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## **Women's mountaineering: accessing participation benefits through constraint negotiation strategies**

The purpose of this study is to investigate the strategies women use to negotiate mountaineering participation constraints and the resultant benefits from participation. Survey responses from 321 female mountaineers produced four constraint negotiation dimensions and three participation benefit dimensions using confirmatory factor analysis. Three of the four negotiation dimensions support earlier findings in the literature on women's experiences of adventure activities. The identification of a fourth dimension relating to 'confidence and adaptation' represents a new contribution. Similarly, the three benefit dimensions largely support existing literature. However, some benefits loaded on different dimensions to what has previously been reported and verifying the influence of each negotiation dimension on specific benefit dimensions also represents an original contribution. Therefore, this study extends our understanding of female adventure participants and quantitatively verifies women's constraint negotiation and participation benefits in the context of mountaineering. Accordingly, this study makes an important theoretical contribution to the understanding of women's adventure experiences in mountaineering, which may be of interest to others researching female participation in other adventure activities. The findings also suggest that mountaineering is a space that is being used as a means to resist gendered expectations and to gain empowerment.

Keywords: constraint negotiation; benefits; women; mountaineering; adventure tourism; adventure recreation

### **Introduction**

Women's participation in adventure activities, especially so-called hard forms of adventure, is an under researched area. Hard adventure activities have high levels of risk, require commitment and advanced skills, they are often in locations with low amenities and involve independent participation. By comparison soft adventure activities involve low levels of risk, require minimal commitment and skills, are often guided in areas with amenities and provide an introduction to adventure experiences (Ewert & Jamieson, 2003). There is, however, a growing body of literature on women's

experiences of hard activities, such as rock-climbing (Dilley & Scraton, 2010; Kiewa, 2001a, 2001b), mountaineering tourism (Doran, Schofield & Low, 2018), skydiving and snowboarding (Laurendeau & Sharara, 2008) and surf tourism (Fendt & Wilson, 2012). Other research focuses on female participation in softer forms of adventure, for example, female solo backpacking (Elsrud, 1998, 2005) and solo hiking (Coble, Selin & Erickson, 2003), and on general, rather than activity-specific, experiences of adventure recreation (Little, 2000, 2002) and adventure tourism (Myers, 2010, 2017). Despite this, there is limited literature that explores the constraints, negotiation processes and benefits of participation for women in what have traditionally been considered male-based hard adventure activities (see Harris & Wilson, 2007; Little & Wilson, 2005). By way of developing earlier work on women's constraints to participation in hard forms of adventure, the aim of this study is to explore the negotiation strategies used by women to overcome constraints to mountaineering, as well as to understand the benefits they gain from participation. We do this through a quantitative study of female mountaineers.

Mountaineering is defined broadly as encompassing the soft activities of walking and moderate exertion trekking, and the hard activities of rock-climbing, bouldering, snow and ice climbing, mixed-climbing, crossing glaciers and high-altitude expeditions, which involve high levels of skill and fitness (Ewert & Jamieson, 2003; Doran et al., 2018). While the key activity is climbing in these hard forms of mountaineering, both the extant literature and this discussion use the terms 'climbing' and 'mountaineering' interchangeably. UK participation in rock-climbing and mountaineering (2.48 million participants) now rivals participation in mainstream sports such as football (2.43 million participants), demonstrating increasing popularity of the sport (Mintel, 2018). Gender-specific data on participation is not available, although

women's participation is said to be increasing, with walking and trekking being preferred over harder mountaineering activities (Intel, 2015). Nevertheless, little research has considered women's experiences of participation in hard mountaineering activities and the ensuing benefits of participation (e.g. Dilley & Scraton, 2010; Kiewa, 2001a, 2001b), and it has been approached solely from a qualitative perspective. Similarly, distinguishing between recreational and tourism adventure activities is difficult as there is often an inextricable link between them. Adventure tourism activities, both hard and soft, often develop from non-commercial recreational activities, they share the same resources and facilities and evoke similar social and psychological benefits (Pomfret & Bramwell, 2014). Consequently, some studies have included both participant groups in the same investigation and they have not distinguished between them (e.g. Little & Wilson, 2005). Therefore, we draw from studies on women's adventure participation in both tourism and recreation settings.

Rather than considering female mountaineers as passive 'victims' of constraints, this study considers women as active agents who are motivated to pursue their mountaineering aspirations despite having identified barriers to participation. As such, it answers Fendt and Wilson's (2012) call to examine how women negotiate constraints before, and during the activity, and the influence this negotiation process has on creating a rewarding mountaineering experience. In doing so, it examines the empowering benefits of constraint negotiation for women who participate in mountaineering, which has received little academic attention in adventure literature to date (see Harris & Wilson, 2007; Little & Wilson, 2005). Building on the seminal works by Crawford, Jackson and Godbey (1991) and Shaw (1994), this study closes the loop on earlier work on constraints to women's climbing participation (e.g. Doran et al. 2018; Dilley & Scraton, 2010; Kiewa, 2001a, 2001b; Carr, 1997), by examining

successful negotiation strategies and providing solutions for promoting female participation in mountaineering, which may be of interest to others researching female participation in other adventure activities. Moreover, it contributes to our understanding of the benefits of female participation, thereby providing adventure providers with valuable insights on how to develop and structure activities and to promote their products more effectively in this particular market.

The paper proceeds by first identifying, from the extant literature, the constraints, the negotiation strategies women employ to overcome them and the benefits they gain from mountaineering participation. Second, survey data is analysed using confirmatory factor analysis (CFA) to examine the dimensionality of the negotiation strategies, and a new, distinct 'confidence and adaptation' dimension is identified. Third, the dimensionality of the participation benefits is examined and existing dimensions that were identified in the literature are revisited. Fourth, a structural model of the relationship between the negotiation strategies and participation benefits of women's mountaineering is presented, and the influence of constraint negotiation strategies on participation benefits is assessed. Finally, recommendations for further research are made.

