

Operationalizing a Theory of Participation in Physically Active Leisure

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Abstract

This article responds to calls to develop pragmatically relevant theories for studying physically active leisure. Empirical evidence supports a method of operationalizing a stage-based framework capable of stimulating paradigmatic evolution and building a Theory of Participation (TOP). A staging algorithm using involvement facets is tested on two contextually disparate samples: a single-gender competitive sport of Rugby League participation in Australia and a non-gender specific context of recreational skiing in Greece. Results indicate progressive development of sport involvement can be classified into four stages of awareness, attraction, attachment and allegiance with discrete psychological and behavioral outcomes. Support for the presented hypotheses from both studies and suggestions for future research are offered.

KEYWORDS: Active living, adoption, adherence, categorization methods

Research indicates more than half of the world's population does not engage in sufficient physical activity to benefit their health (Sapkota, Bowles, & Ham, 2006; Warburton, Nicol & Bredin, 2006; World Health Organisation (WHO), 2003) and reducing the amount of people in this category by just one percent could save millions of lives and billions of dollars (Katzmarzyk, Gledhill & Shephard, 2000; Stephenson et al., 2000; WHO, 2003; 2006). When developing strategies to increase levels of physical activity, many aspects of daily life can be targeted (Sallis et al., 2006). However, with advancing technology reducing the levels of activity required at work and in the home (Livingstone, Robson, Wallace & McKinley, 2003), increasing participation in physically active leisure, such as sport and active recreation, is considered to play an important role (Sallis et al., 2006; WHO, 2006). Therefore, the capacity to understand and increase participation in physically active leisure is not only important for the sport and recreation managers delivering these opportunities, but also for those charged with protecting the public interest.

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In pursuing these goals, researchers continue to search for sound theoretical frameworks (e.g. Green, 2005; Jackson et.al, 2005; Henderson & Bialeschki, 2005; Godbey, Caldwell, Floyd & Payne, 2005). Beaton and Funk (2008) developed a set of criteria to evaluate a framework's ability to promote collaboration among researchers as well as enhancing the research-practice relationship. These criteria were then used to evaluate a selection of frameworks applicable to the study of physically active leisure. As sport and recreation managers are responsible for implementing many of the strategies and policies to increase participation (Jackson et al., 2005), a central theme was the ability of a framework to provide functional meaning to practitioners as well as fulfilling the requirements of sound basic research. The results of Beaton and Funk (2008) show the Psychological Continuum Model (PCM) (Funk & James, 2001) performed best among the assessed frameworks. It was proposed that the PCM provides a sound platform for building a theory of participation (TOP) in physically active leisure to guide future research and ultimately inform the practice of sport and recreation managers and public policymakers.

The PCM provides a framework for understanding the development of commitment to activities where the developmental process is divided into the stages of Awareness, Attraction, Attachment and Allegiance. Each stage has different characteristics and influences which ultimately could allow practitioners to apply differential management strategies to help people move through these stages to become committed and loyal participants. However, substantial research and development of the framework is required before this ultimate aim is able to be realized. Beaton & Funk (2008) provide a number of propositions to guide future research working toward producing a practically relevant TOP in physically active leisure. First and foremost among these propositions is the need for an appropriate staging mechanism for the framework. While the literature supports the conceptual basis of each stage of the PCM, without a suitable method for placing participants into their respective stages researchers cannot begin to validate the existence of the stages, or attempt to understand the processes governing transitions between the stages (McFarlane, 2001). In this paper, empirical evidence provides support for a staging mechanism for the PCM. The primary aim of the research was to develop a mechanism for stage-matching participants which, in keeping with the notion of collaboration, could be applied by both practitioners and academics.

As a final point before describing the framework, it is worth noting why this investigation has been framed in the context of physically active leisure instead of leisure in general, or indeed a TOP applicable to any activity. The general nature of each stage of the PCM may be applicable to the development of commitment and allegiance in many fields of human activity, suggesting that a broad, context-free, TOP may be developed. However, in the study of human behavior such grand theories may not be appropriate (Henderson, Presley & Bialeschki, 2004), and our understanding of conceptually distinct behaviors is improved by developing more context specific theories (Weick, 1989). Participation in physically active leisure is suggested to be conceptually distinct from other more passive leisure activities. For example, the self efficacy construct which is an individual's evaluation of her/his ability to perform an activity, has consistently been shown to be an important factor in the context of physically active leisure (Netz & Raviv, 2004), whereas it is unlikely to be an important factor in

more passive pursuits such as watching sport or going to the movies. In time a TOP may be developed for other contexts and facilitate comparison among these, but for the reasons cited above, using the PCM framework to build a TOP in physically active leisure is theoretically justified and practically important..

Theoretical Framework

Funk and James (2001) introduced the PCM as a conceptual framework to organize the various literature streams that address the psychological connection between an individual and various sport and recreation objects. The framework proposes that sociological and psychological processes combine to create an individual's relationship with a focal sport or recreation activity. These processes are said to occur as a developmental progression divided into four stages labeled Awareness, Attraction, Attachment, and Allegiance, which highlights an unfortunate choice of title for the model which is at odds with its structure. Stage-based models of behavior are in distinct contrast and possess inherent advantages over continuum models (Rothman, 2000; Weinstein, Rothman & Sutton, 1998). Therefore, Psychological Connection Model, which the term PCM will herein refer to, is suggested as a more appropriate use of terminology than Psychological Continuum Model to describe a stage-based framework.

Weinstein, Rothman and Sutton (1998) discuss how the stages concept holds that individuals can be assigned to a distinct stage from a selection of a specific number of stages according to certain characteristics. Individuals within a given stage are similar in characteristics and individuals across stages significantly differ in terms of characteristics. These differing stages give rise to the concept that equally different processes are at work between the stages. In reviewing the Recreational Specialization framework developed by Bryan (1977), Scott and Shafer (2001) describe these properties under the headings of developmental process and progression.

These two properties endow stage based theories with the ability to better accommodate the nonlinear and dynamic phenomena of human behaviour when compared to continuum frameworks which treat subjects as either those that participate, or those that do not (Rothman, 2000). However a number of the points raised by Scott and Shafer (2001) that are also relevant for the PCM suggest these properties may be better described by the more general terms of processes and transition. Rather than relying on a single developmental process governing movement across the stages, there are different processes for each stage. Also, while reaching the allegiance stage requires developmental progression through other stages of the PCM, this may not necessarily occur. Further, movement through the framework is not governed by time spent in a stage and may occur in either direction. For example, where one individual may transition through all stages of the framework to reach the Allegiance stage relatively quickly, another may forever remain in Awareness or Attraction, and yet another may transition from Attachment back to Awareness or Attraction. The PCM framework is outlined in Figure 1 and a brief description of each stage is provided below: for a detailed discussion the reader is directed to Funk and James (2001; 2006).

