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An Identity-Based Conceptualization of Recreation Specialization

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Abstract

In this research, identity theory was adapted to reassess a conceptualization of recreation specialization. Past work has conceptualized the construct principally in terms of a combination of three components: conative (behavior, skill, centrality), cognitive (identity) and affect (attraction). Based on the tenets of identity theory, it was hypothesized that the identity-related facet influences other conative and affective specialization facets. Analyses of data drawn from hikers along the Appalachian Trail provided empirical support for the reconceptualization. The data illustrate that processes underlying the expression and affirmation of identity influences respondents' attraction to hiking, hiking's role in their lives, their perceived skill, and behavioral involvement with the activity. Given these theoretical considerations, it is suggested that in addition to reconsidering the structure of specialization's conceptualization, future research should also consider more specifically isolating identity's influence on other facets of the construct. Beyond the hypothesized temporal structure, an identity-based approach may also have implications on measurement and a need to develop additional indicators for a range of leisure contexts.

Keywords: *identity, specialization, Appalachian Trail*

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Introduction

Bryan (1977) first proposed the concept of recreation specialization in the 1970s, defining it as "a continuum of behavior from the general to the particular, reflected by equipment and skills used in the sport, and activity setting preferences" (p. 175). He proposed a developmental process whereby individuals progress to more specific and sophisticated levels of activity engagement over time. In the leisure literature, specialization has received considerable attention owing to its ability to assist both researchers and managers to identify diversity among recreationists engaged in the same activity. A review of the literature suggests that conceptualizations and related measures of specialization are broadly comprised of at least three components (Lee & Scott, 2006; McIntyre & Pigram, 1992; Needham & Vaske, 2013; Scott & Shafer, 2001): (a) a behavioral element referring to past experience, (b) a cognitive element that is inclusive of recreationists' skill and knowledge, and (c) an affective element that refers to the enjoyment, satisfaction and importance recreationists' ascribe to an activity.

While several theories have been referenced by specialization scholars in their conceptualizations of the construct (e.g., dimensionality) and measurement (e.g., the selection of relevant indicators), a theoretical framework related to self and identity has been underappreciated in specialization literature. The central role of self and identity, however, has been considered a principal foundation for much of contemporary leisure research (Dimanche & Samdahl, 1994) and for understanding leisure behavior. Leisure scholars have long asserted that self-expression and confirmation are the essence of personal commitment and enduring involvement, constructs that share some conceptual similarity with specialization (Dimanche & Samdahl, 1994; Dimanche, Havitz, & Howard, 1991; Havitz & Dimanche, 1990; Jun, Kyle, Vlachopoulos, Theodorakis, Absher, & Hammitt, 2012; Kelly, 1983; Shamir, 1988).

Thus, with identity theory in the foreground guiding the conceptualization of specialization and its driving properties, the purpose this paper is to introduce a framework to understand identities central role in these processes. Drawing from identity theory, especially the work of Burke and colleagues (e.g., Burke, 1991; Burke & Reitzes, 1991) along with the existing specialization literature, a model in which identity was hypothesized to influence other affective and conative facets developed and was tested with data collected from hikers along the Appalachian Trail.

Past Work

In the review that follows, an overview of recreation specialization research focusing on its conceptual development is shared. Then, a review of the theoretical framework guiding our conceptualization of specialization is revealed. This review focuses on the role of identity for understanding individuals' affective, cognitive and conative commitment to leisure. A summary of key ideas and their implications for our conceptualization of specialization concludes the section.

Recreation Specialization

The specialization framework has received considerable attention in the leisure literature owing to its ability to provide insight on leisure behavior, especially in outdoor recreation contexts. Through inductive reasoning and on-site interviews with anglers, Bryan (1977, 1979) proposed distinct stages of development that characterize a person's involvement in any given activity. Each stage carries distinctive orientations and behaviors reflected in skill, equipment

and setting preferences, attachment to the activity, attitudes toward resource management, and preferred social contexts (Bryan, 1977, 1979).

In spite of the construct's prominence in the literature, conceptualizations and measures of specialization have varied considerably (Scott, Ditton, Stoll, & Eubanks, 2005; Scott & Shafer, 2001). While scholars generally agreed to conceptualize the construct as multidimensional, little consensus exists on how precisely to characterize and measure it (Scott et al.). For example, studies have characterized specialization in terms of either a behavioral facet (e.g., Choi, Loomis & Ditton, 1994; Ditton, Loomis, & Choi, 1992; Donnelly, Vaske, & Graefe, 1986; Martin, 1997) or affective facet (e.g., McIntyre, 1989; Shafer & Hammit, 1995) or both (e.g., Virden & Schreyer, 1988). Following the conceptualization of McIntyre and Pigram (1992), some researchers have also considered specialization to be comprised of three facets: behavioral, cognitive, and affective (Bricker & Kerstetter, 2000; McFarlane, 2004; Scott & Shafer, 2001). The affective component has also been conceptualized and measured in varied ways. For example, it has been referred to using concepts such as commitment (Buchanan, 1985), ego involvement (McIntyre & Pigram, 1992; Selin & Howard, 1988; Siegenthaler & Lam, 1992) and centrality to lifestyle (Kuentzel & McDonald, 1992; McFarlane, 1994; McIntyre, 1989; Miller & Graefe, 2000). Furthermore, there has been confusion on whether specific measures represent one dimension of specialization or another (Scott et al.). For instance, in McIntyre's (1989) study, commitment and involvement were treated as equivalent in meaning while centrality was conceptualized as a dimension of involvement. In other specialization research, commitment and centrality were considered as two different dimensions (e.g., Dyck, Schneider, Thompson, & Virden, 2003; Hvenegaard, 2002; Kuentzel & McDonald, 1992). While this empirical diversity might be reflective of the complexity of the construct, it could also be suggestive of authors' tendency to background theory and rely heavily on past empirical evidence. While specialization is not necessarily conspicuous in this regard, the paradigm within which most empirical work has been conducted (i.e., the psychometric tradition, see Patterson & Williams, 2005) calls upon theory for guiding definition, measurement, and hypotheses.

