

The influences of personality and knowledge on safety-related behaviour among climbers

Mahdi Esfahani , Selina Khoo , Ghazali Musa , Reza Heydari & Mohammad Keshtidar

To cite this article: Mahdi Esfahani , Selina Khoo , Ghazali Musa , Reza Heydari & Mohammad Keshtidar (2021): The influences of personality and knowledge on safety-related behaviour among climbers, Current Issues in Tourism, DOI: [10.1080/13683500.2021.1873919](https://doi.org/10.1080/13683500.2021.1873919)

To link to this article: <https://doi.org/10.1080/13683500.2021.1873919>



Published online: 26 Jan 2021.



Submit your article to this journal [↗](#)





View related articles [↗](#)



View Crossmark data [↗](#)



The influences of personality and knowledge on safety-related behaviour among climbers

Mahdi Esfahani ^a, Selina Khoo^b, Ghazali Musa^c, Reza Heydari^d and Mohammad Keshtidar ^d

^aSports Centre, Imam Reza International University Khorasan Razavi, Iran; ^bSports Centre, University of Malaya Kuala Lumpur, Malaysia; ^cMarketing Department, Faculty of Business and Accountancy, University of Malaya Kuala Lumpur, Malaysia; ^dFaculty of Sports Sciences, Ferdowsi University of Mashhad, Azadi Square, Iran

ABSTRACT

Research on safety-related behaviour among mountaineers remains scarce. Using the theory of planned behaviour, this study investigates the relationships between personality and components of this theory with safety-related behaviour, among climbers on Mount Kinabalu, Borneo. A total of 750 climbers completed questionnaires and the data were analysed using structural equation modelling. Climbers on Mount Kinabalu possess the highest personality dimension of openness to experience, followed by agreeableness, extraversion, conscientiousness and neuroticism. The level of safety-related behaviour on the mountain was moderate. Personality influences climbers' safety-related behaviour both directly and indirectly through knowledge as a mediator factor. Based on the findings, we propose some managerial and marketing implications.

ARTICLE HISTORY

Received 4 June 2020
Accepted 4 January 2021

KEYWORDS

Mountaineers; Theory of planned behaviour; personality; Structural equation model; marketing; responsible behaviour

Introduction

Mountains remain spots of moderately undisturbed nature and significant natural resources. They are additionally places of species and genetic diversity that urban classes of the post-industrial societies have rediscovered for fulfilling their need of nature-based tourism industry (Giachino et al., 2019). Mountain in the tourism industry has been regarded as a significant type of improvement in financially disadvantaged regions, and demand is growing. Mountaineering tourism constitutes a subset of mountain tourism, by exercises, for example, biking, hiking and skiing. However, as opposed to a portion of these related exercises, the more 'serious recreation' or 'hard' adventurous mountaineering tourism has gotten limited coverage in the tourism research (Volgger, 2015). This activity has gained popularity in both adventure tourism and leisure activity (Shafer & Scott, 2013). Mountaineering is an adventurous activity, containing elements of danger and uncertain outcomes (Musa et al., 2004). Expanding the quantity of mountaineers can enhance local income from the tourism industry part, yet it turns on certain issues, for example, the expanding number of accident. Mountain is not a spot that can be visited very easy without great preparation since it can risk your life (Susanto et al., 2018) and, it is firmly connected with conscious risk-taking, making an essential tension between professional mountaineering and recreational mountaineering. While the tension is evident, the two structures are progressively blended up in the present practices and experiences, creating an interesting area of research (Volgger, 2015). Studies demonstrate that particularly climbers should know that being physically dynamic can distort their risk perception (Raue et al., 2018).

The increase in mountaineering activities however, corresponds with the increase in mountaineering related injuries and ailments (Davidson, 2012; Monasterio et al., 2014), with higher incidences reported in high altitude environments (Musa et al., 2004; Musa et al., 2003), and among younger tourists (Monasterio, 2005). Younger tourists are often less experienced and take greater risk in decision making. For safety and security, mountaineers need to behave responsibly on the mountain by adopting safety principles and bringing along the necessary equipment during mountaineering (Burnik et al., 2009; Maroudas et al., 2004).

Mountaineering presents certain objective risks, for example, storms, avalanche, lightning, icefall, rock fall, and potentially hazardous exposure. Equipment failure is also responsible for some adverse outcomes. Although the biggest reason for injury and death on the mountains of North America is human error, improper conditioning, group disharmony, mental lapses, lack of foresight, and absence of information can all contribute to human error. Probably, most of these variables are preventable with suitable preparation and training (Brandenburg & Davis, 2016). A tourist place is a destination where tourists' responsible behaviour occur. Responsible mountaineering behaviour refers to specific behaviour that needs to be carried out by mountaineers to ensure their safety and security while mountain climbing (Esfahani & Khoo, 2015). Responsible behaviour be connected with the individual behaviour that can have an effect on the environment and others and depend on individual personality (as a complex set of characteristics of physical and mental functioning) (Wang et al., 2019; Stojan Burnik, Jug, Kajtna, & Tušak, 2005). Wide variation in the scores of personality traits suggests that there is not a tightly defined personality profile among mountaineers (Monasterio et al., 2014).

Researchers have examined factors influencing responsible behaviour in various settings, but are mainly concerned with environmental protection (Wang et al., 2019; Bear et al., 2003; De Young, 2002; Hungerford & Volk, 1990; Osbaldiston & Sheldon, 2003). Several studies have examined safety-related and environmentally responsible behaviour among scuba divers (Musa, Seng, Thirumoorthi, & Abessi, 2011; Ong & Musa, 2011a, 2011b, 2012). Despite the importance of mountaineering tourism and its dangerous elements, little is known about safety-related behaviour on the mountain, with the exception of some studies like Esfahani, Musa and Khoo (2017) on Mount Kinabalu.

Literature review

Safety-related mountaineering behaviour

Tourists' intrapersonal variables influence perceived destination safety. For example psychographic characteristics like personality traits; nationality; sociodemographic factors such as gender, age, salary, training, and societal position (Esfahani, 2014). Different factors, for example, travel arrangements, tourists' safety-related knowledge and risk tolerance, and level of voluntary exposure to risk also impact tourists' perceived safety (Zou & Meng, 2019). Bear et al. (2003) stated that responsible behaviour involves obedience, compliance to rules, self-motivation, and self-guidance. They believed social cognitive and emotional factors illustrate why some people in the same situation act more responsibly than others. Different factors such as friends are a powerful influence on people's feeling, thoughts, and behaviours (Esfahani, 2014). Responsible behaviour requires an understanding of the great diversity in people's motives.