Awareness. At the level of Awareness, an individual is aware of the opportunity to participate but has not yet begun participation. Research on participation in physical activity has established individual's awareness of and attitude towards activities not yet undertaken are shaped by external influences such as social and cultural beliefs,

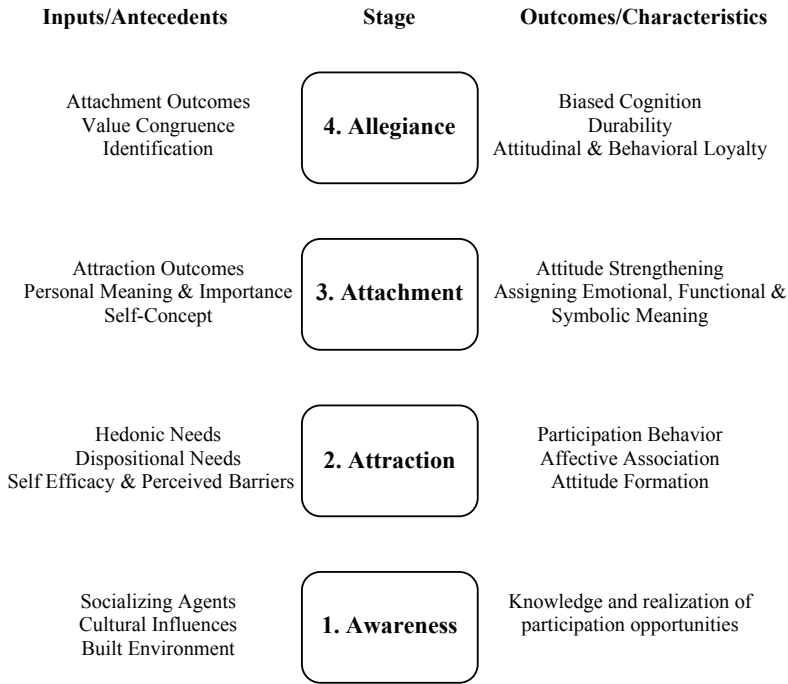


FIGURE 1. PCM Schematic (adapted from Funk & James 2001; 2006)

media, family, peers and the built environment (Courneya, Plotnikoff, Hotz, & Birkett, 2001; Gilbert, 2001; McDonough & Crocker, 2005; Parr & Oslin, 1998; Srinivasan, O’Fallon, Dearry, 2003). Awareness can be readily distinguished from other stages due to the simple nature of stage progression: once an individual begins participating in an activity they have left the awareness stage.

Attraction. The level of attraction is reached when psychological and peripheral motives trigger a desire to meet a need or seek a benefit from actual participation. Both psychological and peripheral motives stem from hedonic needs, dispositional needs, and social situational factors to create sufficient drive for the individual to begin participating in the activity (Funk & James, 2001). This decisional process signifies volition and increased complexity introduces factors such as self-efficacy, perceived barriers and constraints, as well as enjoyment and past behavior. The literature on participation supports the idea that self-efficacy (Netz & Raviv, 2004), both actual and perceived barriers and constraints (Alexandris, Kouthouris, & Girgolas, 2007; Courneya, et.al, 2001; Jackson, 2005; White, 2008), and positive affect (Henderson, 2003) all impact on participant motivations to adopt physical activities.

Attachment. The processes of Attachment bring increased complexity to the individual-activity connection than was evident in the Attraction stage. As participation continues and the psychological connection strengthens and becomes more stable, barriers to participation and environmental factors begin to diminish in their influence

over participation (Funk & James, 2001). Behavioral outcomes become more contingent upon individual, rather than sociological processes.

The first two stages of Awareness and Attraction could be said to be relatively unstable in terms of behavior when compared to Attachment. Attachment introduces the concept of continuance (Buchanan, 1985) and an element of stability to the connection between the individual and the activity. This continued development reflects an individual assigning emotional, functional, and symbolic meaning to associations linked to participating in a specific activity (Funk & James, 2006). The notion that, as participation begins to take on more personalized meaning a concomitant transition to more stable and predictable behavior occurs, has support in the literature (Anderson, 2004; Kendzierski, 1994; Sheeran & Orbell, 2000; Wilson, Rodgers, Fraser & Murray, 2004).

Allegiance. Over time, participation may become woven into the fabric of the daily life of the individual and see him/her reach the stage of Allegiance. Here, the individual has become so involved and committed that s/he sees the activity as representative of their own core values and beliefs, and will continue participating in preference to other activities (Funk & James, 2001). They are also likely to continue to view the activity in a positive light after being presented with negative information about the activity. This stage is the most stable of all and represents the strength and continuance of an individual's psychological commitment and behavioral loyalty. The outcomes of Allegiance are persistence, resistance to change, biased cognitive processes and continued behavior (Funk & James, 2001). There is strong support for this stage in the literature on intrinsic motivation and schema theory (Anderson, 2004; Sheeran & Orbell, 2000; Wilson et al., 2004). Self-schematics, in particular, show that the properties of Allegiance can be measured and people in this stage can be identified as distinct from all other stages (Anderson, 2004; Sheeran & Orbell, 2000).

In summary, the PCM offers a sound platform to study physically active leisure. The central tenets of the conceptual framework are supported in the literature, and the stages of Awareness and Allegiance also have strong support as being distinct and identifiable stages. However, in order to facilitate the testing and falsifying of propositions regarding the adoption and maintenance of physical activities made within the framework, there is a need for a staging mechanism to distinguish between all the stages of the PCM. An instrument that could accurately stage match individuals in a pragmatically appropriate manner has both intuitive and academic appeal, and could prove a powerful tool for both researchers and practitioners.

In developing such an instrument a decision must be made as to which measures will be relied on. To operationalize a stage-based framework on observable measures, such as length of time participating in an activity, makes sense when verifiability is held paramount. However, in the context of physical activity, such distinctions become senseless for understanding the maintenance of behavior and latent psychological constructs appear better placed for differentiating between stages (Beaton & Funk, 2008; D'Angelo, Reid & Pelletier, 2007). Indeed one of the strengths of the PCM is the recognition of variation in trajectories through the stages in terms of both time spent in a stage and the direction of movement across stages (Beaton & Funk, 2008). When introducing the PCM, Funk and James (2001) suggested that the construct of involvement would provide a useful tool for distinguishing between stages. Involvement

ment, also known as enduring involvement, is a relatively stable measure as the name suggests, which has been shown to produce relatively consistent results across recreational contexts and cultures (Dimanche, Havitz & Howard, 1991). For these reasons, the involvement construct forms the basis of the developed staging mechanism.

The Involvement Construct

Reviews of the involvement construct typically refer to social judgement theory and the work of Sherif & Cantril (1947) on ego-involvement as the origin of involvement research. However, although rarely acknowledged, ego-involvement research extends further back than this (Johnson & Eagly, 1989). Early treatment of the subject that differs to Sherif & Cantril (1947) is found in the writings of Allport (1943; 1945) which is argued to be a more appropriate conceptualization in the present context.