Theoretical Perspectives Underlying Recreation Specialization

Reinforcement and social learning theory was adopted to explain the construct of specialization in Bryan's (1979) initial work. According to Bryan, a person's involvement in any leisure activity is shaped by rewards that s/he obtains over time. Following initial participation in the activity, subsequent participation occurs as the individual anticipates future reward will be attained again under similar circumstance. Rewards can be extrinsic (e.g., praise or admiration by family and neighbors for an exceptional catch of fish or kill of game) or intrinsic (e.g., feeling competent or satisfied). Bryan also suggested that self-relevant areas (i.e., finding meaning in life or one's specialness) are likely to be rewarding. While Bryan (1979) considered reinforcement and social learning theory useful for understanding recreation specialization, few studies have adopted the framework for informing their understanding of specialization. In fact, researchers have relied on other theories such as cognitive development theory (Bieri, 1966; Flavell, 1972; Scott, 1969), Becker's propositions related to side bets (Becker, 1960), and leisure capital (Backlund & Kuentzel, 2013). Cognitive development theory (Bieri, 1966; Flavell, 1972; Scott, 1969) has been used to explain how recreationists' experience influences recreation choices (e.g., Watson, Roggenbuck, & Williams, 1991; Williams, 1985; Williams, Schreyer, & Knopf, 1990). The theory suggests that our cognitive structures pertaining to an attitude object (e.g., leisure activity) become more complex and elaborate through the gradual accumulation of experience and knowledge, leading to greater differentiation, complexity, abstraction and integration of in-

formation relevant to the object. Improved structure and organization of the cognitive domain leads to developmental change in preferences for specific resources that support engagement, management styles, social setting preferences, anticipated rewards, and equipment utilization. Becker's propositions related to the side bets that gird behavioral commitment has also guided specialization research (e.g., Ditton, Loomis, & Choi, 1992; Lee & Scott, 2006). According to Becker, commitment is a function of side bets where side bets are comprised of personal investments such as financial and emotional resources, friendships, and self-image. These investments bind individuals to consistent behavior such that cessation would result in the loss of the investment. The more side bets at stake, the greater the commitment to the activity. In this way, side bets link recreationists' continued participation to their awareness of the penalties associated with discontinuing the activity. Thus, recreation specialization can be considered a matter of continuing and accumulated investment.

Backlund and Kuentzel (2013) employed a leisure capital metaphor to reinterpret the findings presented by Bryan (1977, 1979) related to his progression hypothesis. They suggested multiple trajectories or career paths of activity participation other than progression exist such as long-term casual participation or even attrition (Kuentzel & Heberlein, 2008; Scott & Lee, 2010). According to Backlund and Kuentzel, some people make the cognitive, affective, and behavioral investments to become specialists while others diversify their leisure investment portfolio rather than focusing on a single activity. Backlund and Kuentzel further identified four factors—leisure diversification, leisure limitation, leisure routine and life-course—that influence the direction of leisure capital investment and subsequent trajectory of specialization an individual might follow.

While these various theories have provided some insight for understanding specialization, with few exceptions (Bricker & Kerstetter, 2000; McIntyre, 1989; McIntyre & Pigram, 1992), the notion that leisure is a realm for self-expression and self-affirmation is absent in conceptualizations of specialization. The neglect is especially concerning given the field's understanding of identity. The symbolic portrayal of self has been considered an integral component of leisure as it allows the development of a stronger sense of self (e.g., Kelly, 1981, 1983; Samdahl, 1988; Shamir, 1988, 1993). Through leisure activities, a person is able to construct situations that inform others that of who s/he believes her/himself to be (Dimanche & Samdahl, 1994). In so doing, people are more likely to choose activities that provide opportunities for true self-expression and affirmation (e.g., Deci & Ryan, 1985; Dimanche & Samdahl, 1994; Haggard & Williams, 1992). As individuals' motivation is derived from a set of beliefs about oneself (Foote, 1951), self-expression is the essence of personal commitment to leisure. According to Dimanche and Samdahl, the central role of self and identity is an important foundation for much of contemporary leisure research where identity theory has been central to the conceptualizations of many leisure-related constructs such as involvement, place attachment and commitment (e.g., Jun et al., 2012; Kleiber, Walker & Mannell, 2011; Kyle, Jun & Absher, 2013; Shamir, 1992).

