, Mason, Moretti, & Raggiotto, 2016) and was found to be relevant in a number of consumption contexts, from retail (Das, 2013) to tourism (Usakli & Baloglu, 2011) to food (Shamah et al., 2016). But, fit of external events with self-image is a core concept also according to cognitive adaptation and edgework theories, where the assessment of fit between the self and objects external to the self is conceptualized as a search for self-consistency, and as a driver both of processes that allow identity-preservation and of processes that eventually help reach a new and better self (Davis et al., 2015; Taylor, 1983). Reinterpreting these considerations in our specific domain, we posit that image congruence between the consumer and the event will contribute positively to self-esteem and, ultimately, to feeling better. More formally we advance the following hypothesis:

**H4.** Image congruence between the self and the event has a positive impact on self-enhancement.

Figure 1 below provides a graphical representation of the relationships we hypothesize among the constructs derived from cognitive adaptation and edgework theories:



**Figure 1.** Cognitive adaptation and edgework-related branch of the model.

## 2.2 *Marketing-based drivers of upgrade*

Although cognitive adaptation and edgework theories provide potentially useful insight in the identification of drivers of the intention to upgrade of extreme sports consumers, the intention to upgrade has been often addressed in other different domains. Customer upgrading is one of the major Customer Relationship Management activities (Valenzuela, Torres, Hidalgo, & Farías, 2014; Wang & Feng, 2012) and has been mostly analyzed from a supply-side perspective and/or in the context of business relations. Namely, in terms of a firm's needed resources (i.e., antecedents) and a firm's performance (i.e., consequences) (Wang & Feng, 2012). Similarly, drivers of relationship upgrading have been often examined in the context of business-to-business relations, such as buyer-supplier relationships. Fewer and more recent contributions proposed a demand-oriented interpretation, suggesting major antecedents of customer relationship upgrading from the consumers' side, and asking for future research in that direction (Valenzuela et al., 2014).

### 2.2.1 *Loyalty*

Although different models have been proposed to explain customer upgrades, marketing literature agrees that loyalty is a critical variable in upgrading the customer–brand relationship, maximizing the value that customers have for the brand and leading customers to upgrade their commitment and expenditures (Johnson, Herrmann, & Huber, 2006; Visentin & Scarpi, 2012). In particular, the cognitive loyalty of customers has been found to be very weak or non-relevant for driving their decisions to upgrade (Pedersen & Nysveen, 2001), as cognitive loyalty is anchored to a self-centered assessment of the trade-off between one’s own costs and benefits without considering those for the partner (Beverland, Farrelly, & Woodhatch, 2007). In affective loyalty, by contrast, the costs-to-benefits comparison is no longer self-centered but takes into account what the customer gave and what the partner received (Johnson et al., 2006). Affective loyalty has been found to be harder to break (Beverland et al., 2007) and to contribute effectively to upgrading (Visentin & Scarpi, 2012).

Accordingly, we advance the following hypothesis:

**H5:** Affective loyalty has a positive impact on upgrading.

### 2.2.2 *Satisfaction and trust*

Practitioners and academics alike understand that consumer loyalty, trust and satisfaction are intertwined for the positive development of the relationship. An abundant amount of literature has identified both satisfaction and trust as a predictor of loyalty, and research in sports management has identified satisfaction as key to decreasing complaints (Rust & Zahorik, 1993), reinforcing customer retention (Yoshida & James, 2010), increasing patronage behaviors (Kwon,

Trail, & Anderson, 2005; Ma & Kaplanidou, 2018) and, in two words, building loyalty (Caro & García, 2007). A similar function is done by trust that refers to the reliability that is built through repeat positive evaluations of the experiences one had with the firm or brand (Johnson & Grayson, 2005; Morgan & Hunt, 1994). Trust comprises knowledge of the brand, but also care, concern and affect (Johnson & Grayson, 2005) that lead to developing confidence in the brand. Accordingly, we advance the following hypotheses:

**H6:** Satisfaction has a positive impact on affective loyalty.

**H7:** Trust has a positive impact on affective loyalty

When set in the domain of sports, and extreme sports in particular, hypotheses H6 and H7 answer recent calls in the literature (Du et al., 2015) for evidence of the role of satisfaction and trust when the physical performance contributes to the event experience and, possibly, to the relationship with the brand.

### 2.2.3 *Event image*

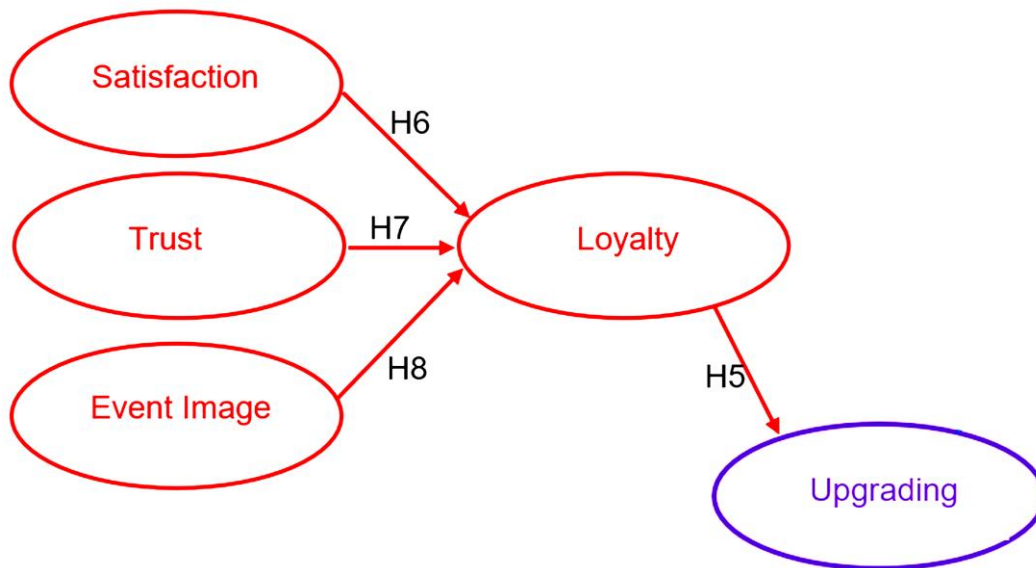
Marketing literature identified the brand image in the eyes of the partners as a relevant driver of their loyalty, and therefore of upgrading, be they industrial (Visentin & Scarpi, 2012) or consumer partners (Marinova & Singh, 2014). In the sports industry, brands are often associated with events, so that the image of the event and the image of the organizing brand overlap (Gwinner & Eaton, 1999; Walker et al., 2013). Consumers imbue sporting events with functional, symbolic, and emotional meanings (Calabuig et al., 2005; Filo, Funk, & O'Brien, 2008; Jahn et al., 2018), so that event image can be defined as the consumer's holistic interpretation of the meanings (s)he attributes to an event (Gwinner & Eaton, 1999). Extreme sports in particular are often characterized by highly symbolic, iconic events (e.g. Ironman) that



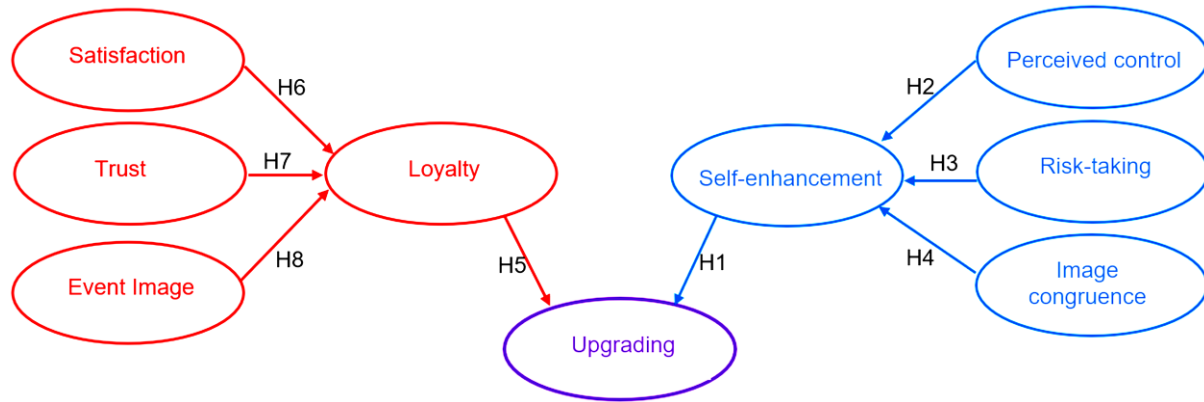
have been described as sophisticated (Bennett & Lachowetz, 2004) and innovative (Franke & Shah, 2003), and that are often synonymous of their respective sports discipline. Accordingly, the present research considers event image as brand image, and posits that it could drive the intention to upgrade in extreme sports, advancing the following hypothesis:

**H8:** Event image has a positive impact on affective loyalty.

Figure 2 below provides a graphical representation of the relationships we hypothesize among the constructs derived from marketing literature on the drivers of upgrade, while Figure 3 illustrates the whole theoretical model.