## **Literature Review**

The literature on participation in leisure, and more specifically in adventure activities, has identified *intra-personal, inter-personal and structural* barriers (Crawford et al., 1991; Doran, 2016; Fendt & Wilson, 2012). Some activity specific constraints have previously been noted, where in mountaineering, for example, intra-personal constraints of self-doubts in personal climbing abilities and fitness, and not having knowledge of the climbing routes have been identified as the key barriers to participation (Doran et al., 2018). This study also identified family commitments, which has previously been

categorised as either intra-personal or inter-personal, as a distinctive independent constraint category in addition to the three familiar constraint categories. The family constraint category included their family and/or friends not understanding their participation, the household duties/family commitments reducing their time to participate and feeling guilty for choosing to spend time participating rather than with their family. Moreover, three strategies i.e. “specific actions, behaviours and mind-sets” (Fendt & Wilson, 2012, p.10) to negotiate these constraints have been recognised: *determination; planning and preparing; and prioritising participation and making compromises* (see Doran, 2016; Little, 2002). In turn, there are five categories of benefits to participation in adventure activities (Doran, 2016): *sense of freedom; self-development; social encounters; embodied experiences; and female company*. These are largely experienced during participation; however, women may also experience the benefit of empowerment through negotiating constraints. Negotiation strategies and participation benefits observed in women’s mountaineering activities, as well as in the adventure activities literature more generally are outlined below.

### ***Women’s constraint negotiation strategies***

*Determination* constraint negotiation strategies encompass a variety of techniques used by women in both mountaineering and adventure contexts. These include negotiating stereotypes of gendered behaviour in sometimes opposing ways (see Kiewa, 2001a; Laurendeau & Sharara, 2008). Some women report contrasting gender preferences for climbing partners, either for female partners as they are seen to have more compatible objectives and similar expectations (Dilley & Scraton, 2010; Kiewa, 2001a, 2001b; Plate, 2007), or for male partners as they found them to be more focused on the activity and on achieving success (Kiewa, 2001a, 2001b). Negotiating fear is also employed by women through a process of self-control (e.g. breathing, self-talk and concentration)

and by ‘digging deep’ or ‘pushing through’ to repress negative emotions so that personal control can be maintained and personal skills can be used to good effect (Kiewa, 2001b). Finally, noted in other adventure contexts, was the strategy of maintaining a positive attitude about the benefits of participation (Fendt & Wilson, 2012), which for some women was enough to overcome barriers to participation.

*Planning and preparation* negotiation strategies include training which is undertaken to develop skills, fitness and knowledge to help women negotiate personal fears and develop greater awareness of their capabilities and boundaries (Dilley & Scraton, 2010; Fendt & Wilson, 2012; Little, 2000, 2002). Some women opt for guided or commercially organized travel to alleviate doubts about their ability to operate safely in unfamiliar environments (Carr, 1997; McKercher & Davidson, 1994). The use of safety or protective equipment allows women to gain control both of the activity and their emotions, in turn reducing barriers around self-doubts and fears (Kiewa, 2001b). Some women use avoidance techniques by avoiding spaces identified as male domains (e.g. bars, pubs or specific activities) (Myers & Hannam, 2008), or avoiding spaces where women are (likely) to be treated differently (Laurendeau & Sharara, 2008), as a means of overcoming feelings of vulnerability and receiving unwanted male attention. Inter-personal connections are used to develop linkages with like-minded adventurers and travelling in a group (Fendt & Wilson, 2012; Myers & Hannam, 2008), or to connect with female-only groups, as a strategy to overcome self-doubt, or by those who perceive mixed-gender groups to be competitive, goal driven environments prevailed by men (Bialeschki & Henderson, 1993; Nolan & Priest, 1993). Finally, planning, research and preparation strategies are used by women who have not participated in adventure for some time (Little, 2000, 2002). Researching the adventure destination and environment prior to departure or participating with more competent companions

(usually men), helps women to negotiate a number of intra-personal constraints and concerns regarding unfamiliarity of the destination they are visiting (Coble et al., 2003, Fendt & Wilson, 2012; Myers & Hannam, 2008).

The third negotiation category involves the juxtaposition of *prioritising participation and making compromises* to overcome participation barriers. Strategies include absolute prioritization where participants take charge of their identity and do not conform to societal norms of femininity by prioritizing climbing and adventure travel and delaying 'settling down' (Dilley & Scraton, 2010; Elsrud, 2005). Living near climbing areas and climbing communities, and prioritizing time spent socializing with climbing groups over other social groups are also noted as a useful strategy (Dilley & Scraton, 2010). Familial compromises including delaying or not having children as a means of progressing or maintaining a climbing career is a common strategy and allows women to resist traditional norms of femininity (Dilley & Scraton, 2010). Reduced levels of participation, both in the amount of time spent participating and in the level of challenge of the activity have also been noted as a negotiation strategy (Little, 2000, 2002). Some women make participation compromises in the form of including family and friends in their activities (Fendt & Wilson 2012; Myers & Hannam, 2008) or participating at different times of day, limiting the distance travelled from home or ceasing engagement in the activity (Coble et al., 2003). Other strategies include suspending participation or replacing their participation with an alternative activity (Little, 2000, 2002; Myers & Hannam, 2008). In addition, the formation of romantic relationships with partners who are also engaged in climbing has also been noted as a negotiation strategy (Dilley & Scraton, 2010), so as not to have to make a choice between family and time spent climbing. Changes to work and employment, for example reducing work hours, reducing the travel time to work, going part-time,



changing careers and taking a career break, are also noted as strategies to ensure more time to climb (Dilley & Scraton, 2010).

### ***Women's benefits from participation***

The *sense of freedom* derived from participation provides opportunities for escapism, experiencing the beauty of nature, encountering wilderness, experiencing remoteness and for finding solitude (Boniface, 2006; Carr, 1997; Mitten, 1992; Pohl, Borrie & Patterson, 2000). The idea of being outdoors with only limited possessions also elicits a sense of freedom and is valuable for women's mental health and wellbeing (Boniface, 2006), and acts as a catalyst for self-reflection (Pohl et al., 2000). From an adventure tourism perspective, sense of freedom was seen as a means of taking time out from everyday life, for anonymity from normative identities and providing time and space for oneself, especially from familial and domestic duties (Elsrud, 1998; McKercher & Davidson, 1994). The benefits of this are deemed to result in a gathering of strength, self-esteem and increased levels of self-actualization, which are of particular benefit to older women who are challenging inherited gender roles through participation (Myers, 2017). Emancipation from stereotypical femininity is also noted as a benefit resulting in feelings of strength, independence and self-reliance (Elsrud, 2005).

