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BECOMING AN OUTDOORS-WOMAN:  
RELATIONSHIPS AMONG FREQUENCY OF PARTICIPATION  
IN BOW PROGRAMS, ENDURING INVOLVEMENT, AND  
LEISURE SATISFACTION

by

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Dedicated to the memory of my parents,  
Lawrence L. and Maxine W. Lynch,  
who valued and encouraged the pursuit of education,  
and to my children and grandchildren,  
that they may always continue to  
appreciate and protect our  
wonderful natural resources.

*Karen Lynch Hargrove, May, 2011*

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The purpose of the study was to define the relationships among the frequency of participation in the Becoming an Outdoors-Woman (BOW) program, overall participation in outdoor recreation following BOW participation, the dimensions of enduring involvement, and overall leisure satisfaction. In addition, possible relationships among the five dimensions of enduring involvement and the six subcomponents of leisure satisfaction were examined. The sample consisted of 1,283 women who had participated in at least one BOW program or event within the past 12 months. Demographic data were collected from the sample. Multiple regression analysis showed that only the number of activities not related to the BOW program and the enduring involvement dimension of identity expression were significant predictors of overall leisure satisfaction. Correlation analysis showed that participants' BOW program participation was significantly related to all five dimensions of enduring involvement. Correlation analysis showed an overall significant relationship ( $p < .001$ ) between BOW and non-BOW participation. The number of BOW activities and BOW frequency of participation over the past 12 months were significantly related, the number of outdoor recreation activities not related to BOW (non-BOW) and non-BOW frequency of participation were significantly related, and that there was a significant negative relationship between BOW participation and non-BOW participation. All five dimensions of enduring involvement were significantly related to all six subscales of leisure satisfaction ( $p < .001$ ). Independent  $t$  - tests showed statistically significant differences between those who purchased gear or equipment.

licenses, and memberships in conservation, environmental, or other outdoor-related organizations and those who did not purchase gear or equipment, licenses, or memberships in their mean scores for all five dimensions of enduring involvement. The highest mean scores for purchasers were in the attraction and the identity affirmation dimensions of enduring involvement; the highest mean scores for those who did not purchase were in identity affirmation. Results of this study suggest that women's outdoor recreation activity outside the BOW program is an important predictor of their leisure satisfaction, and that BOW participation and the five dimensions of enduring involvement are correlated. Leisure satisfaction subscales and enduring involvement dimensions are positively correlated, and that purchase behavior is linked to the dimensions of enduring involvement. This study represents the first known use of the Modified Involvement Scale (MIS) (Kyle, Absher, et al., 2007) with a program of activities, rather than with a single outdoor activity.

## TABLE OF CONTENTS

	Page
LIST OF TABLES.....	ix
CHAPTER ONE: INTRODUCTION .....	1
Statement of the Problem .....	9
Significance of the Study.....	9
Purpose of the Study.....	10
Research Questions and Hypotheses .....	11
Operational Definitions .....	13
Delimitations .....	16
Limitations.....	16
Assumptions .....	17
CHAPTER TWO: LITERATURE REVIEW.....	18
Women and Outdoor Recreation .....	18
The Becoming an Outdoors-Woman (BOW) Program .....	25
Forerunners of Leisure Involvement .....	33
Leisure/Recreation Involvement.....	35
Development of Measures of Enduring Involvement .....	36
Leisure Satisfaction .....	42
Measurement of Leisure Satisfaction .....	43
Use of the Leisure Satisfaction Measure .....	46
Online Surveys .....	49
CHAPTER THREE: METHODOLOGY.....	52

Study Design.....	52
Participants .....	53
Procedures .....	54
Instrumentation.....	58
Data Entry.....	64
Data Analysis.....	64
Power Analysis.....	65
CHAPTER FOUR: RESULTS .....	67
Participants .....	67
BOW Program Participation.....	69
BOW Influence on Outdoor Recreation .....	71
BOW-Learned and Non-BOW-Learned Activities .....	72
Research Question 1 .....	74
Hypothesis 1 .....	75
Hypothesis 2 .....	77
Research Question 2 .....	78
Hypothesis 3 .....	79
Hypothesis 4 .....	79
Hypothesis 5 .....	80
CHAPTER FIVE: DISCUSSION AND RECOMMENDATIONS .....	83
Demographics .....	84
Research Question 1 .....	86
Hypothesis 1 .....	88

Hypothesis 2 .....	89
Research Question 2 .....	89
Hypothesis 3 .....	90
Hypothesis 4 .....	92
Hypothesis 5 .....	94
Limitations .....	95
General Conclusions and Future Research Directions .....	100
WORKS CITED .....	105
APPENDICES .....	117
APPENDIX A: Selected Study Programs and Response Rates .....	118
APPENDIX B: Permission to Use Leisure Satisfaction Measure .....	120
APPENDIX C: Permission to Use Modified Involvement Scale.....	122
APPENDIX D: MTSU IRB Approval.....	124
APPENDIX E: Participant-Identified Disabilities .....	126

LIST OF TABLES

	Page
Table 1. Participation in Outdoor Recreation Activities.....	73
Table 2. Descriptive Statistics for All Study Variables.....	75
Table 3. Relationship Among BOW and Non-BOW Activities and Frequencies and Enduring Involvement (EI) Dimensions to Overall Leisure Satisfaction (LS) ....	76
Table 4. Relationship Among BOW Activities, BOW Frequency, and Enduring Involvement (EI) Dimensions .....	76
Table 5. Relationship Among Enduring Involvement (EI) Dimensions and Leisure Satisfaction (LS) Subscales .....	78
Table 6. Relationship Between Purchase of Gear and Enduring Involvement (EI) Dimensions .....	80
Table 7. Relationship Between Purchase of Licenses and Enduring Involvement (EI) Dimensions .....	81
Table 8. Relationship Between Purchase of Memberships and Enduring Involvement (EI) Dimensions.....	82

## CHAPTER I

### INTRODUCTION

The value of leisure is uncontested; researchers have suggested that leisure activity has the capacity to help people cope with life transitions and traumatic events (Guinn, 1995; Hutchinson, Loy, Kleiber, & Datillo, 2003; Kleiber, Hutchinson, & Williams, 2002; Little, 2002). Leisure has aided people as they respond to negative life events (Kleiber et. al., 2002) or work transitions (Jones & Symon, 2001). Leisure may provide resistance to age- or gender-defined roles (Henderson & Hickerson, 2007; Little, 2002; Raisborough & Bhatti, 2007; Shaw, 2007). Leisure may also help people to become more empowered as they undergo personal transformation through resistance to gendered norms, i.e., what has been seen to be socially or culturally appropriate behavior for men and women in the outdoors, such as the seating positions in a canoe or who prepares outdoors meals (Henderson, 1994; Henderson & Roberts, 1998; McDermott, 2004). Leisure can even be used to change socially accepted beliefs about persons with disabilities, people of color, or older adults; to alter other “traditional and narrowly constructed views about gender, gender roles and sexual orientation” (Shaw, 2007, p. 28); and to bring about a more equitable view of culturally or socially appropriate activities.

Henderson and Roberts (1998) found that, for women, outdoor leisure activities “may function as a challenge to traditional female roles” (p. 17) and may serve “as a part of empowerment and transformative change” (p. 17). Although outdoor recreation activities have been shown to have specific benefits for women (Henderson, 1992; Henderson & Roberts, 1998; Mitten, 1992; Pawelko, 2005; Pohl, Borrie, & Patterson, 2000), the outdoors seems to be a “genocentric” area (McDermott, 2004, p. 285), with

many recreational opportunities organized primarily for male participants (McDermott, 2004).

Pawelko (2005) recognized that outdoor recreation has long been the province of men and boys, and the activities of women in the outdoors have been limited by socialization and cultural expectations related to gender roles (Henderson & Hickerson, 2007; Little, 2002; Roster, 2007; Shaw, 2007; Whittington, 2006). Bialeschki and Henderson (1993) state that “females are socialized to be less capable, less physically skilled, and poorer in decision-making than males; professionals believe that participation in outdoor experiences for females may be one of the best ways to counter this view” (p. 207).

Research shows outdoor recreation and wilderness experiences provide a wide array of benefits for women. Some benefits are social, such as camaraderie among other women, and/or meeting friends (Henderson, Hodges, & Kivel, 2002; Henderson & Roberts, 1998; McDermott, 2004; Pawelko, 2005), and specifically, meeting other women who were interested in physical activity (McDermott, 2004). Other benefits of outdoor recreation are emotional or psychological, such as self-fulfillment, increased self-esteem, positive attitude (Pawelko, 2005), self-sufficiency (Pohl et al., 2000), empowerment (Henderson & Roberts, 1998; McDermott, 2004; Pohl et al., 2000; Roster, 2007), and the ability to overcome traumatic experiences (Henderson & Roberts, 1998). Physical benefits include exercise, challenge and adventure, skill development, confidence, and physical capability (McDermott, 2004). Further benefits of being in the outdoors for leisure activities include, but are not limited to, relaxation, a sense of

spirituality, an appreciation of nature, and personal enjoyment (Pawelko, 2005; Pohl et al., 2000).

Although many programs have been organized to be coeducational, oftentimes women who attend these programs have felt intimidated because of issues of body image (McDermott, 2004; Pohl et al., 2000) or appearance (Pawelko, 2005), competition and condescension (Henderson & Roberts, 1998; Pawelko, 2005), fear for their physical safety (Henderson et al., 2002) or social fears, such as not meeting others' expectations (Henderson & Roberts, 1998). Women have been inhibited by social roles and stereotyping (Henderson & Roberts, 1998; Little, 2002; McDermott, 2004; Pohl et al., 2000; Roster, 2007). In Henderson and Roberts' (1998) review of the literature on women in the outdoors, the researchers assessed multiple research studies which explored the value of women as leaders in the outdoors and the advantages of women-only groups. According to Henderson and Roberts (1998), "The justification for all-women groups prevailed in the literature" (p. 13).

A significant advantage of all-women programs is that such programs have the ability to overcome issues which arise in mixed gender programs (Henderson, 1992). All-women programs can provide freedom from gender role expectations, a supportive atmosphere, shared decision making, and cooperation, not competition (Holzwarth, 1992; McDermott, 2004; Mitten, 1992).

When activities of these groups are physically demanding, requiring strength and skill, women who participate can "achieve a sense of empowerment that extends beyond the extrinsic pleasure they receive from engaging in the activity" (Roster, 2007, p. 443).

Roster (2007) studied women motorcycle riders and their reasons for wanting to

participate in what had been principally a male-oriented activity. She found key motivations for these women's choice of leisure activity. The women found "pure hedonistic pleasure" (Roster, 2007, p. 449) when riding motorcycles, claimed leisure space through their activity, and reconstructed self-identity after a major life event, such as a divorce or cancer survival. They shared their experiences with other like-minded women in a community of riders and resisted social stereotypes while developing knowledge and skill (and therefore, power) through a leisure activity not traditionally claimed by women (Roster, 2007). McDermott (2004) suggested similar outcomes for women who participated in a women-only wilderness canoeing trip. The women participants discovered that the absence of men enabled them to share all necessary physical tasks without hanging back or deferring to men, which provided them with "lived-experiences of physical competence and confidence" (McDermott, 2004, p. 293).

There are several women-based programs in the United States and Canada that provide outdoor recreation for women (McDermott, 2004). Woodswomen, Inc., a woman-focused, Minnesota education and travel company, was started in 1977 (Mitten, 1992); Wild Women Expeditions (WWE) was begun in Canada in 1990 to provide women-only canoe trips (McDermott, 2004; Mairs & Demers, 2010); and in 1991, Dr. Christine Thomas initiated the first "Becoming an Outdoors-Woman (BOW) Program" at the University of Wisconsin Stevens Point (Lueck, 1995; Welch, 2004). Of these three opportunities for women, the focus of this present research was the BOW program, including, but not limited to, weekend workshops and one-day trainings.

According to Pawelko (2005), the first BOW weekend workshop in 1991 in Wisconsin taught outdoor skills to approximately 100 women. BOW workshops offer

training in outdoor recreation activities such as hunting, fishing, camping, wildlife identification, outdoor cooking, and other pursuits (Pawelko, 2005); generally, “BOW workshops are constructed to offer 1/3 hunting/shooting, 1/3 fishing, and 1/3 ‘other’” activities (P. Farrell, personal communication, June 8, 2010; Schnell, 2000). Since the initial weekend of the BOW program, BOW has expanded to over 40 states in the U.S. and several provinces in Canada (Pawelko, 2005) and has been documented to serve more than 20,000 women annually (Holsman, Lueck, & Thomas, 2004; Lueck, 2005).

Benefits of the women-only BOW program align with benefits ascribed to specific women-only outdoor activities (i.e., McDermott, 2004; Mitten, 1992). In a study of the Illinois BOW program, Pawelko (2005) stated that one of the strengths of the women-only weekend identified by participants was that it was easier to learn new outdoor skills from women instructors than from men instructors. Other positive aspects for women who attended the (Illinois) BOW program were a feeling of reduced competition and intimidation due to the women-only format, the opportunity to take an active role, the ability to become more assertive, and less concern about their appearance—as one woman asserted, “We don’t have to worry what we look like” (Pawelko, 2005, p.365).

The literature on women and outdoor recreation has addressed several areas of concern, such as resistance to social and cultural stereotypes (Henderson, 1994; Henderson & Hickerson, 2007; Henderson & Roberts, 1998; McDermott, 2004; Raisborough & Bhatti, 2007; Shaw, 1994; Shaw, 2007) and empowerment (Henderson, 1992; Mitten, 1992; Pohl et al., 2000; Raisborough & Bhatti, 2007; Roster, 2007). Other areas of interest in women’s leisure are constraints and negotiations (Hargrove & Perry,

2010; Henderson, 1992; Little, 2002), diversity (Henderson, 1992; Henderson & Roberts, 1998; Schnell, 2000), and disabilities (Gransee, Lueck, & Thomas, 2002; Lueck, 2005). However, there is no literature focusing on women's participation in outdoor recreation activities in the context of enduring involvement. Of specific interest in this study is the relationship of women's participation in BOW and other outdoor recreation experiences and enduring involvement.

Generally, involvement refers to the "degree to which people devote themselves to an activity" (Kyle, Absher, Norman, Hammitt, & Jodice, 2007) and the strength of the connection between the self and the activity, as shown by the extent of the activity's relation to a person's "self-concept, needs, and values" (Kyle, Absher, et al., 2007, p. 399).

Leisure researchers are interested in the relationship between enduring involvement and other leisure-related behaviors such as purchase behavior, a key concept of consumer and marketing research (Kyle, Absher, et al., 2007). Involvement is linked to buying licenses, equipment and clothing, memberships in organizations, or other leisure-related items (Bloch, Sherrell, & Ridgeway, 1986; Havitz & Dimanche, 1999; Kyle, Absher, et al., 2007). Havitz and Dimanche (1997) stated that leisure involvement can mean "people's involvement with various recreation activities and associated products, leisure service agencies, or settings" (p. 246).

Since the BOW program constitutes the recreation activities of a leisure service agency in specific outdoor settings (e.g., Havitz & Dimanche, 1997), the use of an involvement measure to assess the strength of the relationships among involvement and women's participation in BOW activities and their participation in outdoor activities

outside the BOW program, as well as purchase behavior related to BOW participation, seems appropriate. Kyle, Absher, et al.'s (2007) Modified Involvement Scale (MIS) was used to measure the dimensions of involvement in this study, as well as the relationship of those dimensions with women's participation in the BOW program, women's outdoor activity participation outside the BOW program, and BOW-related purchase behavior. Specifically, Kyle, Absher, et al.'s scale allowed the researcher to examine these relationships for each of the five dimensions of enduring involvement: attraction, centrality, social bonding, identity affirmation, and identity expression.

While there may be little research on leisure involvement through outdoor recreation activities for women, there is also a dearth of research on the relationship between women's participation in outdoor recreation activities and their overall leisure satisfaction. Leisure satisfaction is a concept that is used to describe the social-psychological outcomes of leisure motivations and behaviors (Mannell & Kleiber, 1997). Leisure satisfaction is composed of "the positive perceptions or feelings which an individual forms, elicits, or gains as a result of engaging in leisure activities and choices" (Beard & Ragheb, 1980, p. 22) as well as the degree to which these feelings, resulting from the meeting of the individual's felt or unfelt needs, are experienced.

Leisure satisfaction has been measured in the past by the number of activities in which people participated overall (Mannell, 1999); i.e., the greater the number of activities, the greater the leisure satisfaction. Losier, Bourque, and Vallerand (1993) found that "leisure satisfaction can predict leisure participation, but this does not mean that leisure participation cannot influence leisure satisfaction" (p. 167). More recently, leisure satisfaction has been assessed through qualitative measures and viewed in

basically one of two ways, either through needs-satisfaction (motivation-based leisure satisfaction) or through appraisal-satisfaction (evaluation-based leisure satisfaction) (Mannell & Kleiber, 1997). A needs-satisfaction approach investigates how one's psychological needs are related to choices of leisure activities, while "the appraisal-satisfaction approach reflects a concerted effort to assess the quality of contemporary life . . . other than with the use of objective measures" such as economic, ecological, health, or sociological indicators (Mannell & Kleiber, 1997, p. 207). The Leisure Satisfaction Survey developed by Beard and Ragheb (1980) is a quantitative scale which measures leisure needs satisfaction based on six subscales: psychological, educational, social, relaxation, physiological, and aesthetic.

Several research studies (e.g., Di Bona, 2000; Guinn, 1995; Lloyd, Lampe, & McDougall, 2001; Lu & Hu, 2005; Lysyk, Rodriques, McNally, & Loo, 2002; Misra & McKean, 2000; Ngai, 2005; Pearson, 1998; Pearson, 2008; Ragheb & Griffith, 1992; Riddick, 1986; Spiers & Walker, 2009; Wang, Chin, Lin, & Wang, 2008; Yang, Hou, & Tu, 2008) have used the Leisure Satisfaction Survey (LSS) or, as it is also called, the Leisure Satisfaction Index (LSI), or the Leisure Satisfaction Measure (LSM) (Burlingame [sic] & Blaschko, 2002) to study leisure satisfaction and other aspects of leisure, other types of satisfaction, demographic data, or personality, but there are no studies which examine both leisure satisfaction and enduring involvement to assess the effects of women's participation in outdoor leisure activities and to examine the relationships among these two constructs. To that end, this study investigated the relationship among women's participation in the BOW program, their outdoor recreation participation outside of the BOW program, their scores on the dimensions of enduring involvement,

and their overall leisure satisfaction, as well as the relationships among the dimensions of enduring involvement and the subscales of leisure satisfaction.