**Figure 2.** Loyalty-related branch of the model.



**Figure 3.** The full theoretical model.

### 2.3 *Distance and age*

Finally, previous literature suggested that the distance that consumers travel to reach a venue affects expenditures, attendance and the need for further activities (Daniels & Norman, 2003). Accordingly, we split the conceptual model between consumers coming from near and far distances for between-group comparison.

From a managerial perspective, it is instead age that matters: the highest growth in many extreme sports has occurred in the age group over 40, which has the greatest spending power and often comprises a large sector of memberships (often around 30% of annual memberships) (Team USA, 2016). Accordingly, we split the model between younger and older athletes for between-group comparison.

## 3 Method

### 3.1 *Sample and measurements*

In extreme sports, over 70% of revenue comes from the active consumers-athletes (ISPO, 2016; Nielsen Scarborough, 2017), and most extreme disciplines have developed a specific economic offering, made of different brands, products and services, usually organized into major events. The economic offering following events such as the BMX Championships or the Ironman Championships nowadays enjoy such success in marketing their brand (Ironman's revenues alone are U.S. \$932 million) (Roethenbaugh, 2017) that they are virtually synonymous with extreme sports (Brymer & Houge-Mackenzie, 2016; Team USA, 2016; University of BMX, 2018).

Accordingly, the data were collected in the summer of 2016 through a questionnaire administered to consumers-athletes participating in two leading championships for extreme sports: the BMX European Cup in Italy and Ironman in Austria. In both events, the consumers-athletes had to register and wear a numbered bib. Thus, for each event the researchers randomly extracted 300 numbers and interviewed the athletes with the matching bib. A total usable sample of 580 respondents was collected (mean age = 41.35; 75.7% males; 24.3% females; mean training = 10.30 hrs/week). The participants' demographics compare well with data about the average population in extreme sports (mean age = 44, TBI, 2014; 60-80% males and 20-40% females) (Group Y Network, 2016; TeamUSA, 2016; 8-12 hrs/week average training: Beer, 2015; University of BMX, 2018).

Following the guidelines by Podsakoff, MacKenzie, Lee, and Podsakoff (2003), the questionnaire was administered personally to minimize the risk of partly completed questionnaires, and the questions were pre-tested on a pilot sample to ensure they were easy to understand and were not ambiguous. Furthermore, to reduce evaluation apprehension and social

desirability biases, respondents were reassured there were no right or wrong answers, and were asked to answer questions honestly (Podsakoff et al., 2003).

The questionnaire comprised two parts: the first part briefly introduced the questionnaire and explained that it was an independent research study conducted by a university and that the data were anonymous and would not be sold to anyone; the second part contained the scales for the constructs and sociodemographic questions (age, gender, provenance, training hrs/week).

The present study adopted measures for the intention to upgrade from Visentin and Scarpi (2012), self-enhancement from Shoham et al. (2000), perceived control from Kang, Hahn, Fortin, Hyun, and Eom (2006), risk-taking attitude from Eysenck and Eysenck (1977), image congruence from Gwinner and Eaton (1999), affective loyalty and satisfaction from Picón, Castro, and Roldán (2014), trust from Balaji, Roy, and Lassar (2017), and the measures and procedure for event image from Grohs and Reisinger (2014). Survey items were measured using 7-point Likert scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

### **3.2 Reliability and validity**

Anderson and Gerbing's (1988) two-step procedure was followed to ensure an adequate measurement model, to examine the relationship between the latent variables and their measures. The confirmatory factor analysis displays a ratio of the chi-square to its degrees of freedom of 2.18, and the other fit indices (comparative fit index [CFI] = 0.96, root mean square error of approximation [RMSEA] = 0.06) are satisfactory. Thus, the estimated covariance approximates the observed covariance among the constructs. Additional tests assess convergent validity, reliability, and discriminant validity. The confirmatory factor analysis (Table 1) provides strong support for the convergent validity of the measures, with all factor loadings exceeding the

recommended 0.6 threshold (Bagozzi & Yi, 1988), the composite reliability (CR) and the average variance extracted (AVE) being greater than the recommended 0.7 and 0.5 thresholds, respectively (Fornell & Larcker, 1981). In the present study, the minimum CR is .81, and the minimum AVE is .56.

Finally, the test of discriminant validity relies on a comparison of the AVE estimate for each construct with the squared correlation between any two constructs (Fornell & Larcker, 1981). Discriminant validity exists if the minimum AVE exceeds the squared correlation between the two variables. Table 2 lists the correlations (below the diagonal) and squared correlations (above the diagonal) among the latent variables. The lowest AVE is 0.56 (perceived control), and the highest squared correlation between any two variables is 0.20 (perceived control and satisfaction). These results confirm the discriminant validity of the constructs. The measurement model thus meets all relevant psychometric properties.

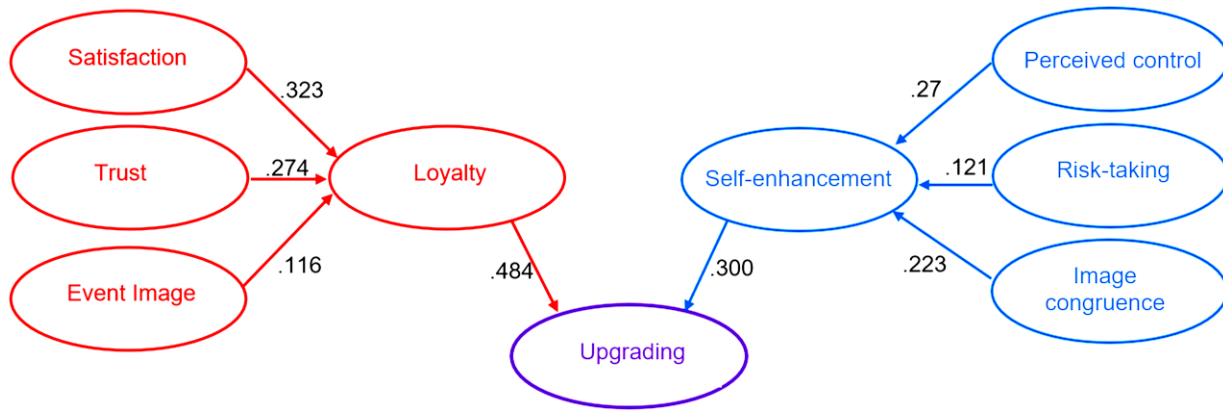
## **4 Results**

We tested all data for normality with a Shapiro-Wilk test (Shapiro & Wilk, 1965), which indicated that the data were not normally distributed (Micceri, 1989). We therefore used structural equation modelling to test the hypotheses, using AMOS 18 and selecting the asymptotically distribution-free estimation method, which is appropriate for large samples (Huang & Bentler, 2015) that are not normally distributed (Byrne, 2010).

### **4.1 Full model**

The model yields no significant differences in the path estimates between the two sampled events ( $p(\Delta\chi^2) > 0.10$ ), and the goodness-of-fit statistics indicate that the proposed

model fits the data reasonably well, with a ratio of the chi-square to its degrees of freedom within the 3.0 criterion and a RMSEA value within the 0.08 criterion (Hooper, Coughlan, & Mullen, 2008; Iacobucci, 2010;  $\chi^2/df = 2.76$ ; RMSEA = 0.06;  $p(\text{RMSEA} < 0.05) < 0.001$ ; NNFI, CFI = 0.93). Table 3 lists the structural model results that are graphically presented in Figure 4.



