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Interpreting perceived constraints to ethnic and racial recreation participation using a recreation systems approach

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Ethnic and racial minority groups continue to experience limited access to leisure activities, resources, and services. To reverse this trend, leisure scholars have developed numerous models of constraints to recreation participation. The present article introduces an alternative systems approach to modeling constraints, which organizes constraints by their component parts – functions, mechanisms, or capacities – as well as their mode: social, psychological, or biological. Specifically, the article advances More and Averill’s Recreation Systems Model and recommends the model as a guide for the design, analysis, and interpretation of ethnic and racial constraints research. The utility of the model is discussed in the context of open-ended questionnaire data collected from indoor competition climbers during the winter of 2014. The authors contend that modeling constraints in a Recreation Systems framework may assist practitioners in efficiently prioritizing and consequently addressing constraints. Future research that quantitatively tests the model and investigates its use by policymakers is needed.

Keywords: ethnicity; race; systems theory; constraints; recreation participation

Minority ethnic and racial groups in the United States continue to experience limited access to quality recreation and leisure activities, resources, and services (Chona, Wolch, & Wilson, 2010; Dajun, 2011; Moore, Roux, Evenson, McGinn, & Brines, 2008). Similarly, recreation participation is inequitably distributed between ethnic and racial

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groups in a number of US communities, such that minority groups experience increased constraints to participation and possess fewer tools to negotiate those constraints. These stark realities are especially concerning in situations where participation in recreation and leisure activities is/may be desired by minority groups, but is prevented or discouraged by social and institutional influences such as systematic stratification, gentrification, or marginalization (Lemel & Katz-Gerro, 2015). Given the physical, social, emotional, and cognitive benefits leisure and recreation provide (Glover, Shinew, & Parry, 2005; Karlis, 2015; Kim & Iwasaki, 2016; Stodolska, Shinew, Acevedo, & Izenstark, 2011), understanding potential constraints to recreation and leisure and how they can be addressed is critical.

Concerns regarding inadequate access to and opportunities for leisure have sparked a long line of research investigating the constraints to participation in recreation and leisure activities for marginalized groups. This research has revealed a number of constraints to recreation participation and informed policy changes intended to help individuals and groups navigate those constraints. For example, Crawford, Jackson, and Godbey’s (1991) hierarchical model of leisure constraints has become a foundational framework for both understanding and categorizing constraints. The authors of this model suggested that constraints are often experienced and addressed at either the intrapersonal (internal; e.g., fear, anxiety), interpersonal (relational; e.g., lack of peer support, social exclusion), or structural (external, environmental; e.g., lack of ramps or community infrastructure) level. More recently, Gómez (2002, 2006) reviewed and synthesized ethnicity and leisure research and introduced an ethnicity-specific model of constraints to recreation participation. This model highlights key predictors of recreation participation, including socioeconomic status, acculturation, subcultural identity, perceived discrimination, and perceived benefits.

To advance the works of Crawford et al. (1991) and Gómez (2002, 2006), the authors of the present study offer an alternative framework for conceptualizing recreation participation and constraints experienced by ethnic and racial minorities – the Recreation Systems Model (RSM; originally proposed by More & Averill, 2003). The original authors of the RSM posited that recreation and leisure behavior constitutes a system comprised of interrelated, individual parts (e.g., functions, mechanisms, and capacities) that are a product of different modes of experience (e.g., biological, sociological, and psychological). The model was developed to address fragmentation and specialization in recreation research. In addition to addressing these issues, the RSM may provide a more comprehensive framework for understanding, operationalizing, and interpreting factors that contribute to recreation behavior.

The authors of the present study argue that an RSM approach acknowledges that individuals are multidimensional (i.e., not defined exclusively by their ethnicity) and experience intersectional identities (e.g., gender, age, religion, culture) and oppressions (e.g., sexism, ageism, religious hatred, cultural exclusion) and, therefore, the RSM may be a more appropriate tool for categorizing and addressing leisure constraints. The aim of this article is to reintroduce the RSM as: (1) an a priori theoretical framework to guide the development of research on ethnic and racial constraints to recreation participation; (2) an interpretive framework to analyze and interpret results in ethnic and racial recreation participation research; and (3) a testable model that may allow for robust, statistical exploration of the relationships between ethnic and racial recreation participation constructs. The utility of the model as an a priori and interpretive framework will be discussed in the context of open-ended questionnaire data collected from indoor competitive climbers during the winter of 2014.
Background