### **Statement of the Problem**

Few studies have explored the relationship between participation in BOW weekend workshops/field days/BOW-sponsored events and the initiation of participation in BOW-learned activities independent of the BOW program (Holsman et al., 2004). In the Texas BOW program, women tend to participate in three or four BOW workshops or events before they independently begin a BOW-learned activity outside of the program (Welch, 2004). Also, few studies have been conducted regarding the level of women's participation in outdoor activities generally after they attend one or more BOW-sponsored events (Holsman et al., 2004). In addition, no study has examined the theoretical constructs of enduring involvement and leisure satisfaction in the context of women's participation in BOW programs and outdoor recreation. This study contributes to what is known about women's participation in BOW programs, BOW-related purchase behavior, outdoor recreation activity participation outside the BOW program, the dimensions of enduring involvement, and leisure satisfaction.

### **Significance of the Study**

This study builds on the research conducted by previous investigators on the BOW program. Two researchers (Pawelko, 2005; Schnell, 2000) examined barriers to the BOW program for specific groups of women. Schnell (2000) described the development and implementation of strategies to overcome barriers to BOW participation for minority women; Lueck (2005) conducted a qualitative study of six women with physical disabilities who had attended BOW activities. Pawelko (2005) reported on factors, such

as benefits and constraints, which influenced women's participation in the Illinois BOW program. Holsman et al., (2004) conducted a national (U.S.) study of the BOW program's effect on the recruitment and retention of hunting, fishing and other outdoor recreation activities, while Spencer, Holsman, Lueck, and Thomas (2006) implemented a similar study of BOW participants in South Dakota (U.S.) The current study is the first to assess the individual and overall relationships among BOW program participation, BOW-related purchase behavior, participation in outdoor recreation activities outside the BOW program, enduring involvement, and leisure satisfaction for women who participate in BOW program events.

The concepts of enduring involvement and leisure satisfaction had yet to be studied in regard to women's outdoor recreation experience. Additionally, the measure of enduring involvement for this study, the MIS, had not yet been used to measure involvement with an entire program rather than with specific single activities. Havitz & Dimanche (1997) indicated that the term leisure involvement is used to refer to leisure service agencies and settings, as well as individual activities; thus, the use of the MIS to assess enduring involvement for the BOW program as a whole adds to the body of knowledge regarding the use of this measurement tool.

### **Purpose of the Study**

The purpose of the study was to examine the experience of women in the United States and Canada who participated in "Becoming an Outdoors-Woman" (BOW) program events in order to identify the individual and overall relationships among their participation in the BOW program, BOW-related purchase behavior, women's outdoor recreation activity participation outside of BOW, the dimensions of enduring

involvement, and the amount of leisure satisfaction they experience. The researcher also investigated the possible relationships among the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) (Kyle, Absher, et al., 2007) and the six subscales of leisure needs satisfaction (psychological, educational, social, relaxation, physiological, and aesthetic) (Beard & Ragheb, 1980; Burlingame & Blaschko, 2002).

### **Research Questions and Hypotheses**

To address the purpose of this study, a combination of research questions and hypotheses were developed. Where the professional literature provided support, directional hypotheses were specified.

#### **Research Question 1.**

Are “Becoming an Outdoors-Woman” (BOW) program participation (number of activities and frequency of participation), women’s outdoor recreation participation outside of BOW (number of activities and frequency of participation), and the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) related to the mean score of overall leisure satisfaction?

#### **Hypothesis 1.**

There is a significant relationship between BOW participation (number of activities and frequency of participation) and the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression).

**Hypothesis 2.**

There is a significant relationship between BOW program participation (number of activities and frequency of participation) and women's outdoor recreation participation outside of BOW (number of activities and frequency of participation).

**Research Question 2.**

What are the relationships among the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) and the six subscales of leisure needs satisfaction (psychological, educational, social, relaxation, physiological, and aesthetic)?

**Hypothesis 3.**

There is a significant difference between participants who buy and those who do not buy equipment/gear, etc. in the mean scores of each of the five dimensions of enduring involvement: attraction, centrality, social bonding, identity affirmation, and identity expression.

**Hypothesis 4.**

There is a significant difference between participants who do and do not purchase licenses to pursue fishing, hunting, or other activities in the mean scores of each of the five dimensions of enduring involvement: attraction, centrality, social bonding, identity affirmation, and identity expression.

**Hypothesis 5.**

There is a significant difference between participants who do or do not purchase memberships in one or more outdoor-related organizations such as conservation, environmental, or other outdoor activity group in the mean scores of each of the five

dimensions of enduring involvement: attraction, centrality, social bonding, identity affirmation, and identity expression.

### **Operational Definitions**

1. Becoming an Outdoors-Woman (BOW) Program is designed to teach women basic outdoor skills in a non-threatening, supportive atmosphere; skill areas addressed include hunting, fishing, and other outdoor skills. This program has been implemented in more than 40 states in the United States and six Canadian provinces (Holsman et al., 2004; Lueck, 1995; Welch, 2004). For the purposes of this study, the BOW program included, but was not limited to, BOW-sponsored events, such as BOW weekend workshops, a field day, and/or any other BOW-sponsored event.
2. BOW program participation, for the purposes of this study, refers to any outdoor behaviors, experiences, or activities that occurred in, or depended on, the natural environment for their fulfillment which were learned in a BOW program initially and in which respondents in this study took an active part. BOW program participation was operationalized by number of activities and by frequency of participation in outdoor recreation activities learned in BOW and in which respondents participated during a BOW program or due to the BOW program.
3. Enduring involvement “emerges when there is congruence between personal needs, goals and values and the attributes of an activity” (Kyle, Absher, et al., 2007, p. 400). For the purposes of this study, enduring involvement with the BOW program was measured with Kyle, Absher, et al.’s (2007) Modified Involvement Scale.

4. Involvement “is said to reflect the degree to which people devote themselves to an activity or associated product (Zaichkowsky, 1985). Additionally, involvement refers to the strength or extent of the cognitive linkage between the self and stimulus object” (Kyle, Absher, et al., 2007, p. 399).
5. Leisure involvement refers “to leisure settings, products, service agencies and people’s involvement with various recreation activities and products” (Havitz & Dimanche, 1997, p. 246).
6. Leisure satisfaction is “the positive perceptions or feelings which an individual forms, elicits, or gains as a result of engaging in leisure activities and choices” (Beard & Ragheb, 1980, p. 22) as well as the degree to which these feelings, resulting from the meeting of the individual’s felt or unmet needs, are experienced.
7. Leisure Satisfaction Measure (LSM) is an assessment to measure the degree to which a person’s general needs are being met through his/her leisure and was developed originally by Beard and Ragheb in 1980, then modified by Idyll Arbor, Inc., for the benefit of recreational therapists (Burlingame & Blaschko, 2002). The Leisure Satisfaction Measure has six subscales: *psychological, educational, social, relaxation, physiological, and aesthetic* (Beard & Ragheb, 1980).
8. Modified involvement scale (MIS) is an assessment to measure enduring involvement which “consists of five dimensions (*attraction, centrality, social bonding, identity affirmation, and identity expression*) measured with 15 items” (Kyle, Absher, et al., 2007, p. 405), developed by Kyle, Absher, Norman, Hammitt, and Jodice in 2007.

9. Outdoor recreation is “the array of recreation behaviors, activities, and experiences that occur in or depend on the natural environment for their fulfillment” (Human Kinetics, 2006, p. 309).
10. Outdoor recreation participation refers to people taking an active part in a recreation behavior, activity, or experience that occurs in or depends on the natural environment for its fulfillment (Holsman et al., 2004; Human Kinetics, 2006).
11. Outdoor recreation activity participation outside of the BOW program, for the purposes of this study, refers to any outdoor behaviors, experiences, or activities that occur in, or depend on, the natural environment for their fulfillment which were not learned in a BOW program initially (have no connection with BOW) and in which respondents in this study took an active part. Outdoor recreation activity participation was operationalized by number of activities and by frequency of participation in outdoor recreation activities not learned in BOW and in which respondents participated independently of the BOW program.
12. Participation is taking an active part in an activity rather than being a spectator or accompanying someone else to the activity (Holsman et al., 2004).
13. Purchase behavior is spending money on an activity (Havitz & Dimanche, 1999). BOW-related purchase behavior was operationalized in this study through participants’ having purchased equipment or gear, licenses, or membership in one or more conservation, environmental, or other outdoor group as a result of participating in the BOW program.

**Delimitations**

1. Women who participated in the specific BOW programs in the specific states or provinces randomly selected for the study were included in this research.
2. Women who participated in at least one BOW weekend workshop/field day/BOW-sponsored event in the United States and Canada within the past two years and who were 18 years old or older at the time of the study were asked to participate in the study.
3. Participants included women who communicate in English, have access to a computer, and were able to respond to the online survey.
4. Women who gave consent for their data to be used in the study were considered study participants.
5. Criteria for inclusion of programs were maintenance of an email database of participant addresses, use of the English language to communicate with participants, and the implementation of at least one program a year for the past three consecutive years.

**Limitations**

1. The study participants were limited to women 18 years or older who had participated in the BOW programs selected for this study in the United States and Canada within the last two years; therefore, study findings were not generalizable to women who attended other outdoor recreation programs in the U.S. and Canada, or who attended outdoor recreation programs in other countries.

2. The use of an online questionnaire to collect study data limited the participant population to those who had access to, and knew how to use, a computer.

**Assumptions**

1. Participants understood the questions asked in the survey instrument, and their responses were honest and accurate.
2. Participants accurately remembered and reported their BOW and outdoor recreation experiences.

## CHAPTER II

### LITERATURE REVIEW

This study examined the experiences of women in the United States and Canada who participated in the “Becoming an Outdoors-Woman” (BOW) program in order to identify the relationships among their level of BOW participation, participation in other outdoor recreation activities, BOW-related purchase behavior, the dimensions of enduring involvement, and the amount of leisure satisfaction they experience. Also, the study investigated the possible relationships among the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) and the six subscales of leisure needs satisfaction (psychological, educational, social, relaxation, physiological, and aesthetic). For this study, the literature review addressed the following topics: women and outdoor recreation; the BOW program; leisure involvement; enduring involvement; measures of enduring involvement; leisure satisfaction; measures of leisure satisfaction; and on-line survey methodology.

#### **Women and Outdoor Recreation**

Although outdoor leisure and recreation activities provide many benefits to women, such as challenging new experiences, an appreciation and enjoyment of nature, a greater sense of independence, and better overall well-being (Pawelko, 2005), outdoor leisure activity may be constrained for women due to lack of skills, lack of opportunity, and the way in which women are socialized into their culture (Henderson & Roberts, 1998). “For example, when women make choices about how to engage in leisure, their choices are steeped in cultural ideologies about what types of behaviors are appropriate for women and men in society” (Henderson, Hodges, & Kivel, 2002, p. 259). Stereotypes

that prevent or predict participation in specific leisure activities may be tied to age (Cochran, Stoll & Kenzinger, 2006; Gergen, 1990), race (Holsman, Lueck, & Thomas, 2004; Schnell, 2000; Spencer, Holsman, Lueck, & Thomas, 2006), or gender (Henderson, 1994; Henderson & Hickerson, 2007; Henderson & Roberts, 1998; Jordan, 1992; Little, 2002; McDermott, 2004; Parry, 2005; Raisborough & Bhatti, 2007). Specifically, women's participation in outdoor recreation activities has been limited by gender and social stereotypes (Henderson & Roberts, 1998; McDermott, 2004).

Outdoor recreation has been traditionally viewed as a "male dominated arena" (Little, 2002, p. 159). Participation in some outdoor pursuits requires some physical strength, independence, and the ability to take risks; these qualities have not been traditionally valued for women (Little, 2002; McDermott, 2004). Women have been socialized to be nurturers and caregivers, to be compassionate and caring, and these qualities may be at odds with attributes such as risk-taking, physical strength, and self-reliance, which would benefit those who pursue outdoor recreation activities (Little, 2002). Little (2002) suggested that "social practices that limit women's access, organizational power and individual relations" (p. 160) aid in the domination of what is seen as a subordinate group (women) by a more powerful group in society (men). In Henderson and Roberts' (1998) review of twenty years of research on women in the outdoors, the researchers found that, more than current social roles, this "history of socialization constrained women" (p. 14), as did fear of injury, lack of skills, or lack of strength for certain pursuits. There was also research suggesting that participation in outdoor pursuits helped women counteract constricting social roles, achieving more "self-confidence, initiative," and "an increase in stereotypical masculine personality traits"

(Henderson & Roberts, 1998, p. 14). Conversely, even though women have been constrained by gender roles, they may resist these limiting roles through participation in outdoor recreation activities (Bialeschki, 1992; Fullagar, 2008; Henderson, 1992; Henderson et al., 2002; Henderson & Roberts, 1998; McDermott, 2004; Pohl, Borrie, & Patterson, 2000; Roster, 2000). Henderson and Roberts (1998) also state that women who participate “in outdoor activities can build both self-confidence and self-concept” (p. 14) and, in doing so, may contest traditional social roles. “The potential of the outdoors to function as a challenge to traditional female roles is serving as a part of empowerment and transformative change” (Henderson & Roberts, 1998, p. 17).

Besides being hampered by socially determined roles, women today experience other constraints in outdoor activities (Hargrove & Perry, 2010; Little, 2002; Lueck, 1995; Pawelko, 2005). Their outdoor experiences may be limited by the structural constraints of time and money (Hargrove & Perry, 2010; Little, 2002; Lueck, 1995; Pawelko, 2005) or by interpersonal constraints, such as the responsibility of care-giving (Hargrove & Perry, 2010; Little, 2002; Lueck, 1995; Pawelko, 2005) or the availability of companions to share the experience (Hargrove & Perry, 2010; Little, 2002; Pawelko, 2005). Intrapersonal constraints identified by women are lack of skill (Hargrove & Perry, 2010; Little, 2002; Pawelko, 2005), lack of experience or lack of self-confidence (Hargrove & Perry, 2010; Little, 2002; Lueck, 1995). Fear caused by lack of experience (Little, 2002), fear of heights, crime, or water (Hargrove & Perry, 2010), fear of guns (Hargrove & Perry, 2010; Lueck, 1995), or fear of looking “stupid” (Lueck, 1995) are additional intrapersonal constraints reported by women.

In spite of these constraints, women find and continue to pursue outdoor recreation activities that fit the context of their lives (Little, 2002), and continue to redefine their self-image (McDermott, 2004). Women have found that when they participate in outdoor activities during which they learn skills through physical experience, they build confidence and self-esteem (McDermott, 2004). Additional advantages include adventure and exploration, a sense of accomplishment, an expanded social circle, and cooperating and sharing responsibility with others (Pawelko, 2005).

Pohl et al. (2000), in their study of the effects of wilderness recreation on women's everyday lives, contend that during wilderness recreation activities, women may discover a new sense of self. In fact, in the wilderness, "women may go directly against the grain of what they have essentially been socialized to be" (Pohl et al., 2000, p. 416). This freedom to be other than their socialized selves is only one of many benefits of wilderness recreation; other positive results include accruing relational benefits, such as new friendships, interacting with others, and addressing major life transitions (p. 416). Self-sufficiency, a change in perspective, a connection to others, and mental clarity were identified as outcomes of wilderness recreation which were transferable to women's everyday lives (p. 423). Self-sufficiency in the wilderness became independence in one's everyday life, enabling the women in the study to be more outspoken and confident enough to state their own opinions. Some women stated that successfully solving problems in the wilderness helped them feel more confident in problem-solving once they returned home. The change in perspective they gained from the simpler lifestyle in the wilderness was apparent on their return home as evidenced by a calmer and more confident outlook. Sometimes, the new viewpoint allowed the women to reevaluate their

body image, materialism, and social conduct (p. 426). The third outcome identified was a connection to others and grew from the community of women as they shared the wilderness experience (Pohl et al., 2000). An all-women group seemed to provide an opportunity to communicate more openly, to share and show emotion, and to treat each other equally. The women thought that the community they felt as a group in the wilderness carried over on their return home, helping them to see others differently. The women described mental clarity as another outcome of their stay in the wilderness. Being in a place that was free of the daily distractions of their ordinary lives helped women focus and live in the moment, feeling more peaceful and less distracted. On their return home the women realized that time alone in the wilderness had allowed them to grow personally and interpersonally, as they gained more confidence and a greater sense of self-worth and at the same time forged bonds with other women (Pohl et al., 2000).

McDermott (2004) and Pawelko (2005) have catalogued similar benefits of wilderness or outdoor experiences for women. McDermott (2004) investigated how women understood their experiences of canoeing in a single-sex setting. They realized not only what the meaning of the activity was to them, but also how the activity reflected their perception of their own physicality, beyond the obvious perception of appearance. The women said that the all-women groups provided a “supportive, non-competitive environment for learning physical skills” (p. 287), a sense of equality because of the single-sex setting, and the opportunity to spend time with other like-minded women (McDermott, 2004).

The women felt that, because of the women-only setting of the canoeing trip, they did not have to prove themselves at the same time that they were learning new skills

(McDermott, 2004). The lack of pressure to perform was an important benefit; they felt that the absence of men helped women cultivate a sense of their own competence without outside judgment or competition (Holzwarth, 1992; McDermott, 2004). The women developed skills and competencies in a non-judgmental but challenging arena; they learned that not only the physical experience but the social surroundings in which the experience took place were empowering as well. The women in the study felt that there was more equality in the single-sex setting; that is, there was a more equitable division of labor than there would have been with men present. In a mixed-sex group, the women felt that camp chores such as food preparation and clean-up as well as carrying only the lighter equipment would have fallen to them. In the single-sex group, all the women had to share all the necessary work of the trip, which helped them acquire a sense of physical confidence and competence. One of the participants described the successful completion of a difficult physical task as “owning my body and connecting to it in a way I hadn’t done before” (p. 292). These women also found it important to spend time with like-minded women in an outdoor setting. As one participant stated, “I wanted to meet some women who were doing different things with their lives” (McDermott, 2004, p. 290).

The women-only group might have enjoyed a different relationship with the natural setting than if men had been part of the group. The idea that the outdoors is an arena where men “triumph over the environment” (McDermott, 2004, p. 286) was in sharp contrast to Henderson’s (1992) concept of women being a part of nature, rather than trying to dominate it. In actuality, neither scenario was true of all women or all men; there might be just as much variation in attitudes toward nature among different women in a group as among men in a group (Henderson & Roberts, 1998; McDermott, 2004).