Thus, in this study, identity theory (Burke, 1991; Burke & Reitzes, 1991; Stets & Burke, 2003) was drawn on to present an alternative framework which can help the specialization literature advance in ways that incorporate many leisure philosophers' emphasis on leisure as the instrument of self-expression (Brightbill, 1960; Dumazedier, 1974; Kaplan, 1960, 1975; Kelly, 1981, 1983; Wilson, 1981). Burke, Stets, and colleagues conceptualization of identity theory, rooted in sociology, suggests that regardless of how behavior is initiated, it settles into a consistent pattern only when identity is affirmed in given situations (Burke & Reitzes). Maintenance of identity is the underlying reason why individuals develop commitment to modes of leisure (McCall & Simmons, 1966).

Identity Theory

In the context of identity theory, an identity is considered a set of meanings that characterizes a person as a group member, role player, and unique person (Burke, 2004; Stets & Burke, 2003; Stryker & Burke, 2000). These meanings serve as standards for how s/he ought to behave. According to Burke's (1991) identity control theory, when an identity is activated in any given situation, a feedback loop is established. In the loop, there are four important components: identity standard, input, comparator, and output. The identity standard refers to the meanings of an identity (i.e., what it means to be who one is in any situation). The input defines the meanings of how one sees her/himself in a situation (including one's reflected appraisals i.e., perceptions of self-relevant meanings). The comparator compares the meanings from the input with the meanings from the standard and detects the degree of difference. The result of this comparison is output. The output refers to behavior that acts upon the environment to attain congruence between the reflected appraisals and standard meanings. In this sense, the identity system can be thought of as having the goal of maintaining congruity between environmental inputs and the identity standard (Burke). When (if) congruence between inputs and the standard occurs, there is "identity-verification" (Burke & Stets, 2009). When inconsistency is registered, the system operates by modifying outputs (behavior) to the environment or social situation and restores the perceived input to match the internal standard.

Identity theorists suggest that one's identity is the central dynamic in explaining her/his emotions (Burke & Stets, 1999; Swann, de la Ronde & Hixon, 1994; Swann, Hixon & de la Ronde, 1992). Emotions follow from the cognitive evaluation of congruence between the reflected appraisals and the identity standard. When discrepancy is registered, a person will feel negative emotions (e.g., embarrassment, shames, distress, depression, disappointment, anger). When consistency occurs, s/he will feel positive emotions (e.g., esteem, happiness, satisfaction, pleasure, pride, mastery and efficacy). According to Swann, Rentfrow, and Guinn (2003), people seek to confirm what they already believe about themselves in order to build stable self-views as this stability provides a sense of security and predictability to their world. Thus, when identity verification is achieved, people will experience positive emotions. The strength of emotions depends on the degree of congruence between the two sets of meanings and importance of the identity (Burke, 1991; Ellestad & Stets, 1998; Stets & Burke, 2003). The greater congruence between identity meanings and self-relevant meanings, the higher importance of identity, the stronger the emotion individuals experience.

Identity theorists also suggest that identity is imperative for understanding why individuals initially commit to a line of behavior and why certain lines of activity are valued over others (Burke & Reitzes, 1991; Stets & Burke, 2003). Regardless of how behavior is initiated, behavior settles into a consistent pattern only as a result of identity verification (i.e., a match between identity standard and the reflected self-appraisals [input]). As the identity system works toward achieving identity confirmation, behavior is guided by individuals' effort at maintaining congruity between the input and standard (Burke & Reitzes). In this context, individuals are considered active agents in the process of verifying identities, especially for those most salient (Burke, 1980, 1989a, 1989b; Burke & Reitzes; Stets & Burke, 2005). Individuals learn which behaviors are effective in maintaining congruity between the two sets of meanings and how to develop and stabilize lines of activity to maintain the congruence. Since such learning is not easy and simple but demanding, complex, and stressful, individuals desire to stay within the context where the identity confirmation are repeated in order to avoid the demands and stress

(Burke & Reitzes). When one particular activity serves a person best in pursuit of the goal (i.e., identity verification), s/he rejects other feasible alternatives. Thus, commitment to the activity occurs as people strive to preserve the congruence between the input and standard which leads to self-verification. The activity becomes central to their lives to the extent to which the identity is important to them. In this context, identity predicts the extent that individuals invest their time and effort (e.g., the acquisition of skill) to engage in consistent lines of activity. For instance, students' academic performance and time spent for studying can be predicted by the extent to which they embrace the student identity (Burke & Reitzes).