Sherif & Cantril (1947) suggested that the ego is “a constellation of attitudes which can be designated as ego-attitudes” (p. 92). These ego-attitudes were said to be associated with “‘I, ‘me’, ‘mine’ experiences” (Ibid, p.2). Thus, the level of analysis in this line of research was self-relevant attitudes and how they affect the judgment of individuals with respect to social issues. It is from here that Krugman (1966), and others to follow (Mittal, 1995, Zaichkowsky, 1985), have interpreted involvement as being reducible and equivalent to perceived personal relevance or importance. Adopting this perspective can lead to models of involvement with leisure activities where the personal relevance of an activity leads the development of attitudinal and behavioral commitment (e.g. Jun, Kyle & Absher, 2008), which is somewhat in conflict with the PCM framework.

In contrast, Allport (1943) described how he felt “it is a mistake to confuse the concept of the ego with that of the socius (or cultural portion of our personalities) as Sherif has done” (p.465). Being perceived personally relevant or important to the individual does not automatically infer the ego-involvement of the individual. With specific reference to participation in activities, Allport (1945) stated; “Activity alone is not participation. Most of our fellow citizens spin as cogs in many systems without engaging their own egos even in those activities of most vital concern to them.” (p. 126). Using the example of vocational involvement, it was proposed involvement is only present when an activity is evaluated from the individual’s perspective as providing her/him with a combination of pleasure, symbolic value, and a core or central component of her/his life (Allport, 1945). Therefore it is reasonable to expect that an outcome of involvement with an activity would be perceived personal relevance or importance, but personal relevance or importance on their own are not sufficient, nor indicative, of involvement. An individual may perceive an activity as personally relevant or important without satisfying the aforementioned necessary conditions of involvement. This conceptualization of involvement fits well with the PCM framework and the literature which suggests pleasure and enjoyment are the necessary component in the development of commitment to activities (Henderson, 2003; Williams et al., 2007).

Another influential development in the involvement literature is the introduction of the consumer involvement profile (CIP) by Laurent and Kapferer (1985). The CIP was the first measure that represented involvement as multi-dimensional. Representing involvement as a profile of scores across a number of facets allowed for a deeper

understanding of the sources of involvement, and had the potential to facilitate segmentation (Kapferer & Laurent, 1993). The multi-dimensional view of involvement dominates today, and the most commonly used instrument has been adapted from a translation of the original CIP scale (Havitz & Dimanche, 1997). Continual revision and refinement of the scale in a leisure context (Havitz & Dimanche, 1997; 1999; Kyle & Mowen, 2005; McIntyre, 1989) has led to strong support for three facets of leisure involvement. The facets are: (1) Attraction - the combined enjoyment, interest and importance associated with the activity; (2) Centrality - how central the activity is to the individual's lifestyle; and, (3) Sign - the self expression value or level of symbolism that the activity represents.

In the context of the present study, the involvement facet termed attraction is identified as problematic. First, there is the confusion that would be created with the Attraction stage of the PCM. Second, the attraction facet as typically presented in the literature, is said to represent the combined enjoyment, interest, and importance that an individual associates with a given object (McIntyre, 1989). As previously argued, within the PCM framework (Funk & James, 2001) and the adopted conceptualization of involvement provided by Allport (1945), importance should be held conceptually distinct from enjoyment and interest (see Funk & James, 2001). The Attraction stage of the PCM is distinguished by the dominance of positive affect. Importance, however, may be assigned to an activity by an individual based on extrinsic motivations such as tangible rewards and weight loss (Wilson et al., 2004). Participation driven by the importance of extrinsic motivations such as these is indicative of the Attachment stage of the PCM. Subsequently, for these reasons the facet is hereafter described as the Pleasure facet.

Funk and James (2001) discussed how involvement profiles would be expected to vary across the stages of the PCM. When considering the profile of participants in the attraction stage, it was suggested that "there should be high scores on the [pleasure] facet and low scores on the Sign, [and] Centrality ... facets" (Funk & James, 2001, p.129). These are individuals who participate for the fun and enjoyment of the activity itself. The activity has not yet taken on any real personal meaning or become central to their lifestyle.

The Attachment stage, however, was said to be characterized by, "higher scores related to Sign, [and] Centrality ... facets of the involvement construct" (Funk & James, 2001, p.133). Also, the most diverse involvement profiles would be expected to occur in the Attachment stage. There could be participants transitioning from Awareness directly to Attachment who are externally motivated to continue participation by tangible rewards. Such individuals would show low to middle range scores for both Centrality and Sign, and low Pleasure scores due to the associated lack of positive affect. Equally, there could be those moving from Attraction to Attachment who derive pleasure from the activity itself and have begun to develop a sense of personal relevance and meaning with continued participation. These individuals would possess high Pleasure scores and middle range Centrality and Sign scores. Participants in the Allegiance stage on the other hand, would be expected to exhibit profiles with high values across all facets of involvement. On these grounds, the following two-part hypothesis is offered:

H1a: Centrality and Sign values will increase from Attraction to Attachment to Allegiance.

H1b: There will be no difference in Pleasure values across the Attraction, Attachment and Allegiance stages.

Empirical support for the above hypotheses would indicate success for the staging mechanism in terms of the relationship among stages for the involvement facets. However this support alone would remain insufficient due to the nature of the staging mechanism relied on to create the categories. Hair, Anderson, Tatham and Black (1992), emphasize that the presence of significant differences when testing a method of categorization in this manner provides encouraging, but inadequate, evidence that the groups represent different populations. This is due to the staging algorithm actually driving the resultant groups in the direction of the expected relationships. Therefore, tests for expected relationships among stages of the PCM with constructs not used to create the categories were required to further validate the developed staging mechanism.

While the processes and outcomes differ across each stage of the framework, one defining characteristic said to increase from Attraction to Attachment, and again from Attachment to Allegiance is the stability of the psychological connection. This stability and durability manifests itself in the individual's resistance to seek alternative activities or psychological commitment to the activity (Funk & James, 2001). Integrating a line of work on commitment and loyalty, Pritchard, Havitz and Howard, (1999) suggest the resistance to change scale is the defining indicator of psychological commitment and the direct mediator between commitment and loyalty. The resistance to change scale has been psychometrically validated in recreation (Iwasaki & Havitz, 2004), service industry (Taylor & Hunter, 2003), tourism (Morais, Dorsch & Backman, 2004) and consumer behavior contexts (Pritchard et. al., 1999). In light of this, resistance to change will be used as an indicator of stability and psychological commitment in the present study and the following hypothesis is posited:

H2: Resistance to change will increase from Attraction to Attachment to Allegiance.

To summarize, this paper presents the PCM as one avenue to fulfill a call by researchers for pragmatically relevant theory for the study of physically active leisure. The PCM framework proposes that participation behavior can be understood as a developmental progression across the stages of Awareness, Attraction, Attachment and Allegiance. This framework has been shown to possess advantages over competing frameworks in terms of its ability to promote paradigmatic collaboration and enhance the research-practice relationship. However before this potential may be realized, an appropriate staging mechanism must be developed. Developing, and providing empirical evidence for such a mechanism underscores this research.