Women claiming a leisure space in outdoor or wilderness settings was an idea explored by Henderson et al. (2002). Henderson et al. (2002) stated that “leisure spaces are sites where gendered identity can be produced, reinforced, or resisted” (p. 264), such as resistance against traditionally-defined roles (Bialeschki, 1992) or overcoming self-doubt (Henderson, 1992). Women needed to feel physically safe in a leisure space; other aspects of a place might contribute to their spatial comfort, such as a feeling of psychological safety, or the social aspect of the space, such as the women-only organization of the outdoor canoeing experience studied by McDermott (2004). Roster (2007) investigated women claiming a space of their own and resisting stereotyped roles through their participation in a male-dominated sport, motorcycle riding. As these women motorcycle riders developed their knowledge and skill in a sport that was traditionally male-oriented, they created a leisure community of like-minded women and reconstructed their own identities, challenging preconceived social roles, fostering self-expression, and engendering a sense of empowerment (Roster, 2007). These women were willing to take risks, both monetary and physical, in order to pursue this sport. The financial costs of owning and operating a motorcycle and its equipment and gear were significant, accidents could occur, and social risks taken by women who ride motorcycles included “being labeled as a social, sexual or gender deviants [sic]” (Roster, 2007, p. 446). The benefits seemed to outweigh the risks, especially for these women. Benefits included therapeutic factors such as an aid to recovery after a life loss (death of a loved one, divorce, or financial setback), a stress reliever, and a reconstruction of self-identity after addiction recovery or life-threatening disease. Being part of a group of women with similar leisure beliefs also was a benefit; the creation of mentor

relationships and social networking among the women riders helped to increase confidence. Laying social stereotypes to rest was another outcome of the women's participation in motorcycling. The women carried out community projects, such as riding their motorcycles to a school to deliver donated school supplies, an act designed to help dispel negative images of women bikers (Roster, 2007). Finally, the new skills they learned also were beneficial in several ways. Through the activity of motorcycle-riding, the study participants maintained or increased confidence levels and a sense of power due to the acquisition of the knowledge and skills to operate and maintain their motorcycles. They also continued to resist social stereotypes and to pursue their chosen form of outdoor recreation (Roster, 2007). In addition to the women-only, single-activity studies of McDermott (2004), Pohl et al. (2001), and Roster (2007), there are private and public women-only programs in Canada and the United States that were initiated within the past 30 years to provide women with a unique experience of outdoor recreation (Herrgesell, 2001; Lueck, 1995; Mairs & Demers, 2010; Mitten, 1992).

### **The Becoming an Outdoors-Woman (BOW) Program**

From the mid-1970s into the 1990s, programs for women contributed to the overall growth of outdoor adventure programs (Attarian, 2001). Three such programs stood out: Woodswomen, Inc., a woman-focused, Minneapolis, Minnesota education and travel company, started in 1977 (Mitten, 1992); Wild Women Expeditions, organized in 1990 as an all-woman canoe trip business in Ontario, Canada (Mairs & Demers, 2010); and the Becoming an Outdoors-Woman (BOW) Program, begun in 1991 at the University of Wisconsin Stevens Point (Lueck, 1995). BOW was designed to teach women basic skills in gun sports and safety, fishing, and other outdoor recreation pursuits

(Welch, 2004; see also Holsman et al., 2004; Lueck, 1995; Lueck, 2005; Pawelko, 2005; Schnell, 2000).

Woodswomen had provided trips for women into the wilderness since 1977 (Mitten, 1992). Small groups of six or eight women explored such diverse outdoor recreation pursuits as backpacking, sea kayaking, bicycle excursions, whitewater and flatwater canoeing, and snorkeling. Another private business, Canadian-based Wild Women Expeditions (WWE), began offering women-run, women only canoe trips in 1991 (Mairs & Demers, 2010). The philosophy of WWE embraced diversity among women and “openly celebrated . . . women’s strength, sexuality and spirituality” (Mairs & Demers, 2010, p. 14). Beginning with five canoe trips scheduled in 1991, WWE ran 50 trips by 2002. Rapid expansion of women-only trips as an adventure travel market niche caused WWE to deepen rather than broaden their marketing in 2003, thereby retaining their core clientele (Mairs & Demers, 2010).

Both Woodswomen, Inc. and Wild Women Expeditions (WWE) were founded by entrepreneurs. In contrast, the first Becoming an Outdoors-Woman (BOW) weekend workshop was organized and implemented in 1991 through the College of Natural Resources, University of Wisconsin Stevens Point (UWSP) to address barriers to women’s participation in outdoor pursuits (Welch, 2004). Sixty-five participants and speakers from a variety of hunting and fishing organizations, as well as personnel from fish and game management agencies, attended (Herrgesell, 2001). Seven focus groups of approximately nine members each identified barriers for women participating in hunting and fishing activities (Herrgesell, 2001). Fourteen of the 21 barriers identified were related to lack of outdoor education opportunities; as a result, a weekend workshop was

planned to provide an educational opportunity for women to learn outdoor recreation pursuits (Welch, 2004). During the weekend workshop, from Friday afternoon to mid-day on Sunday, participants had the opportunity to choose from a variety of consumptive and non-consumptive outdoor activities, such as hunting, angling, shooting, canoeing, outdoor cooking, and backpacking (Welch, 2004). The focus of the present study was the BOW program because of its longevity (19 years) and because it was currently the most wide-spread of these three long-term, women-focused programs (Holsman et al., 2004; Lueck, 2005; Schnell, 2000). BOW weekend workshops and additional field days, events, and other trainings have served over 20,000 women a year (Holsman et al., 2004; Lueck, 2005) in over 40 states and six Canadian provinces (Also available from the University of Wisconsin Stevens Point website, <http://www.uwsp.edu>). Most locations that offered the basic BOW weekend offered additional BOW-sponsored events, such as “Beyond BOW” workshops, which are single-topic workshops scheduled for one or more days, giving the participants focused instruction in specific skill areas (Welch, 2004). According to Peggy Farrell, current BOW program coordinator. “BOW workshops are constructed to offer 1/3 hunting/shooting, 1/3 fishing, and 1/3 ‘other’ [activities]” (P. Farrell, personal communication, June 8, 2010).

Multiple studies on various aspects of BOW since its inception in 2001 have provided demographic information and BOW-related behaviors of women participants (e.g., Gransee, Lueck, & Thomas, 2002; Hargrove & Perry, 2010; Holsman et al., 2004; Lueck, 1995; Lueck, 2005; Pawelko, 2005; Schnell, 2000; Spencer, Holsman, Lueck, & Thomas, 2006; Welch, 2004). Research on BOW programs had focused on women’s barriers to outdoor recreation activities (Herrgesell, 2001; Pawelko, 2005), participation

of women who are minorities (Schnell, 2000), and women with disabilities (Gransee et al., 2002; Lueck, 2005). Researchers have also studied the impact of BOW and BOW-related programs on continuation of specific outdoor recreation activities (e.g., Holsman et al., 2004; Spencer et al., 2006) as well as demographic and participation information for national or state programs (e.g., Hargrove & Perry, 2010; Holsman et al., 2004; Miller, Anderson, Campbell, & Yeagle, 2003; Pawelko, 2005; Spencer et al., 2006; Welch, 2004).

As the BOW program matured, the lack of racial/ethnic diversity among the participants continued to be evident (Holsman et al., 2004; Pawelko, 2005; Schnell, 2000), and another “barriers” conference to address this issue and design new strategies was held in 1999. The barriers to minority women’s participation in the BOW program “were identified as lack of role models, feeling unwelcome, and lack of education” (Schnell, 2000, p. 13). The strategies to increase participation from minority women were to educate them through BOW workshops, to hold workshops in targeted communities, to train minorities as instructors/role models, and to change BOW programming and promotional materials to “reflect more ethnic diversity” (p. 13). The outcome of this second conference was a series of pilot workshops to test the strategies identified as ways to involve women of color and those with lower incomes. The first pilot workshop was a BOW instructor training held March 31 to April 2, 2000, in Missouri, the first state to hold a workshop targeted to minorities. There were 19 participants, of whom seven were minority men and women, at the workshop. The researcher collected demographic information from the participants as well as information about their outdoor experience and their BOW experience. The most common barrier to participation in outdoor

recreation identified by the participants was not enough time. Fourteen of the 19 participants indicated that they felt welcome at the workshop; no participants indicated that they did not feel welcome at this training (Schnell, 2000).

In April, 2000, the second pilot BOW program, a weekend workshop, was scheduled to recruit minority women, especially Hispanic women, in Houston, San Antonio, and Austin, Texas (Schnell, 2000). In spite of a massive campaign to publicize this workshop, only 12 people signed up for the weekend. The Texas Parks and Wildlife Department (TPWD) decided to re-advertise and scheduled a new effort for the spring of 2001, with more direct personal contact from TPWD to potential participants (Schnell, 2000).

In August of 2000, a third pilot program, a one-day field experience, was held (Schnell, 2000). The selected participants were minority employees of the U.S. Department of Agriculture (USDA) Forest Service. Of 42 employees who participated, 32 returned their surveys. According to Schnell (2000), this field day had the “highest number of minorities of any workshop across North America, both in terms of percentages and actual numbers” (Schnell, 2000, p. 34).

The International BOW Program sponsored another barriers conference, held in Minnesota in 2002, which dealt with outdoor recreation participation and women with physical disabilities (Gransee et al., 2002). Lueck (2005) conducted a qualitative study regarding the experiences of six women with disabilities, some of whom had attended more than one BOW workshop. Among the experiential benefits the six women reported were a “great sense of self discovery” (p. 80), an escape from their disability, positive

feelings, escape from everyday pressures, camaraderie and new friendships, and learning new and continuing previously-learned skills (Lueck, 2005).

A national study of the BOW program was conducted in 2003, funded by the International Association of Fish and Wildlife agencies through a multi-state conservation grant (Holsman et al., 2004). The purpose of the study was to determine whether BOW participation “enhanced recruitment and retention of women in outdoor activities, especially hunting and fishing” (Holsman et al., 2004, p. 3). Past participants of BOW programs were randomly chosen from 11 states to participate in the study. All seven United States Fish and Wildlife Service (USFWS) regions were represented. A questionnaire was developed and pilot tested. State BOW coordinators randomly selected 125 participants in each program who had attended at least one weekend workshop in 2001, 2002, and 2003; 1,412 women were mailed questionnaires. There was an overall 71% response rate to the survey. The respondents provided demographic information, hunting and fishing participation before and after attending BOW, and BOW program effects on participation for hunting and fishing. The women in Holsman et al.’s (2004) study were predominantly Caucasian (93%), well-educated (over 58% had bachelor’s degrees and 25.6% had advanced degrees) and had a mean age of 46 years. A little over 66% were married or had a significant other; about 30% had at least one child at home under the age of 19 (Holsman et al., 2004).

Holsman et al. (2004) found that 59.8% of the women who had hunted in the past had done so during the past 12 months. About 11% of the respondents were already active hunters prior to their BOW experience, while 17% said that BOW gave them the skills, confidence or interest to begin or resume hunting. Also, another 19.6% said that

BOW increased their interest in hunting even though they had not tried it yet (Holsman et al., 2004). A statistically significant relationship was shown between the number of workshops the women took and the likelihood of the purchase of a hunting license; 14.7% of multiple workshop participants purchased a hunting license in 2003, while only 7.8% of the single workshop participants had done the same. Women who had attended BOW two or more years prior to the study were significantly more likely to have purchased a hunting license and gone hunting in the past 12 months than those who had attended BOW one or fewer years prior to the study (Holsman et al., 2004).

Women had greater participation in fishing, both before and after attending BOW, than they did in hunting (Holsman et al., 2004). Approximately 63% of women reported fishing in their youth; a little more than 59% reported fishing as adults. A little more than 39% of the respondents credited BOW with giving them the confidence, skills, or interest to try or resume fishing. Women who took fishing classes at BOW were approximately ten times as likely to go fishing as those who didn't take fishing classes. BOW is a more important retaining factor among women with prior fishing experience than among women with no prior experience, while for hunting, BOW is an important factor in retaining hunters among women with no prior experience in hunting (Holsman et al., 2004).

Holsman et al.'s (2004) national study of BOW participants examined women's experiences of fishing and hunting before and after BOW, and the effect the BOW program had on hunting and fishing behavior for these women; it also addressed other selected outdoor recreational activities of the respondents, and the effect BOW program participation may have on those activities. "Given the pattern of increased license buying

and hunting participation for women who take multiple workshops, follow-up experiences with BOW should be especially effective aids to hunting recruitment and retention” (Holsman et al., 2004, p. 18). However, neither Holsman et al.’s (2004) study nor Spencer et al.’s (2006) similar study of the BOW program in South Dakota examined the relationship between participation in BOW and non-BOW recreation activities, or between program participation and other constructs related to leisure and recreation.

In an evaluation for the Texas BOW program, Welch (2004) measured the effectiveness of that program through participants’ knowledge and attitudes toward natural resource stewardship and ethics, behavioral changes as a result of BOW program participation, and degree of awareness of the Texas Parks and Wildlife Department’s (TPWD) mission and purpose through a telephone survey. Participants indicated their level of participation in outdoor activities prior to and after BOW participation, and were asked whether or not they attributed their post-BOW participation to the BOW program. While Welch (2004) did not relate participation in the Texas BOW program to other leisure constructs, she found that returning “alumnae” to BOW made up a substantial part of the respondents to program surveys. Pawelko (2005) found that 60% of the women in her study had from six to thirty years of outdoor recreation experience.

BOW participants indicated what keeps them coming back or helps them stay involved: “Since I’ve started going 3 years ago I’ve missed only two because of . . . family . . . learned so much, made great friends, and have a greater appreciation of our resources” (Holsman et al., 2004, p. 50). Another participant agreed, “They [these programs] are not only fun, build confidence and camaraderie among women, but also provide valuable educational forums for appropriate use of natural resources and safety in

the outdoors” (Holsman et al., 2004, p. 50). A participant from a 2009 Tennessee BOW weekend workshop said, “I brought my daughter with me this year and she loved it. I look forward to it every year, and now so will my daughter” (Hargrove & Perry, 2010, p. 64). Another wrote, “I always have a rewarding experience no matter which BOW event I am attending. Love the BOW program and wouldn’t be able to do some of the things I now do without it. I plan to be involved in it for years to come” (Hargrove & Perry, 2010, p. 65). The women made it very clear that they have a strong connection to the BOW program and plan to maintain that connection by returning to BOW as well as continuing BOW-learned activities after the program (Hargrove & Perry, 2010; Holsman et al., 2004).

There is currently no literature on whether or not continued participation in BOW programs leads to enduring involvement. The current study proposed to examine women’s participation in BOW programs and their participation in outdoor recreation activities not related to the BOW program with their enduring involvement with the BOW program as well as with their overall leisure satisfaction. As in the Holsman et al., (2004) study, other related activities such as purchase behavior connected to outdoor recreation (i.e., buying goods or services) were investigated.

### **Forerunners of Leisure Involvement**

*Involvement* is most often defined in terms of personal significance and is a term which grew from research regarding consumer behavior (Kyle, Absher, Norman, Hammitt, & Jodice, 2007). The concept of involvement “refers to the strength or extent of the cognitive linkage between the self and stimulus object” (p. 399) and encompasses the extent to which people are devoted to an activity and/or a product associated with it.

The tie between the self and the activity or product depends upon how closely aligned the person's needs, values, or goals are with the benefits and attributes of the activity or product. In consumer research, the connection between a consumer's values, needs, and goals and his or her purchase behavior often results in a somewhat dynamic and changeable state, defined by Havitz and Mannell (2005) as reflecting "temporary feelings of heightened involvement that accompany a particular situation" (p. 155), a description of *situational involvement*. By contrast, *enduring involvement* is seen as reasonably stable, a product of "ongoing feelings or concerns that a consumer or participant brings into a situation" (Decloe, Kaczynski, & Havitz, 2009). Both situational involvement and enduring involvement are exhibited through consumer behavior.

Because enduring involvement was a concept that grew out of marketing and consumer research, it was initially used to measure consumer attraction to, and identification with, a particular item or brand of item; early scales that measured aspects of enduring involvement included items to assess the type and amount of risk that a consumer would experience during the purchase of that item or brand (Havitz & Dimanche, 1997; Kyle, Absher, et al., 2007; Laurent & Kapferer, 1985). Researchers have examined the differences between situational involvement and enduring involvement (e.g., Decloe, et al., 2009; Havitz & Howard, 1995; Havitz & Mannell, 2005; Richins, Bloch & McQuarrie, 1992); the consensus is that enduring involvement is more stable over time (Havitz & Howard, 1995; Havitz & Mannell, 2005). Enduring involvement, then, is a "sustained level of care or concern with an issue, product, or activity" (Havitz & Howard, 1995, p. 256), in contrast to the type of involvement evinced by any specific situation, particularly a purchase situation.

### **Leisure/Recreation Involvement**

Involvement is a key ingredient in leisure experiences (Dimanche, Havitz, & Howard, 1991). Leisure researchers are interested in the relationship between enduring involvement and leisure-related behaviors (Kyle, Absher, et al., 2007). The term *leisure involvement* is “used in reference to people’s involvement with various recreation activities and associated products, leisure service agencies, or settings” (Havitz & Dimanche, 1997, p. 246). Havitz and Dimanche (1999) state that “high levels of leisure involvement indeed appear to drive or influence the behaviors of many people” (p. 124). Kyle, Absher, et al. (2007) assert that several “. . . studies have shown that involved recreationists tend to participate more often and are more inclined to engage in other activity-related behaviors (e.g. club membership, magazine subscription)” (p. 401) than those whose behavior is not as involved.

Havitz and Dimanche (1999), in their examination of research propositions about the relationships among leisure/recreation-based behaviors and involvement profile scores, found that the proposition most strongly supported by research was that participants’ involvement profile scores would be positively related to how frequently they traveled, participated, or purchased related goods (p. 127). This relationship between involvement and frequency of participation, travel, or purchase was borne out in various studies, and included those conducted with kayakers (Schuett, 1993); birders (Kim, Scott, & Crompton, 1997); and fans of professional sports teams (Funk, Ridinger, & Moorman, 2004). Because enduring involvement is a concept that is tied to frequency of participation as well as purchase behavior, a measure of enduring involvement was used in the current study to examine the potential connection between women’s participation

in the BOW program, BOW-related purchase behavior, outdoor recreation activity participation outside the BOW program, and the dimensions of enduring involvement.