For the last 60 years, and perhaps earlier, there has been a growing concern in recreation and leisure scholarship surrounding the issue of ethnic recreation participation in the United States (Gordon, 1964; Stodolska, 2015). This concern is inspired by the knowledge that many minority groups are underrepresented in a variety of leisure pursuits (Gress, 2015; Harris, 1997; Johnson & Bowker, 2004) or experience inequitable access to recreation services, spaces, and resources compared with society at large (Moore et al., 2008; Scott, 2013). While many individuals experience constraints to recreation participation in some way, several studies have demonstrated that constraints to recreation participation and resources vary systematically as a product of one’s race, ethnicity, and related sociodemographic characteristics (Harrolle, Floyd, Casper, Kelley, & Bruton, 2013; Scott, Lee, Lee, & Kim, 2006). These factors have been categorized into both general and ethnicity and race-specific models of leisure constraints in order assist recreation providers and policymakers in reducing recreation-related inequality.

Constraints to recreation participation

A constraint is any physical or social phenomenon that inhibits, impedes, or prevents participation in a recreation or leisure activity (White, 2008). The term “constraints” has been used interchangeably with other terms such as “barriers.” That said, the term has come to represent a more inclusive construct that differs from barriers in that constraints (a) affect preference/non-participation and experience/participation [emphasis added] and (b) are more easily negotiated than barriers, in that they emphasize internal/intrapersonal factors rather than external/structural factors (Crawford & Godbey, 1987; Walker & Crompton, 2013). A constraint can be as straightforward as a lack of facilities in which to participate (e.g., swimming pool or basketball court; see Moore et al., 2008; Wiltse, 2007), a lack of resources with which to participate (e.g., time or finances; see Ghirmire, Green, Poudyal, & Cordell, 2014), or a lack of skills or ability (e.g., in the case of newly acquired injuries; see Burns & Graefe, 2007).

Constraints can also be complex, including, for instance, the intentional or ambivalent diversion of recreation services away from a particular group due to oppressive policies or, conversely, the lack of supportive policies (Parsons et al., 2015). For example, in a case study of the Kansas City, Missouri parks system, Parsons et al. (2015) highlighted how local officials neglected to address the increased presence of unhealthy establishments (e.g., fast food restaurants) and incivilities (e.g., poorer social conditions, lower-quality recreation resources) surrounding parks in low-income, ethnically diverse areas when compared to higher-income areas. This example highlights the subtle nuances associated with ethnicity and race-related leisure constraints and the consistent challenge of addressing them. Likewise, some studies exploring leisure constraints within the context of race and ethnicity have reached somewhat conflicting conclusions, which adds to the difficulty of identification and removal of constraints. For example, some studies of African American groups suggest that African Americans experience unique constraints to leisure as a result of their race and income status (Bustam, Thapa, & Buta, 2011; Shores, Scott, & Floyd, 2007), while other similar studies have determined that race does not significantly predict leisure constraints for African Americans (Johnson, Bowker, & Cordell, 2001; Shinew, Floyd, & Parry, 2004). These incongruent findings could be explained by differences in how the constructs were operationalized between the studies, or reflect the more likely reality that not all African American communities are the same.
(Hutchison, 1988). From this perspective, variability in recreation constraints across the African American population may simply reflect expected variation across a large group of members. Still, this incongruence in findings provides additional support for the RSM approach given that it reaches beyond previous, categorical approaches, and acknowledges that individuals are multidimensional, and experience intersectional identities and oppressions (Floyd, Nicholas, Lee, Lee, & Scott, 2006; Shores et al., 2007).

Modeling ethnic and racial constraints

Recreation and leisure scholars have produced models to represent recreation participation generally, and constraints to participation specifically. A comprehensive and widely used model was introduced by Jackson, Crawford, and Godbey (1993) and posits that leisure participation is affected by one’s preferences, motivations, and constraints (see Figure 1). Constraints, in this model, are either intrapersonal (from within), interpersonal (relational), or structural (environmental). Typically studies that employ this model or its variations conceptualize ethnicity and race as parsimonious constructs that fit within one of the three categories of constraints, rather than studying specific constraints associated with one’s intersectional ethnic/racial affiliation(s) and identity(s). In doing so, these studies unknowingly overlook the complexity and depth of ethnic and racial constraints to recreation participation and overlook relevant constructs such as perceived discrimination or differences in perceived benefits based on one’s ethnicity and race.