Benefits related to *self-development* include the ability for women to challenge themselves whilst experiencing and minimising risk (Carr, 1997). Women have also been found to achieve an increased understanding of themselves, in particular their physical capabilities, specialist skills and self-reliance (Bialeschki & Henderson, 1993; Boniface, 2006; Dilley & Scraton, 2011; Pohl et al., 2000). Furthermore, the development of an 'adventure identity' differentiates women from outsiders while

simultaneously providing a sense of belonging as an 'insider' (Boniface, 2006; Elsrud, 2005; Myers, 2010).

Inter-personal *social encounters* act as a catalyst for identity creation and the creation of so-called neo-tribes (Dilley & Scraton, 2011), with women benefiting from an ability to curate an adventure identity, or an avenue through which femininity can be maintained but the adventure activity is used as a tool where women can prove themselves to be equal to their male counterparts (Plate, 2007). For some women a positive adventure experience is more meaningful when shared and many women derive benefits from this (Boniface, 2006; Pohl et al., 2000), and in some instances value the social aspect beyond any benefits received from the physical challenge itself (Boniface, 2006). The formation of friendships and a sense of community with host communities and other adventure tourists not experienced in everyday life (Elsrud, 1998), along with relationships formed with the guide in packaged adventure holidays (McKercher & Davidson, 1994) are also seen as direct benefits from participation.

*Embodied experiences*, along with the focus and control in achieving success in stressful conditions, is noted as a significant benefit of climbing (Dilley & Scraton, 2011; Kiewa, 2001b), where feelings of being strong, fit and physically active provide a sense of empowerment for women (Dilley & Scraton, 2011), along with a sense of joy and exhilaration providing immense levels of personal satisfaction to participants (Carr, 1997). For women participating in other adventure activities, placing one's body in physically demanding situations provides an opportunity to feel connected to one's body in a way that would not normally occur. This allows women to be aware of their bodies in a way that transcends simply that of scrutinizing their appearance (McDermott, 2004). In an adventure tourism context a sensual experience has been noted, with women acknowledging the sight, sounds, smells, taste and touch of their environs,

enabling them to put their experiences into context, feel connected with the environment they are in and have their bodies and emotions awakened (Elsrud, 1998; Myers, 2010).

*Female company* when climbing is considered to be one of the key benefits of participation identified in the literature. Inclusivity, opportunities for learning and a desire for equality are all highlighted as benefits of participation which for some women can only be realised by participating in all-female groups (Kiewa, 2001a). These provide a more supportive and less competitive space for women to engage in adventure activities (McDermott, 2004; Whittington, Mack, Budwill & McKenney, 2011). Importantly, women also note that a female environment pushes them to be more confident, to take on more challenging climbing routes and to feel more inspired (Kiewa, 2001a; Plate, 2007). In doing so, women are able to explore their physicality in a shared way, which enables them to collectively resist dominant gender constructions of the physically active female body (McDermott, 2004). In turn, this empowers women with an alternative understanding of their physicality, enabling them to recognise they are physically capable, competent and strong, which may not have occurred in the company of males (McDermott, 2004). However, it is argued that women-only spaces do not necessarily challenge the dominant discourse that can lead to social change (Warren, 2016). An ethic of care is also noted by women in female groups who are led by female guides, providing a more positive and supportive experience overall (Mitten, 1992).

While constraint negotiation strategies and participation benefits for women have been extensively researched both in leisure and adventure, there is a gap in knowledge in regard to mountaineering. Moreover, most of the previous research in this area adopted a qualitative approach focussing on small samples of participants in specific mountaineering activities, which has neglected the relationship between

negotiation strategies and the benefits of participation. This research addresses the gap in the literature by adopting a quantitative approach using multi-item constructs designed using both the findings from the adventure and mountaineering literature and a larger sample of women mountaineers. This has enabled us to verify previous findings, identify new dimensions in both constructs and, through the development of a structural model, examine the linkages between particular negotiation strategies and participation benefits.

## **Method**

### ***Participants***

A self-selected sample of female mountaineers ( $n = 321$ ) completed an online survey of their participation constraints, constraint negotiation strategies and participation benefits for the type of mountaineering activity they are engaged in: bouldering, rock-climbing, snow and ice climbing, and mixed (rock and ice) climbing. The sample consisted mainly of UK residents (94.8%) in the following age groups: 18-24 (18.9%); 25-34; (46.6%); 35-44 (24.8%); 45-54 (8.5%); 55-64 (0.9%); >65 (0.3%). Most respondents (99.3%) had prior recreational mountaineering experience and 62.9% had experience of mountaineering on holiday, which was defined as staying away from home for at least one night to participate in mountaineering activities or courses.

### ***Measures***

Multi-item scales were used to measure strategies employed by women to negotiate constraints to participating in mountaineering and the benefits from participation; these were identified from a review of the extant literature. A five-point Likert-type scale was used, ranging from strongly disagree (1) to strongly agree (5).

### ***Procedure***

Participants' ratings on the negotiation strategies and participation benefits were statistically normed (skew >1.0) using a base-10 logarithmic transformation. The adequacy of the two measurement constructs, and their dimensionality, was established using both exploratory and confirmatory factor analysis. Principal axes factoring with maximum likelihood orthogonal rotation was used. The number of factors to be retained was determined by minimum eigenvalues of 1, scree plot examination and a parallel analysis with a Monte Carlo simulation. Dimensions were labelled on the basis of a thematic analysis of items loading on each factor. A structural model of the relationship between negotiation strategies and participation benefits, using AMOS Version 26, was then developed and tested to determine the overall fit, path coefficient significance and explanatory power ( $R^2$ ). Pearson product moment correlation and ordinary least squares (OLS) multiple regression analyses were then employed to examine the influence of the constraint negotiation strategies on the individual participation benefits.