In sum, identity theory maintains that people's desire to verify their identity and maintain the contexts in which identity verification can be achieved has important cognitive, affective, and conative consequences (Burke & Stets, 2009; Cast, 2003; Stets, 2003). People can incorporate leisure activities and the meanings associated with these activities into their self-definition, defining themselves in terms of the activity (Dimanche & Samdahl, 1994; Haggard & Williams, 1992). Successful affirmation of identity related to leisure generates positive emotions to the extent to which the identity is important to the individual. Furthermore, cognitive and conative commitment reflects the degree to which individuals strive to achieve and maintain their desired identity. Given that individuals are interested in maintaining control over the congruity between their desired identity and reflected appraisal, they commit to a particular activity that allows behaviors appropriate to the identity. For important and salient lersure identities, people will work harder to maintain their cognitive and behavioral commitment. We suggest that the cognitive, affective, and conative consequences of the identity-verification align with facets of recreation specialization, and that identity verification is the underlying mechanism contributed to specialization. This approach is also considered congruent with the consumer behavior literature. For example, investigations of consumer loyalty have illustrated that brands to which consumers most strongly bond (affect) and repeatedly purchase or intend to purchase (conative), most strongly reflect an alignment between the brand image and self-image (Bellenger, Stenberg, & Stanton, 1976; Birdwell, 1968; Dollich, 1969; Hughes & Guerrero 1971; Sirgy, 1980; Stern, Bush, & Hair 1977). This alignment provides a situational context for identity confirmation. Thus, in this investigation, it was hypothesized that identity (considered cognitive) drives other affective and conative facets of specialization (Figure 1). Considering a possible variation in a way to define self in terms of the activity and its effect on the hypothesized relations, the model was simultaneously tested across four different types of hikers along the Appalachian Trail.

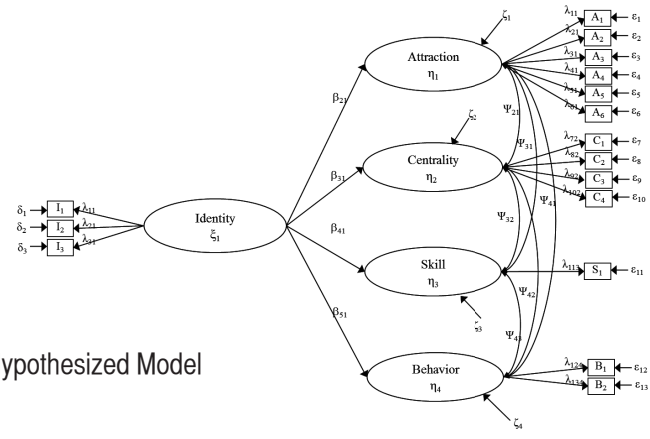

Figure 1. Hypothesized Model

Methods

Data Collection

A sample of hikers representative of the population of hikers using the Appalachian Trail was the goal. In working toward this end, the trail was divided into 22 relatively homogeneous geographic segments based on physical features, park and wilderness boundaries, and volunteer hiking club jurisdictions. The regional divisions used in the sampling plan are shown in Table 1. Sampling was conducted by a combination of employees, volunteers of local trail-maintaining clubs and the ATC, and staff hired specifically for this study. Sampling consisted of approaching randomly selected AT visitors, briefly explaining the study, and asking if visitors would be willing to participate in the study by providing their name and address and completing a mail-back questionnaire at the completion of their visit. Sampling commenced Memorial Day (May 31) and continued through and continued through the Fall (November 1) of 1999.

Sampling was designed to yield approximately 100 completed questionnaires for each of the 22 trail segments. In addition, through hikers (i.e., visitors hiking the entire trail in one calendar year) were purposively sampled in Baxter State Park, Maine to insure that a large enough sample of this type of hiker was obtained for analysis purposes. A total of 2,847 AT visitors agreed to participate in the study and were mailed a questionnaire, cover letter, and postage-paid, self-addressed return envelope shortly after their visit. One week after the initial mailing, visitors were mailed a postcard thanking them for their participation and reminding them to complete and return the questionnaire. Visitors who did not return a completed questionnaire within three weeks of the initial mailing were mailed a second questionnaire, cover letter, and postage-paid, self-addressed return envelope. Finally, at the completion of the sampling period, all non-respondents were mailed a final copy of the questionnaire, cover letter, and a postage-paid, self-addressed return envelope. This sampling procedure yielded 1,879 completed questionnaires representing a 66% response rate. The majority of completed questionnaires (84%) were obtained from summer visitors (Memorial Day through Labor Day), while the remaining questionnaires (16%) were obtained from fall visitors.

Measures

Respondents were first asked to identify themselves as one of four types of hikers: day user, overnight user/backpacker, through hiker, or section hiker. *Day hikers* were defined as those hikers commencing and ending their hike on the same day; *overnight hikers* were defined as those hikers out for more than one day; *through hikers* were defined as those hiker that hike the entire length of the trail in one season; and *section hikers* were defined as those hikers that were hiking section of the AT with the intent of hiking the entire trail length over an extended period of time. Three dimensions identified by McIntyre and Pigrams (1992) measured cognitive (identity), conative (centrality) and affective (attraction) facets of specialization. Identity examines the extent to which leisure provides context for individual to express and affirm their identities (Table 2). Attraction refers to the pleasure and enjoyment individuals derive from their leisure whereas centrality refers to the central role of the chosen activity in their lives. All of items were measured using a five-point response format (1 = *strongly disagree* to 5 = *strongly agree*). The behavior dimension was measured using two open-ended items examining respondents' experience history: total middles hiked per year along the Appalachian Trail, and total middles hiked per year along other trails. Last, level of hiking skill (i.e., the conative dimension) was measured by asking respondents to rate their level of hiking experience on a 5-point scale ranging from 1 = *novice* to 5 = *expert*. Construct reliability estimates ranged from .51 to .90 (Table 2).