Building off the model created by Crawford et al. (1991) and others’ works, Gómez (2002) reviewed and synthesized prior research that modeled, measured, and theorized relationship(s) between recreation participation and ethnicity related constructs (see Figure 2). While Gomez’s approach honors the complexity and interrelatedness of ethnic and racial constraints to recreation participation, the approach is somewhat restrictive in that it models specific constructs (e.g., acculturation or subcultural identity) rather than categories of constructs (e.g., social or psychological), limiting the scope of future studies and the identification and modeling of other key, emergent constraints. Compounding this issue, some leisure researchers neglect to use comprehensive constraint models entirely, focusing instead on a single variable (e.g., flow, acculturation) or relationship of interest (e.g., sports participation and assimilation) at the exclusion of other phenomena that are
likely to significantly influence individual recreation behavior such as societal, institutional, or personal factors (Jones, Hollenhorst, Perna, & Selin, 2000; Lee & Funk, 2011).

Thus, while these frameworks have been informative, they often fail to adequately explore the depth, complexity, and interrelatedness of factors contributing to ethnic/racial constructions of and participation in recreation. More and Averill (2003) proposed the RSM, which adopts a more holistic approach that may promote a more cohesive, comprehensive, and thus valid strategy for understanding and operationalizing ethnic and racial recreation participation, including constraints to participation.

**Recreation systems model**

More and Averill (2003) proposed the RSM to address issues of specialization and fragmentation in recreation and leisure research. Thus, the authors of the RSM present an alternative to the traditional, unidimensional explanations of leisure behavior and to studies that oversimplify complex constructs like ethnicity. Scholars who employ the RSM assume that behavior does not occur in a vacuum, but rather within a specific context(s) or system(s). Von Bertalanffy (1950) reduced the definition of a system to four words: “elements in standing relationship” (see also Hys & Hawrysz, 2014, p. 105). In other words, a system is a conglomerate of individual yet interrelated parts.

Systems theorists contend that for a system to have a utility, it must possess the following three components: functions, mechanisms, and capacities (Averill, 1990, 1992; Averill & More, 2000; More & Averill, 2003). *Functions* refer to the purpose or product of the system. *Mechanisms* refer to how functions are experienced at the individual and group level. *Mechanisms* typically describe how those functions are achieved or experienced; for example, through processes like flow or self-efficacy. *Capacities* are indicative of the abilities, capabilities, or constraints of the system or its parts. In recreation,
functions generally refer to motivations or benefits such as the need for self-actualization or the desire for improved health and wellness. Capacities tend to be characterized by constraints, such as lower socioeconomic status.

Within each of the three system components (e.g., functions, mechanisms, and capacities) are three analytic modes: biological – for example, genetics, neurology, or physiological responses; psychological – such as motivations, self-efficacy, or arousal; and social – such as socialization, belonging, interrelatedness, or norm compliance. Breaking each component into these modes again challenges the tendency toward fragmentation and allows for vertically integrated explanations of behavior – that is, those supported by both biological and social-psychological sources (Walsh, 1997; Wilson, 1999). For example, an individual may participate in an activity as a result of biological functions (e.g., desire to improve physical health), but be inhibited by social mechanisms (e.g., no workout facilities in the area). In this regard, More and Averill (2003) advocate for a more “holistic, comprehensive, and integrated” explanation of recreation activity – an approach that continues to value each individual “part” of recreation experiences while also considering how those parts relate to one another to create the “whole” or complete experience (p. 373). Given these attributes, the model may provide structure to help partition, organize, and understand relationships between individual variables affecting leisure behavior.

The purpose of the study

The primary purpose of this article is to demonstrate the utility of the RSM in understanding and interpreting ethnic and racial recreation participation. The secondary purpose is to recommend the RSM’s use as an empirical, testable model, based on the following preliminary results.

Method

Recruitment and procedures

In partnership with USA Climbing (USAC), the national governing body for indoor competition climbing in the United States, the research team administered a 79-item survey to USAC members and affiliates via links posted to the organization’s social media platform and email list. The study examined descriptive information and 582 short answer responses to the question, “From your perspective why don’t we see more ethnic and racial diversity in competitive climbing?” This question was developed from the results of a pilot study, conducted in early 2014, which indicated that the current population of USAC stakeholders was racially homogenous (Gagnon, Stone, & Garst, 2015). The question was intended to inform strategic efforts to make the sport more inclusive by providing USAC leadership with a baseline understanding of USAC members’ views about diversity in the sport, elucidating factors that may be constraining non-White participation in the sport.