Researchers have examined responsible behaviour for both environmental protection and safety among scuba divers who are required to undergo strict training and adhere to various safety measures to prevent injuries and health ailments (Musa et al., 2011; Ong & Musa, 2011a, 2011b, 2012). Despite the importance of mountaineering tourism and its associated dangerous activities, little is known about safety-related behaviour with the exception of Esfahani, (2014) and Esfahani et al., (2017). They discovered that spirituality positively influences both responsible mountaineering behaviour and satisfaction. A high physical activity level moderates both of these relationships. In the current paper, we further extend the research to examine other antecedents which influence safety-related behaviour.

Climbers should be co-operative, help each other, pay attention to their skills and equipment, and accept risks and responsibility (Hamilton & McMillan, 2004; Pomfret, 2006). Therefore, we gauged responsible behaviour in terms of minimizing health risks and ensuring safety in the mountain environment. Theoretically, researchers with the self-interest viewpoint prefer adopting a rational choice framework such as the TPB and Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Taking the self-interest view, we therefore adopted the TPB as the theoretical framework for this study.

The Theory of Planned Behaviour

The Theory of Planned Behavior (TPB) gives a helpful conceptual framework to managing the complexities of human social behaviour, and is frequently used to clarify behavioural patterns and better understand how people make behavioural decisions (Satsios & Hadjidakis, 2018).

Ajzen (1985) proposed TPB, an advanced version of TRA (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), which removed the latter's limitation that advocates people's ability to control volitional behaviour (Ajzen, 1991). TPB contains perceived behavioural control. Ajzen (1991) believed that TPB is a useful theory to explain leisure activities such as skiing, swimming, horse-back riding, or mountain climbing. Many researchers have applied TPB in tourism research (Ajzen & Driver, 1992; Lam & Hsu, 2004; Lam & Hsu, 2006; Nunkoo & Ramkissoon, 2010; Quintal, Lee, & Soutar, 2010). TPB emphasizes the individual's intention to perform the behaviour, which is strongly correlated with the actual behavioural performance (Lam & Hsu, 2006; Liao, Chen, & Yen, 2007; Wang & Ritchie, 2012). Researchers have directly measured the influence of attitudes, subjective norms, and perceived behaviour controls on the behaviour itself (Valle, Rebelo, Reis, & Menezes, 2005; Ong & Musa, 2011a; Esfahani, 2014).

Attitude predicts social behaviour (Ajzen, 2001), and is related to the feeling, belief, and past behaviour toward an object, that can be a person, place, thing, action or event (Zanna & Rempel, 1988). People with positive attitudes towards an object tend to have favourable beliefs, feelings and behaviours toward it. Alternatively, people with negative attitudes towards an object tend to have unfavourable beliefs, feelings and behaviours toward it (Ong & Musa, 2011a). The dimensions of attitude are cognitive (knowledge), affective (awareness), and conative (commitment) (Best, 2010; Braun, 2012; Eagly & Chaiken, 2007; Han, Kim, & Kim, 2011; Hines, Hungerford, & Tomera, 1987; Jun et al., 2012; Maloney & Ward, 1973). Cognitive refers to the knowledge factor, whereas affective measures beliefs and feelings about specific issues. Actions or behavioural tendencies of an individual toward an object constitute the conative dimension.

Ajzen (1991) defined subjective norms as 'the perceived social pressure to perform or not to perform a behaviour' (p.188). If people important to individuals encourage the behaviour, they are more willing to perform it (Nunkoo & Ramkissoon, 2010).

Esfahani (2014) believed that subjective norms can be referred to a mountaineering partner or group members, other climbers, family members and mountain guides that may influence climbers' behaviour on the mountain. Perceived behavioural control (PBC) signifies people's conception of the ease or difficulty in carrying out the behaviour (Ajzen, 1991; Ajzen & Driver, 1992), and has direct influence on behavioural achievement (Ajzen, 1991). Cho (2008) indicated that PBC is 'one's perceptions of the availability of the skills, resources (time and money), and opportunities that may either inhibit or facilitate a behaviour' (p. 221). Thus, both external constraints (e.g. opportunities and facilities) and internal controls (e.g. ability to performing and skills) are necessary in performing specific behaviour (Cho, 2008).

Personality

In this study, we added personality as a research construct. Cattell (1950) believed understanding personality permits a prediction of what a person will do in a given situation. Costa and McCrae

(1980) identified neuroticism (N), extraversion (E) and openness to experience (O) as three personality dimensions. Later conscientiousness (C) and agreeableness (A) were added to the new version as the NEO-PI (McCrae, 1989).

Neuroticism indicates a lack of emotional stability. Highly extraverted people search for new excitement and opportunities. Those with openness to experience tend to explore new ideas and devise novel opinions. Agreeableness represents the good-natured; sympathetic, courteous, cooperative, friendly, trusting, and forgiving. People with high conscientious traits tend to actively plan and carry out tasks (Costa & McCrae, 1992). Tok (2011) believed that risky sport participants have a high level of extraversion and openness to experience and a low level of conscientiousness and neuroticism. The combination of low conscientiousness with high extraversion and/or high neuroticism constitute greater risk-takers (Castanier, Scanff, & Woodman, 2010).

Even though Monasterio et al. (2014) stated that climbers' personalities cannot be tightly defined, some studies observed certain personality characteristics among climbers that are different compared with low risk sport participants (Breivik, 1996; Castanier et al., 2010; Freixanet, 1991; Jack & Ronan, 1998; Thomson & Carlson, 2014; Esfahani, 2014). Extraversion and neuroticism have positive and negative correlations, respectively with high-risk mountaineering (Freixanet, 1991). The combination of low conscientiousness with high extraversion and/or high neuroticism constitute greater risk-takers (Castanier et al., 2010).

Research framework and hypotheses

The research conceptual framework consists of personality, attitude, subjective norms and PBC which influence safety-related mountaineering behaviour (see Figure 1). Based on previous studies (Markowitz, Goldberg, Ashton, & Lee, 2012; Swami, Chamorro-Premuzic, Snelgar, & Furnham, 2011; Esfahani, 2014), we proposed a direct relationship between personality and safety-related mountaineering behaviour (H1). Evidence shows that personality influences general environmental attitudes (Hirsh, 2010; Hirsh & Dolderman, 2007; Markowitz et al., 2012; Swami et al., 2011; Esfahani, 2014). Ong and Musa (2012) discovered a significant relationship between personality and attitude among scuba divers. Therefore, we hypothesized that personality has a relationship with climbers' attitudes towards responsible behaviour (H5).

The components of TPB – attitude, subjective norm and PBC – have a direct relationship with actual behaviour (Ong & Musa, 2011a; Valle et al., 2005). Therefore, we hypothesized that attitude, subjective norms, and PBC have relationships with safety-related mountaineering behaviour (H2, H3 and H4).