### **Development of Measures of Enduring Involvement**

Interest in enduring involvement grew out of early research in the fields of psychology and consumer behavior (Kyle, Absher, et al., 2007). As researchers interested in leisure involvement began to use scales first developed through consumer research, instruments to measure enduring involvement in leisure gradually evolved from single to multifaceted scales (Kyle, Absher, et al., 2007). Until the mid 1980s, unidimensional scales to measure enduring involvement were used by many researchers (Havitz & Dimanche, 1997). In Havitz and Dimanche's (1997) synthesis of 50 leisure involvement data sets, the authors stated that almost all of the (then) recent research efforts had used just four of the most widely-used scales to measure leisure involvement: (a) Zaichkowsky's (1985) Personal Involvement Inventory (PII), a single-faceted, or unidimensional, scale; (b) Laurent and Kapferer's Consumer Involvement Profile (CIP), which introduced a five-component involvement scale and was developed independently of the PII in the same year; (c) Watkins' (1987) derivation of the CIP (his scale eliminated the *risk* facet used in Laurent and Kapferer's CIP, but added a *centrality* facet or dimension); and, (d) the Revised Personal Involvement Inventory (RPII), developed by McQuarrie and Munson in 1987 (a multidimensional blend of the CIP and PII). "A fifth scale that has received multiple use in leisure research is Bloch et al.'s (1986) unidimensional Enduring Involvement Index (EII)," (p. 263) focusing on the dimensions of *interest* and *importance*, dimensions which related to the perceived interest or importance of a product or activity to a person (Bloch et al., 1986).

Multifaceted scales, whether or not participants score equally high on all facets or dimensions, provided more information than single-dimension scales (Havitz & Dimanche, 1997). In their discussion of participants' scoring patterns —high on one dimension, but low on another, depending on the participants and their relationships to the activity category —Dimanche et al. (1991) stated that “a unidimensional score would conceal valuable information” (p. 63). Multifaceted scales provided more information for studying leisure and recreation experiences (Havitz & Dimanche, 1997). Laurent and Kapferer's (1985) Consumer Involvement Profile (CIP) used five factors or facets to operationalize involvement (Kyle, Absher, et al., 2007). The five facets were *importance*, *pleasure*, *sign*, *risk importance*, and *risk probability*. *Importance* referred to the congruence between a consumer's goals and the extent to which a particular product meets those goals. *Pleasure* measured the extent to which the product pleased the consumer. *Sign* referred to the congruence perceived between the identity of a product and the consumer's identity. *Risk probability* related to the possibility that the consumer might make a poor choice, while *risk consequence* examined possible negative consequences to the consumer of making a poor choice (Kyle, Absher, et al., 2007; Laurent & Kapferer, 1985).

In subsequent studies, *importance* and *pleasure* were facets that tended to load on a single factor, which McIntyre (1989) called *attraction* (McIntyre, 1989; McIntyre & Pigram, 1992). Other studies showed the same one-factor loading of *importance* and *pleasure* (Kyle, Absher, et al., 2007). McIntyre (1989) dropped the risk items and added a facet called *centrality*, which referred to lifestyle choices and personal investments an individual made to continue his/her association with an activity. Centrality was adapted

from Wellman, Roggenbuck, and Smith's (1982) work on specialization, in which *centrality to lifestyle* was included as a facet; Selin and Howard (1988) discussed centrality as key to ego involvement through personal values. McIntyre (1989) also used a third dimension, *self-expression*, which was analogous to Laurent and Kapferer's (1985) *sign*.

In 1991, Dimanche et al. revised the Consumer Involvement Profile (CIP) to measure leisure involvement; their version of this scale, the Involvement Profile (IP) has been a standard for measures of leisure involvement, and was the most frequently used scale in the research studies included in the 1997 study by Havitz and Dimanche. In this analysis, the researchers compared measurement scales developed for involvement and enduring involvement in order to extend the existing research and to address two propositions: (a) that "multifaceted scales are more appropriate than single-faceted scales to measure leisure and tourism involvement" (Havitz & Dimanche, 1997, p. 245); and, (b) that leisure involvement and experiences of tourism should be highly involving on all facets of the scales. Using factor analysis to determine the factor structure of the scale, Dimanche et al.'s (1991) version of the CIP, called the IP, had four dimensions, *sign* or importance of self-expression, status, or identity, *importance-pleasure* or the hedonic quality of the activity, *risk consequences* (the outcome of a poor choice), and *risk probability* (the likelihood of making a poor choice). Cronbach's alpha coefficients for the factors or dimensions in the IP were as follows: importance, .80; pleasure, .89; sign, .96; risk consequence, .89; and risk probability, .90, thereby providing high reliability of this scale (Dimanche et al., 1991, p. 51).

Another more recently-developed multi-faceted involvement measure was Ragheb's (1996) 37-item Leisure and Recreation Involvement (LRI) scale. It was the longest multi-faceted involvement measure of the scales discussed in the literature, even with a short form of 24 items (Havitz & Dimanche, 1997). Ragheb's (1996) scale included facets common to other leisure involvement scales (*importance, interest, pleasure, and centrality*---importance to lifestyle) but also included *meaning* and *intensity*, intensity being related to the facet of self-expression found in other measures. Although the reliability range for its six subscales was .78 to .90 for the long form and .74 to .84 for the 24-item short form, the scale "has not been used in published research to date" (Havitz & Dimanche, 1997).

Later researchers applied the concept of enduring involvement to subsequent studies which used leisure involvement with particular leisure activities, such as angling (Kyle, Absher, et al., 2007) or bird watching (Kim et al., 1997). At the same time, researchers interested in enduring involvement began to develop and use multifaceted rather than unidimensional scales (Dimanche et al., 1991; Havitz & Dimanche, 1997; Iwasaki & Havitz, 2004; Kyle, Absher, et al., 2007; McIntyre, 1989). Although the elements making up multidimensional leisure involvement scales were somewhat comparable from one scale to the next, there were facets which were deliberately deleted from some scales while retained in others (Kyle, Absher, et al., 2007).

Since *risk* initially was an item on involvement scales measuring consumer behavior in relation to goods and services, researchers questioned its applicability to leisure behavior measures, especially activities and experiences regularly enjoyed by an individual (Kyle, Absher, et al., 2007). Because leisure behavior was most often

intrinsically motivated, the individual involved in the activity brought to it expectations and experience which were integral to the activity (Kyle, Absher, et al., 2007). Therefore, risk probability was much less a factor for leisure involvement and was not included as a dimension in Kyle, Absher, et al.'s (2007) multi-faceted enduring involvement scale. As Kyle, Absher, et al. developed the Modified Involvement Scale (MIS), several other facets of leisure involvement underwent transformations.

*Centrality* is a facet or dimension of involvement that initially indicated an individual's investment, either social or financial, in an activity (Kyle, Absher, et al., 2007). Later this definition was split into two facets: *centrality* within an individual's lifestyle and *social bonding* (Kyle & Chick, 2004), which indicates how much a person's involvement is driven by his/her social ties (Kyle, Absher, et al., 2007). Due to research regarding leisure identities (Dimanche & Samdahl, 1994), Laurent and Kapferer's (1985) *sign* facet and McIntyre's (1989) *self-expression* facet were separated into two identity-related dimensions: *identity expression* and *identity affirmation* (Kyle, Absher, et al., 2007). This evolution of the dimensions or facets of enduring involvement in leisure activity culminated in the development of the MIS (Kyle, Absher, et al., 2007).

Kyle, Absher, et al.'s (2007) MIS scale consists of five dimensions: *attraction*, *centrality*, *social bonding*, *identity expression*, and *identity affirmation*. *Attraction* refers to the importance of an activity and the pleasure derived from it (Kyle & Chick, 2004), *centrality* refers to the importance of the activity in the individual's life (Kyle & Chick, 2004), and *social bonding* refers to social ties that connect individuals to an activity (Kyle, Absher, et al., 2007). *Identity affirmation* means the extent to which one's unique characteristics were expressed to one's own self through the activity, while *identity*

*expression* is the extent to which the self could be expressed to others through a leisure activity (Kyle, Absher, et al., 2007).

The MIS was tested in a study of campers and anglers in South Carolina (Kyle, Absher, et al., 2007). The measure consisted of three statements for each of the five dimensions, to which respondents used a Likert-type five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree) (Kyle, Absher, et al., 2007). The researchers found reliability scores ranging from .71 to .85 for the five dimensions of the MIS (Kyle, Absher, et al., 2007). In an examination of motivation and involvement of campground recreationists in three settings in Sumter National Forest, Kyle, Absher, Hammitt, and Cavin (2006) found reliability scores of .71 to .86 for the five dimensions of the MIS in a pooled sample of participants. However, to date, the MIS has not been used with a population of women, nor to measure involvement with a program of outdoor leisure activities rather than a single recreation activity.

The MIS was selected for use in this study due to its reliability; Cronbach's alpha reliability for each of the five dimensions of the MIS range from .71 to .85 (Kyle, Absher, et al., 2007). Given the literature presented earlier on the benefits women experienced from participation in outdoor recreation programs (e.g., McDermott, 2004; Pawelko, 2005; Roster, 2007), a better understanding of the relationship between women's participation in outdoor recreation activities and its potential relationship to the five dimensions of enduring involvement might contribute to a broader understanding of these concepts.

## **Leisure Satisfaction**

Another construct examined in the current study is leisure satisfaction, a concept that describes the social-psychological outcomes of leisure motivations and behaviors (Mannell & Kleiber, 1997). Leisure satisfaction is composed of “the positive perceptions or feelings which an individual forms, elicits, or gains as a result of engaging in leisure activities and choices” (Beard & Ragheb, 1980, p. 22) as well as the degree to which these feelings, resulting from the meeting of the individual’s felt or unmet needs, are experienced.

Leisure satisfaction has been measured in the past by the number of activities in which people participated overall (Guinn, 1995; Mannell, 1999) rather than by the needs satisfied by participation in leisure activities (London, Crandall, & Fitzgibbons, 1977). More recently, leisure satisfaction has been measured qualitatively rather than quantitatively (Mannell, 1999). The measurement of leisure satisfaction has been viewed in basically two ways, through needs-satisfaction, or motivation-based leisure satisfaction, and appraisal-satisfaction, or evaluation-based leisure satisfaction. Needs-satisfaction could be based on how well the leisure activities chosen met people’s specific needs, while appraisal-satisfaction is the extent to which persons were satisfied with their overall leisure style (Mannell & Kleiber, 1997). “The appraisal-satisfaction approach reflects a concerted effort to assess the quality of contemporary life and its various domains other than with the use of objective measures” (p. 207), such as economic, ecological, health, or sociological indicators (Mannell & Kleiber, 1997). The appraisal-satisfaction approach is a subjective look from the present to the past—what people

thought about what they had experienced compared to what they might have expected to have experienced (Mannell & Kleiber, 1997).

While some research using the appraisal-satisfaction approach has dealt with specific recreation activities or settings, such as a particular event or destination, other studies have used this approach to sum up components of leisure in order to arrive at an overall total satisfaction score (Mannell & Kleiber, 1997). Specific factors which showed satisfaction or dissatisfaction were the “relationship[s] between leisure satisfaction and other leisure phenomena such as leisure participation, attitudes, awareness and boredom” (Mannell & Kleiber, 1997, p. 210).

### **Measurement of Leisure Satisfaction**

“Leisure plays a dynamic role in individuals’ lives, and it would be useful to know how the satisfaction gained from leisure choices relates to personal and social adjustment, mental health, and overall happiness” (Beard & Ragheb, 1980, p. 21). Beard and Ragheb (1980) developed an instrument to assess leisure phenomena in a valid and reliable manner in order to improve quality of life. Their *Leisure Satisfaction Scale* (LSS) is a needs-satisfaction measure; it assesses the extent to which persons feel that their needs in specific areas are being met by their leisure style. The alpha reliability for the original 51-item scale was .96, with subscale scores ranging from .85 to .92. A shorter 24-item version of the LSS had an alpha reliability of .93 overall, with .76 to .86 being the subscale score range (Beard & Ragheb, 1980).

In the LSS, overall leisure satisfaction is measured through the leisure needs satisfied and is divided into six distinct categories: psychological, educational, social, relaxational, physiological, and aesthetic (Beard & Ragheb, 1980). The psychological

category, or subscale, refers to intrinsic motivation, freedom of choice, a sense of accomplishment and adventure, and the expression of individuality. The educational subscale deals with intellectual stimulation, satisfaction of curiosity, and the appreciation of new and broader experiences. The social category consists of relationships with others, interaction and communication, the opportunity to meet friends, enjoyment of fellowship, the need for attention and recognition, altruistic goals, and service to others. The relaxation subscale refers to the restorative nature of leisure —specifically, recuperation from work, a reduction of stress, and relief from the cares of life. The physiological subscale pertains to the challenge of physical activities, an increase in health, physical restoration, prevention of obesity, and an increase in energy. Finally, the aesthetic category deals with the surroundings in which leisure activity takes place, and the enhancement of the activities due to beautiful or well-designed spaces (Beard & Ragheb, 1980).

A Likert-type scale was developed from the literature to assess what effects a person's leisure had or how much their leisure activities satisfied a person's needs (Beard & Ragheb, 1980). Responses in the scale ranged from 1 (Almost Never True for you) to 5 (Almost Always True for you). After testing the scale with experts in the field, modifications were made, and the scale was retested. The second field test with a sample of 603 individuals provided data for an analysis of the subscales, the overall measure, and a factor analysis. The alpha reliability coefficient overall was .93, with component scores ranging from .76 to .86. Factor analysis provided a clear definition of the physiological component from the relaxation (see p. 58 comment) component. After this analysis, the measure was revised again, some items were eliminated, and some additional items were

added to the physiological subscale. The final field test was conducted with a sample of 347 participants. The alpha reliability coefficient for the total scale, composed of six subscales and 51 items, was .96; the subscale scores ranged from .85 to .92. Beard and Ragheb also prepared a short form of the LSS, a 24-item scale, with each subscale having four items. Alpha reliability for the LSS short form was .93; subscale scores ranged from .76 to .86 (Beard & Ragheb, 1980).

In the current study, Beard and Ragheb's (1980) LSS, published as the Leisure Satisfaction Measure (LSM) by Idyll Arbor Press (burlingame [*sic*] & Blaschko, 2002) was used to examine the relationships among women's participation in the BOW program, outdoor recreation activity participation outside the BOW program, and overall leisure satisfaction. The literature supported such a relationship. According to Losier, Bourque, and Vallerand's (1993) study of leisure motivation, leisure participation, and leisure satisfaction in the elderly, "leisure satisfaction can predict leisure participation, but this does not mean that leisure participation cannot influence leisure satisfaction. . . . over time, leisure satisfaction and leisure participation may have a reciprocal relation" (p. 167). Women who participate more frequently in BOW activities and outdoor recreation activities other than BOW activities might experience greater leisure satisfaction.

Havitz and Dimanche (1997) suggested the possibility of "theoretical relationships between **leisure involvement** and commitment, loyalty, self-esteem, self-assured competence, **satisfaction**, service quality, and serious leisure" (p. 271). It might be that women who score higher on one or more dimensions of enduring involvement are more satisfied overall with their leisure.

To that end, this current study investigated the relationship among women's participation in the BOW program, their outdoor recreation activity participation outside the BOW program, their scores on the dimensions of enduring involvement, and their overall leisure satisfaction.

### **Use of the Leisure Satisfaction Measure**

The LSM was chosen for the current study due to its capacity to assess overall leisure needs satisfaction and its consistently high reliability scores for both the overall measure and the six subcomponents. The LSM (Beard & Ragheb, 1980) was not the only way that researchers have measured leisure satisfaction. Guinn (1980) used a single statement, "I am satisfied with my present level of leisure activity participation" (p. 200) with a three-point Likert-type response to assess the leisure satisfaction of elderly recreational vehicle tourists. In a study of trail users, BongKoo, Shafer, and Inho (2005) used cumulative episode-specific evaluations to determine overall satisfaction of the leisure participants in their study; if participants identified more contentment than conflict, they had higher overall satisfaction scores. Burns, Graefe, and Absher (2003) measured outdoor recreation satisfaction through four customer service subcomponents: facilities, services, information, and experience. The Recreation Quality Index was created in 1995 (Roper Starch, 1998) to measure three broad components of American outdoor recreation: opportunity for recreation, actual participation in outdoor recreation, and satisfaction with local and vacation outdoor experiences, including value received for the cost, amount of activities and instruction, and service quality from administration and staff in national parks. These types of satisfaction measures were either too general (e.g., Guinn, 1980) or dealt with broad economic and service satisfaction (e.g., Burns et al.,

2003) rather than needs satisfaction of individuals (e.g., Roper Starch, 1998), or were more situational in nature (e.g., BongKoo et al., 2005).

Many research studies have used the Leisure Satisfaction Survey (LSS), also known as the Leisure Satisfaction Index (LSI) (Guinn, 1980), and the Leisure Satisfaction Measure (LSM) (Burlingame & Blaschko, 2002) to study leisure satisfaction and other aspects of leisure (e.g., Backman & Mannell, 1986; Beard & Ragheb, 1980; Di Bona, 2000). The LSS has been used to examine the relationships among leisure satisfaction and other types of satisfaction, such as life satisfaction (Guinn, 1980; Ragheb & Griffith, 1982) or job satisfaction (Pearson, 1998, 2008). Di Bona (2000) explored the relationship between leisure satisfaction and demographic characteristics of nurses, while Riddick (1986) researched the relationship between leisure satisfaction and age-ranked groups. Lu and Hu (2005) used the LSS to explore the relationships among personality, leisure, and happiness of university students; Misra and McKean (2000) examined the relationships among college students' academic stress and its relationship to their anxiety levels, time management, and leisure satisfaction. Ngai (2005) used the LSS to measure leisure satisfaction and relate it to quality of life for citizens of Macao (China).

Other studies also applied Beard and Ragheb's (1980) measure of leisure satisfaction to specific populations. Lloyd, King, Lampe, and McDougall (2001) conducted a study of people with mental illness to explore the extent of satisfaction from leisure activities for this population, using the LSS. Lysyk, Rodrigues, McNally, and Loo (2002), chose the 24-item LSS for "its quantitative and qualitative aspects" (p. 78) and because of the measure's ease of administration to adapt a standardized English language leisure satisfaction measure for use with native speakers of French. Spiers and Walker

(2009) investigated how ethnicity and leisure satisfaction affected people's happiness, peacefulness, and quality of life, using the six subscales of the LSS translated from English into a simplified Chinese version to measure leisure satisfaction. In a study of Taiwanese adolescents, Wang, Chen, Lin, and Wang (2008) used the LSS to examine positive effects of leisure satisfaction on life satisfaction of teenagers who play online games. In another study in Taiwan, the effect of conscientiousness on leisure satisfaction for online game players was researched by Yang, Hou, and Tu (2008). For each of the studies represented here, the LSM was consistently reliable. Measures ranged from an overall Cronbach's alpha coefficient of .80 to .97 with subcomponent reliability ranging from .60 to .93. However, the LSM has yet to be used to measure the satisfaction of a program of related outdoor activities designed for a specific population (women).