### **Results and discussion**

#### ***Constraint negotiation strategies***

Subjects' ratings on 16 constraint negotiation strategies derived from the literature are presented in Table 1.

**Table 1: Descriptive Statistics for Constraint Negotiation Strategies**

<b>Constraint Negotiation Strategy Items</b>	<b><math>\bar{x}</math></b>	<b><math>\sigma</math></b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
NS3 Being a women does not deter me from mountaineering	4.52	0.65	-	1.9	2.8	37.1	58.2
NS1 My passion for mountaineering makes me determined to overcome barriers	4.25	0.73	0.5	0.9	11.4	48.3	38.9
NS11 Training before participation helps me to develop skills and awareness about my capabilities	4.18	0.74	0.9	1.4	10.0	54.5	33.2
NS13 I prioritise mountaineering over other types of activity	4.14	1.01	1.9	7.6	10.4	34.6	45.5
NS7 I research the climbing destination to reduce its unfamiliarity and any concerns about the climbing route	4.07	0.87	2.4	3.3	10.4	52.6	31.3
NS9 I have developed friendships to provide company and safety when climbing	4.03	0.89	1.9	3.8	14.8	48.1	31.4
NS2 Overcoming the barriers adds value to the experience	3.98	0.91	0.6	4.0	18.1	43.3	31.4
NS12 When I have not been mountaineering for a while, planning and preparing helps me to maintain my connection with mountaineering and to anticipate future climbing trips	3.94	0.87	1.9	4.7	15.2	54.0	24.2
NS4 I feel confident in my ability to mountaineer/join a mountaineering course	3.92	0.95	-	11.8	13.3	45.5	29.4
NS16 I have to compromise on the time spent mountaineering because of my other responsibilities and commitments	3.57	1.15	4.7	17.5	16.1	39.5	22.3
NS14 I reduce my responsibilities at home to make time for mountaineering	3.31	1.20	6.6	21.8	24.6	28.0	19.0
NS15 I reduce or I am flexible with my work hours to make time for mountaineering	3.30	1.24	8.5	23.2	15.2	35.5	17.5
NS10 I join organised mountaineering holidays/courses to provide company and safety	3.17	1.20	12.3	15.2	28.4	31.8	12.3
NS8 I research the mountaineering destination's culture to assess potential harassment from males	2.80	1.21	18.0	23.7	25.1	26.5	6.6
NS5 I dress to avoid unwanted male attention when mountaineering	2.35	1.09	27.4	30.2	30.2	8.0	4.2
NS6 I use my femininity by taking advantage of the attention I get from men to develop my skills	1.76	0.91	-	49.5	30.7	13.7	6.1

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Despite their determination to participate, the majority (61.6%) find it difficult to make time for mountaineering due to other responsibilities and commitments. Rather than not participating, many compromise on the amount of time they spend mountaineering (61.8%), supporting earlier studies (Fendt & Wilson, 2012; Little, 2000, 2002). By comparison, less than half are able to reduce their responsibilities at home to enable their participation (47%), with nearly a quarter of women disagreeing with this statement and a further quarter neither agreeing nor disagreeing, suggesting that household responsibilities may not easily be negotiated, and could still constrain participation.

Intra-personal constraints have been previously noted as the most significant constraint category on women's mountaineering tourism participation (Doran et al., 2018). Training to develop skills and awareness of their climbing capabilities, as well as researching the climbing destination to reduce its unfamiliarity and concerns about the climbing routes are used to negotiate these constraints and they were reported as the third and fourth most utilised strategy, respectively. Whilst the former is a popular negotiation strategy amongst recreational rock-climbers (Dilley & Scraton, 2010; Kiewa, 2001b), the latter has not previously been reported in studies on women's participation in mountaineering activity more broadly. Many of the women in this study (74.6%) choose to independently organise their mountaineering holidays and employing this strategy to overcome their unfamiliarity could be highly important to these women.

Over three quarters (78.2%) of the survey respondents agreed that the use of planning and preparing to anticipate future adventures was an important strategy, despite being scantily reported in other studies (Little, 2000, 2002). Similarly, developing friendships/connections with like-minded people to provide company and

safety when climbing also received high levels of agreement (79.5%). Women participating in other forms of adventure (distinct from mountaineering activities) have also cited this as a strategy to overcome constraints regarding safety and loneliness (Fendt & Wilson, 2012; Myers & Hannam, 2008). Respondents are less likely to negotiate constraints relating to safety and loneliness by joining an organised mountaineering holiday/course to meet like-minded people (44.1%), possibly because they already regularly participate in recreational mountaineering activities and/or are already connected with other climbers to independently arrange their mountaineering holidays with.

The low agreement levels with researching the destination to assess the potential for male harassment (although one quarter of subjects agree) and dressing to avoid unwanted male attention when mountaineering corresponds with Doran et al.'s (2018) findings that unwanted male attention was not a perceived constraint for the majority of the female mountaineer tourists in their study. By comparison, not using their femininity to gain attention from men received strong agreement. This supports Evans & Anderson's (2018) findings relating to female mountain guides who dress to avoid any sexual focus/interaction with male climbing partners to earn their respect. However, Kiewa (2001a) has reported that female rock-climbers use this strategy to capitalise on being treated differently in this male dominated sport.