**Figure 4.** Structural equation modeling results.

As shown in Figure 4, the decision to increase the level of expenditures in equipment and merchandising is driven both by loyalty ( $\beta = 0.499$ ) and by self-enhancement ( $\beta = 0.300$ ). This evidence supports H1 and H5. In particular, it proves that the self-enhancement-based model branch is a significant addition that contributes to predicting upgrade in the context of extreme sports.

Regarding the self-enhancement-based model branch, the effect of perceived control ( $\beta = 0.273$ ), risk-taking attitude ( $\beta = 0.121$ ) and image congruence ( $\beta = 0.223$ ) on self-enhancement are significant (see Table 3). This evidence supports hypotheses H2, H3 and H4, respectively. As the direct effect of perceived control ( $\beta = 0.023$ ,  $p = 0.65$ ), risk-taking attitude ( $\beta = 0.087$ ,  $p = 0.10$ ) and image congruence ( $\beta = 0.084$ ,  $p = 0.13$ ) on the intention to upgrade is not significant, self-enhancement fully mediates the relationship between perceived control, risk-taking attitude

and image congruence on the intention to upgrade. This provides additional support for the robustness of the relationships hypothesized in hypotheses H2, H3 and H4.

Regarding the loyalty-based model branch, the effects of satisfaction ( $\beta = 0.323$ ), trust ( $\beta = 0.274$ ) and event image ( $\beta = 0.116$ ) on loyalty are significant (see Table 3). This evidence supports hypotheses H6, H7 and H8, respectively. As the direct effect of satisfaction ( $\beta = .047$ ,  $p = 0.57$ ), trust ( $\beta = 0.060$ ,  $p = 0.47$ ) and event image ( $\beta = 0.028$ ,  $p = 0.55$ ) on the intention to upgrade is not significant, loyalty fully mediates the relationship between satisfaction, trust and event image on the intention to upgrade. This provides additional support for the robustness of the relationships hypothesized in hypotheses H6, H7 and H8. Evidence from the loyalty-based model branch compares well to that by previous research that found no direct effect of trust or satisfaction on upgrade, but an indirect through affective loyalty (Visentin & Scarpi, 2012).

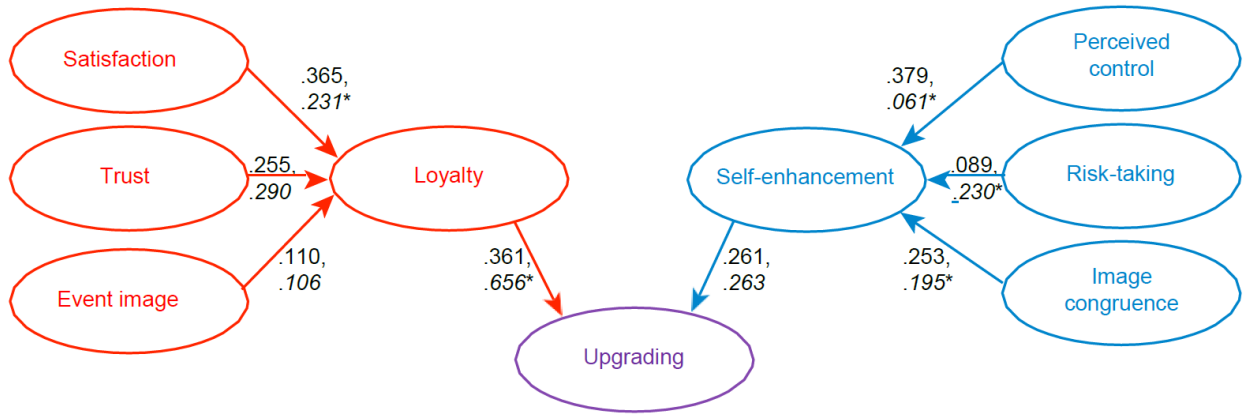
The combined evidence of the two branches further highlights that next to the image of the event per se ( $\beta = 0.116$ ), it matters also how that image fits with consumers' image of themselves ( $\beta = 0.223$ ).

In summary, the findings support the two-branch structure of the theoretical model. At the same time, the results extend studies on the efficacy of loyalty as a driver of upgrade showing that there is a whole other branch that affects it significantly, highlighting that considerations related to cognitive adaptation and edgework theories can effectively integrate the understanding of consumers intention to upgrade their relationship with the brand in the domain of extreme activities.

#### **4.2 *Multigroup model for distance***

To compare participants coming from close and far distance, they have been median split into sub-groups (Iacobucci, Posavac, Kardes, Schneider, & Popovich, 2015) based on the travelled distance (split at 250 Km = 155 miles). The multigroup-model procedure runs the same structural model simultaneously on the different subsets (Byrne, 2010) and shows a reasonable fit ( $\chi^2/df = 2.83$ ; RMSEA = 0.07;  $p(\text{RMSEA} < 0.05) < 0.001$ ; NNFI, CFI = 0.92). We then tested for metric invariance by first constraining all factor loadings to be equal for the two groups and then releasing the constraint, looking at the significance in the variation in the chi-square. A non-significant chi-square difference in comparison shows a lack of significant deterioration of model fit ( $\Delta\chi^2(181) = 106.54$ ,  $p > 0.10$ ). This indicates that invariance across the distance groups holds (Van de Schoot, Lugtig, & Hox, 2012).

Estimates for the two groups are reported in Table 4 and shown in Figure 5.



**Figure 5.** Multigroup model for distance results.

Note: *italics* = distant consumers; \* = path coefficients between the two groups are significantly different ( $p < .05$ )

The findings for the multigroup comparison for distance show that self-enhancement has the same impact on upgrading regardless of the distance traveled ( $\beta_{\text{close}} = 0.261$  vs.  $\beta_{\text{far}} = 0.263 <$



$p > 0.05$ ). In turn, self-enhancement is affected more strongly for closer than for distant participants by perceived control ( $\beta_{\text{close}} = 0.379$  vs.  $\beta_{\text{far}} = .061$ ;  $p < 0.05$ ) and image congruence ( $\beta_{\text{close}} = 0.253$  vs.  $\beta_{\text{far}} = 0.195$ ;  $p < 0.05$ ), but less by risk-taking attitude ( $\beta_{\text{close}} = .089$  vs.  $\beta_{\text{far}} = 0.230$ ;  $p < 0.05$ ).

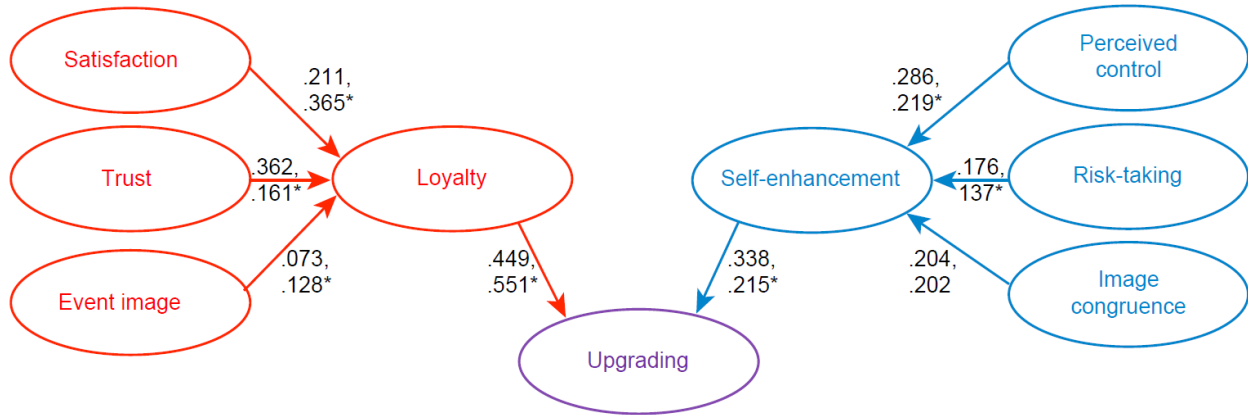
Loyalty has a stronger impact on upgrading for distant than for close consumers ( $\beta_{\text{far}} = 0.656$  vs.  $\beta_{\text{close}} = 0.361$ ;  $p < 0.05$ ). In turn, satisfaction has a stronger impact on loyalty for the latter ( $\beta_{\text{close}} = 0.365$  vs.  $\beta_{\text{far}} = 0.231$ ;  $p < 0.05$ ), while no significant difference is found between groups for the impact of trust ( $\beta_{\text{close}} = 0.255$  vs.  $\beta_{\text{far}} = 0.290$ ;  $p > 0.05$ ) and event image ( $\beta_{\text{close}} = 0.110$  vs.  $\beta_{\text{far}} = 0.106$ ;  $p > 0.05$ ) on loyalty.