Beard and Ragheb's (1980) Leisure Satisfaction Measure was used in the current study to measure leisure satisfaction because of the relationship of leisure participation and satisfaction in the literature (Losier et al., 1992), the fact that frequency of participation and number of activities for the BOW program and for outdoor recreation outside the BOW program were independent variables in the current study, and the consistent reliability of Beard and Ragheb's (1980) LSM over many years in relation to numerous leisure and life constructs. In particular, the LSM measured BOW participants' overall leisure satisfaction and assessed how well their leisure needs were met through the psychological, educational, social, physiological, relaxation, and aesthetic dimensions of leisure satisfaction. In addition to examining overall leisure satisfaction, relationships between the constructs of enduring involvement and leisure satisfaction were explored

through an analysis of the five dimensions of enduring involvement and the six subscales of leisure satisfaction.

### **Online Surveys**

An online survey was used in this study. Online surveys have advantages over pen-and-paper surveys in that online surveys “save the respondent time and the researcher money” (Young, Ross, & O'Dell, 2000, p. 35). Mertler (2002) estimated the cost savings at almost 90%. Other benefits included the method's increased response speed, its environmental friendliness, and its convenience (Young et al., 2000). Mertler (2002) added the advantages of greater response, reduction of human error, and efficiency of data collection.

Among the limitations identified by Mertler (2002) of the online survey methodology were whether the sample garnered is representative, how a response rate can be established, and whether the findings can be generalized. The practical issues of using an online survey were having to follow specific protocols and use particular types of software programs, which might necessitate getting expert advice from a technology professional (Mertler, 2002).

Andrews, Nonnecke, and Preece (2003) discussed criteria for the design and use of electronic surveys. Quality criteria included survey design, participant privacy and confidentiality, selection of sample and participants, distribution and response management, and the piloting of a survey (Andrews et al., 2003).

Although Andrews et al. (2003) stated that there was no guaranteed online sampling method, pure random sampling was not possible due to the nature of the Internet. The sample was restricted to those who have Internet access. A self-selection

method could be achieved by having participant information posted at many online sites and through offline media. The results would not be generalizable to populations offline, however (Andrews et al., 2003).

Piloting the survey helped to work out problems with conceptualization, bias, question placement, and other structural problems (Andrews et al., 2003). Problems uncovered by the piloting process could include inappropriate demographic data requests, open-ended questions that did not provide useful information, ambiguous wording, inconsistent terminology, missing instructions, and other errors. Piloting the study was also considered essential in light of the improvement to the survey it provided (Andrews et al., 2003).

A negative view of online surveys was presented by Duda and Nobile (2010). They described four basic problems with online surveys: sample validity (not every member of the population under study might have a chance of participating in the study); non-response bias (those who did not respond were potentially different from those who did respond); stakeholder bias (those who might benefit from the outcome of the survey might complete the survey more than once); and unverified respondents (people outside the sample population who might wish to receive an offered incentive would find a way to complete the survey). The researchers concluded that “it is the method of sampling, not the sheer number of responses that determines sample validity” (Duda & Nobile, 2010, p. 63).

In spite of Duda and Nobile’s (2010) objections to online surveys because of sample validity and types of respondent bias, online surveys might still provide a way to conduct studies when other ways to access information were not feasible financially or

were otherwise impractical (Andrews et al., 2003). To access women participants of the BOW program in the current study, the researcher sought a method of reaching participants from a sample of over 46 programs in the United States and Canada. BOW programs are currently implemented in over 40 U.S. states and 6 Canadian provinces (Welch, 2004). Expected response rates for online surveys might range from 20% to 70% and are affected by survey design, distribution procedures, and individual participants' ability to answer (Andrews et al., 2003).

The advantages of an online survey for this large and wide-spread population as stated by Mertler (2002) and Young et al. (2000) outweighed the disadvantages posed by Duda and Nobile (2010) for women in the BOW program. Therefore, an online survey was used to examine the relationships among women's participation in the BOW program, their outdoor recreation participation, BOW-related purchase behavior, the dimensions of enduring involvement, and leisure satisfaction.

## CHAPTER THREE

### **METHODOLOGY**

The purpose of this study was to examine the experiences of women who participate in “Becoming an Outdoors-Woman” (BOW) programs in order to identify the individual and overall relationships among their participation in the BOW program, BOW-related purchase behavior, their outdoor recreation activity participation, the dimensions of enduring involvement, and the amount of leisure satisfaction they experience. The researcher also investigated the possible relationships among the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) (Kyle, Absher, Norman, Hammitt, & Jodice, 2007) and the six subscales of leisure needs satisfaction (psychological, educational, social, relaxation, physiological, and aesthetic) (Beard & Ragheb, 1980; burlingame [*sic*] & Blaschko, 2002).

#### **Study Design**

This study utilized a one-time survey of United States and Canadian participants of the “Becoming an Outdoors-Woman” (BOW) program (Appendix A). BOW consists of more than 46 programs in the United States and Canada. To obtain the greatest number of participants from the randomly-selected programs, the current study utilized an online survey methodology. The online questionnaire included a researcher-designed demographic section and questions about BOW participation, BOW-related behavior, and outdoor recreation activity participation outside the BOW program. Scales for enduring involvement (Kyle, Absher, et al., 2007) and overall leisure satisfaction (burlingame & Blaschko, 2002) were utilized.

## Participants

Participants ( $N = 1,283$ ) for the current study were self-selected from among randomly chosen U.S. and Canadian BOW programs. Similar to Holsman, Lueck & Thomas' (2004) sampling methodology in a nation-wide study, the US Fish and Wildlife Service (USFWS) regions were utilized to categorize the BOW programs. The BOW programs for this study were selected from eight of the current nine regions of the USFWS. Region 9, the District of Columbia, which is the headquarters region of the USFWS, has no BOW program of its own, and therefore was eliminated from the study sample. Canada was added as a separate region to the chosen eight regions of the USFWS.

In this current study, USFWS regions with three or fewer programs were combined into one region. Region 1, Pacific Region (Washington, Oregon, Idaho, and Hawaii); Region 7, Alaska Region (Alaska only); and Region 8, California/Nevada Region (California and Nevada only) were combined to form the Pacific Coast Region. After this reorganization, there was a total of seven regions: five of the original USFWS regions and two combined regions—the Canadian provinces in one combined region and the Pacific, Alaska, and California/Nevada regions in another. A random sample generator (<http://stattrek.com/Tables/Random.aspx>) was used to select state and province programs within each region. The number of selected programs in each region was based on 50% (rounded to the nearest whole number) of the total programs within that region, with a minimum of two programs chosen per region. Using this method, the following numbers of BOW programs were selected from the given regions to achieve the targeted 25 total programs: Region 2 = 2; Region 3, 4, and 6 = 4 each; Region 5 = 5; the

combination of Regions 1, 7, & 8 = 3; and the Canadian Region = 3. Criteria for inclusion of programs were maintenance of an email database of participant addresses, use of the English language to communicate with participants, and the implementation of at least one program a year for the past three consecutive years. Programs that did not meet the above criteria for the study (or in the case of one program, not wishing to take part in the survey) were replaced by random selection within the same established region. If the replacement program did not meet the study criteria, it was not replaced. From a total of 48 programs from 40 U.S. states and six Canadian provinces, 24 programs were selected for the study (Appendix A).

After representative programs within each region were chosen, all state and province coordinators of the selected programs emailed their participants with an announcement about the survey. To participate in the study, participants needed to (a) be female, (b) be at least 18 years of age, (c) have participated in at least one BOW Program within the last two years, (d) be able to communicate in English, and (e) be able to respond to the online survey.

### **Procedures**

Prior to the study, the researcher was granted permission (Appendix B) by Thomas M. Blaschko, President, Idyll Arbor, Incorporated, to use the short form of the Leisure Satisfaction Measure (LSM) (Beard & Ragheb, 1980) in the questionnaire for this study. Gerard Kyle (Kyle, Absher, et al., 2007) gave permission (Appendix C) for the Modified Involvement Scale (MIS) to be used in the questionnaire.

Next, a panel of experts familiar with the BOW program and/or outdoor recreation and questionnaire design reviewed the questionnaire and provided feedback on

content, specifically for BOW and other outdoor recreation participation information relevant to the research questions and hypotheses in the study, for pertinent demographic data, and for clarity of expression. The preferred composition of the panel included current and past national BOW coordinators, state/province BOW coordinators, and leisure/outdoor recreation academicians. The questionnaire was revised based on recommendations from this panel and uploaded to the internet via the software program SurveyMonkey. The researcher carried out a pilot test of the questionnaire prior to posting it to the coordinators of the selected BOW programs. The questionnaire was revised a second time based on results of the pilot test.

Twenty-one people of diverse backgrounds were contacted for the pilot study; 18 opened the questionnaire, and 13 completed the questionnaire.

Based on responses to the pilot test and review by the researcher and her committee chair, the following changes were made. Rather than organize the fourth section into “BOW”- related questions for each activity and separate “non-BOW”- related questions for each activity, questions relating to BOW participation and participation not related to BOW were grouped together under each listed activity. Therefore, participants were directed to “Mark all responses that apply,” for the activities, because these responses were not all mutually exclusive. For example, for the activity “Archery” a participant could mark that she had not and did not participate in archery, and was then directed to move to the next question. A participant could indicate that she had participated as an adult, and also that her participation had been not related to a BOW event or program, and then she could type in the number of times she had participated in

archery over the past 12 months. More specific directions were added with the optional responses for each activity.

The researcher also moved the part of the questionnaire dealing with overall leisure satisfaction (Beard & Ragheb, 1980) to the beginning of the questionnaire immediately following the consent page. This was done to separate this part of the questionnaire from questions which dealt with BOW-related activity, enduring involvement, or demographics. A marker or guide indicating to the participants what percentage of the questionnaire they had completed was added. The researcher changed the wording on the button which ends and records the survey from “Done” to “Submit.” The researcher added two ‘other’ categories to Section 4, “Outdoor Recreation Participation” instead of just one.

The time it took to complete the questionnaire was changed in the consent section from 10 to 15 minutes to 18 to 23 minutes, based on pilot participants’ response. Also due to pilot participant response, in Section 4, “BOW Activity Participation,” Gun Safety and Gun Shooting were merged into one category, and Outdoor Cooking was added and was merged into a single category with Dutch Oven Cooking. Orienteering/Map & Compass were added as an activity. Some activities were reworded; for example, “Foraging for wild plants” was changed to “Plant identification/edible plants.” Snow skiing was amended to include both downhill and cross-country skiing. In the Demographic section, all U.S. and Canadian BOW Programs with coordinators were listed instead of just the ones selected for the survey. Participants were to choose the state and coordinator or province and coordinator from whom they received the questionnaire.

Approval for the study was obtained from the Institutional Review Board (IRB) of Middle Tennessee State University, Murfreesboro, Tennessee (Appendix D). Permission to utilize state and provincial BOW program coordinator lists was granted by P. Farrell (personal communication, February 22, 2010 ), the director of the BOW Program (University of Wisconsin, Stevens Point, U.S.). A modified Dillman method (Dillman, 1991) was used to conduct the survey. The selected state/province BOW coordinators were emailed approximately two weeks prior to the posting of the survey online with a short message about the nature and purpose of the study; they then sent this information to their program participants by email. The questionnaire was posted online using SurveyMonkey, a software program for internet surveys. The first page of the survey provided informed consent and a statement of understanding of the proprietary nature of the survey elements. When respondents clicked “Continue” on the first page, they were able to access the rest of the questionnaire. By continuing to complete the survey, the participants gave consent to their data being used in this study. In consenting, they also agreed that use of the questionnaire was limited to this study and that they understood that any other use of any part of the questionnaire required permission from the copyright owners.

The BOW coordinators were notified when the questionnaire was posted, and they then shared this information with their program participants. The questionnaire was posted online for a total of three weeks. After the questionnaire had been online for two weeks, a reminder email was sent to the BOW state/province coordinators to send to their participants. At the end of the posting period, a final email thanking the BOW

coordinators and participants was sent to the state and province coordinators to post for their participants, and the survey was removed from the internet.

### **Instrumentation**

The online questionnaire for this study consisted of eight sections. The informed consent form comprised the first section of the questionnaire. Continuing the questionnaire depended on agreement to the consent section. In the second section, participants' overall leisure satisfaction was assessed with the Leisure Satisfaction Measure (Beard & Ragheb, 1980; Burlingame & Blaschko, 2002). The third section included information about women's BOW program participation and purchasing behavior related to their BOW program experiences. Women's outdoor recreation participation related to the BOW program and their outdoor recreation participation not related to the BOW program were topics covered in section four. In section five, BOW influence on women's outdoor recreation activities was assessed. In the sixth section, the participants' enduring involvement was measured using the five dimensions of the Modified Involvement Scale (MIS) (Kyle, Absher, et al., 2007). A seventh section incorporated questions on demographic items, and participants were offered the opportunity to comment on aspects of the survey or their BOW experiences in the final (eighth) section.

#### **Leisure satisfaction measure (LSM).**

In section two of the online questionnaire in this current study, participants responded to the Leisure Satisfaction Measure (LSM) short form (Burlingame & Blaschko, 2000), a 24-item scale with six subscales, originally developed as the Leisure

Satisfaction Scale (LSS) by Beard and Ragheb (1980). This scale measured overall leisure needs satisfaction.

For purposes of this study, the six categories or subscales of the LSM were renumbered 1 - 24. The subscales were composed of four items each and included the following items: *psychological* (items 1 –4), *educational* (items 5 - 8), *social* (items 9 – 12), *relaxation* (items 13 – 16), *physiological* (items 17 – 20), and *aesthetic* (items 21 – 24). Psychological needs satisfaction refers to the individual's intrinsic motivation and freedom of choice; educational needs satisfaction deals with intellectual stimulation, satisfaction of curiosity, and the appreciation of new and broader experiences. The social needs satisfaction subscale consists of relationships with others, while the relaxation needs satisfaction subscale refers to the restorative nature of leisure. Physiological needs satisfaction pertains to the challenge of physical activities, health, and energy; aesthetic needs satisfaction deals with the quality of the surroundings in which leisure activity took place (Beard & Ragheb, 1980).

The subscales were scored with a Likert-type five-point response, with answers ranging from 1, "almost never true for you," to 5, "almost always true for you" (Beard and Ragheb, 1980, p. 24). The mean and standard deviation for each of the six subscales was reported, as well as an overall mean score for the scale, calculated by dividing the total score by 24. Subscales with scores greater than 4 signify a higher amount of leisure satisfaction in that specific need area than subscale scores less than 2; subscales with the highest scores indicate areas participants found most satisfying about their leisure (Burlingame & Blaschko, 2002).

Face validity of the original 51-item LSS was established by an expert review panel of 83 people (Beard & Ragheb, 1980), and modifications to the scale were made based on that review. The measure was first tested among 160 experts in the field of recreation and leisure, and then field tested with two other samples,  $N = 603$  and  $N = 347$ , respectively. After the testing by the recreation experts, the reading level of the measure was simplified. The analysis of the measure after the field testing with 603 individuals showed an alpha reliability of .93 for the entire scale, with scores ranging from .76 to .86 for the subscales. The *physiological* factor had emerged in this field test as a separate subscale and was included as such in the final field test of 347 persons. Revisions were made in the 51-question measure prior to the final field test. In the final version of the 51-item LSS, the overall alpha score for reliability was .96, with a range for the subscales from .85 to .92 (Beard & Ragheb, 1980). The LSM 24-item short form, which was used in this study, has an alpha reliability of .93 overall, with subscale scores ranging from .76 to .86 (Beard and Ragheb, 1980).

### **BOW activities.**

In the third section of the online questionnaire, participants were asked several questions about their BOW participation, including, “For how many years have you attended the BOW program?” and “What is the first year you attended a BOW program?” and responded to questions about the frequency of participation in BOW-learned activities and the number of such activities. Questions about BOW-related purchase behavior were addressed also.

In section four, study participants identified outdoor recreation activities in which they participated as a youth or as an adult, or both, due to their BOW experiences,

whether they had participated only at a BOW event or whether they had continued their participation after a BOW event, due to their BOW experiences. Respondents indicated frequency of participation for a list of suggested outdoor recreation activities.

In section five, participants replied to questions about their BOW experience during the BOW program and their continued participation in outdoor activities due to the BOW program. Respondents indicated how many BOW programs they attended before engaging in an activity learned at BOW on their own, outside the BOW program.

#### **Outdoor recreation activity participation outside the BOW program.**

Also in section four, participants identified outdoor recreation activities in which they participated as a youth or as an adult, or both, not due to their BOW experiences. Respondents indicated frequency of participation for a list of suggested outdoor activities and had the opportunity to write in two additional activities not related to their BOW experiences, indicating frequency of participation for the added activities.

#### **Modified involvement scale (MIS).**

In the sixth section of the questionnaire, the Modified Involvement Scale (MIS), a five-dimension, 15-item scale measuring enduring involvement was used to measure participants' levels of enduring involvement with the BOW program. Enduring involvement was interpreted as aligning one's personal leisure needs with the qualities of an activity (Kyle, Absher, et al., 2007). The use of multi-faceted scales has been recognized in the literature as being a more accurate way to measure leisure involvement than unidimensional scales (i.e., Havitz & Dimanche, 1997, 1999; Laurent & Kapferer, 1985; McIntyre, 1989; McIntyre & Pigram, 1992). The MIS (Kyle, Absher, et al., 2007) includes five dimensions: *attraction*, *centrality*, *social bonding*, *identity affirmation*, and

*identity expression*. Attraction is the pleasure derived from an activity; centrality reflects the amount of personal investment in an activity; and social bonding is the importance of a person's social ties through the activity. Identity affirmation and identity expression are two items which measure individuals' expressions of identity to themselves and to others around them, respectively (Kyle, Absher, et al., 2007).

Kyle, Absher, et al.'s (2007) scale consists of 15 statements to which participants responded using a Likert-type five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). For the purposes of this study, these 15 statements were renumbered from one through fifteen. Questions one through three referred to attraction; four through six indicated centrality; and seven through nine, degree of social bonding. Identity affirmation and identity expression were represented by questions 10-12 and 13-15, respectively. Means and standard deviations for each of the five dimensions were reported. An overall score for enduring involvement was not calculated (Kyle, Absher, et al., 2007).