A combination of relatively consistent results across sport and exercise contexts and cultures, and suitability of motivational constructs for distinguishing between participants indicates the multi-faceted involvement construct is well suited to the task. The three facets comprising individual involvement profiles: Pleasure-enjoyment and interest, Centrality- importance to lifestyle, and Sign- self expression and symbolism; were then reviewed in the context of the PCM. Subsequently hypotheses H1a and H1b were offered based on expected stage specific variations of involvement profiles. Finally, as the developed mechanism is derived from the involvement construct, tests

of the mechanism using alternate constructs are necessary. A defining characteristic of the framework is that each stage represents an increase in psychological connection and commitment to the activity, which may be captured by the construct of resistance to change. Thus, hypothesis H2 was formulated as a further validity test of the staging mechanism.

Method

In presenting the methods of this research, the mechanism developed for stage matching participants in line with the PCM is detailed first. Following this, the application of the mechanism in two studies using a cross sectional design and involving two diverse samples is described. One study is in the context of competitive team sport participants in Australia, the other is a sample of recreational skiers conducted in Greece. These samples were chosen to explore the validity of the staging mechanism based on the premise that the staging mechanism should be applicable regardless of sport and exercise context or cultural variations. Each study was approved by institutional ethics review processes and informed consent was obtained from each subject.

Staging Mechanism

Within the developed staging mechanism there are three main components to stage-matching participants: (1) Measure the facets of involvement. (2) Create a ranked involvement profile. (3) Apply the staging algorithm. The development of the staging mechanism is detailed in the following three sections. First, the rationale underlying the choice of categorization of involvement facet scores is explained. Second, the method of creating categories is described using an example profile. Lastly, the algorithm for stage matching participants is presented along with the theoretical distribution of all available profiles across the stages of the PCM.

Rationale. Attempting to develop an appropriate staging mechanism creates a paradoxical situation. The underlying assumptions of the research dictate that the level of measurement for the data on facets of involvement is interval. This draws the project toward using sophisticated statistical techniques such as discriminant analysis (e.g. Backman & Crompton, 1991). Whereas, the primary goals of the project require the staging method be both meaningful, and suitable for use, by a multitude of researchers and practitioners. It is believed that adopting this approach would place the mechanism beyond the reach of many of these intended users.

The overarching priority of practicality suggests that transforming an individual's mean scores for each facet of involvement into ranked order categories, such as low, medium, and high would be more appropriate. A simple qualitative algorithm can then be developed based on these categories. However, it has been suggested that transforming interval level data should be avoided wherever possible due to potential distortion of information contained in the original variable (Wright, 2003). While Wright clearly cautions against splitting interval level data, this is qualified by suggesting there are certain circumstances where this can be justified, a qualification also made by Hair et al. (1992). Examples of interval, or even continuous data being categorized, can be located in the literature (Brug et al., 2005; Penley & Gould, 1988; Yen et al., 2006) and the practice is actually widespread when the common treatment of variables such as age or behavioral frequencies is considered. Considering these points, it is argued that

the most appropriate method for the present study is to categorize the involvement facet scores of participants.

Creating Categories. There is no real answer to the question of the best way to create categories (Hair et al., 1992). Any decision made in this endeavor will necessarily be subjective in nature. A decision can be argued based on theory and previous research, but ultimately, it is more closely related to intuition and trial and error than to any supportable quantitative method, especially in the absence of previous attempts.

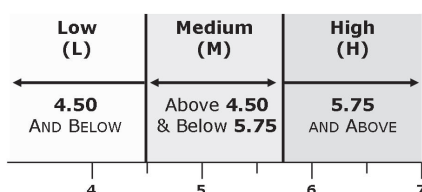
The cut points to be investigated in this project are argued for as follows. First, they are designed independently of the scores of the sample being examined. This decision is made so that the resulting algorithm may be applied unchanged across various settings. The items addressing the facets of involvement consist of statements about various aspects of participation. Respondents are asked to rate their agreement with the statement on a seven point scale where 1 = strongly disagree; and 7 = strongly agree. It is assumed that respondents indicating a response of either 1 or 7 represent the extremes of the unobservable continuum that is the latent construct. Likewise, the underlying philosophy of seven point Likert scales suggests that a score of four represents a neutral position on the scale, where the respondent neither agrees nor disagrees with the statement. It is suggested here that these relationships hold true across settings.

Also, both intuition and the literature (Havitz & Dimanche, 1997) indicate that in the context of sport and exercise, involvement profiles typically range from moderate to high, which must be considered when setting the intended cut points and scale dispersion. That is, a neutral rating on any of the facets would actually be considered a low value in a sport and exercise context. This is in contrast to the traditional tripartite split of a scale where the neutral or mid-point of a scale is used as a mid range indicator (Downey & Huffman, 2001). A tripartite split, however, is considered beneficial because the number of resultant profiles ($3^3 = 27$) has the potential to provide a richer understanding than the number of profiles created with a dichotomous split of facet scores ($2^3 = 8$). That is, a high/low split on the scale produces only eight different profiles with limited discriminative ability, whereas a high/medium/low split produces twenty seven profiles. Also, a seven point scale is necessary to allow for better discrimination in scores above the neutral point.

The multi-item format of the facets is also considered in defining the cut point locations. This structure of the facets sees that each facet score is the mean value of four separate items, as shown in the example in Figure 2. Looking at the Pleasure facet first, there are two items scored four, and two scored five, resulting in a mean construct score of 4.5. Irrespective of the number of items in a construct, the construct mean will not exceed 0.5 more than the mid-point unless there are more than 50% of the items rated at one interval above the neutral point, a response of five in the present case. Combining this with the positive nature of the relationship between involvement and sport participation, it was decided that subjects who respond at this level or lower for any facet should be rated as low in that facet. That is, the cut point for rating mean construct scores as low on a facet with items measured on a seven point Likert scale is 4.5 inclusive. In the example provided in Figure 2, the subject would rate low in Pleasure.

Turning to the Centrality facet, if a subject has more than 50% of construct items rated at least as five or above on the scale, they will be rated as possessing at least a me-

	Pleasure	Centrality	Sign
Item 1	P1 = 4	C1 = 6	S1 = 5
Item 2	P2 = 5	C2 = 5	S2 = 6
Item 3	P3 = 4	C3 = 5	S3 = 6
Item 4	P4 = 5	C4 = 5	S4 = 6
Total Score	= 18	= 21	= 23
Average	= 4.5	= 5.25	= 5.75



Involvement Profile		
Pleasure	Centrality	Sign
L	M	H

FIGURE 2. Hypothetical involvement profile and ranking calculations

dium level of that facet. This is suggesting that if a subject rates more than half of the items in a facet at one interval above the mid point or higher, they have developed at least a medium level of the construct. Therefore, the example average score of 5.25 for the Centrality facet in Figure 2 would be rated as a medium level of Centrality.

In setting the cut point for rating subjects as high on a facet, considering the nature of both the items and scale used to measure them, it seems justified that a score of six would represent a high value with respect to the item in question. Again the positive relationship between involvement and sport participation suggests that it is appropriate to set the cut point so that it is more, rather than less difficult, to be rated as high on any facet. A threshold set to 5.75 inclusive for the lower bound of the high rating meets these requirements. That is, if a subject rates a four item facet with three scores of six and one score of five, as is the Sign facet in Figure 2, they would be rated as high in that facet. Or stated differently, at least 75% of the items for a construct must be rated as 6 or higher to be rated high on that facet. Therefore, as shown in Figure 2 the individual has an involvement profile of L, M, H. This profile may then be classified into the appropriate stage using the developed algorithm.