Separately, an ANOVA on loyalty shows that participants traveling longer distances are overall not more loyal than those traveling shorter distances ( $F(1, 576) = 0.01$ ,  $p = 0.93$ ,  $\eta^2 = 0.001$ ). Rather, loyalty works differently in the two groups.

### **4.3 Multigroup model for age**

To compare participants of younger and elder age, they have been median split into subgroups (Iacobucci et al., 2015) based on respondent's age (split at 41 years). The multigroup-model procedure runs the same structural model simultaneously on the different subsets (Byrne, 2010) and shows a reasonable fit ( $\chi^2/df = 2.85$ ; RMSEA = 0.07;  $p(\text{RMSEA} < 0.05) < 0.001$ ; NNFI, CFI = 0.90). We then tested for metric invariance by first constraining all factor loadings to be equal for the two groups and then releasing the constraint, looking at the significance in the variation in the chi-square. A non-significant chi-square difference in comparison shows lack of significant deterioration of model fit ( $\Delta\chi^2(181) = 117.54$ ,  $p > 0.10$ ). This indicates that invariance across the age groups holds (Van de Schoot et al., 2012).

Estimates for the two age groups are reported in Table 5 and shown in Figure 6.



**Figure 6.** Multigroup model for age results.

Note: *italics* = older consumers; \* = path coefficients between the two groups are significantly different ( $p < .05$ )

The findings for the multigroup comparison for age show that the relationship between self-enhancements and risk-taking attitude is the same for younger and older consumers, ( $\beta_{\text{young}} = 0.176$  vs.  $\beta_{\text{old}} = 0.137$ ;  $p > 0.05$ ). Similarly, for the relationship between self-enhancement and image congruence ( $\beta_{\text{young}} = 0.204$  vs.  $\beta_{\text{old}} = 0.202$ ;  $p > 0.05$ ). Instead, perceived control impacts self-enhancement stronger for younger ( $\beta_{\text{young}} = 0.286$ ) than for older consumers ( $\beta_{\text{old}} = 0.219$ ;  $p < 0.05$ ). Furthermore, self-enhancement has a greater impact on upgrading for younger ( $\beta = 0.338$ ) than for older participants ( $\beta = 0.215$ ).

Conversely, loyalty has a stronger impact on upgrading for older ( $\beta_{\text{old}} = 0.551$ ) than for younger participants ( $\beta_{\text{young}} = 0.449$ ;  $p < 0.05$ ). In turn, trust impacts loyalty more in younger ( $\beta_{\text{young}} = 0.362$ ) than older participants ( $\beta_{\text{old}} = 0.161$ ;  $p < 0.05$ ), while the opposite is found for satisfaction ( $\beta_{\text{young}} = 0.211$  vs.  $\beta_{\text{old}} = 0.365$ ;  $p < 0.05$ ) and event image ( $\beta_{\text{young}} = 0.073$  vs.  $\beta_{\text{old}} = 0.128$ ;  $p < 0.05$ ). Separately, an ANOVA on self-enhancement shows that older consumers do

not feel more self-enhancement than the younger ones ( $F(1, 576) = 1.596, p = 0.21, \eta^2 = 0.003$ ), thus ruling out that the differential impact on the intention to upgrade is due to different levels of self-enhancement. Rather, self-enhancement works differently between the two groups.

Similarly, an ANOVA on loyalty shows that younger consumers are not more loyal than the older ones ( $F(1, 576) = 2.058, p = 0.15, \eta^2 = 0.004$ ). Rather, loyalty works differently between groups.

## 5 General discussion

Studies on consumers-athletes in traditional sports are very sparse, as the majority of extant literature usually considers fans or spectators (Richelieu & Pons, 2006). Previous studies have probably neglected consumers-athletes because in traditional sports the number of athletes is significantly smaller than the number of fans and spectators, and merchandising expenditures come mostly (if not solely) from the latter (Nielsen Scarborough, 2017). Instead, by setting the analysis in the context of extreme sports, the present research answers calls in recent literature to fill a further gap by addressing consumers-athletes (Ramchandani, Davies, Coleman, Shibli, & Bingham, 2015; Ma & Kaplanidou, 2018), as consumers-athletes rather than spectators are responsible for most of the revenues in extreme sports (ISPO, 2016; Nielsen Scarborough, 2017).

This research offered a parsimonious but powerful representation of the drivers of the intention to upgrade that combines two separate streams of literature: on one hand, a branch addressing sports marketing drivers of upgrading that are familiar and well assessed in industrial and relationship marketing, such as loyalty, trust, satisfaction, and image. On the other hand, this research posed that those constructs might tell only part of the story in the context of extreme sports. Literature on extreme activities usually emphasizes the presence of a sense of challenge,

thrill, risk, and self-improvement (Laurendeau, 2006; Lyng, 2014; Shoham, Rose, & Kahle, 2000) that have been shown to often induce different behavioral patterns. Thus, based on the psychological literature on edgework theory and cognitive adaptation theory, a self-enhancement-based branch was developed in the model that addresses further drivers of the intention to upgrade, pertaining to the psychology of extreme individuals.

The findings validate previous research in showing that satisfaction, trust and event image are relevant drivers of loyalty and answer calls for a better understanding of upgrading in the business to consumer context (Scarpi & Visentin, 2015). They also add that while event image might be functional to attracting consumers from afar to a sports venue (Brown, Smith, & Assaker, 2016), image it is less relevant for making consumers upgrade their relationship with the brand. The findings also expand the framework by introducing the concept of self-enhancement, adapted from the psychological theory of edgework. The present study further combines risk-taking attitude, perceived control and image congruence with self-enhancement to demonstrate that they influence the consumer's intention to upgrade. In addition, the findings show that it matters how the event image is interiorized by consumers and experienced in relationship with personal capabilities and self-image.

Furthermore, findings from multigroup comparisons show that the drivers of the intention to upgrade depend on consumer's age and the distance traveled to reach the event venue. Specifically, younger consumers are driven more than older consumers by self-enhancement. Moreover, loyalty in older consumers is driven mostly by satisfaction, whereas for younger consumers trust is more important than satisfaction in driving loyalty. With regard to the distance traveled to reach the sports venue, risk-taking is important in shaping the intention to upgrade for those coming from afar, whereas control has a greater impact on the intention to upgrade for

those coming from nearby. Loyalty is more important in shaping the intention to upgrade for those coming from afar; conversely, self-enhancement is more important in shaping the intention to upgrade for those coming from nearby.

Overall, our findings show that loyalty is a necessary step toward upgrading but is flanked by other drivers. These drivers account for the role of personal enhancement and require looking at consumers on a more personal, psychological level. When these additional, psychological factors are accounted for, intention to upgrade emerges as a combination of loyalty, satisfaction, trust and event image but also of self-enhancement, risk-taking attitude, perceived control and image congruence. Loyalty should not be pursued as the single goal by extreme sports brands: giving consumers a sense of self-enhancement is nearly equally important in upgrading the relationship with them.

In a nutshell, the present research shows that in extreme sports the drivers of upgrading include both marketing-related variables (satisfaction, trust, event image and loyalty) and features related to the unique psychology of extreme consumers-athletes (perceived control, risk-taking attitude, image congruence and self-enhancement). These drivers are not mutually exclusive. Rather, they should be jointly addressed for a richer understanding of extreme consumers' upgrade intention.