#### *Negotiation strategies dimensions*

Using exploratory factor analysis (EFA), 11 of the 16 items loaded on four dimensions, with good reliability alphas, accounting for 70.45% of the variance in the data. Use of parallel analysis and a CFA confirmed the four dimensions and the results indicate a good model fit with  $\chi^2$  (df) = 54.699(37), normed  $\chi^2$  = 1.48, RMSEA = 0.039 with a



90% confidence interval: 0.012 to 0.059, NFI = 0.90, IFI = 0.96, TLI = 0.92, CFI = 0.96. All items loaded significantly ( $p < 0.01$ ) on their constructs and the moderate or strong, significant correlations between items loading on the same constructs show evidence of convergent validity. The composite construct reliability (CCR) statistics were greater than the AVE statistics for all four factors and the square root of the AVE is greater than the inter-construct correlation for each factor, thereby indicating divergent validity. Factor 1 represents 'time and prioritisation' ( $\xi_1$ :  $\alpha = 0.70$ ; AVE = 0.53; CCR = 0.60), factor 2 loads on items relating to 'preparation and planning' ( $\xi_2$ :  $\alpha = 0.70$ ; AVE = 0.43; CCR = 0.69), factor 3 denotes 'confidence and adaptation' ( $\xi_3$ :  $\alpha = 0.60$ ; AVE = 0.42; CCR = 0.65) and factor 4 signifies 'determination' ( $\xi_4$ :  $\alpha = 0.62$ ; AVE = 0.46; CCR = 0.63 (see Figure 1).

Three of the four dimensions support similar findings in existing adventure literature (Doran, 2016; Fendt & Wilson, 2012; Little, 2000, 2002). However, the identification of a fourth dimension relating to confidence and adaptation represents a new contribution to theory and an additional approach to constraint negotiation for women participating in mountaineering. Previous qualitative studies focusing on female adventurers have categorised strategies relating to confidence and adaptation as either determination strategies or planning and preparing strategies (Fendt & Wilson, 2012; Little, 2002). The determination strategies relate to women having confidence in their abilities to participate, irrespective of their gender. Whereas the planning and preparing strategies reflect women's engagement with training prior to participation, which heightens their confidence, and also planning how they will dress to avoid unwanted male attention.

### ***Benefits of participation***

Subjects' ratings on the 18 participation benefits are given in Table 2. It has been reported that a number of benefits contribute to the sense of achievement women gain from adventure participation (e.g. Boniface, 2006; Carr, 1997; McKercher & Davison, 1994; Myers, 2010). For example, benefits relating to risk-taking and personal challenges, practicing and developing skills, increased confidence, and taking responsibility for decision making can all lead to feelings of achievement. Each of these benefits received high levels of agreement, indicating that they also contribute to a woman's sense of achievement in a mountaineering context.

**Table 2: Descriptive Statistics for Mountaineering Participation Benefits**

Participation Benefit Items	$\bar{x}$	$\sigma$	SD	D	N	A	SA
PB18 I get a sense of achievement	4.66	0.47	-	-	-	33.8	66.2
PB15 I feel stronger, fitter and physically active	4.59	0.54	-	-	2.3	36.2	61.5
PB5 Enables me to pursue my own interests	4.52	0.58	-	0.5	2.8	41.3	55.4
PB17 I feel connected with the natural environment	4.45	0.57	-	0.5	0.9	40.6	58.0
PB3 Enables me to escape from everyday life	4.44	0.70	-	2.8	3.8	40.4	53.1
PB7 Enables me to take risks and challenge myself to increase confidence	4.39	0.71	-	1.4	8.9	38.9	50.9
PB14 Provides a sense of satisfaction with my mountaineering skills	4.38	0.55	-	-	3.3	55.7	41.0
PB16 I feel relaxed	4.35	0.66	0.5	0.9	4.7	50.5	43.4
PB8 Enables me to take risks and challenge myself to increase my self-reliance	4.34	0.69	-	0.9	9.9	42.9	46.2
PB11 Enables me to develop friendships with like-minded people	4.28	0.72	-	2.4	9.0	47.2	41.5
PB2 Gives me a sense of independence	4.26	0.74	0.9	1.9	6.6	51.6	39.0
PB4 Enables me to take responsibility for my own decisions	4.23	0.67	-	0.5	11.8	51.9	35.8
PB6 Enables me to learn about myself	4.23	0.75	0.5	1.9	10.8	47.6	39.2
PB12 The relationship with the leader is important to the activity's success	4.05	0.87	1.4	1.9	20.9	41.7	34.0
PB10 Enables me to meet new people from different countries and cultures	4.03	0.80	0.5	2.3	20.7	46.9	29.6
PB13 Provides a sense of belonging to a group where I am accepted	3.94	0.83	0.5	5.2	19.3	50.0	25.0
PB9 Enables me to regard myself as a mountaineer	3.63	1.19	3.3	19.9	15.6	32.7	28.4
PB1 Gives me the opportunity to have time for myself	3.37	1.03	1.9	14.6	14.1	46.9	22.5

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Respondents appear to be driven more by the opportunity that mountaineering provides to form friendships with like-minded people, which can provide companionship and role models (Evans & Anderson, 2018), rather than meeting new people from different countries and cultures. Respondents also placed less importance on feeling a sense of belonging to a group where they are accepted than developing friendships with like-minded people, as it could be assumed that a sense of belonging would naturally occur when participating with other like-minded people. However, belonging to a group was still important to three quarters of the respondents and thus supports earlier findings which identified a sense of belonging to a climbing community and meeting like-minded people as key benefits of women's rock-climbing participation (Dilley & Scraton, 2011). The opportunity for women to regard themselves as mountaineers as a result of their participation was considered one of the least important benefits. The relationship with the leader, guide and support staff when participating in an organised climbing course or holiday is also of less importance, which correlates with their preference to climb on holiday independently and unguided. Finally, the opportunity that mountaineering provides women with time to themselves was rated the least important benefit. Despite this, 69.4% of respondents agreed with this statement, supporting earlier findings in both the rock-climbing (Kiewa, 2001b) and adventure tourism literature (Elsrud, 1998; McKercher & Davidson, 1994).

#### *Participation benefit dimensions*

Thirteen of the 18 participation benefit items produced three factors in the EFA, with good reliability alphas, accounting for 57.37% of the variance. A parallel analysis and a CFA confirmed the dimensionality of the model and the results indicate a good model fit:  $\chi^2$  (df) = 98.04(59), normed  $\chi^2$  = 1.66, RMSEA = 0.045 (0.029 - 0.061), NFI = 0.91,

IFI = 0.96, TLI = 0.94, CFI = 0.96. Moreover, all items loaded significantly on their constructs with evidence of convergent and validity. As with the negotiation strategy construct, the participation benefit composite construct reliability (CCR) statistics were greater than the AVE statistics for all three factors and the square root of the AVE is greater than the inter-construct correlation for each factor, thereby indicating discriminant validity. Factors 1 to 3 represent: 'fulfilment and achievement' ( $\xi_1$ :  $\alpha = 0.82$ ; AVE = 0.50; CCR = 0.82), 'freedom and self-interest' ( $\xi_2$ :  $\alpha = 0.78$ ; AVE = 0.47; CCR = 0.81) and 'socialisation and bonding' ( $\xi_3$ :  $\alpha = 0.68$ ; AVE = 0.45; CCR = 0.66), respectively (Figure 1).