The five dimensions of the MIS were identified and confirmed through a study of campers and angling consumers (Kyle, Absher, et al., 2007). The campers and/or recreationists were visitors to Sumter (South Carolina) National Forest, and were hereafter referred to as the SNF group (N= 424). The second group was made up of angling consumers from the Santee Cooper Country area (SCC group) whose names were selected from a database (N = 430). The method used to collect data was a modified Dillman method. Scores for the MIS dimensions were the means and standard deviations from scoring the 5-point Likert-type scale, with answers ranging from 1 "strongly disagree" to 5 "strongly agree" (Kyle, Absher, et al., 2007). A higher mean in a

dimension indicated a higher level of involvement in that dimension (see Kyle, Norman, Jodice, Graefe, & Marsinko, 2007). Higher or lower levels of more than one dimension of enduring involvement indicated either positive or negative relationships with another construct, such as place attachment in Kyle, Bricker, Graefe, and Wickham's 2004 study of recreationists' relationships with activities and settings. The dimensions attraction and centrality significantly predicted place attachment for hikers, while only attraction significantly predicted the same construct for anglers (Kyle et al., 2004).

In screening the data for skewness and kurtosis, it was found that all but three items were moderately skewed negatively in the SNF data; this was found for all but two of the SCC data (Kyle, Absher, et al., 2007). Several tests were conducted for convergent validity; according to *t*-values from the analysis, all items were statistically significant (equal to or greater than positive/negative 1.96) (p. 413). Discriminant validity was tested using constraining latent factor correlations, confidence intervals around latent variable correlation estimates, and Average Variance Extracted (AVEs) scores. All tests provided evidence of discriminant validity. Reliability of the MIS' internal consistency was measured by Cronbach's alpha. All dimensions were above .70 values: *attraction*, .85; *centrality*, .83; *social bonding*, .71; *identity affirmation*, .73; and *identity expression*, .74. Also, the composite reliability of the MIS was tested using "Bagozzi and Yi's (1988) minimum of .6," and all the dimensions of the MIS met or exceeded the minimum (p. 415). The results of the tests suggested that the MIS was valid and reliable (Kyle, Absher, et al., 2007).

### **Demographics.**

In the seventh section of the questionnaire, the respondents were asked to identify the BOW program from which they received the questionnaire, their sex, age, marital status, disability status, and ethnic origin. Participants also indicated their level of education and income. A final comments section allowed participants to provide comments or suggestions about the questionnaire or BOW activities.

### **Data Entry**

The data set from the online SurveyMonkey questionnaire was entered into Excel (2007). Data were then entered into SPSS 18 for exploratory analysis, cleaning, and final analysis.

### **Data Analysis**

The researcher used SPSS 18 to analyze the data and to examine possible individual and overall relationships among number of activities and frequency of participation in BOW activities, BOW purchase behavior, number of activities and frequency of women's outdoor recreation participation outside of BOW, the dimensions of enduring involvement, and overall leisure satisfaction. This study also investigated possible correlations among the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) and the six subscales of leisure needs satisfaction (psychological, educational, social, relaxation, physiological, and aesthetic).

Descriptive statistics, multiple linear regression, correlation analysis, and *t*-tests were utilized for data analyses in this study. Descriptive statistics, including frequencies and means, were assessed for each of the demographic and study variables.

To address Research Question 1, multiple linear regression was used. A multiple linear regression was run with number of activities and frequency of participation in BOW activities, number of activities and frequency of participation in outdoor recreation activities, and the five dimensions of enduring involvement as the independent variables and overall leisure needs satisfaction as the dependent variable.

Hypothesis 1, Hypothesis 2, and Research Question 2 examined individual relationships among the study variables: number of activities and frequency of participation in BOW activities, number of activities and frequency of participation in outdoor recreation activities outside of BOW, the five dimensions of enduring involvement, and the six subscales of leisure needs satisfaction. Each of these was analyzed using correlation analysis (Pearson's  $r$ ).

The final three hypotheses (Hypotheses 3, 4, and 5), assessing the differences in three BOW-related purchase behaviors in relation to the five dimensions of enduring involvement, were analyzed with independent samples  $t$ -tests. The significance (alpha) level was set at .01 for analyses conducted to assess each of the research questions and hypotheses in this study.

### **Power Analysis**

A power analysis was completed using G\*Power 3.1.2 (Faul, Erdfelder, Buchner, & Lang, 2009). The researcher chose a power of 95%,  $\alpha = .01$ , with a medium effect size and non-directional tests. For linear regression tests of a model with four predictors,  $n = 169$  was needed. For  $t$ -tests of a single coefficient within a multiple regression model,  $n = 123$  was needed, while for correlation tests,  $n = 184$  was needed. For independent samples  $t$ -tests ( $n_2/n_1 = 1$ ),  $n = 290$  (i.e., 145 per group) was needed. For a multiple

linear regression test of nine predictors,  $n = 290$  was needed; for each of the predictors within the model,  $n = 123$  was needed. A sample size of 290 was targeted so that all tests had at least 95% power for a medium effect size.

## CHAPTER IV

### RESULTS

The purpose of this study was to examine the experiences of women in the United States and Canada who participated in “Becoming an Outdoors-Woman” (BOW) program events in order to identify the individual and overall relationships among their participation in the BOW program, BOW-related purchase behavior, women’s outdoor recreation activity participation outside of BOW, the dimensions of enduring involvement, and the amount of leisure satisfaction they experienced. The researcher also investigated the possible relationships among the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) (Kyle, Absher, Norman, Hammitt, & Jodice, 2007) and the six subscales of leisure needs satisfaction (psychological, educational, social, relaxation, physiological, and aesthetic) (Beard & Ragheb, 1980; Burlingame & Blaschko, 2002). Following is a description of the participants in the study and results from the data analyses conducted for each of the two research questions and the five study hypotheses.

#### **Participants**

Participants in the study were women who self-selected from among 24 randomly chosen U.S. and Canadian BOW programs. To participate in the study, participants needed to (a) be female, (b) be at least 18 years of age, (c) have participated in at least one BOW Program within the last two years, (d) be able to communicate in English, and (e) be able to respond to the online survey. A total of 1,525 women responded to the questionnaire. After cleaning data through SPSS 18, there were 1,283 valid questionnaires. Participants ( $N = 1,283$ ) came from 23 of the 24 programs randomly

selected for the study. No participants from the BOW program in New Brunswick, Canada responded to the survey (Appendix A).

### **Age and Education.**

The age of participants ranged from 20 to 80 years of age ( $N = 1,252$ ) with average age being 48 years ( $SD = 11$ ). In regard to education ( $N = 1,273$ ) three women had less than a high school education (.2 %), while 156 (12.3%) had graduated from high school or had passed the General Education Development tests (G.E.D.). Of those who held degrees, 262 (20.6%) had an associate's degree or a technical certification, 516 (40.5%) held a college degree, 276 (21.7%) had a master's degree, and 60 (4.7%) had attained a doctorate.

### **Marital Status.**

Of those who reported marital status ( $N = 1,296$ ), 153 (12.0%) stated that they were single and had never married, while 185 (14.5%) had been divorced. Of the total, 900 (70.6%) reported that they were either married or in a committed relationship. Thirty-seven (2.9%) women reported that they were widows.

### **Race or Ethnic Origin.**

Of the 1,269 women who responded to this question, 16 (1.3%) were Hispanic, while 11 (.9%) were Asian or Pacific Islanders. Eleven women (.9%) self-identified as African American, and nine (.7%) were American Indian or Alaskan Native. The largest group at 1,189 (93.7%), was Caucasian, while 33 women (2.6%) identified themselves as Multi-racial, Other, or Unknown.

### **Income.**

There were 1,204 responses to this question. A total of 52 (4.3%) of the participants had an annual household income of \$24,000 a year or less, while 214 (17.8%) participants reported that their annual household incomes ranged from \$25,000 to \$49,999. Participants whose income ranged from \$50,000 to \$74,999 numbered 310 (25.7%); 289 (24.0%) of the respondents had incomes of \$75,000 to \$99,999. Three hundred thirty-nine participants (28.2%) indicated an annual income of \$100,000 to over \$150,000.

### **Disability Status.**

Seventy-six women stated that they had one or more disabilities ( $N = 1,275$ , 6.0%). Identified disabilities varied from attention deficit disorder, amputation, and allergies to post-traumatic stress disorder, seizures, and walking difficulty (Appendix E). Some of the women participated in spite of their disabilities. Comments included, “But I make up for not being able to do all the things I love by spending time watching wildlife and keeping bees,” “both knees have been replaced and don't bend completely but we still found a way to get in a kayak,” and, “Spine problems, but I don't let them limit my activity and participation.”

### **BOW Program Participation**

Participants' overall attendance at BOW programs ( $N = 1,278$ ) ranged from one year to 19 years ( $M = 3.04$ ,  $SD = 2.86$ ). Of the total, 502 (39.3%) of the women reported that they had attended BOW for one year only, while 45 (3.5%) of the women had attended for 10 years, and 10 (.8%) had attended BOW for 15 years. Only two (.2%) participants reported attending BOW for 19 years. BOW was initiated in 1991; 19 years

represents attendance at BOW for all the years it has been in operation. Less than one-third of the women ( $n = 378$ , 29.5%) who responded to this question had attended more than one BOW program in any given year.

The total number of BOW programs attended by the participants in the study ( $N = 1,282$ ) ranged from one to 40 ( $M = 3.65$ ,  $SD = 4.27$ ). When asked specifically about attendance at BOW weekend workshops, the participants ( $N = 1,271$ ) indicated that they had attended from zero to 40 total weekend workshops ( $M = 2.80$ ,  $SD = 3.62$ ), and 1,254 women stated that they had attended from 0 to 20 total other BOW events that were not weekend workshops ( $M = 0.69$ ,  $SD = 1.64$ ), such as a field day or hunt.

The year 2010 was identified as the “most recent year . . . attended a BOW program,” by 607 (49.1%) of the participants, while 1993 was the most recent year of attendance at a BOW program recorded by one participant (.1%). Two hundred ninety-seven (24.0%) of the respondents identified 2009 as the “most recent year” they had attended BOW, while 189 (15.3%) women said 2008 was the “most recent year” they had attended BOW.

#### **Purchase Behavior Related to BOW.**

Of the women who responded to the question about spending money on outdoor equipment or gear or other items as a result of participating in activities learned at BOW ( $N = 1,278$ ), 881 (68.9%) said that they spent money on gear, and 397 (31.1%) reported that they hadn't spent any money on gear as a result of their BOW-learned activities. Minimum purchase reported was zero dollars, while the maximum amount spent reported was \$20,000. The median amount spent reported by the women in the study was \$200.

For purchase of licenses to pursue outdoor activities (hunting, fishing or other outdoor activities requiring a license) resulting from BOW participation, slightly less than half reported that they purchased a license ( $n = 623$ , 48.7%), while slightly more than half of the participants reported **not** purchasing such licenses ( $n = 656$ , 51.0 %). Those who responded to the question of whether or not they had purchased memberships in one or more outdoor-related organizations such as conservation, environmental, or other outdoor activity group as a result of participating in activities learned in the BOW program ( $N = 1,276$ ) indicated that slightly more than one-fourth of them ( $n = 353$ , 27.7%) had purchased memberships, while almost three-fourths of them ( $n = 923$ , 72.3%) had not.

#### **BOW Skills Shared.**

Of the 1,277 women who answered the questions about sharing BOW skills, 1,082 (84.7%) said they shared BOW-learned skills with family members, while 195 (15.3%) did not share the skills with family. Interestingly, those who responded that they shared outdoor skills learned at BOW with friends ( $N = 1,071$ ) reported similar results. Of this group, 1,071 (84.1%) shared BOW skills with friends, and 202 (15.9%) did not share BOW skills with friends.

#### **BOW Influence on Outdoor Recreation**

Of the 1,277 women who responded to one of six statements about the influence of the BOW program on their outdoor recreation activities (modified from the 2004 Holsman et al. study), two women (.2% ) stated “I wasn’t too interested in outdoor recreation activities before participating in BOW, and I’m still not.” Seventy-four women (5.8% ) selected the second statement, “BOW did increase my interest in outdoor recreation activities, but I still haven’t tried any outdoor recreation activities on my own.”

The third statement, “BOW gave me the skills, confidence, or interest to try doing some outdoor recreation activities for the first time,” had 520 (40.7%) respondents, and the fourth statement, “BOW gave me the skills, confidence, or interest to resume outdoor recreation activities I had done before” had 288 (22.6%) respondents. Three hundred seventy-three women (29.2%) chose the fifth statement, “I was already active in the outdoors before BOW.” Finally, 20 individuals (1.6%) felt that BOW participation had led to their realization that they did not enjoy outdoor recreation activities. Overall for this question, 882 (69.1%) women in the study credited BOW with a positive influence on their attitudes or behavior regarding outdoor recreation activities.

### **BOW-Learned and Non-BOW-Learned Activities**

Participants answered questions about outdoor recreation activities in which they participated only at a BOW program or event (BOW only), about such activities learned at BOW and continued as a result of their BOW experience (BOW continued), and about their outdoor recreation experiences not due to their BOW experience (Non-BOW). Table 1 shows that some activities, such as archery, dog sledding, and orienteering/map and compass, had more participants at BOW programs only, when compared to those who continued these activities after learning them at BOW, or who took part in these activities, but not due to their BOW experience. Dutch oven cooking and gun safety/gun shooting had slightly more participants who reported learning and continuing these activities due to their BOW experience than those who reported doing these activities only at BOW events. Of those who reported participating in trapping and plant or edible plant identification, fewer indicated that they did these activities at BOW and continued after BOW than did them only at BOW or did them, but not due to BOW. Many of the

activities listed in Table 1 were identified by the women in the study as outdoor recreation activities in which they participated, but not because of their BOW experiences.

**Table 1**  
*Participation in Outdoor Recreation Activities (N = 1,283)*

	BOW only	BOW cont.	Non-BOW
Archery	294	142	160
ATV Operation	61	36	299
Backpacking	82	77	430
Camping	27	92	720
Caving	11	1	166
Dog Sledding	97	7	42
Dutch Oven/Outdoor Cooking	208	212	228
Fishing	68	235	483
Gun safety/Gun Shooting	202	265	314
Hiking	25	122	690
Horseback Riding	15	11	480
Hunting	52	100	214
Motorized Boating	29	29	478
Mountain Biking	36	24	237
Orienteering/Map & Compass	295	134	185
Outdoor Photography	32	120	503
Plant/Edible Plant Identification	145	105	277
Rafting	16	18	363
Rappelling	65	11	119
Rock Climbing	35	4	144
SCUBA Diving	9	4	165
Snow Skiing	15	31	525
Snowmobiling	31	7	216
Snowshoeing	40	71	305
Swimming	1	5	828
Trapping	40	13	40
Water Skiing	---	---	301
Wildlife Watching	15	127	656

### **Response Rate.**

Out of 24 selected programs, there were 23 BOW programs with participants who responded to the survey. BOW program coordinators used email lists to invite participants to take part in this study. Twenty-one programs reported email list numbers. The overall response rate for selected BOW programs in the United States and Canada was 13% (Appendix A).

### **Research Question 1**

Are “Becoming an Outdoors-Woman” (BOW) program participation (number of activities and frequency of participation), women’s outdoor recreation participation outside of BOW (number of activities and frequency of participation), and the five dimensions of enduring involvement (attraction, centrality, social bonding, identity expression, and identity affirmation) related to the mean score of overall leisure satisfaction?

To address Research Question 1, multiple linear regression was used. A multiple linear regression was run with number of activities and frequency of participation in BOW activities over the past 12 months, number of activities and frequency of participation in outdoor recreation activities not related to BOW over the past 12 months, and the five dimensions of enduring involvement as the independent variables and overall leisure needs satisfaction as the dependent variable (Table 2).

Two of the nine independent variables were predictors of leisure satisfaction  $F(9, 747) = 11.84$ ,  $MSE = (0.43)$ ,  $p < .001$ ,  $R^2 = .114$ . Multiple regression analysis indicated that only outdoor recreation activities not related to the BOW program (Non-BOW activities) ( $p = .001$ ) and the enduring involvement dimension of identity expression, that

is, the extent to which one expresses oneself to others through a leisure activity ( $p < .001$ ), were significant predictors of the dependent variable, overall leisure satisfaction (Table 3).

**Table 2**

*Descriptive Statistics for All Study Variables (N = 1,283)*

Variables	<i>N</i>	<i>M</i>	<i>SD</i>
BOW Activities	1,124	3.60	2.43
BOW Frequency	1,026	18.04	45.67
Non-BOW Activities	1,138	8.41	4.61
Non-BOW Frequency	1,097	86.85	167.84
EI Attraction	1,260	3.90	0.79
EI Centrality	1,264	2.61	0.90
EI Social Bonding	1,247	3.20	0.76
EI Identity Affirmation	1,259	3.93	0.66
EI Identity Expression	1,254	3.56	0.72
LS Psychological	1,254	4.28	0.59
LS Educational	1,231	3.96	0.67
LS Social	1,262	3.78	0.65
LS Relaxation	1,248	4.43	0.54
LS Physiological	1,245	3.56	0.72
LS Aesthetic	1,246	3.89	0.60
Leisure Satisfaction Mean	1,130	3.98	0.47

### **Hypothesis 1**

A significant relationship between BOW participation (number of activities and frequency of participation) and the five dimensions of enduring involvement (attraction, centrality, social bonding, identity expression, and identity affirmation) was predicted.

This hypothesis was analyzed using correlation analyses.

There were significant positive correlations among BOW participation (number of activities and frequency of participation over the past 12 months) and all dimensions of

**Table 3**

*Relationship Among BOW and Non-BOW Activities and Frequencies and Enduring Involvement (EI) Dimensions to Overall Leisure Satisfaction (LS)\**

	<i>B</i>	<i>SE</i>	$\beta$	95% <i>CI B</i>
(Constant)	3.006	0.118	0.058	[2.774, 3.238]
BOW Activities	0.011	0.008		[-0.004, 0.026]
BOW Frequency	0.001	0.000	0.126	[0.000, 0.002]
Non-BOW Activities	0.013*	0.004	0.061	[0.006, 0.021]
Non-BOW Frequency	0.000	0.000	0.045	[0.000, 0.000]
EI Attraction	0.028	0.030	0.010	[-0.031, 0.086]
EI Centrality	0.005	0.025	0.073	[-0.045, 0.055]
EI Social Bonding	0.045	0.027	0.045	[-0.008, 0.099]
EI Identity Affirmation	0.033	0.033	0.170	[-0.033, 0.098]
EI Identity Expression	0.111*	0.031	0.058	[0.050, 0.172]

*Note.* Dependent Variable: Overall Leisure Satisfaction Mean. \*Values were significant using  $\alpha = .01$ .

enduring involvement related to the BOW program ( $p < .001$ ) for this hypothesis. The highest correlation was between the enduring involvement dimensions of centrality and

**Table 4**

*Relationship among BOW Activities, BOW Frequency, and Enduring Involvement (EI) Dimensions*

	Enduring Involvement					
	BOWFRQ	Attraction	Centrality	Social Bonding	Identity Affirmation	Identity Expression
BOWACT	.293	.302	.270	.252	.198	.204
BOWFRQ		.168	.211	.110	.084	.149
EI Attraction			.619	.509	.487	.486
EI Centrality				.564	.384	.490
EI Social Bonding					.476	.450
EI Identity Affirmation						.617

*Note.* Sample sizes ranged from 1013 to 1259. All correlations were significant using  $\alpha = .01$ .

attraction ( $r = .619, p < .001$ ), and the lowest correlation, still significant, was between BOW frequency of participation during the past 12 months and the identity affirmation dimension of enduring involvement related to BOW ( $r = .084, p < .001$ ) (Table 4).

