

THE BIG FIVE PERSONALITY TRAITS AND RISKY SPORT PARTICIPATION

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The purpose in this study was to examine differences between risky sport participants and nonparticipants using the Big Five (McCrae & Costa, 1997) personality traits. The sample included 328 individuals ranging in age from 18 to 53 ($M = 23.42$ and $SD = 3.98$). The Five Factor Personality Inventory developed by Somer, Korkmaz, and Tatar (2002) was used to measure personality traits. The results showed that risky sport participants have significantly higher levels of extraversion and openness to experience and lower levels of conscientiousness and neuroticism. The measurement of Big Five personality traits might be a valuable means of estimating individuals' tendency to participate in adventure/risky sport, which in turn could be used to promote adventure/risky sport tourism.

Keywords: adventure sport tourism, risky sport tourism, Big Five, sensation seeking, tourist behavior, risk taking.

Previous attempts to identify relationships between generally risky behavior, participation in risky sports, and personality factors have been focused on *sensation seeking* (SS), which is defined as “*the need for varied, novel, and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experiences*” (Zuckerman, 1979, p. 10). Many researchers have used Zuckerman's Sensation Seeking Scale-V (SSS-V; Zuckerman, 1983), which assesses four aspects of SS: thrill and adventure seeking (TAS), experience seeking (ES), disinhibition (DIS), and boredom susceptibility (BS). In these studies it has been revealed that there are significant associations between risky sport participation and SS facets. For example, Freixanet (1991) found that risky sport participants (mountain climbers, water

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skiers, motorcyclists, and scuba divers) have higher TAS, ES, and total SS scores than controls. Similarly, Diehm and Armatas (2004) showed that SS may be useful in discriminating between participants in high (surfing) and low (golf) risk sports.

The first Sensation Seeking Scale (Zuckerman, Kolin, Price, & Zoob, 1964) was developed based on the theory that “every individual has characteristic levels of stimulation and arousal for cognitive activity, motor activity, and positive affective tone” (Zuckerman, 1969, p. 429). Zuckerman (1979) also stated that “a high-sensation seeker was conceived as someone who was happiest and functioned best at a high tonic level of arousal and therefore behaved in a way that would maintain such a high level” (p. 315). In addition, “high-sensation seekers would seek stimulation in order to elevate arousal level to their optimum level” (Stelmack, 2004, p. 24). From this point of view, an expectation of a positive relationship between SS and risky sport participation is logical. However, when considering Zuckerman’s (1992) suggestion that SS is more closely related to physical sensation than to cognition, it might be argued that the concept of SS may not be adequate to fully explain motives for risky sport participation. Zuckerman (1992) further suggests that risk taking is not an essential motivation for sensation seeking behaviors. This means that in addition to physical factors, cognitive factors may play a role in risky sport participation.

According to Diehm and Armatas (2004), Openness to Experience (OE), a dimension in the Big Five model of personality (McCrae & Costa, 2003), may represent the cognitive aspect of SS. In fact, McCrae (1987) found significant relationships between OE and total SS scores, as well as between OE and subscale scores in the SSS-V. The most notable correlation was with ES ($r = .45$), which is defined as “the seeking of arousal through the mind and senses” (Zuckerman, 1984). As OE may be a trait common to adventure/risky sport participants, knowledge of such a relationship could be valuable in planning effective marketing for this type of tourism activity. For this reason, an examination of the effect of OE on adventure/risky sport participation is merited.

Another reason to investigate the Big Five correlates of adventure/risky sport participation stems from the findings gained in several factor analytic studies that indicate that impulsiveness and SS load on the same factor as the Big Five dimension Conscientiousness (C) (Aluja, Garcia, & Garcia, 2004; Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1993). Despite the associations between C and SS, the possible role of C in adventure/risky sport participation is not clear.

It has been stated in several studies (Ewert, 1994; Llewellyn & Sanchez, 2008; Slinger & Rudestam, 1997) that SS theory does not explain how risk takers are able to cope with the state of anxiety associated with risky behaviors that would deter others from engaging in such behaviors. These statements indicate that adventure/risky sport participation should be negatively related to the Big

Five dimension neuroticism (N), which is characterized by low self-confidence, a higher level of arousal, and a predisposition to anxiety and stress (Somers, Korkmaz, & Tatar, 2004).

The last Big Five dimension that can be theoretically related to adventure/risky sport participation is extraversion (E). It has been suggested that extraverts seek to raise their arousal level (Eysenck & Eysenck, 1985; Furnham, 1981). Thus, E should be related to adventure/risky sport participation.

The purpose in this study was to investigate the Big Five correlates of adventure/risky sport participation and to understand whether there are specific personality traits that make individuals more prone to take part in adventure/risky sports. On the basis of the aforementioned findings, it was hypothesized that adventure/risky sport participants would be more open, more extraverted, and less neurotic than nonparticipants. Risky sport participants should also have lower level C than nonparticipants.

METHOD

PARTICIPANTS

Participants included 328 individuals (121 females and 207 males) ranging in age from 18 to 53 ($M = 23.42$, $SD = 3.98$). Eighty-five were active adventure/risky sport individuals who participated in activities such as scuba diving, free diving, paragliding, rafting, rock climbing, and surfing on a regular basis. Of the remaining participants, 173 had no previous adventure/risky sport experience, but reported a predisposition to participate in such an activity. Individuals having this predisposition were included in the active adventure/risky sport participant group. Thus, 258 of the participants were classified as active in risky sports. Seventy of the participants had no previous experience with adventure/risky sports and reported no predisposition to participate. They were classified as nonparticipants.