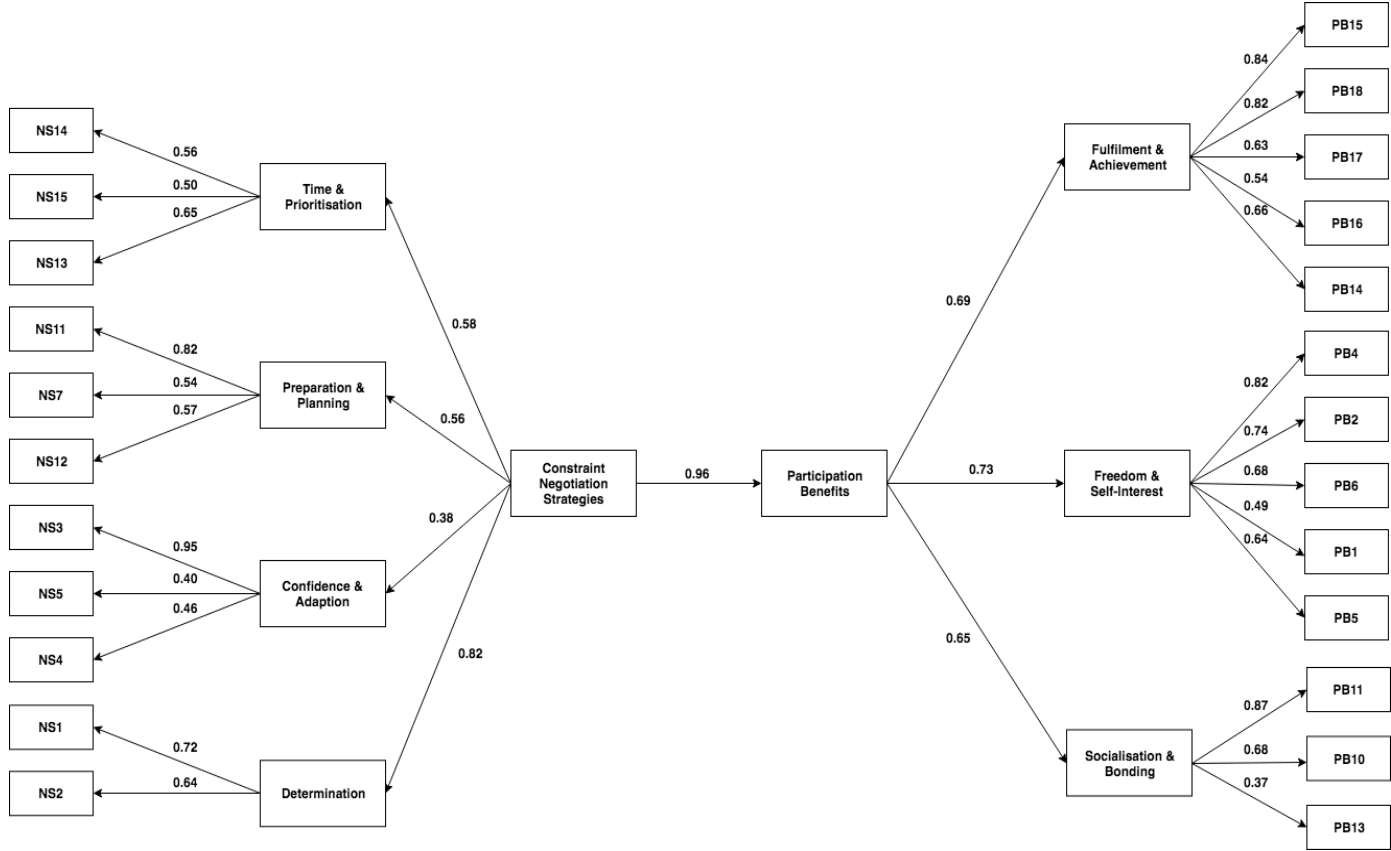
The dimensions largely support existing literature (Doran, 2016), however they have been relabelled to reflect the benefit items which loaded on each dimension through the CFA. For example, benefits which have previously been categorised as 'self-development' loaded across two of the three dimensions, whereas benefits which have previously been categorised as 'heightened bodily experience' loaded on the 'fulfilment and achievement' dimension. Consequently, 'self-development' was relabelled 'fulfilment and achievement' and a 'sense of freedom' was relabelled 'freedom and self-interest'.

### ***Structural model of negotiation strategies and participation benefits***

Following the purification of the measurement scales to delineate more valid and reliable constructs, a structural model of the relationship between the negotiation strategies and participation benefits was constructed and tested using path analysis (Figure 1). Maximum likelihood (ML) estimation was employed to determine the structural parameters of the model. The results indicate a good fit between the model and the data:  $\chi^2$  (df) = 334.954 (238), normed  $\chi^2 = 1.41$ , RMSEA = 0.036 with a 90% confidence interval: 0.026 to 0.044, NFI = 0.90, IFI = 0.94, TLI = 0.92, CFI = 0.94. All

structural model estimates were significant at the  $p < 0.01$  level and overall, the negotiation strategies accounted for a substantial proportion of the variance (0.96) in participation benefits.