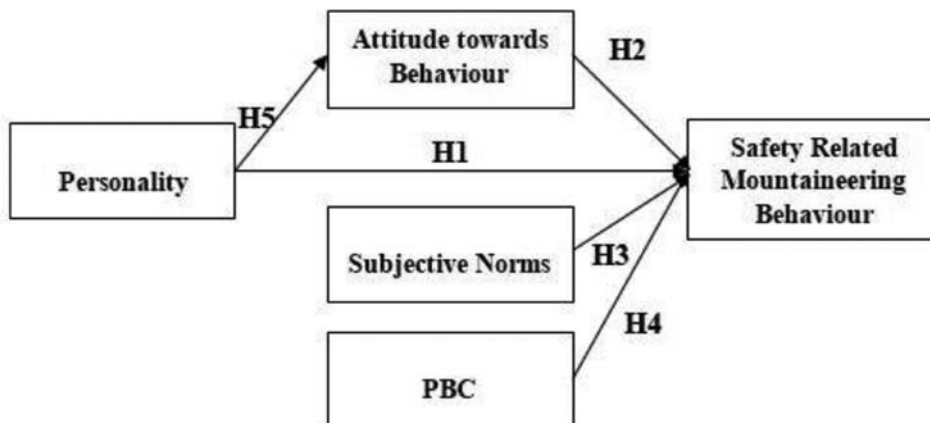


Figure 1. Conceptual Framework of Study. H = Hypothesis, PBC = Perceived Behavioural Controls.

We formulated the following hypotheses based on literature review:

H1: Personality has a significant relationship with safety-related mountaineering behaviour.

H2: Attitude towards behaviour has a significant relationship with safety-related mountaineering behaviour.

H3: Subjective norms have a significant relationship with safety-related mountaineering behaviour.

H4: PBC has a significant relationship with safety-related mountaineering behaviour.

H5: Attitude towards behaviour mediates the relationship between personality and safety-related mountaineering behaviour.

Mount Kinabalu

Kinabalu National Park in Borneo is listed as a World Heritage Site for its 'outstanding universal values'. Within the park stands Mount Kinabalu (4101 metres) which is reputed to be one of the world's most accessible mountains to climb. Ching (2008) reported that 81.2% of climbers believed that the Park has made substantial efforts to enhance climbing safety, whereas 89.9% felt that the summit trail was well kept. Despite its ease to climb, every year there are records of injuries, deaths and getting lost amongst climbers (Esfahani, 2014). Thus, there is a need to monitor safety-related behaviour on Mount Kinabalu which will be useful for managerial intervention.

Therefore, this study examines the influence of personality on safety-related behaviour with the help of Theory of Planned Behaviour (TPB) among climbers on Mount Kinabalu. The objectives are: firstly, to measure personality types, levels of attitude towards behaviour, and safety-related behaviour; secondly, to identify the relationship between personality, attitude, subjective norms, and PBC with safety-related behaviour; and thirdly, to determine the mediating role of climbers' attitudes in the relationship between personality and safety-related behaviour. The findings provide an extension of knowledge in the use of the Theory of Planned Behaviour (TPB) and the role of personality in predicting safety-related behaviour. It could guide managers to disseminate safety-related information, and educate both staff and climbers, in promoting responsible behaviour among climbers.

Materials and methods

A survey was used to collect data in this study. The questionnaire consists of six sections. The first section gathered climbers' demographic information, while the second section measured personality using NEO-PI (Digman, 1990; McCrae & Costa Jr, 1985; McCrae & John, 1992). In the third section, we examined safety-related mountaineering behaviour, by adapting measurement items from literature (Hamilton & McMillan, 2004; Pomfret, 2006; Windsor, Firth, Grocott, Rodway, & Montgomery, 2009; Esfahani, 2014), the Park's safety and security information and expert opinions. We compiled the list of safety-related mountaineering behaviours from the information provided by the Kinabalu National Park. This included elements of clothing, hydration and food, equipment, among others.

The fourth section explored attitudes towards behaviour through the cognitive, affective, and conative components using from literatures (Best, 2010; Braun, 2012; Eagly & Chaiken, 2007; Han, Kim, & Kim, 2011; Hines, Hungerford, & Tomera, 1987; Jun et al., 2012; Maloney & Ward, 1973; Esfahani, 2014), and practices in mountaineering by expert opinions. In the fifth section, we examined subjective norm using four items though self-developed from experts and literature (Nunkoo & Ramkissoon, 2010; Esfahani, 2014) and, measuring the influence of particular individuals (e.g. climbing partners or group members, other climbers, family members, and mountain guides). The final section consisted of PBC, using five items adapted from literature (Ong & Musa, 2011a; Oreg & Katz-Gerro, 2006; Esfahani, 2014) and self-developed from expert opinions. We measured them using a 5-point Likert scale ranging from 1 being 'strongly disagree' to 5 being 'strongly agree'.

A panel of experts, five-member academic panel of experts with mountain climbing experience, evaluated a draft of the questionnaire and based on their comments and suggestions as well as input from pre-test respondents, we revised the questionnaire. We pilot tested the questionnaire on 100 climbers in the Park, and analysed the data using item-total correlations and reliability estimation. For all constructs the alpha values were higher than .7, indicating adequate reliability measurement.

We collected research data for a one-month period (14th March to 14th April), during which an estimated of 2,250 climbers visited the main restaurant within the park, the only venue consented by the authority for data collection. Using the formula $(N = p(1 - p)(Z \alpha/2/B)^2)$ introduced by Bowerman, O'Connell, and Orris (2004), we calculated the study's minimum sample size as 196. Gange and Hancock (2006) and Choi (2010) emphasized that large sample sizes are preferred in CFA and SEM. We therefore invited all the climbers who visited the restaurant to participate in the study. Of the 2,250 climbers approached by the authors, we first distributed 220 questionnaires to determine reliability. In the second phase, 550 additional questionnaires were distributed. Of these, 530 were questionnaires that could be reviewed. The authors received a total of 750 completed questionnaires.

Data analysis and results

We did not observe any serious violations in terms of missing values, distances, and normality, and all structures were distributed normally. Subsequently, we developed the scale through exploratory factor analysis (EFA) based on 220 respondents and tested the conceptual model through confirmatory factor analysis (CFA) and SEM using 530 respondents. Data was analysed by SPSS 26 and AMOS 25 software.

Profile of respondents

Of the 750 respondents, 60.7% were male and 39.3% female, and 40.7% held a Bachelor Degree. Nearly half (55.8%) were international climbers from 35 different countries, while Malaysians constituted 44.2%. Climbers (56.7%) were mainly young, between 18–30 years old, followed by 24.7% between 31 and 40 years. The majority (51%) considered themselves as novices, followed by 35.1% intermediate, and 13.8% expert. The first timers constituted 86.2% of the climbers.