## **6 Managerial implications**

By setting the analysis in the context of extreme sports, whose estimated worth exceeds \$US 6 billion (Forbes, 2014), and by focusing on upgrading, the present research might offer useful implications to practitioners. Marketers are directing their efforts from customers' mere satisfaction with the status quo to customer intentions to upgrade in the future, through buying

more (or more expensive) equipment, services, and products, as witnessed both in academic (Marinova & Singh, 2014) and managerial literature (Apptivo, 2016).

This research clearly shows that both individual and event-related factors drive the intention to increase activities and purchases. In other words, the bond between athletes and events can be strengthened if the organizers create opportunities to improve the relationship with participants, trading-up with the same customer base. The present research explicitly addresses psychological drivers that can be affected by event organizers' actions. Managers could emphasize consumers' perceived control over the event by providing information about the percentage of those who complete the event, their age, their level of training, the number of medical interventions, and so on (all information that, in the sampled events, the organizers had available, but did not think about disclosing to the participants). Similarly, image congruence between the self and the event also affects self-enhancement and, in turn, the intention to upgrade, suggesting that managers should adopt a more customer-based perspective in delivering the image of the event rather than merely pushing their own preferred image. This is to say, managers should be aware that the intention to upgrade is driven not only by the image of the event itself, but also by how such image fits the self-perception of the customers and inasmuch as it helps them achieve self-enhancement. The more consumers feel that the event fits with themselves and helps them improve, the more they will increase their expenditures.

The findings from the present research show that age matters, in that for younger consumers the two drivers of upgrading (loyalty and self-enhancement) are built mainly by trust regarding the event and by perceived control, respectively, whereas they are built mainly by satisfaction and perceived control for older consumers. Thus, managers might consider diversifying their communication by age group accordingly.

Similarly, managers generally have a clear picture of the distance traveled by athletes, as athletes usually must register for the event and provide a zip code alongside their name. The present findings suggest that the distance traveled has an impact on what drives upgrading. Specifically, perceived control for consumers that come from closer distances, and risk-taking attitude for consumers coming from farther distances. Again, this evidence would suggest how to target different groups.

## **7 Limitations and future research**

This study is not meant to be conclusive nor exempt from limitations. First, the conceptual model is based on edgework and cognitive adaptation theories, yet different psychological perspectives on extreme sports have been developed (see e.g., Brymer & Mackenzie, 2016) that were neglected in this study in order to provide a more operationalizable model.

Second, the present research did not address the possible role of the sports event venue, although literature in tourism has shown that event and destination images could interact to influence behaviors (Kaplanidou & Vogt, 2007).

Nevertheless, the authors believe that the complementarity of self-enhancement and loyalty in driving upgrading, as well as the different responses of specific consumer segments, offer useful insights, and invite researchers and practitioners to envision extreme sports events within a broader framework. Future research could include an analysis of the motivations leading consumers to participate in extreme sports, and voluntarily endure risks and potential threats. In addition, future research could investigate passive participants in extreme sports to identify what features could boost the probability of turning it into active participation.

## References

- Allman, T. L., Mittelstaedt, R. D., Martin, B., & Goldenberg, M. (2009). Exploring the motivations of BASE jumpers: Extreme sport enthusiasts. *Journal of Sport & Tourism*, 14(4), 229–247. <https://doi.org/10.1080/14775080903453740>.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423. <https://doi.org/10.1037//0033-2909.103.3.411>.
- Apptivo (2016). The Importance of Upselling and Cross-Selling. <https://www.growthcapitalsolutions.co.za/the-importance-of-upselling-and-cross-selling/> Accessed 16 January 2018.
- Atkinson, M. (2008). Triathlon, suffering and exciting significance. *Leisure Studies*, 27(2), 165–180. <https://doi.org/10.1080/02614360801902216>.
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74–94. <https://doi.org/10.1177/009207038801600107>.
- Balaji, M. S., Roy, S. K., & Lassar, W. M. (2017). Language divergence in service encounters: Revisiting its influence on word-of-mouth. *Journal of Business Research*, 72, 210–213. <https://doi.org/10.1016/j.jbusres.2016.07.015>.
- Beer, J. (2015). Ironman: How many hours of training a week do you need? <http://www.220triathlon.com/training/long-distance/ironman-how-many-hours-of-training-a-week-do-you-need/9842.html> Accessed 16 January 2018.



- Bennett, G., & Lachowetz, T. (2004). Marketing to lifestyles: Action sports and generation Y. *Sport Marketing Quarterly*, 13(4), 239–243.
- Bentley, T. A., Page, S. J., & Laird, I. S. (2001). Accidents in the New Zealand adventure tourism industry. *Safety Science*, 38(1), 31–48. [https://doi.org/10.1016/s0925-7535\(00\)00053-9](https://doi.org/10.1016/s0925-7535(00)00053-9).
- Beverland, M., Farrelly, F., & Woodhatch, Z. (2007). Exploring the dimensions of proactivity within advertising agency-client relationships. *Journal of Advertising*, 36(4), 49–60. <https://doi.org/10.2753/joa0091-3367360404>.
- Bolton, R. N., Lemon, K. N., & Verhoef, P. C. (2008). Expanding business-to-business customer relationships: Modeling the customer's upgrade decision. *Journal of Marketing*, 72(1), 46–64. <https://doi.org/10.1509/jmkg.72.1.46>.
- Brown, G., Smith, A., & Assaker, G. (2016). Revisiting the host city: An empirical examination of sport involvement, place attachment, event satisfaction and spectator intentions at the London Olympics. *Tourism Management*, 55, 160–172. <https://doi.org/10.1016/j.tourman.2016.02.010>.
- Brymer, E., & Mackenzie, S. H. (2016). Psychology and the extreme sport experience. In F. Feletti (Ed.), *Extreme sports medicine* (pp. 3–13). Cham: Springer International Publishing.
- Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Abingdon, UK: Routledge.
- Caro, L. M., & García, J. A. M. (2007). Cognitive–affective model of consumer satisfaction. An exploratory study within the framework of a sporting event. *Journal of Business Research*, 60(2), 108–114. <https://doi.org/10.1016/j.jbusres.2006.10.008>.

- Calabuig, F., Prado, V., Crespo, J., Núñez, J., & Añó, V. (2015). Spectator emotions: Effects on quality, satisfaction, value, and future intentions. *Journal of Business Research*, 68(7), 1445–1449. <https://doi.org/10.1016/j.jbusres.2015.01.031>ChronReport. (2011). The average income of a triathlete. <http://work.chron.com/average-income-triathlete-13934.html> Accessed 16 January 2018
- Coffey, M. (2008). *Explorers of the infinite: The secret spiritual lives of extreme athletes--and what they reveal about near-death experiences, psychic communication, and touching the beyond*. Westminster, UK: Penguin Publishing Group.
- Correia, A., & Esteves, S. (2007). An exploratory study of spectators' motivation in football. *International Journal of Sport Management and Marketing*, 2(5-6), 572-590. <https://doi.org/10.1504/IJSMM.2007.013968>
- Csikszentmihalyi, M. (2002). *Flow: The classic work on how to achieve happiness*. New York, NY: Random House.
- Daniels, M. J., & Norman, W. C. (2003). Estimating the economic impacts of seven regular sport tourism events. *Journal of Sport & Tourism*, 8(4), 214–222. <https://doi.org/10.1080/1477508032000161528>.
- Das, G. (2013). Impacts of retail brand personality and self-congruity on store loyalty: The moderating role of gender. *Journal of Retailing and Consumer Services*, 21(2), 130–138. <https://doi.org/10.1016/j.jretconser.2013.07.011>.
- Davis, R., Campbell, R., Hildon, Z., Hobbs, L., & Michie, S. (2015). Theories of behaviour and behaviour change across the social and behavioural sciences: A scoping review. *Health Psychology Review*, 9(3), 323–344. <https://doi.org/10.1080/17437199.2014.941722>.