Table 1

Sample by Region and Segment

Region/Segment	*n*	%
New England	**691**	**36.8**
Baxter State Park	46	2.4
100 Mile Wilderness	91	4.8
Western Maine	115	6.1
New Hampshire-Mahoosucs	65	3.5
New Hampshire-White Mounatins	169	9.0
New Hampshire-South	66	3.5
Vermont	103	5.5
Mid Atlantic	**274**	**14.6**
Massachusetts	19	1.0
Connecticut	17	.9
New York	76	4.0
New Jersey	63	3.4
Pennsylvania	63	3.4
Maryland	23	1.2
Shenandoah	49	2.6
Southwest Virginia	**349**	**18.6**
Blue Ridge Parkway	0	0
Outing Club of Virginia Tech.	258	13.7
Catawba	24	1.3
Mount Rogers	67	3.6
Deep South	**247**	**13.1**
North of Smokys-Pisgah/Cherokee National Forest	22	1.2
Smoky Mountains	123	6.5
North Carolina-Nantahala National Forest	2	.1
Georgia	100	5.3

* 318 cases were dropped due to missing values

Results

Sample Profile

The sociodemographic profile of respondents is reported in Table 3. For all four groups, respondents were mostly male (day users= 60.8%; overnight users = 73.8%; through hikers = 82.4%; section hikers = 78.8%). Section users were oldest (M = 44.2), followed by day users (M = 39.1), overnight users (M = 37.0), and through users (M = 33.5). For all four groups, most respondents indicated having attained at least a college degree (day user = 74.4%; overnight = 66.2%; through users = 69.1%; section users = 72.8%). Finally, for day users, overnight users and section users, respondents' household income was relatively evenly distributed among the categories of "less than $20,000" to "$100,000 and above." For through users, however, their household income was more likely to be less than $60,000.

Table 2

Items Means and Consruct Reliabilities

			Day users	Overnight users	Through hikers	Section hikers
Identity		α	.62	.61	.52	.55
I_1	Hiking says a lot about who I am		3.59	3.74	3.86	4.01
I_2	When I participate in hiking I can really be myself		3.83	3.91	3.93	4.07
I_3	When I participate in hiking others see me the way I want them to see me		3.30	3.41	3.40	3.56
Attraction		α	.89	.89	.88	.87
A_1	Hiking is very important to me		4.01	4.14	4.21	4.40
A_2	Participating in hiking is one of the most satisfying things I do		3.92	4.05	4.06	4.32
A_3	Participating in hiking is one of the most enjoyable things I do		3.86	3.97	3.95	4.25
A_4	Hiking interests me		4.27	4.38	4.42	4.52
A_5	Hiking is pleasurable		4.46	4.49	4.40	4.55
A_6	I really enjoy hiking		4.39	4.47	4.43	4.60
Centrality		α	.90	.89	.85	.88
C_1	I find that a lot of my life is organized around hiking		2.69	2.83	2.95	3.19
C_2	Hiking has a central role in my life		2.73	2.96	3.01	3.27
C_3	My life is organized around hiking activities		2.66	2.83	2.85	3.13
Behavior		α	.61	.52	.51	.51
B_1	Total miles hiked per year along the Appalachian Trail		70.39	79.43	274.55	190.84
B_2	Total miles hiked per year along other trails		89.02	101.07	142.17	129.48
Skill						
S_1	Please rate your level of backcountry experience		2.73	3.37	4.01	3.80

Analysis

Invariance testing (i.e., constraining parameters to be estimated in the analyses to be equal) was employed to test the model across four groups of hikers. According to Bollen (1989), testing for model comparability across groups is a matter of degree in that the researcher decides which parameters should be tested for equality and in what order these tests should be made. The invariance testing was performed in the following order:

1. Equality of structure (a test of the suitability of a five-factor solution across the four groups)
2. Equality of scaling (a test of the similarity in the pattern of factor loadings across the four groups)
3. Equality of structural coefficient estimates (a test of the similarity in the regression paths for the four groups)

Table 3

Sociodemographic Profile of the Sample

	Day users (*n*=640)	Overnight users (*n*=566)	Through hikers (*n*=318)	Section hiker (*n*=266)
Gender				
Female	39.2	26.2	17.6	21.2
Male	60.8	73.8	82.4	78.8
Age				
M (SD)	39.1 (13.5)	37.0 (13.1)	33.5 (12.3)	44.2 (14.7)
Education				
Some high school	1.3	2.3	.7	3.1
High school graduate or GED	5.4	10.3	9.3	7.7
Business school, trade school, some college	18.8	21.1	21.0	16.5
College graduate	34.1	27.9	46.4	29.5
Some graduate school	11.3	10.6	9.6	10.7
Masters, doctoral, or professional degree	29.0	27.7	13.1	32.6
Income				
Less than $20,000	19.6	19.1	36.1	11.2
$20,000 to $39,999	17.3	18.5	24.5	19.9
$40,000 to $59,999	20.6	19.5	13.4	21.2
$60,000 to $79,999	13.9	14.1	11.2	19.5
$80,000 to $99,000	11.4	10.0	3.7	14.9
$100,000 to more	17.2	18.9	11.2	13.3

According to Bollen (1989), the focus of invariance tests the similarity of each groups' covariance structure. Beginning with the examination of equal structure, subsequent tests become increasingly restrictive. After each test, the χ^2 value is examined to determine the effect of the imposed constraint on model fit. No significant differences would indicate that the hypothesized relationships are identical for all four groups of hikers. A significant change in the χ^2, however, would indicate the covariance structure for each group differs, suggesting that our hypothesized model would not fit each group in the same manner.