Factor analysis

Given the KMO value greater than 0.7 and the significant Bartlett's test, it is concluded that the data are suitable for factor analysis and meet the requirements for conducting factor analysis (see Table 1). Cronbach's alpha values for the constructs were acceptable at 0.7 and above (Nunnally & Bernstein, 1994): personality ($\alpha = .78$), safety-related mountaineering behaviour ($\alpha = .72$), attitude towards behaviour ($\alpha = .87$), subjective norms ($\alpha = .81$) and PBC ($\alpha = .79$). EFA revealed three safety-related behaviour dimensions, which were 'clothing requirements' (mean = 4.33), 'obedience requirements' (mean = 3.51) and 'equipment requirements' (mean = 2.22). The dimensions formed exogenous constructs to the research model. The overall mean score for safety-related mountaineering behaviour was average (3.38). The EFA revealed three dimensions of attitude towards behaviour which labelled as 'knowledge' (mean = 3.32), 'awareness' (mean = 4.25) and 'commitment' (mean = 2.30). They formed endogenous constructs to the measurement model. Climbers had an overall

Table 1. Kmo and Bartlett's test results.

KMO	0.864
Bartlett's Approx	15939.409
Df	2278
Sig	0.000

mean score of 3.54 ± 0.41 for personality. The highest score was for agreeableness (mean = 3.86) followed by openness to experience (mean = 3.85), extraversion (mean = 3.62), conscientiousness (mean = 3.58) and neuroticism (mean = 2.03). The data show that climbers were more likely to possess personality characteristics of agreeableness, openness to experience, extraversion and conscientiousness. However, climbers were less likely to possess neuroticism as personality traits.

Following EFA, we conducted a CFA to evaluate the unidimensionality, convergent validity, discriminant validity, and construct reliability of the research scale. We investigated and revised the model to achieve a statistically acceptable and theoretically meaningful model. The value related to the loading was significant at .01 level with all variables significantly related to their constructs. The average variance extracted (AVE) were all higher (0.514–0.725) than the recommended value of 0.50 (Fornell & Larcker, 1981) (see Table 2), fulfilling convergent validity requirements. The AVE for every construct was greater than each squared correlation between the two constructs, and this fulfilled discriminant validity (Fornell & Larcker, 1981). The composite reliability (CR) for the four constructs was higher than the recommended value of 0.70, and the AVEs for all constructs also exceeded the threshold value of 0.50 (see Table 2). This indicated that the psychometric properties of each latent construct were acceptable for the study purpose.

We used SEM to validate that the theoretical hypothesized model as consistent with the collected data, by evaluating gamma and beta paths of both exogenous and endogenous constructs. The chi-square value ($\chi^2(440) = 926.221, p = 0.000$) was significant, and other goodness-of-fit indices demonstrated an acceptable level (GFI = 0.904, RMSR = 0.072, RMSEA = 0.048, AGFI = 0.887, CFI = 0.885, TLI = 0.886, PGFI = 0.767, and PNFI = 0.750). Thus, the proposed path model exhibited a good fit to the data and gives the best model for the study (Hull, Lehn, & Tedlie, 1991).

As shown in Figure 2 and Table 3, personality ($\gamma_1[?] = 0.203, t\text{-Value} = 3.419, p < 0.001$) and knowledge ($\beta_1 = 0.207, t\text{-Value} = 5.551, p < 0.001$) had significant positive effects on safety-related mountaineering behaviour. The results support H1 and H2. On the other hand, subjective norm ($\gamma_2 = 0.046, t\text{-Value} = 1.103, p = 0.270$) and PBC ($\gamma_3 = 0.041, t\text{-Value} = 1.578, p = 0.115$) did not show statistically significant effect on safety-related behaviour. Thus, H3 and H4 are not supported.

Personality also had a significant relationship with knowledge ($\gamma_4 = 0.502, t\text{-Value} = 5.856, p < 0.001$). The direct effect of personality on safety-related behaviour was significant at 0.318. The indirect effect of personality \rightarrow knowledge \rightarrow safety-related mountaineering behaviour was also significant at 0.137 (see Table 4). Therefore, in this study, knowledge (a dimension of attitude) partially mediated the relationship between personality and safety-related mountaineering behaviour, thus partially supporting H5.

Discussion and conclusion

Climbers were mainly male, single and young, with a bachelor degree, Malaysian, first-timers, and novices. Monasterio (2005) stated that young and less experienced climbers are rather carefree and impulsive, consequently subject to higher possibilities of accidents, deaths and injuries on the mountain. The demographic composition justifies the need for the present study, to anticipate their behaviour, and to institute appropriate managerial actions.

Table 2. Correlation Matrix of Research Constructs (N = 530).

Construct	CR	AVE	Personality	S M Behaviour	Attitude	Subjective N.	PBC
Personality	0.837	0.725	0.725				
SMB	0.772	0.531	0.381	0.531			
Attitude	0.845	0.528	0.243	0.605	0.528		
Subjective N.	0.752	0.514	0.258	0.281	0.332	0.514	
PBC	0.771	0.632	0.084	0.106	0.076	0.103	0.632

Note: Average Variance Extracted (AVE) appears along the diagonal as bold numbers. PBC = Perceived Behavioural Control; SMB = Safety-related Mountaineering Behaviour; CR = Construct Reliability.

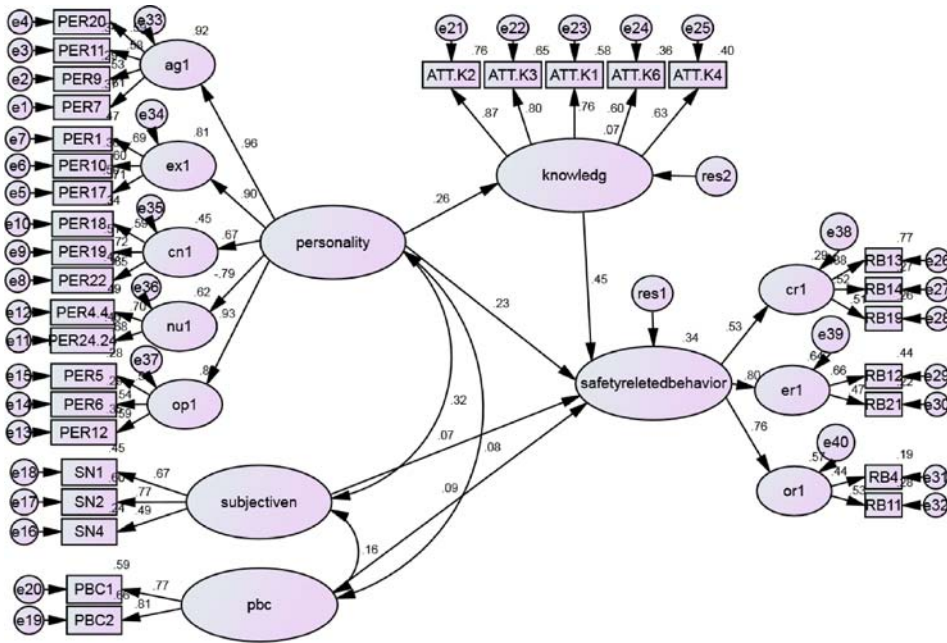


Figure 2. The Results of Structural Equation Model (SEM).