- Dewhirst, T., & Sparks, R. (2003). Intertextuality, tobacco sponsorship of sports, and adolescent male smoking culture: A selective review of tobacco industry documents. *Journal of Sport and Social Issues*, 27(4), 372–398. <https://doi.org/10.1177/0193732503258585>.
- Du, J., Jordan, J. S., & Funk, D. C. (2015). Managing mass sport participation: Adding a personal performance perspective to remodel antecedents and consequences of participant sport event satisfaction. *Journal of Sport Management*, 29(6), 688–704. <https://doi.org/10.1123/jsm.2014-0225>.
- Eysenck, S. B. G., & Eysenck, H. J. (1977). The place of impulsiveness in a dimensional system of personality description. *British Journal of Social and Clinical Psychology*, 16(1), 57–68. <https://doi.org/10.1111/j.2044-8260.1977.tb01003.x>.
- Filo, K. R., Funk, D. C., & O'Brien, D. (2008). It's really not about the bike: Exploring attraction and attachment to the events of the Lance Armstrong foundation. *Journal of Sport Management*, 22(5), 501–525. <https://doi.org/10.1123/jsm.22.5.501>.
- Forbes. (2014). X-Games At 20: The evolution of action sports. <https://www.forbes.com/sites/alanaglass/2014/06/07/x-games-at-20-the-evolution-of-action-sports/#2dba49dc52f6> Accessed 16 January 2018
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.2307/3151312>.
- Franke, N., & Shah, S. (2003). How communities support innovative activities: An exploration of assistance and sharing among end-users. *Research Policy*, 32(1), 157–178. [https://doi.org/10.1016/s0048-7333\(02\)00006-9](https://doi.org/10.1016/s0048-7333(02)00006-9).

- Grohs, R., & Reisinger, H. (2014). Sponsorship effects on brand image: The role of exposure and activity involvement. *Journal of Business Research*, 67(5), 1018–1025.  
<https://doi.org/10.1016/j.jbusres.2013.08.008>.
- Group Y Network. (2016). Females: The fastest growing demographic in action sports.  
<http://groupynetwork.com/females-the-fastest-growing-demographic-in-action-sports/>  
Accessed 16 Janury 2018.
- Gupta, S., & Bonanno, G. A. (2010). Trait self-enhancement as a buffer against potentially traumatic events: A prospective study. *Psychological Trauma: Theory, Research, Practice, and Policy*, 2(2), 83–92. <https://doi.org/10.1037/a0018959>.
- Gwinner, K. P., & Eaton, J. (1999). Building brand image through event sponsorship: The role of image transfer. *Journal of Advertising*, 28(4), 47–57.  
<https://doi.org/10.1080/00913367.1999.10673595>.
- Gyimóthy, S., & Mykletun, R. J. (2004). Play in adventure tourism, The case of Arctic trekking. *Annals of Tourism Research*, 31(4), 855–878.  
<https://doi.org/10.1016/j.annals.2004.03.005>.
- Hardie-Bick, J., & Bonner, P. (2016). Experiencing flow, enjoyment and risk in skydiving and climbing. *Ethnography*, 17(3), 369–387. <https://doi.org/10.1177/1466138115609377>.
- Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6(1), 53–60.
- Hosany, S., & Martin, D. (2012). Self-image congruence in consumer behavior. *Journal of Business Research*, 65(5), 685–691. <https://doi.org/10.1016/j.jbusres.2011.03.015>.
- Huang, Y., & Bentler, P. M. (2015). Behavior of asymptotically distribution free test statistics in covariance versus correlation structure analysis. *Structural Equation Modeling: A*

- Multidisciplinary Journal*, 22(4), 489–503.  
<https://doi.org/10.1080/10705511.2014.954078>.
- Iacobucci, D. (2010). Structural equations modeling: Fit indices, sample size, and advanced topics. *Journal of Consumer Psychology*, 20(1), 90–98.  
<https://doi.org/10.1016/j.jcps.2009.09.003>.
- Iacobucci, D., Posavac, S. S., Kardes, F. R., Schneider, M. J., & Popovich, D. L. (2015). The median split: Robust, refined, and revived. *Journal of Consumer Psychology*, 25(4), 690–704. <https://doi.org/10.1016/j.jcps.2015.06.014>.
- ISPO. (2016). Action sports: An industry searching for the way out of crisis.  
[https://www.ispo.com/en/trends/id\\_78182622/action-sports-an-industry-searching-for-the-way-out-of-crisis.html](https://www.ispo.com/en/trends/id_78182622/action-sports-an-industry-searching-for-the-way-out-of-crisis.html) Accessed 16 January 2018.
- Jahn, S., Cornwell, T. B., Drengner, J., & Gaus, H. (2018). Temporary communitas and willingness to return to events. *Journal of Business Research*, 92, 329–338.  
<https://doi.org/10.1016/j.jbusres.2018.08.005>
- Johnson, D., & Grayson, K. (2005). Cognitive and affective trust in service relationships. *Journal of Business Research*, 58(4), 500–507. [https://doi.org/10.1016/s0148-2963\(03\)00140-1](https://doi.org/10.1016/s0148-2963(03)00140-1).
- Johnson, M. D., Herrmann, A., & Huber, F. (2006). The evolution of loyalty intentions. *Journal of Marketing*, 70(2), 122–132. <https://doi.org/10.1509/jmkg.70.2.122>.
- Kang, H., Hahn, M., Fortin, D. R., Hyun, Y. J., & Eom, Y. (2006). Effects of perceived behavioral control on the consumer usage intention of e-coupons. *Psychology and Marketing*, 23(10), 841–864. <https://doi.org/10.1002/mar.20136>.
- Kang, J.-H., Bagozzi, R. P., & Oh, J. (2011). Emotions as antecedents of participant sport consumption decisions: A model integrating emotive, self-based, and utilitarian

- evaluations. *Journal of Sport Management*, 25(4), 314–325.  
<https://doi.org/10.1123/jsm.25.4.314>.
- Kaplanidou, K., & Vogt, C. (2007). The interrelationship between sport event and destination image and sport tourists' behaviours. *Journal of Sport & Tourism*, 12(3-4), 183-206.  
<https://doi.org/10.1080/14775080701736932>
- Kolesar, M. B., & Galbraith, W.R. (2000). A services-marketing perspective on e-retailing: implications for e-retailers and directions for further research. *Internet Research*, 10(5), 424-438. <https://doi.org/10.1108/10662240010349444>
- Koo, G.-Y., Quarterman, J., & Flynn, L. (2006). Effect of perceived sport event and sponsor image fit on consumers' cognition, affect, and behavioral intentions. *Sport Marketing Quarterly*, 15(2), 80–90.
- Kwak, D. H., & Kang, J. H. (2009). Symbolic purchase in sport: The roles of self-image congruence and perceived quality. *Management Decision*, 47(1), 85–99.  
<https://doi.org/10.1108/00251740910929713>.
- Kwon, H. H., Trail, G. T., & Anderson, D. S. (2005). Are multiple points of attachment necessary to predict cognitive, affective, conative, or behavioral loyalty? *Sport Management Review*, 8(3), 255–270. [https://doi.org/10.1016/s1441-3523\(05\)70041-3](https://doi.org/10.1016/s1441-3523(05)70041-3).
- Laurendeau, J. (2006). “He didn't go in doing a skydive”: Sustaining the illusion of control in an edgework activity. *Sociological Perspectives*, 49(4), 583–605.  
<https://doi.org/10.1525/sop.2006.49.4.583>.
- Lyng, S. (1990). Edgework: A social psychological analysis of voluntary risk taking. *American Journal of Sociology*, 95(4), 851–886. <https://doi.org/10.1086/229379>.

- Lyng, S. (2008). Risk-taking in sport: Edgework and reflexive community. In K. Young & M. Atkinson (Eds.), *Tribal play: Subcultural journeys through sport* (pp. 83–109). Bingley, England: Emerald.
- Lyng, S., & Matthews, R. (2007). Risk, edgework, and masculinities. In K. Hannah-Moffat & P. O'Malley (Eds.), *Gendered risks* (pp. 75–98). New York, NY: Routledge.
- Ma, S. C., & Kaplanidou, K. (2018). Effects of Event Service Quality on the Quality of Life and Behavioral Intentions of Recreational Runners. *Leisure Sciences*, 1–21.  
<https://doi.org/10.1080/01490400.2018.1448028>
- Marinova, D., & Singh, J. (2014). Consumer decision to upgrade or downgrade a service membership. *Journal of the Academy of Marketing Science*, 42(6), 596–618.  
<https://doi.org/10.1007/s11747-014-0374-9>.
- Micceri, T. (1989). The unicorn, the normal curve, and other improbable creatures. *Psychological Bulletin*, 105(1), 156–166. <https://doi.org/10.1037//0033-2909.105.1.156>.
- Milovanovic, D. (2005). Edgework: A subjective and structural model of negotiating boundaries. In S. Lyng (Ed.), *Edgework: The sociology of risk taking* (pp. 51–72). New York, NY: Routledge.
- Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20–38. <https://doi.org/10.2307/1252308>.
- NerdWallet. (2015). The cost of extreme sports: From pricey gear to high life insurance rates. <https://www.nerdwallet.com/blog/insurance/life-insurance-cost-of-extreme-sports-2015/>  
 Accessed 16 January 2018.
- Nielsen Scarborough. (2017). Client learning site. <http://en-us.nielsen.com/sitelets/cls/scarborough.html>. Accessed 16 January 2018.