Sample

The sample was predominately White (88.8%, \( n = 313 \)), with 23 respondents reporting as Asian (4%), 21 as Multiple Race (4.7%) and the remaining respondents (1.5%, \( n = 9 \)) as either Black/African American, Native American, Indian (East Asian), or Pacific Islander.
Respondents were between the ages of 11 and 66 ($M = 34.36$, $SD = 13.83$) and split by sex, with 53.4% male, 46.3% female, and .2% reporting a nonbinary response. Respondents indicated an average of 12.69 climbing days per month ($SD = 6.31$ days), and an average of 7.53 years of climbing experience ($SD = 7.46$ years).

**Analysis**

Data for this study were analyzed using both an inductive/exploratory approach, allowing topics and themes to emerge from the data and a deductive/confirmatory approach using the RSM as an organizational/interpretive framework.

**Inductive analysis**

Using conventional content analysis (Hsieh & Shannon, 2005) and a coding approach inspired by grounded theory (Glaser & Strauss, 1999), the researchers independently coded the qualitative responses on two occasions (Buzan & Buzan, 1995). Independent, open, and selective coding was conducted to identify initial topics followed by collaborative coding to uncover patterns or trends; this allowed the researchers to arrive at five primary themes, each with multiple subtopics (Strauss & Corbin, 1990).

Trustworthiness of data was established through an audit trail and a reflexive process in which investigators met together to reflect, assess biases, and justify coding decisions (Creswell & Miller, 2000). A percent agreement strategy was used to establish an inter-coder reliability of .886, which is approaching the acceptable level of .90 (Lombard, Snyder-Duch, & Campanella-Bracken, 2002). Additionally, to understand if there were any differences in thematic patterns between White and non-White respondents, the authors conducted a multinomial logistic regression using racial status as a predictor of theme membership. The regression was not statistically significant, indicating no difference in response to the question based on racial affiliation ($\chi^2 = .681$, $p = .409$, df = 1). These results should be interpreted with caution, as non-White members of USAC were likely to be more acculturated than other minority groups; however, these findings mirrored results from earlier studies of ethnic constraints to recreation participation.

**Deductive analysis**

Throughout the reflexive analytic/interpretative process, it became apparent to the research team that the themes and quotes identified in the inductive analysis aligned, to some extent, with RSM tenets. Consequently, the research team recoded the data using RSM constructs as sensitizing concepts (Bowen, 2006). This process (i.e., moving from inductive to deductive) mirrors the work of Fereday and Muir-Cochrane (2006), who used a similar hybrid approach to thematic analysis. They argue that this approach is more rigorous in that the approach allows the researcher to build on existing theory while simultaneously allowing for new themes to emerge. With this approach, the previously unforeseen links between RSM and survey responses became clearer; so the team developed a formal codebook comprising nine codes, one for each pairing of the recreation system components and modes – such as biological functions, mechanisms, and capacities; psychological functions, mechanisms, and capacities; and social functions, mechanisms, and capacities (see
MacQueen, McLellan, Kay, and Milstein (1998) for recommendations on codebook development). The team then proceeded to recode the data following a closed coding process (Saldaña, 2015), or, in this case, a directed approach to content analysis (Hsieh & Shannon, 2005). Each response was assigned a code, representative quotes were identified to represent each code, and a descriptive analysis of the number of responses per code was conducted. Results from both inductive and deductive approaches are reported in order to illustrate the similarities and differences between the two processes, and highlight the dynamic nature of the interpretive process in qualitative research. That is, qualitative (and often quantitative) research is open to interpretation(s) and reinterpretation(s) (Denzin, 2017).

Results
Five themes related to exposure, resources, access, culture, and alternative voices (See Table 1, results of inductive analysis) were developed from the data and then the data were recoded based on identified sensitizing concepts as either functions (e.g., “climbing is useless”), mechanisms (e.g., “Black people don’t climb”) or capacities (e.g., “climbing is expensive”) in Table 2 (results of deductive analysis).