The model testing procedure began with an examination of the measurement model for each group (confirmatory factor analysis (CFA) in LISREL version 8.7). Establishing baseline model estimated separately for each group of hiker is required in advance to invariance testing which assumes well-fitting single-group models. The goodness-of-fit indices used to empirically assess model fit were the root mean square error of approximation (RMSEA; Steiger & Lind, 1980), the non-normed fit index (NNFI; Bentler & Bonnet, 1980) and the comparative fit index (CFI; Bentler, 1990). Generally accepted values for each of these fit indices are (a) RMSEA values falling between .06 - .08 indicate acceptable fit with .10 considered the upper limit (Byrne, 2000), (b) NNFI values greater than .90 (Kenny, 2003), and (c) CFI values greater than .95 (Hu & Bentler, 1995). The fit indices indicated that the measurement model fit the data well for all groups (Table 4).

The first step of testing examined the suitability of the imposed factor structure for the four groups. The hypothesized models for the four groups were run simultaneously so that specific parameters could be tested for significance. The models were hypothesized to have the same pattern of fixed and free values in the matrices containing factor loadings, structural coefficients, and the variance/covariance matrices. Non-fixed parameters were not restricted to have the same

value across groups. Using the above criteria, we considered the fit of this unconstrained model (Table 4) adequate (χ^2=1302.62, df=372, RMSEA=.07, NNFI=.97, CFI=.98). This model's fit indices served as a point of comparison for the second test (i.e., equality of scaling). The χ^2 difference test was again used to assess support for the equality constraints (Byrne, 1998).

The second test examined the invariance of factor loadings across four groups. The fit of the model that restricted all factor loadings to be the same across groups (equality of scaling) was compared with the result of the first test (the fit of the model that did not require this invariance). The χ^2 difference test indicated significantly worse model fit ($\Delta\chi^2$=263.77, Δdf=48;(see Table 4). As Bollen (1998) has suggested, a significant change in χ^2 then requires testing individual parameters within specific matrices to isolate sources of inequality. Individual factor loadings were held constant across groups and change in the χ^2 was reexamined to identify the constraint's effect. Subsequent tests indicated that we needed to all the free estimation across groups for ten factor loadings (I_1, A_1, A_2, A_3, A_4, A_5, A_6, A_1, S_1, and B_1). Reflected in the variance accounted in the manifest items by the latent constructs, the four groups of hiker interpreted the meaning of these items differently.

For the final test, the regression coefficients were constrained to be equivalent across the four groups of hikers. Model fit was again compared with the fit indices from the final model in the second test (i.e., model with unconstrained loadings). The model comparison indicated a significant deterioration in model fit ($\Delta\chi^2$=65.69, Δdf=7; Table 4). Similar to above, each regression path individual across the groups was constrainted. These tests examine the similarity/difference of each regression coefficient reflected in our hypothesized model. The focus of the testing protocol lies in examining the similarity of the coefficients across the groups. It was hypothesized that identity would positively and significantly affect attraction, centrality, behavior, and skill for all four groups. The successive independent tests indicated that all paths were significantly different across the four groups of hikers and were freely estimated. These findings indicate that although the magnitude of identity's effect on four endogenous specialization dimensions differs among the groups, the valence of this effect is consistent with what was hypothesized.

Table 4

Summary of Invariance Testing

Model	χ^2	df	$\Delta\chi^2$	Δdf	RMSEA	NNFI	CFI
Baseline model (No invariance constraints)							
Day users	403.68	93			.07	.97	.98
Overnight users	436.01	93			.08	.96	.97
Through hikers	271.41	93			.07	.96	.97
Section hikers	191.51	93			.06	.97	.98
1- Equality of structure	1302.62	372			.07	.97	.98
2- Equality of scaling	1566.39	420	263.77***	48	.07	.97	.97
Final model[1]	1325.83	390	23.21	18	.07	.97	.98
3-Invariance of structure coefficients (regression)	1366.90	402	65.69***	7	.07	.97	.98
Final model[2]	1329.30	390			.07	.97	.98

[1] Differences among four groups were observed on the following factor loadings: I_1, A_1, A_2, A_3, A_4, A_5, A_6, A_1, S_1, and B_1

[2] Differences among four groups were observed on all structure coefficients: Identity → Attraction (β_{21}), Identity → Centrality (β_{31}), Identity → Skill (β_{41}), and Identity → Behavior (β_{51})

*** p<.001

The standardized regression coefficients of the final model are presented in Table 5. These results offered support for the hypothesized model. Specifically, the following relationships were observed:

- Attraction was positively affected by identity for all types of hikers (γ=.81 for day users, γ=.81 for overnight users, γ=.80 for through hikers, and γ=.72 for section hikers). Respondents' scores on the affective dimension of specialization (i.e., emotional attachment) increased congruently with their desire to verify identity. Identity accounted for around 70% of the variance in affective dimension for day users (R^2=.70), overnight users (R^2=.71) and through hikers (R^2=.74) but only 52% of the variance for section hikers.
- Centrality was positively influenced by identity for all four groups (γ=.75 for day users, γ=.75 for overnight users, γ=.71 for through hikers, and γ=.69 for section hikers). Identity accounted for 56% of the variance for day users and overnight users, 50% of the variance for through hikers and 48% of the variance for section hikers. As the degree of self-identification with hiking grew, respondents were more likely to indicate that hiking occupied an important place in their lives.
- Skill was positively influenced by identity for day users (γ=.44), overnight users (γ=.42) and through hikers (γ=.23) but had no significant effect on skill for section hikers. The variance accounted for by identity in skill ranged from 5% to 19%. This finding indicated that for day users, overnight users and through hikers, the affirmation of their own sense of self through hiking positively affected the advancement of their skill.
- Behavior was positively influenced by identity for all groups (γ=.47 for day users, γ=.45 for overnight users, γ=.32 for through hikers, and γ=.32 for section hikers). Identity accounted for 22% of the variance among day users, 21% for overnight users and 10% for through hikers and section hikers. Thus, the degree of self-identification with hiking positively influenced respondent's behavioral commitment to hiking.

Table 5

Summary of the Final Structural Models

Path	β	*t*-value	R^2
Day users			
Identity → Attraction	.811	8.653***	.70
Identity → Centrality	.746	16.052***	.56
Identity → Skill	.439	9.294***	.19
Identity → Behavior	.469	7.688***	.22
Overnight users			
Identity→ Attraction	.807	9.270***	.71
Identity→ Centrality	.749	15.291***	.56
Identity → Skill	.422	8.210***	.18
Identity → Behavior	.454	6.742***	.21
Through hikers			
Identity→ Attraction	.804	6.605***	.74
Identity→ Centrality	.707	11.449***	.50
Identity → Skill	.233	3.441***	.05
Identity → Behavior	.317	3.408***	.10
Section hikers			
Identity→ Attraction	.718	6.886***	.52
Identity→ Centrality	.689	10.044***	.48
Identity → Skill	.113	1.518 n.s.	--
Identity → Behavior	.320	3.220**	.10

*$p < .05$, ***$p < .001$, n.s.= not significant

Discussion

Understanding the importance of theory for conceptualization (e.g., dimensionality), measurement, and propositions related to the construct's antecedents and outcomes, specialization scholars have made references to various theories such as reinforcement theory, cognitive development theory, and side-bet theory, where the driving force underlying continued leisure engagement is a product of expected rewards relating to achievement, advancement of cognitive structure or cost of investment associated with withdrawal (Ditton, Loomis, & Choi, 1992; Lee & Scott, 2006; Watson, Roggenbuck, & Williams, 1991; Williams, 1985; Williams, Schreyer, & Knopf, 1990). More recently, diversification of leisure capital investment was proposed to determine the trajectory of individual's leisure engagement based on Bixler and Morris' leisure capital concept (Backlund & Kuentzel, 2013).

While acknowledging the contribution of these frameworks, we proposed that identity theory offers one potential theoretical framework for understanding recreation specialization. Drawing from Burke's identity control theory (1991), an alternative conceptualization of specialization was presentedin which self-expression and identity confirmation (cognition) drives other affective and conative facets.

Analyses of data drawn from recreational hikers provided support for the hypothesized model. The central premise of identity theory suggests that identity has important affective, cognitive and behavioral consequences (Stryker, 1980; Stryker & Serpe, 1982, 1994). Individuals continuously seek contexts for identity confirmation which generates positive emotions through self-appraisal (evaluation of what they believe about themselves) and fosters beliefs in self-efficacy (ability to produce desired outcomes; Thoits, 2003). Identity theorists have suggested that people seek ways to establish and maintain the situations in which their identities are verified (Stryker, 1981; Burke & Stets, 1999). When one particular activity serves a person best in pursuit of the goal (i.e., identity confirmation), the process of establishing and maintaining identity-verification contexts influences the development of commitment and emotional attachment to the activities. Thus, when individuals are committed and attached, they need not be tied to a specific activity but, rather, they are tied to verifying the self and maintaining particular perceptions of the meaning for one's identity in the context of the activity (Burke & Reitzes, 1991; McCall & Simmons, 1966; Stryker, 1980). In the investigation, the self-verification were conceptualized and measured through the confirmation of the identity in terms of a leisure activity – hikers. Within the framework of Burke's identity theory, findings illustrated that the affirmation of identity had a strong influence on:

- the locus of the activity within the context of respondents' lives. As 'a hiker' became integral elements of respondents' self-definition, their propensity to indicate that the activity occupied an important place in their lives increased.
- positive emotions respondents associated with hiking. The more respondents indicated that the activity was reflective of their selves, the more likely they were to experience satisfaction and pleasure derived from the activity.
- behavioral elements of respondents' hiking experience. The stronger a cognitive connection between the self and the activity experienced by respondents, the more likely they were to evince behavioral commitment via the frequency and history of participation; and
- respondents' skill development within the activity. The more opportunities hiking provided respondents to express and confirm their identity, the more likely they honed their skills and perform better than respondents for whom hiking offered little opportunity for identity confirmation.