- Papadimitriou, D., Kaplanidou, K. K., & Papacharalampous, N. (2016). Sport event-sponsor fit and its effects on sponsor purchase intentions: A non-consumer perspective among athletes, volunteers and spectators. *Journal of Business & Industrial Marketing*, 31(2), 247–259. <https://doi.org/10.1108/jbim-09-2014-0187>.
- Pedersen, P. E., & Nysveen, H. (2001). Shopbot banking: An exploratory study of customer loyalty effects. *International Journal of Bank Marketing*, 19(4), 146–155. <https://doi.org/10.1108/02652320110392518>.
- Picón, A., Castro, I., & Roldán, J. L. (2014). The relationship between satisfaction and loyalty: A mediator analysis. *Journal of Business Research*, 67(5), 746–751. <https://doi.org/10.1016/j.jbusres.2013.11.038>.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>.
- Puchan, H. (2005). Living “extreme”: Adventure sports, media and commercialisation. *Journal of Communication Management*, 9(2), 171–178. <https://doi.org/10.1108/13632540510621588>.
- Ramchandani, G., Davies, L. E., Coleman, R., Shibli, S., & Bingham, J. (2015). Limited or lasting legacy? The effect of non-mega sport event attendance on participation. *European Sport Management Quarterly*, 15(1), 93–110. <https://doi.org/10.1080/16184742.2014.996583>.



- Richelieu, A., & Pons, F. (2006). Toronto Maple Leafs vs Football Club Barcelona: How two legendary sports teams built their brand equity. *International Journal of Sports Marketing and Sponsorship*, 7(3), 231–251. <https://doi.org/10.1108/ijsms-07-03-2006-b009>.
- Roethenbaugh, G. (2017). IRONMAN owner Wanda Group reports 9% uplift in sports revenue. <https://www.endurancebusiness.com/2017/industry-news/ironman-owner-wanda-group-reports-9-uplift-in-sports-revenue/> Accessed 16 January 2018.
- Rust, R. T., & Zahorik, A. J. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69(2), 193–215. [https://doi.org/10.1016/0022-4359\(93\)90003-2](https://doi.org/10.1016/0022-4359(93)90003-2).
- Scarpi, D., & Visentin, M. (2015). Motivations of small firms to develop relationships with banks. *Journal of Business & Industrial Marketing*, 30(1), 96-104. <https://doi.org/10.1108/JBIM-05-2011-0061>
- Schreier, M., Oberhauser, S., & Prügler, R. (2007). Lead users and the adoption and diffusion of new products: Insights from two extreme sports communities. *Marketing Letters*, 18(1-2), 15–30. <https://doi.org/10.1007/s11002-006-9009-3>.
- Schulz, R., & Decker, S. (1985). Long-term adjustment to physical disability: The role of social support, perceived control, and self-blame. *Journal of Personality and Social Psychology*, 48(5), 1162–1172. <https://doi.org/10.1037//0022-3514.48.5.1162>.
- Self, D. R., Henry, E. D. V., Findley, C. S., & Reilly, E. (2007). Thrill seeking: The type T personality and extreme sports. *International Journal of Sport Management and Marketing*, 2(1/2), 175. <https://doi.org/10.1504/ijsmm.2007.011397>.
- Shamah, R. A. M., Mason, M. C., Moretti, A., & Raggiotto, F. (2016). Investigating the antecedents of African fast food customers' loyalty: A self-congruity perspective.

*Journal of Business Research*, 86, 446–456.

<https://doi.org/10.1016/j.jbusres.2017.05.020>.

Shapiro, S. S., & Wilk, M. B. (1965). An analysis of variance test for normality (complete samples). *Biometrika*, 52(3-4), 591–611. <https://doi.org/10.1093/biomet/52.3-4.591>.

Shoham, A., Rose, G. M., & Kahle, L. R. (2000). Practitioners of risky sports. *Journal of Business Research*, 47(3), 237–251. .

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. *Advances in Experimental Social Psychology*, 21(C), 261–302.

[https://doi.org/10.1016/s0065-2601\(08\)60229-4](https://doi.org/10.1016/s0065-2601(08)60229-4).

Taylor, R. L., & Hamilton, J. C. (1997). Preliminary evidence for the role of self-regulatory processes in sensation seeking. *Anxiety, Stress, & Coping*, 10(4), 351–375.

<https://doi.org/10.1080/10615809708249309>.

Taylor, S. E. (1983). Adjustment to threatening events: A theory of cognitive adaptation.

*American Psychologist*, 38(11), 1161–1173. <https://doi.org/10.1037//0003-066x.38.11.1161>.

TBI. (2014). Breaking down the U.S. triathlon marketplace.

<http://www.triathlonbusinessintl.com/market-research-survey.html> Accessed 16 January 2018.

Team USA. (2016). USA triathlon annual membership report, 2015 update.

<https://www.teamusa.org/usa-triathlon/about/multisport/demographics> Accessed 16 January 2018.

- Usakli, A., & Baloglu, S. (2011). Brand personality of tourist destinations: An application of self-congruity theory. *Tourism Management*, 32(1), 114–127.  
<https://doi.org/10.1016/j.tourman.2010.06.006>.
- University of BMX (2018). A sport with no history has no future.  
<https://www.universityofbmx.com/> Accessed 16 January 2018.
- Valenzuela, L., Torres, E., Hidalgo, P., & Farías, P. (2014). Salesperson CLV orientation's effect on performance. *Journal of Business Research*, 67(4), 550–557.  
<https://doi.org/10.1016/j.jbusres.2013.11.012>.
- Van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology*, 9(4), 486–492.  
<https://doi.org/10.1080/17405629.2012.686740>.
- Verchère, R. (2017). The body experience of the triathlete: Uniting with nature and overcoming it. *Loisir et Société / Society and Leisure*, 40(1), 56–75.  
<https://doi.org/10.1080/07053436.2017.1283168>.
- Visentin, M., & Scarpi, D. (2012). Determinants and mediators of the intention to upgrade the contract in buyer–seller relationships. *Industrial Marketing Management*, 41(7), 1133–1141. <https://doi.org/10.1016/j.indmarman.2012.05.001>.
- Walker, L. (Director) (2013). *The crash reel* [Motion Picture]. Impact Partners Tree Tree Tree, HBO.
- Walker, M., Kaplanidou, K., Gibson, H., Thapa, B., Geldenhuys, S., & Coetzee, W. (2013). “Win in Africa, With Africa”: Social responsibility, event image, and destination benefits. The case of the 2010 FIFA World Cup in South Africa. *Tourism Management*, 34, 80–90. <https://doi.org/10.1016/j.tourman.2012.03.015>.

- Wang, Y., & Feng, H. (2012). Customer relationship management capabilities. *Management Decision*, 50(1), 115–129. <https://doi.org/10.1108/00251741211194903>.
- Xtremesports. (2008). Extreme sport growing in popularity. <http://xtremesport4u.com/extreme-land-sports/extreme-sport-growing-in-popularity/> Accessed 16 January 2018.
- Yan, O. H., & Bonanno, G. A. (2015). How self-enhancers adapt well to loss: The mediational role of loneliness and social functioning. *The Journal of Positive Psychology*, 10(4), 370–382. <https://doi.org/10.1080/17439760.2014.965266>.
- Yoshida, M., & James, J. D. (2010). Customer satisfaction with game and service experiences: Antecedents and consequences. *Journal of Sport Management*, 24(3), 338–361. <https://doi.org/10.1123/jsm.24.3.338>.