Results of inductive analysis

Ethnic and racial minorities lack the resources to participate
The most prominent theme developed from the data was the perception that ethnic and racial minorities do not participate in indoor competition climbing due to a lack of resources (48.3%). According to the respondents, ethnic/racial minority groups lack the time, money, or social support necessary to compete. Specifically, the cost of equipment, travel, and membership dues were identified as substantial barriers to participation. Respondents

<table>
<thead>
<tr>
<th>Theme</th>
<th>Definition and exemplar quotes</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>Lack of resources in terms of time or money</td>
<td>281 (48.3%)</td>
</tr>
<tr>
<td></td>
<td>Competitive climbing is a fairly expensive sport.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gym memberships, coaching and team fees, and most importantly,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>travel, can add up to many thousands of dollars per year.</td>
<td></td>
</tr>
<tr>
<td>Access</td>
<td>No climbing is available in areas with diversity</td>
<td>58 (10%)</td>
</tr>
<tr>
<td></td>
<td>Location also plays a role; it seems most gyms are in suburban places.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seattle in particular is fairly racially segregated, and there are few gyms in the areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>where people of color live.</td>
<td></td>
</tr>
<tr>
<td>Culture</td>
<td>My first climbing partner was African American. He used to joke that his initial perception</td>
<td>84 (14.4%)</td>
</tr>
<tr>
<td></td>
<td>was “brothers don’t climb.” Not sure where that perception originated.</td>
<td></td>
</tr>
<tr>
<td>Exposure</td>
<td>Lack of experience or contact with the sport</td>
<td>119 (20.4%)</td>
</tr>
<tr>
<td></td>
<td>New sport and exposure is still limited.</td>
<td></td>
</tr>
<tr>
<td>Alternative perspectives</td>
<td>It isn’t a problem; it doesn’t matter</td>
<td>40 (6.9%)</td>
</tr>
<tr>
<td></td>
<td>I see plenty of racial and ethnic diversity in the competitive climbing community.</td>
<td></td>
</tr>
</tbody>
</table>
suggested that these costs may generally be higher for climbers than for more traditional athletes, such as basketball or soccer players. The inability to afford the expense of climbing was often linked to socioeconomic status, with many respondents suggesting that ethnic and racial minorities have a lower socioeconomic status. In addition to economic and temporal barriers, respondents also posited that reduced parental support, involvement, or prior climbing experience was constraining youth participation in the sport.

<table>
<thead>
<tr>
<th>Functions (n = 22)</th>
<th>Exemplar quotes</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>None</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Social</td>
<td>No glory and fame in it. Climbing is expensive and useless, which makes it a tough sell for poor athletes. It does not offer a high financial reward as something to achieve.</td>
<td>12 (54.5%)</td>
</tr>
<tr>
<td>Psychological</td>
<td>There is only self-satisfaction, no Nike or Adidas telling you how you can rule the world. Maybe they are not aware of its fun competitiveness.</td>
<td>10 (45.5%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mechanisms (n = 174)</th>
<th>Exemplar quotes</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>None</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Social</td>
<td>The history of climbing includes a majority of White climbers. The majority of modern professional climbers are White. Advertising and marketing. Climbing is a luxury sport that is not part of school systems.</td>
<td>162 (93.1%)</td>
</tr>
<tr>
<td>Psychological</td>
<td>Some minority groups have a history of negative emotions while participating in outdoor activities.</td>
<td>12 (6.9%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capacities (n = 357)</th>
<th>Exemplar quotes</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>Body type. Certain ethnicities are more likely to be light, efficient body types that contribute to strength-to-weight ratios.</td>
<td>2 (0.6%)</td>
</tr>
<tr>
<td>Social</td>
<td>Access to indoor facilities and outdoor climbing areas. Socioeconomic status. Expensive.</td>
<td>345 (96.6%)</td>
</tr>
<tr>
<td>Psychological</td>
<td>An endemic issue of racial minorities not prioritizing, nor having sufficient access to, outdoor experiences. The cultural roots of climbing. Fear. Maybe they just don’t have the...confidence to competitively climb.</td>
<td>10 (2.8%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alternative perspective (n = 37)</th>
<th>Exemplar quotes</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I think there is significant ethnic diversity. I’ve climbed with people from all over the world. Our team is pretty diverse, given our community, so I don’t think this question applies to our neighborhood.</td>
<td></td>
</tr>
</tbody>
</table>
Participation by ethnic and racial minorities is limited by reduced awareness of or exposure to the sport

Many respondents believed the lack of ethnic and racial climbing participation could be attributed to a lack of awareness of or exposure to the sport (20.4%). Specifically, the sport was perceived to be too new, niche, emerging, or unknown. This perception was due, in part, to a lack of mechanisms for increasing awareness about the sport including a shortage of mainstream media coverage, an absence of school infrastructure, and a lack of popularity. Intentional outreach and marketing to ethnic minorities, as well as role models for people of color, were also deemed to be lacking. In this regard, respondents noted the sport lacked heroes or high-profile professional athletes and that there were no clear career paths or opportunities to acquire money or acclaim sufficient to support oneself or a family.