Figure 3 shows an integrated model which explain the relationship between personality, attitude (i.e. knowledge) and safety-related behaviour among climbers. Personality plays a significant part not only as a direct influence on safety-related behaviour, but also indirectly through knowledge among climbers on Mount Kinabalu.

Similar to Esfahan et al. (2017) and Esfahani, 2014, we discovered three safety-related behaviour dimensions which are clothing requirements, obedience requirements and equipment requirements. Accurate information about such requirements before mountain climbing must be adequately communicated and provided. The overall behaviour mean score was at a moderate level (mean = 3.38), which has potential for improvement. The result greatly differed from the studies on scuba divers in the same region (Musa et al., 2011; Ong & Musa, 2011b), who behaved much more responsibly. Ong and Musa (2011b) and Musa et al. (2011) reported responsible behaviour related to safety and security among divers as 4.18 and 4.38, respectively, using the same measurement scale. Their higher compliant to responsible behaviour may be explained by the more dangerous nature of diving. Divers are required to be certified, and the activity does not permit a high margin of behavioural error before causing detrimental effect to safety and health. The high success rate in summiting Mount Kinabalu may induce the erroneous belief among climbers that responsible behaviour may not be that crucial.

The highest mean score for attitude’s construct was awareness, followed by knowledge and commitment. Climbers were generally very aware of the expected behaviour on Mount Kinabalu. With

Table 3. Standardized Path Coefficients of the Structural Model (N = 530).

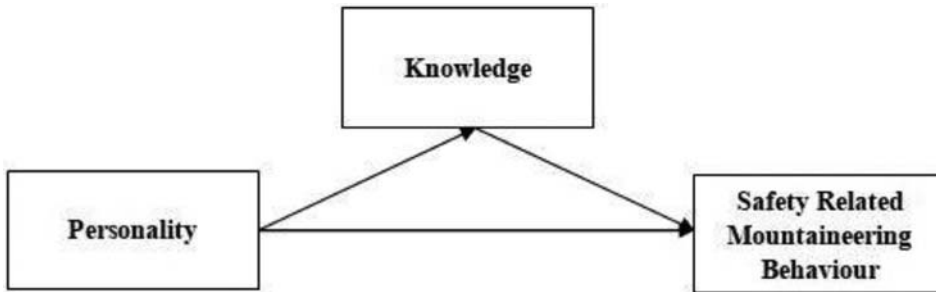
Hypotheses			Estimate	S.E.	t-Value	P
H1: SMB	<—	Personality	.203	.060	3.419	***
H2: SMB	<—	Knowledge	.207	.037	5.551	***
H3: SMB	<—	Subjective N	.046	.042	1.103	.270
H4: SMB	<—	PBC	.041	.026	1.578	.115

Note: H = Hypotheses; PBC = Perceived Behavioural Control; SMB = Safety-related Mountaineering Behaviour. Standard Error. ***p < .001, **p < .01, *p < .05 and significant level at t-Value > 1.96.

Table 4. Mediating Effects.

Hypothesis	Direct effect	Indirect effect	Indirect
H5: PER → KNO → SMB	0.318 (0.001)***	0.137 (0.002)**	Partially Mediated

Note: H = Hypotheses; PER = Personality; SMB = Safety-related Mountaineering Behaviour; KNO = knowledge; *** $p < .001$, ** $p < .01$, * $p < .05$.

**Figure 3.** Integrated Model of Study.

the exception of knowledge, both awareness and commitment did not influence safety-related behaviour. Also Conclusion Successful development and implementation of preventive strategies against sports injuries are likely to reduce athletes' health problems, sport, work and school absenteeism, and medical costs (Parkkari et al., 2016). Other researchers (Cottrell & Graefe, 1997; Dyck, Schneider, Thompson, & Virden, 2003; Ong & Musa, 2011a; Zanna & Rempel, 1988; Esfahani, 2014) also discovered the superiority of knowledge in influencing responsible behaviour among tourists. Park authorities and mountain guides may enhance climbers' knowledge through briefings, video presentations and the demonstration of crucial aspects in mountain climbing.

The path coefficient between PBC and safety-related mountaineering behaviour was not significant in this study. Ajzen (2005) identified three situations where a measure of PBC could not accurately predict behaviour. These were (1) when the individual has little information about the behaviour, (2) when unfamiliar and new elements have entered into the situation, or (3) when requirements or available resources have changed. A total of 86.2% climbers in this study were first-timers. Their unfamiliarity with the destination and little information provided on the expected behaviour, may explain the insignificant influence of PBC on safety-related behaviour in this study.

Attitude is a stronger predictor of intent than the subjective norms (Kurland, 1995, 1996; Vallerand, Deshaies, Cuerrier, Pelletier, & Mongeau, 1992; Esfahani, 2014). In individualistic culture, Kurland (1995) observed attitude as more relevant than subjective norms. On the other hand, in collectivistic culture, subjective norms can be more important than attitude. Although mountaineering is arguably more of a collectivistic activity (especially if the mountain is difficult to climb); for Mount Kinabalu, owing to its ease to climb, climbers may display more individualistic activity. Therefore, climbers have independent feelings of other climbers during mountaineering. This statement may explain the insignificant influence of subjective norms on safety-related behaviour on Mount Kinabalu.

Climbers on Mount Kinabalu possess the highest personality dimension of openness to experience, followed by agreeableness, extraversion, conscientiousness and neuroticism. Detailed analysis showed that, all personality dimensions positively influenced safety-related mountaineering behaviour among climbers with the exception of neuroticism. Additionally, personality influenced safety-related mountaineering behaviour both directly and indirectly through the mediation of knowledge. The direct effect of personality on safety-related behaviour was however stronger than the indirect effect through knowledge. This shows that personality is a strong and stable construct. Thus, the present study's main knowledge contribution is the importance of the knowledge dimension within the attitude construct in influencing safety-related behaviour.

Mount Kinabalu is an extremely accessible mountain even to the young and inexperienced novice. With no technical skill and sophisticated equipment required, climbers are able reach the peak and experience a high altitude with cold weather at a tropical latitude (Esfahani, 2014). These considerations could be used in marketing communication to attract prospective climbers.

For managerial implications, the clothing requirements and obedience requirements should be considered as two important aspects of behaviour by the park authorities and the mountain guides. The managers and mountain guides should be mindful of the importance of knowledge in influencing safety-related behaviour. Perhaps the Park should provide facilities for sale or rental of clothing requirements for climbers.