## **Hypothesis 2**

A significant relationship between BOW program participation (number of activities and frequency of participation) and women's outdoor recreation participation outside of BOW (number of activities and frequency of participation) was predicted. This hypothesis was analyzed using correlation analyses.

Correlation analysis showed that the relationship between BOW program participation and women's outdoor recreation participation outside of BOW (non-BOW activities), both measured by number of activities and frequency of participation, was significant. There was a significant negative relationship ( $r = -.268, p < .001$ ) between BOW-related activities (activities done only at BOW and those done at BOW and continued due to BOW) and activities in which women participated, not due to their BOW experiences.

There was a significant positive relationship between the number of BOW activities and the frequency of participation in BOW activities over the past 12 months ( $r = .293, p < .001$ ) and between the number of outdoor recreation activities not related to participants' BOW experience (non-BOW activities) and the frequency of participation in non-BOW activities over the past 12 months ( $r = .301, p < .001$ ). There was a weak positive relationship between the frequency of BOW participation and the frequency of non-BOW participation over the past 12 months ( $r = .098, p < .001$ ). The correlation

between BOW frequency of participation and the number of non-BOW activities was significant, weak ( $r = -.120, p < .001$ ).

### Research Question 2

What are the relationships among the five dimensions of enduring involvement (EI) (attraction, centrality, social bonding, identity affirmation, and identity expression) and the six subscales of leisure needs satisfaction (LS) (psychological, educational, social, relaxation, physiological, and aesthetic)? This research question was analyzed using correlation analysis.

There were significant positive correlations among all subscales of leisure satisfaction and all dimensions of enduring involvement related to the BOW program ( $p < .001$ ) for this research question. The strongest correlation was between the social bonding dimension of enduring involvement and the social subscale of leisure

**Table 5**

*Relationship Among Enduring Involvement (EI) Dimensions and Leisure Satisfaction (LS) Subscales*

	Leisure Satisfaction					
	Psychological	Educational	Social	Relaxation	Physiological	Aesthetic
EI Attraction	.228	.223	.207	.168	.144	.171
EI Centrality	.183	.214	.189	.110	.193	.196
EI Social Bonding	.157	.205	.306	.136	.164	.168
EI Identity Affirmation	.186	.175	.201	.242	.146	.218
EI Identity Expression	.221	.252	.227	.234	.209	.236

*Note.*  $N$  varied from 1199 to 1264. All correlations were significant.

satisfaction ( $r = .306, p < .001$ ); this was considered a medium effect, according to Cohen (1992). The weakest correlation, still significant although small in effect (Cohen, 1992), was between the centrality dimension of enduring involvement related to BOW and the relaxation subscale of leisure satisfaction ( $r = .110, p < .001$ ) (Table 5).

### **Hypothesis 3**

A significant difference between participants who buy and those who do not buy equipment/gear in the mean scores of each of the five dimensions of enduring involvement (EI): attraction, centrality, social bonding, identity affirmation, and identity expression was predicted.

An independent-samples *t*-test was conducted to compare mean scores in each of the five dimensions of enduring involvement of those who buy and those who do not buy equipment or gear for BOW-learned activities. There was a significant difference in the mean score for each of the five dimensions of enduring involvement for those who buy gear and for those who do not buy gear; study results suggest that those who buy gear have a higher mean score on each of the five dimensions of enduring involvement (EI): attraction, centrality, social bonding, identity affirmation, and identity expression than those who do not buy gear for BOW-learned activities (Table 6).

### **Hypothesis 4**

A significant difference was predicted between participants who do and do not purchase licenses to pursue fishing, hunting, or other activities in the mean scores of each of the five dimensions of enduring involvement (EI): attraction, centrality, social bonding, identity affirmation, and identity expression.

**Table 6***Relationship Between Purchase of Gear and Enduring Involvement (EI) Dimensions*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>d</i>
EI Attraction				11.28*	634.97	0.74
Buy gear	867	4.07	0.70			
Do not buy gear	388	3.52	0.84			
EI Centrality				9.21*	742.91	0.56
Buy gear	869	2.76	0.86			
Do not buy gear	391	2.27	0.88			
EI Social Bonding				7.22*	750.91	0.44
Buy gear	859	3.30	0.75			
Do not buy gear	383	2.98	0.74			
EI Identity Affirmation				8.29*	711.31	0.52
Buy gear	869	4.03	0.64			
Do not buy gear	385	3.70	0.66			
EI Identity Expression				6.63*	764.38	0.40
Buy gear	865	3.64	0.71			
Do not buy gear	384	3.36	0.68			

\* $p < .001$ , two-tailed.

Independent samples *t*-tests showed that for all the dimensions of enduring involvement, there is a significant difference in the mean scores for each dimension for those who do and those who do not purchase licenses to pursue outdoor recreation activities. Results suggest that those who purchase licenses to pursue outdoor activities have a higher mean score on each of the five dimensions of enduring involvement (EI): attraction, centrality, social bonding, identity affirmation, and identity expression than those who do not purchase such licenses (Table 7).

### **Hypothesis 5**

A significant difference between participants who do or do not purchase memberships in one or more outdoor-related organizations such as conservation, environmental, or other outdoor activity group in the mean scores of each of the five

dimensions of enduring involvement: attraction, centrality, social bonding, identity affirmation, and identity expression was predicted.

**Table 7**

*Relationship Between Purchase of Licenses and Enduring Involvement (EI) Dimensions*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>d</i>
EI Attraction				8.59*	1251.76	0.48
Buy licenses	611	4.09	0.76			
Do not buy licenses	646	3.72	0.81			
EI Centrality				8.86*	1255.22	0.50
Buy licenses	617	2.83	0.88			
Do not buy licenses	645	2.39	0.86			
EI Social Bonding				5.49*	1239.88	0.31
Buy licenses	612	3.32	0.76			
Do not buy licenses	632	3.09	0.75			
EI Identity Affirmation				4.29*	1252.82	0.24
Buy licenses	615	4.01	0.63			
Do not buy licenses	641	3.85	0.68			
EI Identity Expression				4.29*	1248.41	0.24
Buy licenses	613	3.65	0.71			
Do not buy licenses	638	3.47	0.72			

\* $p < .001$ , two-tailed.

Results of independent *t*-tests showed that for all the dimensions of enduring involvement, there is a significant difference in the mean scores for each dimension for those who do and those who do not purchase memberships in outdoor-related organizations. Results indicate that those who purchase memberships in organizations related to the outdoors have higher mean scores on each of the enduring involvement dimensions than those who do not purchase memberships in such organizations (Table 8).

**Table 8**

*Relationship Between Purchase of Memberships and Enduring Involvement (EI) Dimensions*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>d</i>
EI Attraction				7.71*	717.38	0.46
Buy memberships	347	4.16	0.70			
Do not buy memberships	907	3.80	0.80			
EI Centrality				8.38*	581.77	0.55
Buy memberships	348	2.95	0.93			
Do not buy memberships	912	2.47	0.85			
EI Social Bonding				4.84*	595.95	0.32
Buy memberships	343	3.37	0.78			
Do not buy memberships	898	3.14	0.75			
EI Identity Affirmation				5.01*	630.85	0.32
Buy memberships	350	4.07	0.66			
Do not buy memberships	903	3.87	0.66			
EI Identity Expression				6.10*	642.91	0.38
Buy memberships	346	3.75	0.69			
Do not buy memberships	902	3.48	0.71			

\* $p < .001$ , two-tailed.

## CHAPTER V

### DISCUSSION AND RECOMMENDATIONS

The purpose of this study was to examine the experience of women participants who participated in “Becoming an Outdoors-Woman” (BOW) program events in the United States (U.S.) and Canada to identify the individual and overall relationships among their participation in the BOW program, BOW-related purchase behavior, women’s outdoor recreation activity participation outside of BOW, the dimensions of enduring involvement, and the amount of overall leisure satisfaction they experienced. The researcher also investigated the possible relationships among the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) (Kyle, Absher, Norman, Hammitt, & Jodice, 2007) and the six subscales of leisure needs satisfaction (psychological, educational, social, relaxation, physiological, and aesthetic) (Beard & Ragheb, 1980; burlingame & Blaschko, 2002).

In addition to demographic information and participation questions, measures for two leisure concepts, leisure satisfaction (Beard & Ragheb, 1980) and enduring involvement (Kyle, Absher, et al., 2007) were used in this study. BOW participants’ overall leisure satisfaction, or the positive feelings a person gets from engaging in leisure activities and the degree to which these feelings are experienced, was measured by the Leisure Satisfaction Measure (Beard & Ragheb, 1980).

The Modified Involvement Scale (MIS) was used in this study to measure women’s involvement with BOW activities (Kyle, Absher, et al., 2007). BOW participants’ involvement referred to how much people applied themselves to the BOW program activities and the strength of the connection between the self and the activities,

as shown by the extent of BOW's relationship to a person's "self-concept, needs, and values" (Kyle, Absher, et al., 2007, p. 399).

### **Demographics**

According to the demographic data, the typical participant for this study was a college-educated, middle-aged Caucasian woman who was married or in a committed relationship and had an annual household income greater than 40% of other U.S. households. Over 80% (87.1%) of the women had completed education beyond high school. A total of 40.5% had a college degree, and 26.2% held a master's or doctoral degree. The participants' average age overall was 47.97 years old. A large percentage of the respondents (70.6%) were either married or in a committed relationship.

The race or ethnic origin most frequently identified by BOW participants in the current study was Caucasian (93.7%). In spite of efforts to attract diverse participants to BOW trainings and events since 1999 (Schnell, 2000), minority participants made up little more than 5% of the current study population. This trend was reflected by other literature on minority participation in outdoor recreation. Gramann and Allison (1999) state, "In particular, ethnic minority-group members tend to participate less frequently than Whites in a wide range of outdoor activities" (p. 290).

Household income information from the U.S. Census Bureau's 2009 survey indicates that the annual household income of more than 838 (77.9%) of the women in this study was greater than 40% of U.S. households in 2009 (income greater than \$38,550 annually). A total of 339 (28.2%) women reported annual household incomes of \$100,000 or greater, placing these women towards the top fifth of U.S. households (incomes greater than \$100,000), according to the U.S. Census Bureau.

Although over a quarter of the participants in this study had household incomes as high or higher than four-fifths of American households in 2009, comments from participants about the affordability of BOW program were mixed. While some respondents felt the weekend workshops were a good value, “Fees are also very reasonable for a weekend of fun,” there were several statements from others of the difficulty of affording the events: “I would like to participate in the BOW weekends, but they are too expensive,” and, “Unfortunately the BOW weekends are way too expensive for me to attend.” One participant stated, “It helps that BOW workshops are affordable, but many of the events after the BOW workshops are too expensive for me, especially with travel costs.” So it would seem that for some women, participation in this outdoor recreation program is limited by the expenses incurred.

Just as the cost of the BOW weekend workshops or events limited participation by some respondents, disabilities limited the experience for others. Although not directly related to the research questions and hypotheses in the study, data were collected regarding disabilities identified by the participants (Appendix E). Seventy-six women stated that they had a disability. The disabilities identified varied, from arthritis, attention deficit disorder, hearing loss, loss of vision, depression, post-traumatic stress disorder, cancer, back injuries, to a broken leg or other issues. Some participants stated that because of their identified disability, their participation was limited: “Arthritis makes my outdoor activities, i.e., hiking, kayaking, more ‘challenging,’” “I have a knee injury that has kept me from participating in some events like canoeing . . .” “Mild form of spinal bifida which limits me somewhat in strenuous activities.”

As in Lueck's (2005) study of BOW and women with disabilities, results of this current study suggested that having a disability did not necessarily keep women from participating in BOW activities. Comments from some respondents credited BOW activities: "BOW activities have helped me get through emotional stress," "It is the way I celebrate being cancer free!" Some participants worked through the pain, "Spine problems, but I don't let them limit my activity and participation," or found ways to negotiate limitations in order to participate: ". . . just have to be careful," "both knees have been replaced and don't bend completely but we still found a way to get in a kayak." The study participants who acknowledged disabilities found that their BOW activities were limited by their disability to some extent, or they found a way to negotiate the disabilities they identified, or they used BOW as a reward.

### **Research Question 1**

Are "Becoming an Outdoors-Woman" (BOW) program participation (number of activities and frequency of participation), women's outdoor recreation participation outside of BOW (number of activities and frequency of participation), and the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) related to the mean score of overall leisure satisfaction?

Only two of the independent variables, the number of non-BOW activities (those outdoor activities women pursued outside of, or not related to, the BOW program) and the identity expression dimension of enduring involvement, were significant predictors of overall leisure satisfaction. For some women who came to the BOW program, outdoor recreation activities had been part of their lives long before they attended a BOW

program. As one woman stated, “I was already pretty outdoorsy when I learned about BOW, but BOW introduced me to new activities,” and another said, “I participated in many of the outdoor activities through the military, especially the cold weather activities.”

Since these women have been involved in outdoor activities over time, outdoor recreation may have been a vehicle through which they had expressed themselves to others (identity expression) (Kyle, Absher, et al., 2007) throughout their lives prior to BOW attendance, whether or not their participation was frequent. It is possible that BOW-learned activities and frequency of participation in those activities directly due to the influence of BOW are fairly recent recreation venues for many of the women in this study, and the respondents do not credit BOW as the source of most of their leisure satisfaction.

The variables in this model explain 11.4 %, a moderate amount, of the variation in the dependent variable, overall leisure satisfaction. Other variables outside the parameters of this study, such as personality or leisure motivation, may also affect overall leisure satisfaction. For the four dimensions of enduring involvement that do not significantly predict leisure satisfaction (attraction, centrality, social bonding, and identity affirmation), women may have other sources of leisure satisfaction from activities not learned at BOW which provide them with pleasure, hold a central place in their lives, provide social outlets and opportunities for friendship, and “affirm their own characteristics to themselves” (Kyle, Absher, et al., 2007, p. 404).

### **Hypothesis 1**

There is a significant relationship between BOW participation (number of activities and frequency of participation) and the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression).

Correlation analysis indicated that there were significant positive relationships among BOW participation (measured by the number of activities and the frequency of participation over the past 12 months) and all dimensions of enduring involvement (EI) related to the BOW program. The strongest relationships were between the number of BOW activities and each of the dimensions of enduring involvement. These were, respectively, attraction ( $r = .302$ ), centrality ( $r = .270$ ), social bonding ( $r = .252$ ), identity affirmation ( $r = .198$ ), and identity expression ( $r = .204$ ). Still significant, but less strong, were the relationships between the frequency of BOW activities and each of the dimensions of enduring involvement. These were attraction ( $r = .168$ ), centrality ( $r = .211$ ), social bonding ( $r = .110$ ), identity affirmation ( $r = .084$ ), and identity expression ( $r = .149$ ), respectively. These results suggest that all dimensions of enduring involvement were more strongly related to the number of activities than they were to frequency of involvement. As Guinn (1985) and Mannell (1999) attested, the number of activities in which people participated overall had been tied to leisure satisfaction. It would seem that based on the results in this study, enduring involvement is also tied to the number of BOW activities in which the women in this study participated.

**Hypothesis 2**

There is a significant relationship between BOW program participation (number of activities and frequency of participation) and women's outdoor recreation participation outside of BOW (number of activities and frequency of participation).

Correlation analysis showed that for both BOW and non-BOW activities, there was a significant positive relationship between the number of BOW activities and the frequency of participation in BOW activities over the past 12 months and between the number of outdoor recreation activities not related to participants' BOW experience (non-BOW activities) and the frequency of participation in non-BOW activities over the past 12 months. The relationship between BOW and non-BOW outdoor recreation participation as measured by number of activities and frequency of participation over the past 12 months was significant, although slightly negative. This relationship would be expected if women respondents who are more active outdoors due to BOW-learned activities spend less time participating in outdoor activities not related to BOW; the converse may also be likely, that women in the study who spend more time participating in outdoor activities not related to BOW will have less time to spend doing BOW-learned activities.

**Research Question 2**

What are the relationships among the five dimensions of enduring involvement (attraction, centrality, social bonding, identity affirmation, and identity expression) and the six subscales of leisure needs satisfaction (psychological, educational, social, relaxation, physiological, and aesthetic)?

Correlation analysis showed a significant positive correlation among all dimensions of enduring involvement and all subscales of leisure satisfaction, suggesting that these aspects of leisure satisfaction and enduring involvement are related. The strongest correlation was between the social bonding dimension of enduring involvement and the social subscale of leisure satisfaction ( $r = .306, p < .001$ ). This was considered a medium effect (Cohen, 1992) and would indicate that the social aspect of both leisure satisfaction and enduring involvement are closely related. The weakest correlation, still significant although small in effect (Cohen, 1992), was between the centrality dimension of enduring involvement related to BOW and the relaxation subscale of leisure satisfaction. This weak correlation could indicate that study respondents might find their involvement in BOW-learned activities to be important in their lives, but did not find BOW activities to be relaxing. Given the hands-on, very active focus of BOW programs and events, it seems reasonable that participants might not equate participation in these activities with relaxation, although they find participation stimulating and adventure-filled.

### **Hypothesis 3**

There is a significant difference between participants who buy and those who do not buy equipment/gear, etc. in the mean scores of each of the five dimensions of enduring involvement: attraction, centrality, social bonding, identity affirmation, and identity expression.

The leisure concept of enduring involvement is derived from marketing research. Involvement is a measure of the strength of a cognitive connection between the self and a stimulus object and measures the extent to which people are devoted to an activity and/or

a product associated with it (Havitz & Dimanche, 1997, Kyle, Absher, et al., 2007).

Purchase of equipment or gear associated with outdoor recreation activities, purchase of licenses to hunt, fish, or operate vehicles associated with recreation activities (all-terrain vehicles, snowmobiles, etc.), and purchase of memberships in conservation, environmental, or other outdoor recreation activity-related organizations are ways that BOW participants may show greater enduring involvement (Havitz & Dimanche, 1999; Kyle, Absher, et al., 2007).