INSTRUMENTS

The Five Factor Personality Inventory (FFPI; Somers, Korkmaz, & Tatar, 2002) is a 220-item personality inventory designed to assess the Big Five personality traits, neuroticism, extraversion, openness to experience, agreeableness (A), and conscientiousness, as well as 17 subdimensions. Item responses are made using a 5-point format. The inventory's manual provides evidence for the reliability and validity of the measure.

STATISTICAL ANALYSES

A two-way multivariate analysis of covariance (MANCOVA) was performed using the Big Five personality traits as dependent variables. Age was included

as a covariate, so that differences in age between groups were controlled. Independent variables in the analysis were risky sport participation (participants or nonparticipants) and gender (male or female).

There was a significant main effect for risky sport participation on the combined set of dependent variables, $F(1, 323) = 6.24, p < .05$. Partial eta squared for Wilk's Lambda was $v^2 = .010$. A significant main effect for gender was also found, $F(1, 323) = 6.68, p < .05$. Partial eta squared for Wilk's lambda indicated that the proportion of variability explained by gender was 10% ($v^2 = .010$). No main effect for the covariate age was observed. The risky sport x gender interaction was nonsignificant.

ANCOVAs with the covariate of age were performed to test differences between risky sport participants and nonparticipants. Risky sport participants scored significantly higher than nonparticipants on E, $F(1, 323) = 5.30, p < .05$, and on OE, $F(1, 323), 7.63, p < .05$. Risky sport participants scored lower than nonparticipants on C, $F(1, 323) = 12.81, p < .05$, and on N, $F(1, 323) = 4.60, p < .05$. There was no significant difference between groups in terms of A.

Only the C scale revealed a significant difference in the gender factor. This difference indicated that females have significantly higher C scores than males, $F(1, 323) = p < .05$. There were no significant differences for the remaining dependent variables. No significant risky sport participation and gender interactions were observed.

DISCUSSION

The intention in this study was to examine whether personality traits within the Big Five model can be used to differentiate between risky sport participants and nonparticipants. Several differences were found between the two groups. One of the most notable differences was found for the dependent variable OE, in that risky sport participants were found to have higher OE scores than nonparticipants. This finding supports evidence for the argument made by Diehm and Armatas (2004), who suggest that a consideration of cognitive dimensions of personality may be helpful in understanding reasons for participation in high-risk sports.

OE facets include intelligence and strong intellectual curiosity. In 1947, Cattell removed items associated with intelligence from his scales and developed a real intelligence test. The remaining items were named "culture", based on Norman's (1963) work. The most significant facets of this factor are "openness to experience (OE)" and "sensitivity to esthetic". McCrae and Costa (1997) also argued that OE includes cultural sophistication and imagination. Risky sports such as paragliding, surfing, and scuba diving present opportunities to enjoy esthetically pleasing views of natural surroundings. Thus, they might attract

individuals who have a higher level of OE. In fact, in their structural equation model, Tok, Koyuncu, Dural, and Catikkas (2010) found a positive and significant path coefficient between OE scores and ratings of nature pictures selected from the International Affective Picture System (Lang, Bradley, & Cuthbert, 2005).

The risky sport participant group was found to have higher levels of E than the nonparticipant group. This result, which was consistent with my hypothesis, indicates that SS and E might be related. Aluja, Garcia, and Garcia (2003) stated that SS-related behaviors such as participating in adventure sports, eating exotic meals, and taking drugs can also be more common in extraverted individuals. Eysenck (1990) included SS as a primary trait inherent in E.

Several researchers have shown that SS relates to E both within Eysenck's three-factor model (Zuckerman, Eysenck, & Eysenck, 1978) and within the Big Five personality model (Aluja et al., 2003). Thus, it might be logical to conclude that E is an important factor associated with risky sport participation.

Risky sport participants were found to have lower N scores than nonparticipants. Studies in which associations were found between N and the stability and arousability of the limbic system suggest that individuals who are higher in N become more aroused than individuals who are lower in N when faced with an emotion-inducing stimulus (Matthews & Gilliland, 1999). In addition, in a study by Tok et al. (2010), it was found that individuals having higher levels of N would prefer to have lower levels of arousal. In this respect, the potential stress and anxiety induced by risky sports may not be attractive to individuals who are high in N. In light of the self-confidence facet of N, the inverse relationship between N and risky sport participation found in this study supports Bandura's (1997) statement that people take risks when they believe themselves capable of coping with the situation and have feelings of self-efficacy.

Not surprisingly, risky sport participants were found to have lower levels of C than nonparticipants. Conscientiousness, an individual's tendency to think before acting and consider the potential consequences of an act (Miller et al., 2004), may prevent individuals from engaging in risky sports. In addition, previous researchers have shown that C is negatively related to other risky behaviors, such as risky sexual behavior (Miller et al., 2004), risky driving (Schwebel, Severson, Ball, & Rizzo, 2006), and risky health-related behaviors (Bogg & Roberts, 2004). Anecdotal evidence suggests that a lower level of C might be considered as a risk for injury and mortality.

The results gained in this study have several implications for sports psychology and also sport tourism research. Firstly, openness to experience, in addition to more frequently studied personality traits such as SS, may be useful in understanding the characteristics of risky sport participants. Secondly, it is clear that cognitive factors as well as physical factors play an important role in involvement in risky sports. Thirdly, it seems that E and SS are related and can be used to predict

risky sport participation. Finally, a low level of C, which is characterized by lack of self-discipline and a tendency to act impulsively (Miller et al., 2004), may be considered as a possible risk factor for injuries or even mortality. In this study, I used a measure of the Big Five personality traits to better understand the characteristics typical of adventure/risky sport participants. Future researchers could expand on this preliminary study by exploring the relationship between adventure/risky sport participation and more specific personality traits.

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