Findings were somewhat consistent with those reported by Scott and Godbey (1994). Scott and Godbey identified four types of contract bridge players that were differentiated in terms of the intensity of self-identification, frequency of play, orientation to competition and skill development, meaning of participation, game and setting preferences, primary experiential foci, relationship to other players, and relationship to work, family and other leisure pursuits. According to Scott and Godbey, the act of self-definition entails a deliberate decision to participate as a social or serious player, which determines a level of affective attachment to the game, commitment to skill-development and frequency of play.

For future work, much remains to be understood of how the interruption of identity expression and affirmation influences not only the trajectory along specialization continuum but also the manner in which recreationists' engage the activity. While the "progression hypothesis" appears to be true for few recreationists (Kuentzel & Heberlein, 2006; Scott & Lee, 2010), identity theory offers a potential explanation for why this may be so. In this context, the absence of identity confirmation afforded by specific modes of leisure could be considered an intrapersonal constraint. According to Burke and Stets (2009), the importance or salience of an identity which drives behaviors may decline when identity verification processes are interrupted. While incidental or episodic interruptions have little or no effect, persistent problems with the verification of a particular identity result in changes such as its importance. Interruptions can be caused by uncontrollable events and identity conflict. Uncontrollable events include environmental changes and personal limitations. Typically, when an incongruity between identity meanings and self-relevant meanings in a situation is detected, a person would try to reestablish the congruity by acting upon the environment. However, when her/his behaviors have little or no effect on that situation in terms of restoring the congruity, the importance or salience of identity is lowered in order to alleviate negative emotions stemming from the discrepancy between two meanings. Alternately, changes in the environment can also disrupt identity verification processes in ways that can be difficult for individuals to ameliorate such as the loss of employment or spouse, the absence or loss of recreation partners, recreational sites, or financial resources (Burke & Stets). Other personal limitations impinging on an individual's ability to control the self-relevant meanings can include problems with physical (e.g., skills) or psychological capabilities (e.g., fear).

With regard to identity conflict and its influence on self-verification, given that individuals' leisure experience exists within a broader social context related to work, family, friends, school, religion and so on, the commitment to multiple role identities also has the potential to influence recreationists' commitment to a leisure identity. Identity-verification processes operate only for identities that are activated (Burke, 2003). The behavior of a person must satisfy the responsibilities and expectations associated with all activated identities by consuming her/his limited resources (e.g., time, money, energy). Thus, it would be very difficult to maintain identities that require incompatible behaviors and raise competition over one's limited resources. For instance, when a person who is a father and a golfer needs to decide whether to spend a weekend with his kids or play golf, both the father identity and golfer identity are activated. Verifying a father identity, at the very least, requires time and might require participation in child-focused activities, whereas verifying a golfer identity would require behavior not likely congruent with the interests of young children (e.g., driving at the golf range, playing a round with friends). When such identity conflict occurs, the verification of one or both identities cannot be achieved. Verifying one would result in the other becoming incongruent with self-relevant meanings in the situation. According to Burke (1991), the conflicting relationship between activated identities can cause change in the commitment to the identities, especially for the one with a lower level

of importance or salience. Persistent conflicts between identities that cause a change in identity importance are often observed during life course transitions. During these transitions, new roles are adopted or modified in addition to the meanings attached to the role. When the meanings, responsibilities and expectations associated with the new or modified role are incompatible with the existing identities, identity conflicts arise, decreasing the importance of her/his existing identities. For instance, for a golfer becoming a first-time father, taking a new identity of a father competes with his golfer identity for limited resources. Thus, life course transitions, such as parenthood, have implications for individual leisure identity and leisure behavior. While research has suggested that changes across the life course relates to changes in leisure participation (Jackson, 2005; Kelly, 1983; Russell, 2005), from the perspective of identity theory, the link between life course and change in leisure participation can be understood in terms of identity conflict.

While the findings of this study provided support for the conceptualization, it is also the first empirical application of Burke's identity theory to the specialization phenomenon. Other researchers are encouraged to continue to adopt the conceptual framework offered by the identity theory which provides a theoretical framework for understanding the underlying mechanisms that drive some recreationists along the specialization continuum. Similarly, leisure researchers effort to develop and refine contextually appropriate measures that capture identity confirmation processes is welcome. The development of these indicators requires assessing variations in the meaning of leisure identities. Given that progression is not inevitable, Scott and Godbey (1994) suggested that the process of specialization or becoming serious is related to recreationists' desire to develop skills at an advanced level. In the context of identity theory, variations in people's investment of time, effort and other resources on activities related to their identity can be explained by the different *meanings* tied to the identities (Burke & Reitzes, 1991; Spenner & Rosenfeld, 1990; Thoits, 1992). For example, students with salient "student identities" might spend less time studying and display lower levels of academic performance if the meanings of their student identity do not include academic responsibility (Burke & Reitzes). Similarly, a recreationist will not expend time and resources to reach higher levels of activity engagement if the meanings of her/his leisure identity do not include the persona of a recreation specialist or a serious participant. The person will remain a casual or social participant. The measures to capture variations in the meaning of leisure identities will provide further insight on the varied trajectories of specialization progression among recreationists.

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