Developed Algorithm. On the basis of these constructed facet levels, and the suggested relationships among the facets, an algorithm was developed to allocate subjects in line with the theoretical framework provided by the PCM. The algorithm is pre-

sented in Figure 3. Using the algorithm for the hypothetical profile from Figure 2, the first action is affirmative and, therefore, the stage for the hypothetical profile is Attachment.

Using the involvement profile ratings, complete the actions below IN ORDER until stage is determined	
➤ Action 1:	If Pleasure facet is rated low (L), stage = Awareness (non-participants), Attachment (participants); If condition not satisfied then
➤ Action 2:	If Both Centrality and Sign facets are rated low (L), stage = Attraction; If condition not satisfied then
➤ Action 3:	If Either Centrality and Sign facets are rated low (L), stage = Attachment; If condition not satisfied then
➤ Action 4:	If Any Two facets are rated as high (H), stage = Allegiance; If condition not satisfied then
➤ Action 5:	All remaining, stage = Attachment.

FIGURE 3. PCM Staging Algorithm

Considering the needs of both researchers and practitioners, the staging mechanism developed in this study is argued as parsimonious. There are three main components to stage-matching participants: (1) Measure the facets of involvement. (2) Create a ranked involvement profile. (3) Apply the staging algorithm. To complete these tasks manually takes a total of less than two minutes which is pragmatically suitable for dealing with small samples or prior to interviewing subjects. In the case of larger samples, there are methods for using statistical packages to stage-match even the largest of samples in a matter of minutes¹. For any given population, the algorithm has 27 possible profiles which are distributed across the stages of the PCM as shown in Table 1 below.

Participants and Procedure.

Study 1. Subjects were recruited in a purposive sampling procedure from a Rugby League Football Club in Queensland, Australia, which agreed to allow access to their adult playing population of 84 registered players. A self administered questionnaire of the sample was distributed to subjects at scheduled team training sessions approximately halfway through the competitive sporting season. Participants were given the option of completing the questionnaire in the presence of the researcher, or taking the questionnaire home and returning it at the next training session they attended. There

¹ Please contact the corresponding author for assistance with achieving this.

TABLE 1
Theoretical Distribution of Involvement Profiles across PCM Stages

Awareness			Attraction			Attachment			Allegiance		
^a P	C	S	P	C	S	P	C	S	P	C	S
^a L	L	L	M	L	L	L	L	M	M	H	H
			H	L	L	L	L	H	H	H	M
						L	M	L	H	M	H
						L	M	M	H	H	H
						L	M	H			
						L	H	L			
						L	H	M			
						L	H	H			
						M	L	M			
						M	L	H			
						M	M	L			
						M	H	L			
						M	M	M			
						M	M	H			
						M	H	M			
						H	L	M			
						H	M	L			
						H	M	M			
						H	L	H			
						H	H	L			

*: P=Pleasure Facet; C=Centrality Facet; S=Sign Facet

a: may be Awareness if a non-participant, or Attachment if a participant

were 62 usable surveys collected, corresponding to a 74% response rate. Demographically, all subjects were male, and average weekly income was relatively normally distributed across four categories, with 39 subjects, or 62.9% of the sample in the middle two weekly income brackets of AUD\$300-600 and AUD\$600-900. There were 22, or 35.5% of the subjects which had children. The age distribution was 33 (over 50%) subjects in the 18-24 year age bracket, 25 (40%) 25-34 years, and only six, or less than 10%, of subjects were aged over 35 years. The mean total years playing Rugby League was 7.79 (SD 6.03) years, and the mean continuous years playing was 6.31 (SD 5.63) years.

Study 2. The data were collected at a ski resort located in northern Greece, by a team of two researchers who were familiar with the resort. The collection of the data took place over one weekend during January of 2006 using self administered questionnaires with the scales from Study 1 translated into Greek using a back-translation procedure (Vallerand, 1989). The questionnaires were distributed in the cafeteria of the resort, and were completed by adults (over 18 years of age) who had participated in

skiing activities during the specific day. Two hundred questionnaires were distributed, and one hundred and fifty four (N=154) were collected, resulting in a response rate of 77%. Commenting on the sampling method, it should be noted that it was not a probability method, and thus generalizations of the results should be made with caution. In terms of the demographic characteristics of the sample, 52% were females and 67.5% were single individuals. In terms of the age, 28% were between 18 and 22 years old, 49% were between 23-30 years old, and 23% were more than 30 years old. Information regarding family income was not collected, since Greek participants are reluctant to answer this question.

Measures

Involvement, was measured with 12 items adapted from Kyle & Mowen (2005) to assess the facets of Pleasure (4 items), Centrality (4 items) and Sign (4 items). These measures have evolved from the CIP (Laurent & Kapferer, 1985) through the work of McIntyre (1989) and have demonstrated internal validity (α 's ranging from 0.79-0.87) in a physical activity context (Kyle & Mowen, 2005). Items were measured using 7 point Likert scales and analysis relies on mean scores for each facet. A complete list of the items is provided in Table 2.

The only change to items was to make them contextually specific to the respective activity, for example, changing the term 'playing rugby league' to 'skiing'. The one exception to this is in the Pleasure facet of involvement. The Kyle and Mowen (2005) instrument to measure involvement used facets named Attraction, Centrality and Self Expression (named Sign in the present study). The items to measure Centrality and Sign were left unaltered. Attraction, however, was suggested by Kyle & Mowen (2005) to measure the combined pleasure and importance of the activity, and included one item that in the present context would read "playing rugby league is very important to me". As mentioned previously, pleasure and importance should be held conceptually distinct in the present study. As such, the previously stated item was changed to read, "Compared to other sports, playing rugby league is very interesting".

Resistance to change, defined as the tendency to resist changing preference for activity, was measured using the four items developed and validated by Pritchard, Havitz and Howard, (1999), which are presented in Table 2. This scale has previously demonstrated acceptable internal reliability in a variety of contexts (Iwasaki & Havitz, 2004; Morais, Dorsch & Backman, 2004; Pritchard et.al, 1999; Taylor & Hunter, 2003). As a criterion measure, it was appropriate to use different scales in each study to moderate any influence of common method variance. Items were measured using 7 point Likert scales in Study 1, and 5 point Likert scales in Study 2. Mean scores were used in the analysis.

Results

Data were entered into and analyzed using SPSS, version 14.0. Descriptive and reliability statistics for the measured constructs are presented in Table 3. In terms of construct reliability, the benchmark for research is typically quoted as requiring a Cronbach's alpha of at least 0.70 citing Nunnally (1978). On these grounds, it could be suggested the involvement facets measured in Study 1 are unreliable. However, there are sound reasons to consider the reliability estimates achieved as acceptable.