Agreeableness, openness to experience, extraversion and conscientiousness are the personality traits which positively influenced safety-related behaviour. Managers should institute educational programmes with both direct and indirect strategies. In indirect strategy, managers could increase the knowledge of guides and instructors, while the direct strategy may include knowledge transfer directly to climbers. Managers may need to pay attention to climbers with neuroticism who seem nervous, worried, or have insecure traits. This group of climbers may need closer supervision from mountain guides and the park authorities.

This study has a number of limitations. Firstly, the questionnaire development was not informed by a qualitative study. Secondly, we were only allowed to distribute the questionnaire at a restaurant at the exit of the mountain. Thirdly, the questionnaire was only available in the English language. A suggestion for future research is to investigate the moderating effect of the demographic profile – age, gender, education – within the current research framework, for its influence on safety-related behaviour. Similar research could be conducted on other mountains to compare the results with Mount Kinabalu.

In conclusion, this study succeeds in its effort to measure and extend the role of personality and knowledge in influencing safety-related mountaineering behaviour using TPB. The findings indicated that personality traits were important factors influencing both knowledge and safety-related behaviour in the leisure activity of mountaineering. It provided evidence of a partial mediation role of knowledge in the relationship between personality and safety-related behaviour. A continuous effort to examine and measure the behaviour of climbers may provide invaluable information for the provision of safer mountaineering activity.

Disclosure statement

No potential conflict of interest was reported by the author(s).

ORCID

Mahdi Esfahani  <http://orcid.org/0000-0002-4808-1191>

Mohammad Keshtidar  <http://orcid.org/0000-0002-1705-4940>

References

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl, & J. Bechmann (Eds.), *Action control: From cognition to behavior* (pp. 11–39). Springer Verlag.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Process*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, 52(1), 27–58. <https://doi.org/10.1146/annurev.psych.52.1.27>
- Ajzen, I. (2005). *Attitudes, personality, and behavior* (2nd ed.). Open University Press/McGraw-Hill.
- Ajzen, I., & Driver, B. L. (1992). Application of the theory of planned behavior to leisure choice. *Journal of Leisure Research*, 24(3), 207–224. <https://doi.org/10.1080/0022216.1992.11969889>
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Prentice Hall.

- Bear, G. G., Manning, M. A., & Izard, C. E. (2003). Responsible behavior: The importance of social cognition and emotion. *School Psychology Quarterly*, 18(2), 140–157. <https://doi.org/10.1521/scpq.18.2.140.21857>
- Best, H. (2010). Environmental concern and the adoption of organic agriculture. *Society and Natural Resources*, 23(5), 451–468. <https://doi.org/10.1080/08941920802178206>
- Bowerman, B. L., O'Connell, R. T., & Orris, J. B. (2004). *Essentials of business statistics* (3rd ed.). McGraw-Hill.
- Brandenburg, W. E., & Davis, C. B. (2016). Medical knowledge and Preparedness of climbers on Colorado's 14,000-Foot Peaks. *Wilderness & Environmental Medicine*, 27(1), 62–68. <https://doi.org/10.1016/j.wem.2015.11.009> doi:10.1016/j.wem.2015.11.009
- Braun, N. (2012). *Investigating environmentally responsible behavior: A phenomenological study of the personal behaviors of acknowledged leaders in the area of climate change* (Doctoral dissertation). Ohio State University.
- Breivik, G. (1996). Personality, sensation seeking and risk taking among Everest climbers. *International Journal of Sport Psychology*, 27(3), 308–320.
- Burnik, S., Jug, S., Kajtna, T., & Tušak, M. (2005). Differences in Personality Traits of Mountain Climbers and Nonathletes in Slovenia. *Acta Universitatis Palackianae Olomucensis. Gymnica*, 35(2).
- Burnik, S., Jug, S., Kajtna, T., & Tušak, M. (2009). Differences in personality traits of mountain climbers and non-athletes in Slovenia. *Acta Universitatis Palackianae Olomucensis. Gymnica*, 35(2), 13–18.
- Castanier, C., Scanff, C. L., & Woodman, T. (2010). Who takes risks in high-risk sports? A typological personality approach. *Research Quarterly for Exercise and Sport*, 81(4), 478–484. <https://doi.org/10.1080/02701367.2010.10599709>
- Cattell, R. B. (1950). *Personality: A systematic theoretical and factual study*. McGraw-Hill.
- Ching, G. H. (2008). *Sustainable tourism and the influence of privatization in protected area management: A case of Kinabalu Park, Malaysia* (Doctoral dissertation). University of Bonn.
- Cho, V. (2008). Linking location attractiveness and tourist intention. *Tourism and Hospitality Research*, 8(3), 220–224. <https://doi.org/10.1057/thr.2008.20>
- Choi, S. (2010). *Task and relationship conflict in subordinates and supervisors relations: Interaction effects of justice perceptions and emotion management* (Doctoral dissertation). Louisiana State University.
- Costa Jr, P. T., & McCrae, R. R. (1980). Still stable after all these years: Personality as a key to some issues in adulthood and old age. In P. B. Baltes, & J. O. G. Brim (Eds.), *Life span development and behavior* (Vol. 3, pp. 65–102). Academic press.
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO personality inventory (NEO PI-R) and NEO five-factor Inventory (NEO-FFI)*. Psychological Assessment Resources.
- Cottrell, S. P., & Graefe, A. R. (1997). Testing a conceptual framework of responsible environmental behavior. *The Journal of Environmental Education*, 29(1), 17–27. <https://doi.org/10.1080/00958969709599103>
- Davidson, L. (2012). The calculable and the incalculable: Narratives of safety and danger in the mountains. *Leisure Sciences*, 34(4), 298–313. <https://doi.org/10.1080/01490400.2012.687617>
- De Young, R. (2002). New ways to promote proenvironmental behavior: Expanding and evaluating motives for environmentally responsible behavior. *Journal of Social Issues*, 56(3), 509–526. <https://doi.org/10.1111/0022-4537.00181>
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, 41(1), 417–440. <https://doi.org/10.1146/annurev.ps.41.020190.002221>
- Dyck, C., Schneider, I., Thompson, M., & Virden, R. (2003). Specialization among mountaineers and its relationship to environmental attitudes. *Journal of Park and Recreation Administration*, 21(2), 44–62.
- Eagly, A. H., & Chaiken, S. (2007). The advantages of an inclusive definition of attitude. *Social Cognition*, 25(5), 582–602. <https://doi.org/10.1521/soco.2007.25.5.582>
- Esfahani, M. (2014). *Factors influencing responsible behaviour related to safety and health on mountains: A case study of climbers on Mount Kinabalu, Malaysia* (Doctoral dissertation). University of Malaya, Kuala Lumpur, Malaysia.
- Esfahani, M., & Khoo, S. (2015). Measuring responsible behaviour related to safety and security and its antecedents among climbers on Mt Kinabalu, Borneo. In G. Musa, J. Higham, & A. Thompson- Carr (Eds.), *Mountaineering tourism* (pp. 211–216). Routledge.
- Esfahani, M., Musa, G., & Khoo, S. (2017). The influence of spirituality and physical activity level on responsible behaviour and mountaineering satisfaction on Mount Kinabalu, Borneo. *Current Issues in Tourism*, 20(11), 1–24. <https://doi.org/10.1080/13683500.2014.987733>
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Addison-Wesley Pub. Co.
- 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/10.1177/002224378101800104>
- Freixanet, M. G. (1991). Personality profile of subjects engaged in high physical risk sports. *Personality and Individual Differences*, 12(10), 1087–1093. [https://doi.org/10.1016/0191-8869\(91\)90038-D](https://doi.org/10.1016/0191-8869(91)90038-D)
- Gagne, P., & Hancock, G. R. (2006). Measurement model quality, sample size, and solution propriety in confirmatory factor models. *Multivariate Behavioral Research*, 41(1), 65–83. https://doi.org/10.1207/s15327906mbr4101_5
- Giachino, C., Truant, E., & Bonadonna, A. (2019). Mountain tourism and motivation: Millennial students' seasonal preferences. *Current Issues in Tourism*, 1–15.
- Hamilton, L. S., & McMillan, L. (2004). *Guidelines for planning and managing mountain protected areas*. IUCN, Gland.