Ethnic and sports cultures contribute to marginalization or divergent preferences that affect participation rates

Two types of culture were cited as forces that constrain recreation participation for ethnic and racial minorities: ethnic culture, and sports culture (14.4%, n = 84). Regarding ethnic/racial culture, a number of respondents (n = 67) indicated that cultural stereotypes and norms, historical factors, and family involvement contributed to differential participation rates based on ethnicity. For example, one respondent indicated that “Black people don’t climb,” while others pointed out that there was a strong representation in the sport by East Asian individuals but that representation by other ethnic groups was lacking. Some went as far as ascribing certain genetic or psychological predispositions to members of ethnic and racial minorities that may have contributed to a decreased ability or desire to compete. Embedded in some of these comments, and explicit in others, was the belief that perceived racism or discrimination may have prevented participation by certain groups.

Other respondents (n = 17) suggested that discrimination may not have been entirely connected to ethnicity or race but rather to a general culture of exclusivity that exists in the sport – that is, if you are an insider, you are part of a tightly knit community; but if you are an outsider, penetrating the boundary to become an insider is difficult. Others noted that climbing has historically been associated with a “White outcast” persona and therefore lacks appeal to individuals who do not align with this image.

Ethnic and racial minorities, by virtue of their geographic location, cannot access climbing gyms or crags

Respondents believed that ethnic and racial minorities were limited by either availability (“We don’t have gyms/crags/teams in our area”) or access (“We have gyms/crags, but can’t get to them”; 10%). Specifically, respondents noted that access to outdoor spaces was occasionally limited due to lack of reliable transportation or knowledge about these areas, and that climbing is often perceived to be an exclusively outdoor sport. Respondents also indicated that gyms were located outside of demographically diverse areas, so the lack of participation was reflective of a lack of community diversity rather than a lack of inclusion.
Results of deductive analysis

Positioned within the framework of the RSM, the results indicate that respondents were less likely to cite biological and psychological modes as constraining and believed the majority of constraints reflected a lack of skills, abilities, access, or resources, rather than a lack of perceived benefits or supportive organizations and operations (see Table 2).

Functions

Functions were the least represented category of constraints/facilitators to recreation participation (3.7%) and responses in this category fell into one of two camps: (1) climbing was perceived to lack utility, or (2) non-climbers were unaware of the psychological and social benefits of climbing. No biological reasons were cited, despite the clear benefits to physical health and well-being available to those who participate.

Mechanisms

Mechanisms were the second most cited category of constraints/facilitators to recreation participation (29.5%) and included responses that fell in both social and psychological modes. Social modes identified organizational processes that could be improved to reach out to minority groups (e.g., media coverage, marketing, outreach), social institutions that could be recruited to better support these groups (e.g., campus climbing walls, scholarships), and social phenomena that need to be addressed to make the sport more accessible (e.g., reduce poverty and gentrification). Psychological modes reflected the need to tackle historical scripts regarding who climbs and how ethnic groups feel about climbing spaces, with some respondents indicating that certain ethnic groups may associate negative emotions with the outdoors and climbing.

Capacities

Capacities were easily the most cited category of constraints/facilitators to recreation participation (60.5%); this was the only group to include biological modes in addition to social-psychological modes. Two respondents cited body type or genetic factors as influences that may constrain participation, and that the sport is conducive to specific body types (that were considered racially determined). The remainder of respondents emphasized social capacities such as time, money, or transportation limitations and/or psychological barriers such as fear, lack of confidence, and negative cultural connotations associated with the sport.

Alternative perspectives

A few respondents (6.9%) expressed that they did not feel there was a lack of diversity in the sport, at least not in their geographic region. Many of these individuals also communicated that the diversification of the sport was continuing to improve and that if any barriers did exist (such as cost or access), they were consistent across ethnic groups. A few individuals also expressed concern about the attention drawn to the issue of race,
indicating that they felt there were more important issues to be addressed, or that drawing attention to inequities only exacerbates them.