TABLE 2
Involvement Construct Items

Involvement (Kyle & Mowen, 2005)
Pleasure
Playing rugby league offers me relaxation when pressures build up
Participating in rugby league is one of the most satisfying things I do
I really enjoy playing rugby league
Compared to other sports, playing rugby league is very interesting.
Centrality
I find a lot of my life organized around playing rugby league
Playing rugby league has a central role in my life
I enjoy discussing my rugby league participation with friends
A lot of my time is organized around playing rugby league
Sign
Participating in rugby league says a lot about who I am
You can tell a lot about a person by seeing them participate in rugby league
When I participate in rugby league I can really be myself
When I play rugby league, others see me the way they want to see me
<hr/>
Resistance to Change (Pritchard, Havitz & Howard, 1999)
My preference for playing rugby league would not willingly change
Even if close friends recommended playing another sport, I would not stop playing rugby league
To change my preference for playing rugby league would require major rethinking
It would be difficult to change my beliefs about playing rugby league
<hr/>

The constructs have all previously demonstrated reliability estimates above the 0.70 threshold in studies using larger sample sizes (e.g. Kyle & Mowen, 2005) and in Study 2. Also, reliability levels of 0.60 and above have been suggested to be acceptable in constructs containing fewer than six items (Cortina, 1993) and for exploratory research (Robinson, Shaver, & Wrightsman, 1991). In consideration of this, all constructs in the present context were considered to have achieved acceptable reliability.

Descriptively, Table 3 shows that for the involvement facets, when treating each sample as a whole, Pleasure recorded the highest mean value (Study 1, $M = 5.72$; Study 2, $M = 6.20$) and the lowest standard deviation (Study 1, $SD = 0.61$; Study 2, $SD = 0.80$). Centrality and Sign showed similar distributions to each other, with means approximately one interval lower than Pleasure (Study 1, $M = 4.99$ and 5.09 ; Study 2, $M = 4.76$ and 5.07), and larger standard deviations than Pleasure (Study 1, $SD = 0.99$ and 0.93 ; Study 2, $SD = 1.29$ and 1.30). The values recorded for resistance to change in

TABLE 3
Construct Descriptives and Reliabilities

Construct	Study 1				Study 2			
	N	Mean	Std. Dev.	Alpha	N	Mean	Std. Dev.	Alpha
Pleasure	62	5.72	0.61	0.62	154	6.20	0.80	0.75
Centrality	62	4.99	0.99	0.69	154	4.76	1.29	0.76
Sign	62	5.09	0.93	0.65	154	5.07	1.30	0.81
Resistance to Change	62	5.57	0.96	0.79	154	4.31 ^a	0.66	0.85

a: measured on a five point scale

TABLE 4
Construct Correlations

	Study 1				Study 2			
	P	C	S	RTC	P	C	S	RTC
Pleasure (P)	1				1			
Centrality (C)	0.23	1			0.39	1		
Sign (S)	0.15	0.41	1		0.40	0.71	1	
Resistance to Change (RTC)	0.56	0.51	0.27	1	0.55	0.46	0.41	1

both samples resulted in relatively high means (Study 1, $M = 5.57$; Study 2, $M = 4.31$) with a standard deviation of below one interval (Study 1, $SD = 0.96$; Study 2, $SD = 0.66$).

The correlations shown in Table 4 show weak to moderately positive relationships indicating all constructs are related but distinct. Looking at the involvement facets, Study 2 demonstrated higher correlations than Study 1. However the relationships among the facet correlations are consistent across the studies. Sign and Centrality had the strongest correlation present (Study 1 = 0.41; Study 2 = 0.71) and Pleasure had the weakest correlations with Sign and Centrality (Study 1 = 0.23 and 0.15; Study 2 = 0.39 and 0.40). Resistance to change was most highly correlated with Pleasure (Study 1 = 0.56; Study 2 = 0.55), followed by Centrality (Study 1 = 0.51; Study 2 = 0.46) with its weakest relationship shown to be with Sign (Study 1 = 0.27; Study 2 = 0.41).

Table 5 shows that application of the staging algorithm resulted in a frequency distribution of participants across stages in Study 1 of eight subjects (13%) allocated

to Attraction, 37 (60%) allocated to Attachment, and 17 (27%) allocated to the stage of Allegiance. In Study 2, 43 (28%) subjects were allocated to Attraction, 58 (38%) were allocated to Attachment, and 53 (34%) were allocated to the stage of Allegiance.

TABLE 5
Descriptives for Constructs by Stage of PCM

Construct	Stage of PCM	Study 1			Study 2		
		N	Mean	Std. Dev.	N	Mean	Std. Dev.
Pleasure	Attraction	8	5.34	0.60	43	5.75	0.56
	Attachment	37	5.67	0.65	58	6.06	0.97
	Allegiance	17	5.97	0.43	53	6.71*	0.37
Centrality	Attraction	8	3.87*	0.47	43	3.31*	0.83
	Attachment	37	4.78*	0.77	58	4.78*	0.72
	Allegiance	17	5.98*	0.73	53	5.91*	0.82
Sign	Attraction	8	3.83*	0.40	43	3.49*	0.81
	Attachment	37	4.97*	0.73	58	5.11*	0.65
	Allegiance	17	5.94*	0.65	53	6.31*	0.58
Resistance to Change	Attraction	8	4.87	0.60	43	3.95*	0.69
	Attachment	37	5.41	1.00	58	4.29*	0.67
	Allegiance	17	6.25*	0.50	53	4.63*	0.43

Note *: Significant difference from all other stages at $p < 0.05$.

Descriptive statistics by stage of PCM show that the overall trend was for all construct means to increase from Attraction to Attachment, and again from Attachment to Allegiance.

One way analysis of variance (ANOVA) was relied on as a statistical test of the stated hypotheses. In checking the assumptions of this test it was noted that the only constructs to pass the homogeneity of variance assumption were those of Centrality and Sign in Study 1. As such, the relatively stringent Tamhane's post hoc analysis

was relied on to assess if significant differences were actually present in all tests other than for Centrality and Sign in Study 1. For Centrality and Sign constructs in Study 1, Tukey's honestly significant difference (HSD) post hoc test was used.

The first hypothesis, H1a, states "Centrality and Sign values will increase from Attraction to Attachment to Allegiance". As predicted, significant differences between stages were found for both Centrality $F(2, 59) = 26.24, p < 0.01$, and Sign $F(2, 59) = 27.59, p < 0.01$ in Study 1. Post hoc analysis revealed that the mean scores for both Centrality ($M = 3.87$) and Sign ($M = 3.83$) in the Attraction stage, were lower ($p < 0.01$) than the mean scores recorded for Centrality ($M = 4.78$) and Sign ($M = 4.97$) in the Attachment stage. Post hoc analysis also revealed that the mean values obtained for Centrality and Sign in the Attachment stage were lower ($p < 0.01$) than those recorded for Centrality ($M = 5.98$) and Sign ($M = 5.94$) in the Allegiance stage. In Study 2, significant differences were also found among stages for both Centrality $F(2, 151) = 127.12, p < 0.01$ and Sign $F(2, 151) = 202.79, p < 0.01$. Post hoc analysis revealed mean scores in the Attraction stage for Centrality ($M = 3.31$) and Sign ($M = 3.49$) were lower ($p < 0.01$) than the mean scores for Centrality ($M = 4.78$) and Sign ($M = 5.11$) in the Attachment stage. Post hoc analysis also revealed that mean Centrality and Sign in the Attachment stage were lower ($p < 0.01$) than Centrality ($M = 5.91$) and Sign ($M = 6.31$) in the Allegiance stage. Together, these results provide full support for H1a in both studies.