## Tables

**Table 1.** Construct measures and confirmatory factor analysis results.

Measures	Factor loading	CR	AVE
Intention to upgrade		0.92	0.79
As a result of attending this event, I will purchase more frequently new sport equipment.	0.77		
As a result of attending this event, I will increase my expenditures for sports merchandise.	0.96		
As a result of attending this event, I will purchase more sports equipment.	0.92		
Affective loyalty		0.86	0.67
I really like attending this event	0.81		
To me, this event is clearly the best one in which to perform	0.85		
I believe this is a good event	0.79		
Self-enhancement		0.94	0.79
I am a better person than I was when I began this event.	0.84		
I have not changed much since I began this event (reversed).	0.89		
This event has changed my perspective	0.93		
Being able to measure my improvement helps me become better at this event/activity.	0.89		
Trust		0.81	0.59
I trust this event.	0.70		
I have a trustworthy perception of this event.	0.88		
I have confidence in this event.	0.72		
Satisfaction		0.89	0.70
This event meets my needs.	0.86		
This event is as good as or even better than other events.	0.81		
This event gives me what I expect.	0.80		
In general, my experience with this event is positive.	0.88		
Event image		0.94	0.79
This event is cool.	0.94		
This event is innovative.	0.87		
This event is active.	0.94		
Risk-taking tendency		0.89	0.68
I often long for excitement.	0.87		
I quite enjoy taking risks.	0.82		
I often long for excitement.	0.87		

Perceived control	0.81	0.56
It is easy to perform at this event.	0.77	
As far as this event is organized, it is easy for me to perform in it.	0.72	
There are few obstacles for me to perform in this event.	0.80	
Image congruence	0.90	0.76
This event and I have a similar image.	0.82	
The ideas I associate with myself are related to the ideas I associate with this event.	0.80	
My image of this event is very different from the idea I have of myself.	0.98	

---

**Table 2.** Means, standard deviations, correlations, and squared correlations.

Variables		Mean	Standard deviation	1	2	3	4	5	6	7	8	9
1	Image congruence	4.2	1.6	1	0.12	0.18	0.03	0.02	0.05	0.01	0.02	0.00
2	Trust	4.4	1.4	0.34	1	0.13	0.08	0.06	0.12	0.09	0.03	0.01
3	Upgrade	4.6	1.3	0.42	0.36	1	0.06	0.09	0.12	0.11	0.01	0.01
4	Event image	4.9	1.2	0.19	0.29	0.25	1	0.01	0.05	0.07	0.02	0.00
5	Self-enhancement	4.3	1.5	0.13	0.25	0.30	0.09	1	0.06	0.03	0.00	0.00
6	Perceived control	4.9	1.3	0.22	0.34	0.34	0.23	0.25	1	0.20	0.01	0.00
7	Satisfaction	5.3	1.1	0.09	0.30	0.33	0.26	0.17	0.45	1	0.00	0.00
8	Risk-taking	3.4	1.5	0.15	0.17	0.11	0.14	0.03	0.11	0.06	1	0.01
9	Affective loyalty	5.2	1.3	0.04	-0.08	0.08	-0.03	-0.06	-0.05	-0.07	-0.12	1

Notes: Squared correlations are listed above the diagonal, with correlations below the diagonal

**Table 3.** Structural equation modeling results.

Hypothesis	Path	Estimate ( <i>SE</i> )	<i>p</i>
H1	Self-enhancement → upgrading	0.300 (0.058)	< 0.001
H2	Perceived control → self-enhancement	0.273 (0.051)	< 0.001
H3	Risk-taking attitude → self-enhancement	0.121 (0.048)	0.012
H4	Image congruence → self-enhancement	0.223 (0.049)	< 0.001
<i>H5</i>	<i>Loyalty → upgrading</i>	<i>0.484 (0.073)</i>	<i>&lt; 0.001</i>
<i>H6</i>	<i>Satisfaction → loyalty</i>	<i>0.323 (0.061)</i>	<i>&lt; 0.001</i>
<i>H7</i>	<i>Trust → loyalty</i>	<i>0.274 (0.052)</i>	<i>&lt; 0.001</i>
<i>H8</i>	<i>Event image → loyalty</i>	<i>0.116 (0.043)</i>	<i>0.007</i>

*Note.* Fit:  $\chi^2/df = 2.76$ ; RMSEA = 0.06;  $p(\text{RMSEA} < 0.05) < 0.001$ ; NNFI, CFI = 0.93.



**Table 4.** Multigroup model for distance results.

Path	Group	Estimate (SE)	<i>p</i>
Self-enhancement → upgrading	Close	0.261 (0.078)	< 0.001
	<i>Distant</i>	<i>0.263 (0.061)</i>	<i>&lt; 0.001</i>
Perceived control → self-enhancement	Close	0.379 (0.061)	< 0.001
	<i>Distant</i>	<i>0.084 (0.067)</i>	<i>0.205</i>
Risk-taking attitude → self-enhancement	Close	0.089 (0.054)	0.098
	<i>Distant</i>	<i>0.230 (0.069)</i>	<i>&lt; 0.001</i>
Image congruence → self-enhancement	Close	0.253 (0.054)	< 0.001
	<i>Distant</i>	<i>0.195 (0.066)</i>	<i>0.003</i>
Loyalty → upgrading	Close	0.361 (0.098)	< 0.001
	<i>Distant</i>	<i>0.656 (0.078)</i>	<i>&lt; 0.001</i>
Satisfaction → loyalty	Close	0.365 (0.064)	< 0.001
	<i>Distant</i>	<i>0.231 (0.079)</i>	<i>0.004</i>
Event image → loyalty	Close	0.110 (0.054)	0.043
	<i>Distant</i>	<i>0.106 (0.053)</i>	<i>0.045</i>
Trust → loyalty	Close	0.255 (0.059)	< 0.001
	<i>Distant</i>	<i>0.290 (0.079)</i>	<i>&lt; 0.001</i>

*Note.* Fit:  $\chi^2/df = 2.83$ ; RMSEA = 0.07;  $p(\text{RMSEA} < 0.05) < 0.001$ ; NNFI, CFI = 0.92.

Test for metric invariance:  $\Delta\chi^2(181) = 106.54$ ;  $p > 0.10$

**Table 5.** Multigroup model for age results.

Path	Group	Estimate (SE)	<i>p</i>
Self-enhancement → upgrading	Younger	0.338 (0.081)	< 0.001
	<i>Older</i>	<i>0.215 (0.062)</i>	<i>&lt; 0.001</i>
Perceived control → self-enhancement	Younger	0.286 (0.078)	< 0.001
	<i>Older</i>	<i>0.219 (0.055)</i>	<i>&lt; 0.001</i>
Risk-taking attitude → self-enhancement	Younger	0.176 (0.063)	0.249
	<i>Older</i>	<i>0.137 (0.061)</i>	<i>0.026</i>
Image congruence → self-enhancement	Younger	0.204 (0.056)	< 0.001
	<i>Older</i>	<i>0.202 (0.065)</i>	<i>0.002</i>
Loyalty → upgrading	Younger	0.449 (0.092)	< 0.001
	<i>Older</i>	<i>0.551 (0.082)</i>	<i>&lt; 0.001</i>
Satisfaction → loyalty	Younger	0.211 (0.081)	0.009
	<i>Older</i>	<i>0.365 (0.064)</i>	<i>&lt; 0.001</i>
Event image → loyalty	Younger	0.073 (0.063)	0.249
	<i>Older</i>	<i>0.128 (0.047)</i>	<i>0.006</i>
Trust → loyalty	Younger	0.362 (0.076)	< 0.001
	<i>Older</i>	<i>0.161 (0.062)</i>	<i>0.009</i>

*Note.* Fit:  $\chi^2/df = 2.85$ ; RMSEA = 0.07;  $p(\text{RMSEA} < 0.05) < 0.001$ ; NNFI, CFI = 0.90.

Test for metric invariance:  $\Delta\chi^2(181) = 117.54$ ;  $p > 0.10$