Discussion
The primary purpose of this article is to demonstrate the utility of the RSM in understanding and interpreting ethnic and racial recreation participation. First, the results of the inductive analysis demonstrate that existing constraint models seem to align, to some extent, with the perceived constraints identified by respondents in this study. For example, constraints were identified at the intrapersonal (e.g., fear), interpersonal (e.g., exclusionary sports culture), and structural (e.g., lack of access) levels. Likewise, the findings relating to socioeconomic status, lack of perceived benefits, and the influence of exclusionary sport and ethnic cultures aligned well with Gómez’s (2002) five Ethnic Recreation Participation Model (ERPM) constructs. However, there are socio-cultural factors such as awareness of the sport, access, and outreach that are undefined in the ERPM, as well as potential for more refined levels of analysis/interpretation, beyond the three-tiered approach proposed by Crawford et al. (1991).

Thus, based on the results of the deductive analysis, the authors contend that there is substantive support for and value in developing and testing a RSM of Ethnic and Racial Recreation Participation (see Figure 3).

While certain components and modes were underidentified in the responses, this finding may be attributable to methodological issues related to the sample (e.g., primarily White participants rather than minority non-participants) or question asked (e.g., lacked probes and specificity). The lack of responses in the functional component (only 3.8% of total responses) may suggest that functions were not the primary constraining factor, and that mechanistic or capacity-related issues such as lack of awareness may need to be addressed before functional constraints can be properly assessed (i.e., if ethnic and racial

![Figure 3](image-url)
minorities are unaware of the sport, they are equally likely to be unaware of the benefits of participating in the sport. This finding supports Washburne’s (1978) statement that “if [minority] leisure profiles really are a product of constraints and preventive forces there should be a latent demand among [minority groups] for participation in activities in which they are currently underrepresented” (p. 183); or, in this case, suggests that once the constraint of awareness/exposure is removed, participation should increase unless other constraints are present.

This finding supports the proposition that mechanisms and functions may be related, while capacities are often experienced independently (More & Averill, 2003). For example, respondents expressed that climbing lacked clear career paths, professional pathways, and monetary rewards or acclaim. This lack of perceived rewards may, in part, be due to mechanisms such as the absence of school-based climbing facilities or teams, the lack of scholarships and collegiate participation channels, and the lack of mainstream media coverage or sponsorships. Thus, the lack of functionality directly reflected mechanisms that need to be addressed first.

While functions (3.8%) and mechanisms (29.9%) appeared to play a role in participation, capacities (61.3%) were the most often reported reason that ethnic and racial minorities were not participating. Expense was the primary reason for a lack of ethnic and racial participation and was divided into two concerns: individual and institutional. At the individual level, ethnic and racial minorities reportedly had lower socioeconomic or income status than the majority group, and therefore could not afford to engage in the sport. At the institutional level, organizations – both local climbing gyms and national governing bodies – reportedly had set high price points regarding membership fees and event costs, making it difficult for anyone to participate, let alone populations that were believed to be lower in their socioeconomic status.

Finally, while there was a general agreement that reduced ethnic and racial participation in climbing existed and was problematic, a few respondents adopted the alternative perspective that the sport was currently diverse or becoming more so and that the research team was wasting its efforts by studying the issue of race at all. This finding resonates with arguments made by Stamps and Stamps (1985), and later by Tirone and Pedlar (2000), that leisure researchers should abandon attempts to predict leisure participation from demographic variables and “consider how the study of race and ethnicity advances our understanding of leisure” (p. 145). These arguments support the use of a multidimensional systems approach, rather than one based solely on categorical factors.

Conclusion
Although the content of the deductive recreation systems analysis and the content of the inductive thematic analysis differ minutely, the categorization and subsequent interpretation differ dramatically. Using a systems approach (in the context of this study/sample), an organization should make addressing social mechanisms and capacities that are preventing recreation participation a priority. Thus, modeling constraints in this way makes them more actionable for recreation programmers. In other words, prioritizing and addressing constraints becomes more efficient (and potentially effective) when they are interpreted through the lens of the RSM. For example, identifying functions by the three RSM modes (biological, psychological, or social) allows for a programmer or administrator to determine how and what to advertise to a specific targeted group. A programmer would likely continue to miss a particular population if he or she advertised physical health benefits (e.g., strength) to a group that was more concerned with the social functioning of the
activity (e.g., relationship building). To cite another example, access may be affected at either the mechanism or capacities level. A mechanistic access issue would relate to proximity of parks and recreation facility locations (e.g., placing facilities in urban areas or schools), whereas a capacity issue would relate to availability of personal or public transportation (e.g., assisting groups with finding appropriate local transport).