In terms of the pleasure facet, H1b stated "There will be no difference in Pleasure values across the Attraction, Attachment and Allegiance stages". Initial tests in Study 1 appeared not to support H1b due to the ANOVA revealing a significant difference $F(2, 59) = 3.2, p < 0.05$ between stages. However, post hoc analysis revealed no differences between any of the stages. Therefore, H1b was supported in Study 1. In Study 2, ANOVA revealed a significant difference among stages for the Pleasure facet $F(2, 151) = 23.94, p < 0.01$. Post hoc analysis revealed no difference between the mean scores for Pleasure in the Attraction ($M = 5.75$) and Attachment ($M = 6.06$) stages. However, post hoc analysis showed the mean Pleasure score in the Allegiance stage ($M = 6.71$) was higher ($p < 0.01$) than the means of both Attachment and Attraction. Therefore H1b was partially supported in Study 2.

The second hypothesis, H2 states "Resistance to change will increase from Attraction to Attachment to Allegiance". As predicted, significant differences between stages were found for resistance to change $F(2, 59) = 8.67, p < 0.01$ in Study 1. Post hoc analysis revealed mean resistance to change in the Allegiance stage ($M = 6.25$) was higher ($p < 0.01$) than in the Attachment ($M = 5.41$) and Attraction ($M = 4.87$) stages. However, no difference between means for the Attraction stage and the Attachment stage were found. Thus, the findings from Study 1 partially support H2. In Study 2 significant differences were found among stages for resistance to change $F(2, 151) = 15.04, p < 0.01$. Post hoc analysis revealed mean resistance to change in Attraction ($M = 3.95$) was lower ($p < 0.01$) than in Attachment ($M = 4.29$). Also, mean resistance to change in Attachment was lower ($p < 0.01$) than in Allegiance ($M = 4.63$). Thus, Study 2 results fully support H2.

Discussion

This research was founded on calls for pragmatically relevant theory for studying physically active leisure. Recent evidence had shown that the Psychological Connection Model (PCM) has the potential to answer these calls (Beaton & Funk, 2008). However it had to first be suitably operationalized to become a theoretical framework able to facilitate the qualified and quantified academic rigor necessary for building public theory. Thus, the aim of the research was to develop and test a staging mechanism for the PCM which, in the interests of research-practice relations, could be applied by both practitioners and academics.

Consideration of the structure of the PCM and the relevant literature lead to the use of the multidimensional involvement construct (Kyle & Mowen, 2005) and the subsequent involvement profiles produced to develop the staging mechanism. Based on the expected relationships among the stages of the PCM for involvement profiles a two-part hypothesis, H1a and H1b, was offered to test the staging mechanism. It was also noted that evidence over and above that provided by such tests would be required to provide confidence that the staging mechanism had indeed performed in line with the tenets of the PCM (Hair et al., 1992). Resistance to change (Pritchard, Havitz & Howard, 1999) was put forward as being able to provide the necessary confidence and a further hypothesis, H2 was offered.

The first hypothesis, H1a, stated that, "Centrality and Sign values will increase from Attraction to Attachment to Allegiance." Subjects are said to reach the Attraction stage from Awareness, which is largely shaped by external influences such as social and cultural beliefs (Courneya et al., 2001; Gilbert, 2001; McDonough & Crocker, 2005; Parr & Oslin, 1998). The level of Attraction is reached when external influences trigger a desire to meet a need or seek a benefit from actual participation. Attraction is a characteristically unstable stage of participation that is dominated by positive affect (Funk & James, 2001). Those in Attraction are yet to develop the personal meaning or associated stability (Anderson, 2004; Sheeran & Orbell, 2000; Wilson et al., 2004), required of the Attachment stage. Subjects in Attachment have developed a detectable level of personal meaning (Sheeran & Orbell, 2000; Wilson et al., 2004), represented by values above the scalar midpoint for the facets of Centrality- how central and important the activity is to the individual's lifestyle, and Sign- the self expression and symbolic value associated with the activity (Funk & James, 2001). However, the level of Centrality and Sign in Attachment is not expected to be as high as that required to produce the stable connection characteristic of the Allegiance stage.

The results provided full support for H1a across both studies. The Attraction means for Centrality and Sign were below the neutral point of the scale in Study 1 and Study 2, indicating an absence of these values in this stage as predicted. Also, the means for Centrality and Sign, in both Attachment and Allegiance, were positively different above the scale mid-point from Attraction for both studies. This demonstrates a positive and detectable presence of these constructs in Attachment and Allegiance stages. As expected, a relatively high value for both Centrality and Sign was recorded in the Allegiance stage. Statistically, this was greater than the mean Centrality and Sign in the Attachment stage. Together, these findings provide confidence that the staging mechanism successfully isolated groups that were different in terms of the Centrality and Sign facets of Involvement in both studies.

The hypothesis, H1b stated, "There will be no difference in Pleasure values across the Attraction, Attachment and Allegiance stages." The presence of high mean scores for Pleasure - the combined enjoyment and interest in an activity, in the involvement literature has been consistently noted (Havitz & Howard, 1995; Henderson, 2003) to the point of potentially making its measurement redundant (Havitz & Dimache, 1997). However, the developed staging mechanism for this research relies on the Pleasure facet to distinguish between the stages of Attraction and Attachment. The results of Study 1 support H1b, in that no difference was found among stages for Pleasure. Moreover, in line with expectations mean pleasure was above 5.00 for all stages.

Results of Study 2, however, provided only partial support for H1b. Although no difference in Pleasure was found between Attraction and Attachment in Study 2, mean Pleasure in Allegiance was found to be significantly higher than in both Attachment and Attraction. At first blush it is tempting to explain these results in terms of the study contexts. Study 2 was conducted on recreational skiers whereas Study 1 was conducted in the context of competitive sport participants. Based on this it could be concluded there may be differential operations of the pleasure facet based on these contexts. Although developing a Theory of Participation (TOP) in competitive sport and a separate TOP in recreational activities may be necessary in the light of future research, this would obviously be a premature conclusion based on these initial results.

Also, when considered heuristically the above result does not significantly detract from the performance of the staging mechanism. As predicted, in both studies the mean value for Pleasure in all stages was well above the mid-point of the scale and less than one scalar interval separated all stages. Compared to Centrality and Sign in both studies where mean values across the stages fluctuated above and below the mid-point of the scale, and the range across stages was greater than two scalar intervals. Hence, it is concluded that the presented results suggest that according to the expected relationships among involvement facets, the developed algorithm has successfully allocated subjects into the stages of the PCM.