- Han, H., Kim, Y., & Kim, E.-K. (2011). Cognitive, affective, conative, and action loyalty: Testing the impact of inertia. *International Journal of Hospitality Management*, 30(4), 1008–1019. <https://doi.org/10.1016/j.ijhm.2011.03.006>
- Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). Analysis and synthesis of research on responsible environmental behavior: A meta-analysis. *The Journal of Environmental Education*, 18(2), 1–8. <https://doi.org/10.1080/00958964.1987.9943482>
- Hirsh, J. B. (2010). Personality and environmental concern. *Journal of Environmental Psychology*, 30(2), 245–248. <https://doi.org/10.1016/j.jenvp.2010.01.004>
- Hirsh, J. B., & Dolderman, D. (2007). Personality predictors of consumerism and environmentalism: A preliminary study. *Personality and Individual Differences*, 43(6), 1583–1593. <https://doi.org/10.1016/j.paid.2007.04.015>
- Hull, J. G., Lehn, D. A., & Tedlie, J. C. (1991). A general approach to testing multifaceted personality constructs. *Journal of Personality and Social Psychology*, 61(6), 932–945. <https://doi.org/10.1037/0022-3514.61.6.932>
- Hungerford, H. R., & Volk, T. L. (1990). Changing learner behavior through environmental education. *Journal of Environmental Education*, 21(3), 8–22. <https://doi.org/10.1080/00958964.1990.10753743>
- Jack, S., & Ronan, K. R. (1998). Sensation seeking among high-and low-risk sports participants. *Personality and Individual Differences*, 25(6), 1063–1083. [https://doi.org/10.1016/S0191-8869\(98\)00081-6](https://doi.org/10.1016/S0191-8869(98)00081-6)
- Jun, J., Kyle, G. T., Vlachopoulos, S. P., Theodorakis, N. D., Absher, J. D., & Hammitt, W. E. (2012). Reassessing the structure of enduring leisure involvement. *Leisure Sciences*, 34(1), 1–18. <https://doi.org/10.1080/01490400.2012.633847>
- Kurland, N. B. (1995). Ethical Intentions and the Theories of Reasoned action and Planned Behavior1. *Journal of Applied Social Psychology*, 25(4), 297–313. <https://doi.org/10.1111/j.1559-1816.1995.tb02393.x>
- Kurland, N. B. (1996). Sales agents and clients: Ethics, incentives, and a modified theory of planned behavior. *Human Relations*, 49(1), 51–74. <https://doi.org/10.1177/001872679604900103>
- Lam, T., & Hsu, C. H. C. (2004). Theory of planned behavior: Potential travelers from China. *Journal of Hospitality & Tourism Research*, 28(4), 463–482. <https://doi.org/10.1177/1096348004267515>
- Lam, T., & Hsu, C. H. C. (2006). Predicting behavioral intention of choosing a travel destination. *Tourism Management*, 27(4), 589–599. <https://doi.org/10.1016/j.tourman.2005.02.003>
- Liao, C., Chen, J.-L., & Yen, D. C. (2007). Theory of planning behavior (TPB) and customer satisfaction in the continued use of e-service: An integrated model. *Computers in Human Behavior*, 23(6), 2804–2822. <https://doi.org/10.1016/j.chb.2006.05.006>
- Maloney, M. P., & Ward, M. P. (1973). Ecology: Let's hear from the people: An objective scale for the measurement of ecological attitudes and knowledge. *American Psychologist*, 28(7), 583–586. <https://doi.org/10.1037/h0034936>
- Markowitz, E. M., Goldberg, L. R., Ashton, M. C., & Lee, K. (2012). Profiling the "pro-environmental individual": A personality perspective. *Journal of Personality*, 80(1), 81–111. <https://doi.org/10.1111/j.1467-6494.2011.00721.x>
- Maroudas, L., Kyriakaki, A., & Gouvis, D. (2004). A community approach to mountain adventure tourism development. *Anatolia*, 15(1), 5–18. <https://doi.org/10.1080/13032917.2004.9687141>
- McCrae, R. R. (1989). Why I advocate the five-factor model: Joint factor analyses of the NEO-PI with other instruments. In D. M. Buss, & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 237–245). Springer-Verlag.
- McCrae, R. R., & Costa Jr, P. T. (1985). Comparison of EPI and psychoticism scales with measures of the five-factor model of personality. *Personality and Individual Differences*, 6(5), 587–597. [https://doi.org/10.1016/0191-8869\(85\)90008-X](https://doi.org/10.1016/0191-8869(85)90008-X)
- McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, 60(2), 175–215. <https://doi.org/10.1111/j.1467-6494.1992.tb00970.x>
- Monasterio, E. (2005). Accident and fatality characteristics in a population of mountain climbers in New Zealand. *The New Zealand Medical Journal*, 118(1208), 1249–1257.
- Monasterio, E., Alamri, Y. A., & Mei-Dan, O. (2014). Personality characteristics in a population of mountain climbers. *Wilderness & Environmental Medicine*, 25(2), 214–219. <https://doi.org/10.1016/j.wem.2013.12.028>
- Musa, G., Hall, C. M., & Higham, J. E. S. (2004). Tourism sustainability and health impacts in high altitude adventure, cultural and ecotourism destinations: A case study of Nepal's Sagarmatha National Park. *Journal of Sustainable Tourism*, 12(4), 306–331. <https://doi.org/10.1080/09669580408667240>
- Musa, G., Higham, J. E. S., & Hall, C. M. (2003). A review of tourist and health issues, with particular reference to Tibet. *Journal of Tourism Review International*, 7(1), 37–49. <https://doi.org/10.3727/154427203108751802>
- Musa, G., Seng, W. T., Thirumoorthi, T., & Abessi, M. (2011). The influence of scuba divers' personality, experience, and demographic profile on their underwater behavior. *Tourism in Marine Environments*, 7(1), 1–14. <https://doi.org/10.3727/154427310X12826772784757>
- Nunkoo, R., & Ramkissoon, H. (2010). Gendered theory of planned behavior and residents' support for tourism. *Current Issues in Tourism*, 13(6), 525–540. <https://doi.org/10.1080/13683500903173967>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. McGraw.
- Ong, T. F., & Musa, G. (2011a). An examination of recreational divers' underwater behaviour by attitude-behaviour theories. *Current Issues in Tourism*, 14(8), 779–795. <https://doi.org/10.1080/13683500.2010.545370>
- Ong, T. F., & Musa, G. (2011b). SCUBA divers' underwater responsible behaviour: Can environmental concern and divers' attitude make a difference? *Current Issues in Tourism*, 15(4), 329–351. <https://doi.org/10.1080/13683500.2011.604407>