**Figure 1: Structural Model of Relationship Between Constraint Negotiation Strategies and Participation Benefits**



Notes:  $\chi^2$  (df) = 334.954 (238), Normed  $\chi^2$  = 1.41, RMSEA = 0.036 90% C.I.: 0.026 to 0.044); NFI = 0.90, IFI = 0.94, TLI = 0.92, CFI = 0.94. Constraint negotiation strategy dimensions: 'time and prioritisation' ( $\xi_1$ :  $\alpha$  = 0.70; AVE = 0.53; CCR = 0.60); 'preparation and planning' ( $\xi_2$ :  $\alpha$  = 0.70; AVE = 0.43; CCR = 0.69); 'confidence and adaptation' ( $\xi_3$ :  $\alpha$  = 0.60; AVE = 0.42; CCR = 0.65); 'determination' ( $\xi_4$ :  $\alpha$  = 0.62; AVE = 0.46; CCR = 0.63). Participation benefit dimensions: 'fulfilment and achievement' ( $\xi_1$ :  $\alpha$  = 0.82; AVE = 0.50; CCR = 0.82), 'freedom and self-interest' ( $\xi_2$ :  $\alpha$  = 0.78; AVE = 0.47; CCR = 0.81); 'socialisation and bonding' ( $\xi_3$ :  $\alpha$  = 0.68; AVE = 0.45; CCR = 0.66).

The items loading on the 'time and prioritisation' and 'determination' dimensions are relatively equally weighted. By comparison, for 'preparation and planning', while NS7 (researching the climbing destination) and NS12 (planning and preparation) have comparable weightings, NS11 (training) is more prominent. Similarly, for the 'confidence and adaptation' dimension, NS3 (not deterred by gender) is substantially more influential than both NS5 (dressing to avoid unwanted attention) and NS4 (confidence in mountaineering ability). While all four dimensions have a statistically significant influence on women's constraint negotiation strategies, it is interesting to note that the regression weights for the individual negotiation strategy dimensions show that 'determination' (0.82) is substantially more influential than 'confidence and adaptation' (0.38). By comparison, 'time and prioritisation' (0.58) and 'preparation and planning' (0.56) have a similar influence.

These findings validate previous qualitative research which has identified a relationship between women's determination to participate in male-dominated adventure activities, while negotiating their gender within these masculine spaces (NS3), and training to help them develop their skills and realise their capabilities (NS11). Therefore, survey respondents appear to resist societal gendered expectations and norms associated with mountaineering as a mechanism for being taken seriously. However, this may also suggest that women are finding ways to accommodate gender inequity at an individual level, without challenging the system that perpetuates that inequity. Regardless, the results indicate high levels of determination, as illustrated in both the 'determination' dimension and the broad range of negotiation strategies that they employ. This reflects their self-efficacy i.e. confidence in their ability to complete a task (Bandura, 1997), which plays a pivotal role in the constraint negotiation process. In turn, this suggests that they have high negotiation-efficacy, which encourages



motivation, diminishes the perception of constraints, encourages the use of negotiation efforts and positively affects their participation (Doran & Pomfret, 2019). Furthermore, determination and experience of constraint negotiation can help female mountaineers develop resiliency skills such as self-confidence and self-awareness, strategies for dealing with high-risk situations and their associated fears, and techniques for handling inter-personal issues related to gender role beliefs in mountaineering (Doran & Pomfret, 2019; Evans & Anderson, 2018). In turn, this challenges hegemonic ideas about gender in mountaineering and exemplifying resistant agency (Laurendeau & Sharara, 2008).

The loadings on the three participation benefit dimensions have a similar range of values. In regard to the 'fulfilment and achievement' dimension, PB15 (feeling stronger, fitter and physically active) and PB18 (a sense of achievement) are more influential than PB17 (feeling connected with the natural environment), PB14 (satisfaction with my mountaineering skills) and particularly PB16 (satisfaction with mountaineering skills). The 'freedom and self-interest' dimension loads most prominently on PB4 (taking responsibility for decisions), PB2 (a sense of independence), PB6 (learning about oneself), and to a lesser extent on PB5 (pursue own interests) and PB1 (opportunity to have time for myself). By comparison, with the other two participation benefit dimensions, 'socialisation and bonding' loads on only three items. PB11 (developing friendships with like-minded people) and PB10 (meeting new people from different countries and cultures) have the most influence in comparison with PB13 (a sense of belonging to a group where I am accepted), which loads less prominently. All three participation benefit dimensions have a statistically significant influence on participation benefits, and in contrast with the four constraint negotiation dimensions, they load similarly, albeit with 'freedom and self-interest' (0.73) having most influence.

These findings indicate that mountaineering is a space where women can gain empowerment, exemplified by feeling more physically capable, a sense of achievement, taking responsibility for one's decisions and gaining independence. Participants' resistance to gendered expectations and norms, and their constraint resilience also support this assertion. Accordingly, women can begin to experience the benefit of empowerment during the constraint negotiation process. For example, being undeterred by their gender and developing their mountaineering skills through training, respondents can experience confidence, a sense of achievement and greater awareness of, and satisfaction with, their mountaineering capabilities.

#### ***The influence of the constraint negotiation strategies on participation benefits***

The structural model (Figure 1) indicates that the combined constraint negotiation strategy dimensions explain a substantial amount of the variance (0.96) in participation benefits. This was examined further, with a particular focus on the influence of each negotiation strategy on each participation benefit, using OLS regression (Table 3). Interestingly, only the 'determination' and 'preparation and planning' dimensions have a significant influence on PB1 ('fulfilment and achievement'); for a one unit increase in 'determination', PB1 ('fulfilment and achievement') increases by 0.37 units, while a one unit increase in 'preparation and planning', will increase this participation benefit by only 0.15 units. 'Preparation and planning' is also significant (exclusively) for PB2 ('freedom and self-interest') while 'determination' is only approaching significance. It is also notable that only 'time and prioritisation' is significant for PB3 ('socialisation and bonding') and overall, 'confidence and adaptation' is not significant for any of the participant benefits.