As noted earlier, this support alone remains insufficient due to the nature of the staging mechanism relied on to create the categories (Hair et al., 1992). Therefore, tests for expected relationships among stages of the PCM with constructs not used to create the categories were conducted to further validate the developed staging mechanism. The stages of the PCM are proposed to represent distinct types of connection to an activity in terms of the likelihood to change preference for activity (Funk & James, 2001). A subject's resistance to change- the tendency to resist changing preference for the activity (Pritchard et al., 1999) was argued to be an appropriate indicator of this stability.

The final hypothesis H2 stated, "Resistance to change will increase from Attraction to Attachment to Allegiance." Study 1 provided partial support for H2. In support of H2, the Allegiance stage was found to be higher in resistance to change than the other stages. A finding consistent with prior research conducted on self schematics (Anderson, 2004; Sheeran & Orbell, 2000) which were argued to provide strong evidence for the ability to distinguish Allegiance from other stages of the PCM. The difference found in resistance to change between Attraction and Attachment in Study 1 was not significant and as such did not support H2. However, although not statistically significant, the mean difference obtained did appear notable and the directional

and differential nature of the relationship between Attraction and Attachment in terms of resistance to change was as expected. Indicating the insignificance may be more related to the between group heterogeneity of variance and the minimal sample size in Study 1 rather than the absence of distinct groups in terms of these constructs.

Study 2 confirmed this in its full support of H2. In this larger sample, with a relatively similar dispersion of mean resistance to change values across stages to that found in Study 1, all expected relationships were found to be present and significant. The absolute values in Attraction were above the neutral point of the scale indicating a certain level of resistance to change in these participants that was higher in Attachment, and reached its zenith in Allegiance. These findings are highly congruent with the PCM framework (Funk & James, 2001).

Therefore, six hypotheses (H1a, H1b, & H2 x two studies) were examined within this research to test the validity of the developed staging mechanism. Full support was provided in four of these tests with partial support provided in the other two cases. All hypotheses received full support in at least one of the two studies presented here and partial support in the other. Moreover, in the two cases of partial support all expected relationships were still observed without the necessary statistical support. From here, it is posited that the staging mechanism successfully segmented participants into the stages of Attraction, Attachment and Allegiance as proposed by the PCM.

Limitations and Implications

The present research has been described as successful in its endeavor to provide an operational theoretical framework for building a practically relevant TOP in physically active leisure. It does appear that in time the theory may be used to both study and manage participation in physically active leisure. However, as with any research there are inherent limitations which affect the strength of any claims to success. In the present case, the limitations imply that to detail managerial implications would be premature and more empirical work is necessary.

The psychometric properties of the items and facets of involvement are highlighted as one area in need of early attention from academics. Although reliability measures were shown to be within acceptable limits in the context of the present research (Cortina, 1993; Robinson, Shaver, & Wrightsman, 1991), there appears to be room for improvement. Factor analytic methods which were prohibited in the present context due to sample size are useful for this purpose. However, it should be noted that factor loadings onto the higher order construct of involvement are not important to the operation of these facets within the staging mechanism per se (cf. Kyle, Absher, Hammitt & Cavin, 2006). More important is the theoretical relevance of each facet individually. Therefore, an equally valid approach would be to treat each facet as an individual construct to be explored for reliability and item wording improvements by way of interviews or focus groups.

As an emerging theory, replicating the cross sectional nature of the present study will initially help to establish if participants of physically active leisure are able to be classified into stages in line with the PCM across multiple activity contexts. For example, the all male sample in Study 1 can be justified on the basis of the gendered nature of many sport and exercise contexts (Wiley, Shaw, & Havitz, 2000), and as such the staging mechanism should equally apply across these. Therefore gendered sport and

exercise contexts with all female participants are one avenue for pursuing this aspect.

While such replications will initially help to establish the validity of the staging mechanism, in the longer term, studies of this nature will have limited value for developing a TOP in physically active leisure. To investigate stage transitions and the processes governing these transitions, longitudinal studies using multiple methodologies and incorporating existing theories will be required (Beaton & Funk, 2008). Research has shown that a period of between six to twelve months is sufficient to witness changes in the psychological connection to physically active leisure (Taymoori & Lubans, 2008; Weiss & Weiss, 2006; Wood & Roberts, 2006). This suggests a research design with multiple data collection points across a six to twelve month period would be sufficient to identify stage transitions. Qualitative research with participants identified as transitioning between stages could then be conducted to investigate the validity of the suggested transitions and provide a detailed account of the processes at work from the perspective of participants (e.g. Brown, 2007). The overall design of such research should also incorporate existing theories and frameworks to allow for a more complete and detailed picture of participation to emerge. As indicated in Figure 1 there are many potential avenues to pursue in this endeavor such as motivation and identity theory. While research in all of these areas is needed to move the theory forward, one area that is expected to be particularly informative is leisure constraint theory.

Leisure constraint theory could further help the development of the PCM with a more detailed definition of the four stages and their characteristics. The hierarchical model of leisure constraints which was developed by Crawford, Jackson, and Godbey, (1991) proposed three types of leisure constraints: intrapersonal, interpersonal and structural, which are experienced hierarchically. Intrapersonal constraints, as the most proximal, were proposed to be the most powerful determinants of leisure participation. Structural constraints, on the other hand, as the most distal, given that they intervene between existing leisure preferences and activity participation, were proposed to be the least powerful constraints.

While there have been empirical and theoretical studies aiming to verify the hierarchy of leisure constraints by examining their influence on attitudinal and behavioural outcomes of participation (e.g. Alexandris, Tsorbatzoudis, & Grouios, 2002; Mannell & Iwasaki, 2005; Shaw et al. 1991, Kay & Jackson, 1991), there has been no attempt so far to examine the influence of leisure constraints on the different stages of an individual's decision making for leisure participation (Mannell & Loucks-Atkinson, 2005). It will be of theoretical and practical importance to examine how the different types of constraints differ in nature and intensity across the four stages of the PCM. In line with the hierarchical model, intrapersonal constraints, for example, might be more influential in the first two stages of the model (awareness and attraction), while structural may be more applicable in the last two stages (attachment and allegiance). Furthermore, the "negotiation proposition", which was introduced by Jackson et al., (1993), can also help our understanding in individuals' decision-making across the stages (Son, Mowen & Kerstetter, 2008). Empirical research is required in order to examine if and how individuals' negotiation strategies change in the four stages of the model.

In conclusion, the present research has operationalized the Psychological Connection Model (PCM) framework in the context of physically active leisure. This is a small but significant and necessary initial step in developing a practically relevant

Theory of Participation (TOP) in physically active leisure as advocated by Beaton and Funk (2008). Building on the conceptual work of Funk & James (2001) and the literature on the involvement construct, a method for stage-matching participants in line with the PCM framework was developed with empirical support supplied from two diverse samples. In keeping with the need for practical utility, the staging method is a simple, three step procedure that can be applied without the need for sophisticated techniques. Therefore, researchers now have a theoretically sound and operational framework at their disposal to begin addressing the propositions for future research provided both in this paper and by Beaton and Funk, intent on ultimately informing, and being used in, the practice of delivering physically active leisure.

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