From a research perspective, the model also encourages better operational and construct definitions, innovative and multidimensional measurement approaches, and targeted policy development. For instance, a scale or questionnaire item intended to address the access issues above may be substantively different if it is designed using a mechanical approach versus a capacity approach. Moreover, the comprehensiveness of the model could help scholars to continue identification of gaps in knowledge. In other words, it could help recreation scholars to advance understanding of constraints to recreation participation by exploring new types and forms of constraints. As constraints research continues to improve both conceptually and methodologically, it “can be used strategically to tailor physical activity programs or environmental interventions according to specific patterns or types of constraints experienced among” certain groups (Harrolle et al., 2013, p. 76), thus meeting the needs of diverse user groups.

Ultimately, the employment of a holistic and integrated RSM highlights the interrelatedness between multiple constructs and moves beyond the somewhat limited and labcentric categorical approaches of much past research. Additionally, in the context of this pilot study it may provide a more comprehensive and inclusive approach to understanding the factors underpinning ethnic and racial constraints to recreation and leisure. Future research ought to explore the refinement of ethnicity and race-related constructs as functions, mechanisms, or capacities at the biological, social, and psychological level and build and test theoretical models of those refined constructs using this approach, as compared to traditional models, to determine if alternative conclusions are reached.

**Limitations**

One limitation of the study relates to the choice of research participants. That is, the authors asked insiders (i.e., USAC members) about an outsider perspective (why nonmembers do not participate). Though the member perspective is interesting and informative, and may include the perspectives of individuals who negotiated prior constraints, future research should include an outsider perspective. Likewise, because the respondents are participants, and primarily White, they are, by nature, systematically different than non-participants and may be more ethnically similar to the majority population than the racial and ethnic minority/ies to which they might typically be ascribed. Though logistic regression analysis indicated that there were no differences in thematic responses based on reported race, this finding may simply provide additional evidence for the nuanced conceptualizations of race and ethnicity. In other words, while the field has traditionally conflated the terms race and ethnicity, using them interchangeably, the two concepts are distinct in both meaning and impact (Hutchison, 1988; Mowatt, Ostermeyer, & Floyd, 2016). Thus, while respondents may have been racially dissimilar, they may have been ethnically similar; hence the authors’ efforts to refer to both race and ethnicity as separate but related constructs, both of which can be modeled using the RSM.

The study is also limited in that the original model developed by More and Averill (2003) has been underutilized, so qualitative or quantitative studies using the model are largely unavailable. In other words, the model is untested and still in the exploratory stages. The model’s lack of use to date is perplexing. Conceivably, the RSM’s
comprehensiveness is a limitation in quantitative studies where space is an issue and the number of items has to be restricted. Or, perhaps the model was presented at an inopportune time, to an unfit audience, using esoteric or idealistic language. In either case, the authors of the present study call for a resurrection of the model and an alternative application in the realm of ethnic and racial recreation participation.

Finally, the primary question posed to participants in the study presumed that there was a lack of ethnic and racial diversity in the sport (although prior evidence did suggest this assumption was accurate, e.g., Gagnon et al., 2015). This directional statement may have influenced or limited the types of responses received. However, the presentation and discussion of “negative” or contradictory responses help to address this shortcoming (Mays & Pope, 2000). Additionally, the presence of these negative cases suggests that the directional wording of the question allowed for these alternative perspectives to be represented. Furthermore, prior anecdotal evidence and USAC membership reports (Gagnon et al., 2015) also indicate that the sport is predominately White; thus, the underlying assumption regarding a lack of diversity is supported at the aggregate level.

**Future research**

Future studies should collect data from a more diverse population(s), including populations where participation is latent; i.e. interest in the sport/activity is present but the individual is unable to participate due to functional, mechanistic, or capacity-related constraints. Such populations might include ethnic and racial minorities who live near a recreation or leisure facility who have yet to utilize the facility or find themselves in a similar situation in other recreation contexts. Quantitative studies testing the RSM and exploring the relationships between functions, mechanism, and capacities could also enhance the utility of the model and inform practitioners’ abilities to identify and address constraints. In either case, greater adoption of the framework as an interpretive tool or testable statistical model is recommended.

**Disclosure statement**

No potential conflict of interest was reported by the authors.

**References**