These findings suggest that women's passion for mountaineering and their determination to participate, which they use to negotiate constraints, are driven predominantly by the expected benefits related to fulfilment and achievement. Likewise, preparation and planning negotiation strategies are also utilised for the specific purpose of gaining fulfilment and achievement benefits from participation. This is to be expected as training enables these women to become aware of and develop their physical fitness and climbing skills, which enhances their sense of achievement. Furthermore, feeling relaxed and connected to the natural environment whilst mountaineering can be elicited by researching and choosing the right climbing destination that suits their capabilities. Women who are motivated by the expected freedom and self-interest benefits also draw on preparation and planning strategies to negotiate constraints. In this instance, for example, training may enable these women to learn about themselves and, in conjunction with researching the climbing destination and routes, can help them to make informed and responsible decisions and enhance their sense of independence. By negotiating constraints through preparation and planning strategies, women can also ensure that they are creating time for themselves and pursuing their personal mountaineering interests. It is interesting that negotiation strategies related to making time for and prioritising mountaineering are uniquely significant for socialisation and bonding participation benefits. This indicates that adjustments to participants' home and work life are prioritised in order to develop friendships, meet new people and to feel a sense of belonging in a mountaineering community.

**Table 3: Constraint Negotiation Strategy Influence on Participation Benefits**

Constraint Negotiation Strategies	Beta	t	p
<b>PB1: Fulfilment and Achievement (<math>R^2 = 0.19</math>; Adjusted <math>R^2 = 0.17</math>; <math>F = 11.70</math>; <math>p &lt; 0.001</math>)</b>			
4. Determination	0.37	4.56	<0.001
2. Preparation and Planning	0.15	2.21	0.03
1. Time and Prioritisation	0.07	0.98	0.33
3. Confidence and Adaptation	0.04	0.62	0.54
<b>PB2: Freedom and Self-Interest (<math>R^2 = 0.13</math>; Adjusted <math>R^2 = 0.11</math>; <math>F = 7.36</math>; <math>p &lt; 0.001</math>)</b>			
2. Preparation and Planning	0.24	3.29	0.001
4. Determination	0.13	1.58	0.11
1. Time and Prioritisation	0.07	0.99	0.32
3. Confidence and Adaptation	0.05	0.75	0.46
<b>PB3: Socialisation and Bonding (<math>R^2 = 0.09</math>; Adjusted <math>R^2 = 0.07</math>; <math>F = 4.97</math>; <math>p = 0.001</math>)</b>			
1. Time and Prioritisation	0.19	2.44	0.02
4. Determination	0.11	1.35	0.18
2. Preparation and Planning	0.07	0.99	0.32
3. Confidence and Adaptation	0.03	0.39	0.70

Notes: Durbin-Watson statistics (2.04-2.05) indicate the assumption of independent errors is tenable in all models. VIF values (1.15-1.61), tolerance statistics (>.2) and predictor variance dimension loadings indicate the absence of collinearity.

## Conclusion

This study adopted a dyadic approach by examining both the strategies women use to negotiate participation constraints, as well as examining the benefits women derive from participating in mountaineering. The study has built on existing work by Doran et al. (2018) by empirically testing strategies for negotiating previously identified constraints, as well as answering Fendt and Wilson's (2012) call for an examination of the empowering benefits of constraint negotiation for women participating in adventurous activities.

Fundamentally, this study demonstrates a clear connection between constraint negotiation strategies and derived participation benefits. Three of the four negotiation dimensions identified support earlier findings in the existing literature, while the fourth dimension relating to 'confidence and adaptation' represents a new and significant contribution to the literature. Furthermore, the identification of determination as a

strategy for negotiating constraints and the influence this has on the benefits related to fulfilment and achievement also makes an important contribution in understanding the psychological aspects of participation. This determination to participate in the historically masculine activity of mountaineering echoes ideas of resisting gendered norms and the findings of this study suggest that women are demonstrating resistance to such norms through their participation in mountaineering. Despite earlier studies identifying all-female groups as an opportunity for women to collectively resist dominant gender constructions (McDermott, 2004), this study found that female mountaineers are realising the empowering benefits of resistance through mixed gender groups, and in fact indicating a preference for these dynamics (Doran et al., 2018) in order to challenge the dominant notions of masculinity.

In addition to theoretical contributions to knowledge, this paper also highlights important aspects for consideration by industry. When developing mountaineering activities, especially those that involve a touristic element, companies would be well served to recognize and provide mechanisms for supporting women to negotiate constraints to participation, namely training and skills development; destination research and knowledge; planning and preparations; and developing friendships and social connections. Similarly, utilizing the benefit dimensions identified in this study in promotional material may also attract customers and participants for whom these benefits resonate strongly with, thus resulting in higher levels of derived value.

Importantly, there are some limitations to this study. First, the questionnaire items were based on findings from previous studies which largely focused on women's experiences in other adventure activities. Although there was generally more agreement than disagreement with the statements used, other negotiation strategies and participation benefits that female mountaineers have experienced may not have been

captured. Therefore, future research could utilise qualitative methods to explore the negotiation strategies and benefits that women experience across a range of hard mountaineering activities. Second, whilst survey respondents recognised their sense of achievement and satisfaction in their mountaineering capabilities and skills, they were not asked specifically if, when compared to their male counterparts, they feel as capable, as physically skilled and able to make decisions when mountaineering, and whether or not such comparisons feed a sense of empowerment, which has been noted in previous adventure tourism (Elsrud, 2005; Myers, 2017) and adventure recreation (Bialeschki & Henderson, 1993; Loeffler, 1997) studies. The benefit of empowerment deserves further investigation to develop a clearer understanding of the opportunities for women through their mountaineering participation.

In addition, despite the centrality of the travel context of mountaineering tourism, studies that examine the touristic and travel aspects of mountaineering tourism are scant. This topic therefore warrants further exploration, particularly from a gendered perspective. Furthermore, there are calls for research that explores the nuances of power and agency within the constraint negotiation process, and in particular, a critical analysis of gendered power relations would be a revealing avenue of further research. Finally, much more detail could be garnered from examining individual negotiation strategies using an in-depth, qualitative approach. For example, exploring the role of social media in finding like-minded companions to gain knowledge regarding the destination and climbing routes to help overcome a range of constraints. The proposed research, combined with the findings of this study, would enable a more comprehensive conceptualisation of women's constraints to mountaineering participation, their process of constraint negotiation and the benefits they derive from participation.

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