- Ong, T. F., & Musa, G. (2012). Examining the influences of experience, personality and attitude on SCUBA divers' underwater behaviour: A structural equation model. *Tourism Management*, 33(6), 1521–1534. <https://doi.org/10.1016/j.tourman.2012.02.007>
- Oreg, S., & Katz-Gerro, T. (2006). Predicting proenvironmental behavior cross-nationally. *Environment and Behavior*, 38(4), 462–483. <https://doi.org/10.1177/0013916505286012>
- Osbaldiston, R., & Sheldon, K. M. (2003). Promoting internalized motivation for environmentally responsible behavior: A prospective study of environmental goals. *Journal of Environmental Psychology*, 23(4), 349–357. [https://doi.org/10.1016/S0272-4944\(03\)00035-5](https://doi.org/10.1016/S0272-4944(03)00035-5)
- Parkkari, J., Pasanen, K., Jussila, A., Oksanen, R., Ojala, A., Autio, K., & Kannus, P. (2016). 977 Sports and exercise safety in Finland live—an implementation program to sport clubs and schools: BMJ Publishing Group Ltd.
- Pomfret, G. (2006). Mountaineering adventure tourists: A conceptual framework for research. *Tourism Management*, 27(1), 113–123. <https://doi.org/10.1016/j.tourman.2004.08.003>
- Quintal, V. A., Lee, J. A., & Soutar, G. N. (2010). Risk, uncertainty and the theory of planned behavior: A tourism example. *Tourism Management*, 31(6), 797–805. <https://doi.org/10.1016/j.tourman.2009.08.006>
- Raue, M., Kolodziej, R., Lermer, E., & Streicher, B. (2018). Risks seem Low while climbing high: Shift in risk perception and error Rates in the Course of Indoor climbing activities. *Frontiers in Psychology*, 9(2383), <https://doi.org/10.3389/fpsyg.2018.02383>
- Satsios, N., & Hadjidakis, S. (2018). Applying the Theory of Planned behaviour (TPB) in Saving behaviour of Pomak Households. *International Journal of Financial Research*, 9(2), 122–133. <https://doi.org/10.5430/ijfr.v9n2p122>
- Shafer, C. S., & Scott, D. (2013). Dynamics of progression in mountain bike racing. *Leisure Sciences*, 35(4), 353–364. <https://doi.org/10.1080/01490400.2013.797328>
- Susanto, N., WP, S. N., & Rizkiyah, E. (2018). *Evaluating risk perception based on gender Differences for mountaineering activity*. Paper presented at the E3S Web of Conferences.
- Swami, V., Chamorro-Premuzic, T., Snelgar, R., & Furnham, A. (2011). Personality, individual differences, and demographic antecedents of self-reported household waste management behaviours. *Journal of Environmental Psychology*, 31(1), 21–26. <https://doi.org/10.1016/j.jenvp.2010.08.001>
- Thomson, C. J., & Carlson, S. R. (2014). Personality and risky downhill sports: Associations with impulsivity dimensions. *Personality and Individual Differences*, 60, 67–72. <https://doi.org/10.1016/j.paid.2013.12.022>
- Tok, S. (2011). The Big five personality traits and risky sport participation. *Social Behavior and Personality: an International Journal*, 39(8), 1105–1111. <https://doi.org/10.2224/sbp.2011.39.8.1105>
- Valle, P., Rebelo, E., Reis, E., & Menezes, J. (2005). Combining behavioral theories to predict recycling involvement. *Environment and Behavior*, 37(3), 364–396. <https://doi.org/10.1177/0013916504272563>
- Vallerand, R. J., Deshaies, P., Cuerrier, J.-P., Pelletier, L. G., & Mongeau, C. (1992). Ajzen and Fishbein's theory of reasoned action as applied to moral behavior: A confirmatory analysis. *Journal of Personality and Social Psychology*, 62(1), 98. <https://doi.org/10.1037/0022-3514.62.1.98>
- Volgger, M. (2015). Mountaineering tourism. *Current Issues in Tourism*, 18(12), 1218–1220. <https://doi.org/10.1080/13683500.2015.1106648>
- Wang, J., & Ritchie, B. W. (2012). Understanding accommodation managers' crisis planning intention: An application of the theory of planned behaviour. *Tourism Management*, 33(5), 1057–1067. <https://doi.org/10.1016/j.tourman.2011.12.006>
- Wang, C., Zhang, J., Cao, J., Duan, X., & Hu, Q. (2019). The impact of behavioral reference on tourists' responsible environmental behaviors. *Science of the Total Environment*, 694, 133698. <https://doi.org/10.1016/j.scitotenv.2019.133698>
- Windsor, J. S., Firth, P. G., Grocott, M. P., Rodway, G. W., & Montgomery, H. E. (2009). Mountain mortality: A review of deaths that occur during recreational activities in the mountains. *Postgraduate Medical Journal*, 85(1004), 316–321. <https://doi.org/10.1136/pgmj.2009.078824>
- Zanna, M. P., & Rempel, J. K. (1988). Attitudes: A new look at an old concept. In I. D. Bar-Tal, & A. W. Kruglanski (Eds.), *The social psychology of knowledge* (pp. 315–334). Cambridge University Press.
- Zou, Y., & Meng, F. (2019). Chinese tourists' sense of safety: Perceptions of expected and experienced destination safety. *Current Issues in Tourism*, 23(7), 1–14.