In the present study, approximately twice as many participants reported buying gear as reported not buying gear. Independent samples *t*-tests showed that there was a significant difference in the mean score for each of the five dimensions of enduring involvement for those who buy gear and for those who do not buy gear. Study results showed that those who buy gear had a higher mean score on each of the five dimensions of enduring involvement than those who do not buy gear for BOW-learned activities. The highest mean score for those who buy gear was in the dimension of attraction (importance and pleasure level of the activity); the second highest mean score for this group was identity affirmation (the extent to which one's unique characteristics were expressed to one's own self through the activity) (Kyle, Absher, et al., 2007). The lowest mean score for those who purchased gear was in centrality, the lifestyle choices and personal investments one makes to continue an association with an activity (Kyle, Absher, et al., 2007). These were reasonable results, given that an increasing level of enjoyment in an activity might motivate a person to buy more equipment to continue participation in the activity; the higher mean for identity affirmation might indicate that a person who buys gear sees herself as a person who strongly identifies with the activity.

For those who purchased gear, the overall mean for centrality (less than three on a five-point scale) may indicate that only part of their lives are organized around activities of the BOW program (Kyle, Bricker, Graefe, & Wickham, 2004).

For those who stated that they did not purchase gear, the highest mean score was in identity affirmation, and the lowest mean score was for centrality (as it was for those who purchased gear). These low mean scores for centrality were similar to centrality scores for anglers in a 2007 study of consumptive orientation profiles by Kyle, Norman, Jodice, Graefe, and Marsinko in the Southeast. Centrality received the overall lowest scores among all involvement scores for each of four groups of anglers in this study.

In studies on place attachment and involvement, however, respondents scored differently on the dimension of centrality. While centrality was not a significant predictor of either the place identity or place dependence components of the concept of “place attachment” in a 2003 study of hikers by Kyle, Graefe, Manning, & Bacon, it was a “significant and positive predictor of *place identity* for all recreation groups” in Kyle, Bricker, Graefe, & Wickham’s 2004 research on hikers’, boaters’, and anglers’ relationships with settings and recreation activities. Continued research is needed to understand how the centrality domain of enduring involvement relates to other leisure concepts, such as place attachment and purchase behavior.

#### **Hypothesis 4**

There is a significant difference between participants who do and do not purchase licenses to pursue fishing, hunting, or other activities in the mean scores of each of the five dimensions of enduring involvement: attraction, centrality, social bonding, identity affirmation, and identity expression.

For this hypothesis, the number of people who stated that they purchased licenses to pursue outdoor activities was roughly the same as those who said they did not purchase any licenses for their outdoor activities. Independent samples *t*-tests showed that for all the dimensions of enduring involvement, there was a significant difference in the mean scores for each dimension of enduring involvement for those who do and those who do not purchase licenses to pursue outdoor recreation activities. Results suggested that those who purchased licenses had a higher mean score on each of the five dimensions of enduring involvement than did those who did not purchase licenses.

Interestingly, those who purchased licenses scored highest on the same enduring involvement dimensions, attraction and identity affirmation, as those who bought gear; for those who did not buy licenses, as for those who did not buy gear, the highest mean score was for identity affirmation, and the lowest mean score was for centrality. These results may indicate that those who purchase licenses, as well as those who purchase gear, experience a great level of pleasure through, and attach importance to, their outdoor recreation activities. Women who purchase licenses also have a stronger level of identity affirmation than those who do not purchase licenses to conduct outdoor recreation activities; that is, they affirm their identities to themselves in part through this type of purchase behavior to a greater extent than do those women who do not purchase licenses.

That the lowest scores were for the centrality dimension of enduring involvement for those who purchased and for those who did not purchase licenses supports the suggestion that more research is needed regarding this dimension of enduring involvement and its relation to other leisure concepts.

### **Hypothesis 5**

There is a significant difference between participants who do or do not purchase memberships in one or more outdoor-related organizations such as conservation, environmental, or other outdoor activity group in the mean scores of each of the five dimensions of enduring involvement: attraction, centrality, social bonding, identity affirmation, and identity expression.

For Hypothesis 5, the number of respondents who said they bought memberships in one or more outdoor-related organizations was less than half the number of those who said they did not purchase memberships. Analysis with independent samples *t*-tests showed that, in spite of the shift in numbers of the groups, for all the dimensions of enduring involvement, there was a significant difference in the mean scores for each dimension for those who did and those who did not purchase memberships in outdoor-related organizations. Results indicated that those who purchased memberships in organizations related to the outdoors had higher mean scores on each of the enduring involvement dimensions than those who did not purchase memberships in such organizations. As with purchase of gear and purchase of licenses, those who purchased memberships scored highest on the dimensions of attraction and identity affirmation, and lowest on centrality. Those who did not purchase memberships, like those who did not purchase gear or licenses, scored highest on identity affirmation and lowest on centrality, indicating while they saw themselves as people who pursue outdoor activities in BOW programs, the purchase of memberships is not central to their lives or something they do to invest in the activity.

The concept of enduring involvement, and its evolution of measures, including the MIS (Kyle, Absher, et al., 2007) used in the present study, grew out of studies of consumer behavior. It is not, therefore, surprising that all dimensions of the MIS were significantly related to purchase behavior. What was surprising was that the pattern followed through the scores of those who did and did not purchase gear, licenses, or memberships. Mean scores for women in the study who reported purchasing these three types of items were highest on the same dimension, attraction, and next highest on identity affirmation, and lowest on centrality. Mean scores for the women in the study who responded as not purchasing gear, licenses, or memberships were highest on identity affirmation, next highest on attraction, and lowest on centrality. These results suggest that purchase behavior is more strongly related to the attraction dimension for those who purchase gear, licenses, or memberships, and these women find the importance and pleasure afforded by the BOW program to be important to them. For those who do not purchase gear, licenses, or memberships, the strongest relationship is with the identity affirmation dimension of enduring involvement. These women may be drawn to the BOW program more because of how they see themselves identified by association with the program than through its importance to them or the pleasure they derive from attendance at BOW weekends and events.

### **Limitations**

This study represents the first use of an online survey for research conducted by a doctoral candidate in the Recreation and Leisure Services area of the Department of Health and Human Performance at Middle Tennessee State University. Limitations to the study were found in the areas of the nature of an online survey as opposed to a pen and

paper questionnaire, in the questionnaire design itself, and in communications with BOW coordinators regarding the survey.

Online surveys have some inherent issues; among them are whether the sample is representative of the study population, how a response rate can be determined, and whether the findings can be generalized (Mertler, 2002). For this study, the sample programs were randomly selected within regions established by the United States Forest Service (USFS) as Holsman et al. did, in part, in their 2004 national study of the BOW program. In this current study, if no more than two states made up a region, those regions were combined with other regions, and programs were randomly selected within that newly created region. The BOW programs in Canada were combined into a separate region. This was done in order to make sure that programs were representative of different areas of the U.S. and Canada, as BOW activities offered are not uniform across each program, but rather reflect the outdoor opportunities afforded by different climatic conditions and terrain. The participants who responded to the survey were from at least one program from each of the designated regions, which gave wide-spread representation over the U.S. and Canada. For this online survey, then, the study sample was considered representative of the population as a whole.

The determination of a response rate for many online surveys is problematic due to the unknown numbers of possible participants (Mertler, 2002). The researcher in the present study asked respondents to identify the program from which they received their questionnaire and requested the numbers of participants in each BOW program's email list in order to establish a response rate. Of 24 selected programs, data were returned for all programs except for three U.S. programs and one Canadian program. Using this

information, the response rate for the study survey was 13% overall. The highest response rate was 57% (New York) while the lowest was <1% (California).

For the current study, determining an accurate response rate was difficult and not reliable, due to the independent structure of each BOW program. It became evident during the process of collecting this information that not all programs kept the same type of email lists. Funding, administration, and management of the programs varied, as did the use of the internet to convey information to BOW program participants. Some state programs kept annual email lists of participants in BOW programs and events by year; other programs kept one list of all participants for all programs since email had begun to be used in that program. Still other programs had email lists not only of participants, but of all those who had inquired about the BOW program, whether or not they had ever attended a program or event. There was no overall BOW policy on whether, or how, participant information was to be recorded; this is managed independently among the BOW programs. A valid response rate could only be obtained if all programs kept updated and accurate email lists for BOW participants only; therefore, the response rate for this study cannot be accurate, although the response rates figured for an individual program may be valid, depending on the components of their email list.

Even if all programs used email similarly to communicate with participants, the participants themselves differ in their ability, preferences, and skill in internet use as well as computer ownership. The study was limited to those who had access to, and could use, a computer to complete the online survey, and this is a limitation of online surveys as identified by Mertler (2002) and others. The findings for this study, then, are not generalizable to the entire population of BOW participants in the U.S. and Canada.

The online survey was generated from an expert-reviewed pen and paper questionnaire developed for this study. A pilot test of the resulting online survey was conducted. Responses from the pilot study participants were used to revise questions in order to improve clarity and to reduce repetition of questions for BOW- and non-BOW-related activities. In spite of the thoughtful process undergone in the development of the questionnaire through the expert review and a separate pilot test, there were problems that arose with participant understanding of the “BOW” and “non-BOW” status of outdoor recreation activities. This was substantiated through comments made by participants in the final comments section of the questionnaire.

SurveyMonkey was used to “translate” the expert-reviewed pen and paper questionnaire into the online survey form. The way in which questions about BOW and non-BOW outdoor recreation participation were asked changed due to the difference in the way a pen and paper questionnaire and a form on a computer screen appear to the respondent. Questions and formats that were suitable in the pen and paper questionnaire became unwieldy when put into the SurveyMonkey format, and the online survey was substantially different in design from the original pen and paper survey. Although the researcher found that SurveyMonkey was not difficult to use, the SurveyMonkey-created questionnaire was not accessible through software programs used by those with a visual disability.

Another limitation of the study was made evident through the process of data analysis, which showed that the design of the questions in the online questionnaire and types of answers allowable definitely impacted the analysis process. For this survey, there were some questions that excluded all answers except one, while other questions were set

to have multiple answers, which proved cumbersome to analyze. For an initial foray into online surveys, it might have been more productive to ask questions to which there could have been only one response, not several.

Various other limitations became apparent through the final comments section. Participants suggested that an answer of “not applicable,” or “NA” would have made them more comfortable about their responses to questions about outdoor recreation activities. A very few participants did not appreciate being asked the year in which they were born, their ethnicity, or their income. One traditional BOW activity, canoeing/kayaking, was included in the pilot study but was accidentally left out in the final form of the online survey. Several participants remarked on canoeing or kayaking as a favorite activity in the final comments section. Although the omission of this activity limited the responses in that category, a more complete expression was allowed participants who commented, “I love kayaking as a result of BOW” and “I started with a canoe because of BOW - then switched to kayaks. I now own 5 . . . and even my dog goes with me!” A more careful comparison by the researcher of the final online survey with the original pen and paper survey might have prevented this omission.

Other limitations came about due to communication with BOW coordinators throughout the data collection process. A modified Dillman method was used to contact and communicate with the selected BOW program coordinators (Dillman, 1991), and they in turn communicated with their respective participants by email. BOW coordinators in the study were emailed two weeks prior to the posting of the online questionnaire with a message about the nature and the purpose of the study; they shared this message and subsequent messages about the survey with their participants via email. In two weeks,

they were sent another message to share with their participants; this message included a link to the online survey (distributed through SurveyMonkey) and an invitation to participate in the study. The survey remained viable for three weeks. Two weeks after the posting of the survey, a reminder email was sent to BOW coordinators in the study to prompt participants to access and complete the questionnaire. At the end of the three weeks the questionnaire was removed from the internet, and a thank-you note was sent to the BOW program coordinators to share with their participants. During the process of data collection, the BOW coordinators were asked to identify the number of participants on their email lists. Communication problems plagued this part of the process, and actually revealed needed updates in the list of BOW coordinators. At least one email address was inaccurate for a new coordinator, and due to this, her program participants had less time to respond than did participants in other programs. Other coordinators were hard to reach by telephone (in order for the researcher to record the number of participants on their email lists) due to the nature of their responsibilities, which were outdoor recreation programs. Often, the coordinators were simply too busy to respond quickly. Several graciously took time in the evening to return the researcher's telephone calls outside of their work hours.

### **General Conclusions and Future Research Directions**

Appropriately, this current study built on previous studies of the BOW program, a training program which helps women build knowledge and skill about outdoor recreation activities. Like Holsman et al.'s (2004) study, which reported BOW influence on respondents' outdoor activity participation, the current study examined BOW's influence on women's outdoor activities (those learned at BOW and other activities not learned

through the BOW program). The relationship suggested between the number of non-BOW-related outdoor recreation activities and the enduring involvement dimension of identity expression on overall leisure satisfaction was reminiscent of earlier leisure studies which measured leisure satisfaction through number of activities (Guinn, 1995). The number of BOW activities and frequency of participation in BOW-learned activities was strongly correlated with all dimensions of enduring involvement, which was expected, even if number of BOW activities and frequency of participation in them were not significant predictors of overall leisure satisfaction. It might be interesting to know what effect prior experience (whether youth or adult) in outdoor recreation activities might have on other leisure concepts.

Data were collected for this study, but not analyzed, on youth participation in outdoor recreation activities. In Whittington's study of adolescent girls on a 23-day canoe trip, the experiences of the trip provided the girls with at least six identifiable outcomes: 1) perseverance, strength and determination; 2) challenging assumptions of girls' abilities; 3) feelings of accomplishment and pride; 4) questioning ideal images of beauty; 5) increased ability to speak out and leadership skills; and 6) building significant relationships with other girls. "Perseverance, strength, and determination" and "accomplishment and pride" could be related to the identity affirmation dimension of enduring involvement. "Ideal images of beauty" might be aligned with identity expression, and "building significant relationships" might similarly be associated with social bonding. McDermott's (2004) study also supports benefits of female-only outdoor recreation. Future research focusing on benefits of female-only outdoor recreation

activities for girls and young women might be tied to women's outcomes of leisure preferences and choices, and related to other leisure concepts.

In this study, leisure satisfaction subscales are strongly related to enduring involvement dimensions; more research is needed with other populations to determine if this relationship is replicated across different types of populations. Respondents to this study indicate that those who purchase gear, licenses, and/or memberships have higher scores for attraction and identity affirmation (two of the five dimensions of enduring involvement) than they do for identity expression, centrality or social bonding, and overall higher scores on each of the five dimensions of enduring involvement than those who do not purchase gear, licenses, or memberships. The study did not address possible relationships between leisure satisfaction overall and purchase behavior for BOW participants. Additional analysis with data from the current study might address this topic.

Welch (2004) reported that women returned several times to the basic BOW weekend before continuing BOW activities outside the program. This is another fertile area within the BOW program for future research, as increased involvement seems tied to greater purchase behavior. Many of the BOW programs receive sponsorships from for-profit companies, and increased purchases of equipment, licenses, or memberships in organization which support outdoor activities would definitely benefit BOW sponsors, and help BOW program viability.

Since this is the first known study which uses Kyle, Absher, et al.'s Modified Involvement Scale (MIS) to measure involvement with a program of activities, rather than with a single activity, a related area for further study could consider involvement

with other outdoor recreation programs, such as camp programs or Girl Scout or Boy Scout programs, and whether or not involvement measures are higher for those who have attended a greater number of programs compared with those who have attended fewer programs.

As research studies regarding women's relationship with experiences in outdoor recreation activities become more numerous, it will be interesting to note how those experiences may be tied to other leisure concepts. Enduring involvement dimensions can provide a way to measure the impact of women's leisure choices. Comments from the women in this study indicate that BOW activities can provide pleasure and enjoyment, help women form new friendships, impart feelings of self-worth and improve self-esteem as women overcome fears through BOW activities.

As one BOW participant explained, "I feel like me for the first time in a very long time. I . . . grew up in the country but never had the opportunity to do the things I can do with BOW. The women that I've met through this organization will be friends for life (friends of all ages) . . . somewhere along the way the things that I did in my free time were not things I wanted to do . . . BOW gives me the opportunity to be myself (the me I didn't even know I was or wanted to be). It is the most rewarding thing I've done in my adult life...the one thing that is for just me."

This statement and others like it would indicate a need for qualitative data to be included with quantitative data for future studies about women's outdoor leisure activities, in order to provide a deeper and richer meaning to the information acquired with quantitative measures. Leisure satisfaction and enduring involvement measures in this study afforded information about women's participation in an outdoor activities

program. These data add to the body of knowledge about women and the outdoors, much of which is qualitative (Little, 2002; Lueck, 2005; McDermott, 2004; Mitten, 1992; Pawelko, 2005; Pohl, Borrie, & Patterson, 2000; Roster, 2007). A future direction for research in the area of women's outdoor recreation would be blended studies that incorporate quantitative as well as qualitative data, to pair empirical information with women's own expressions regarding the fullness of experiences they find in the outdoors.

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APPENDICES

APPENDIX A

SELECTED STUDY PROGRAMS AND RESPONSE RATES

*Bow Programs Selected, Study Participant Numbers, and Response Rate*

<i>BOW Programs Selected</i>	<i>N</i>	<i>Number on Email List</i>	<i>Response rate</i>
Alabama	113	849	.13
Alaska, South Central	86	1,192	.07
Arizona	31	551	.06
Arkansas	2	*	
California	4	1,452	<.01
Colorado	34	848	.04
Florida	44	182	.24
Indiana	1	*	
Iowa	61	300	.20
Kansas	50	144	.38
Nebraska	53	414	.13
New Hampshire	151	569	.27
New York	96	167	.57
North Dakota	68	145	.47
Oklahoma	44	368	.12
Oregon	132	758	.17
Tennessee	96	838	.11
Vermont	28	69	.41
Virginia	18	189	.10
West Virginia	53	368	.14
Wisconsin	73	638	.11
British Columbia	24	*	
New Brunswick	*	*	
Prince Edward Island	21	47	.45
TOTAL	1,283	10,088	.13

*Note.* \* Data not available.

APPENDIX B

PERMISSION TO USE LEISURE SATISFACTION MEASURE

----- Original Message -----

**From:** Tom Blaschko

**To:** Karen Hargrove

**Sent:** Thursday, April 07, 2011 4:29 PM

**Subject:** Re: Hi and a question

On June 9, 2010, Idyll Arbor granted permission for Karen Hargrove to use the Leisure Satisfaction Measure and include a portion of the assessment in her dissertation.

"BECOMING AN OUTDOORS-WOMAN":  
RELATIONSHIPS AMONG BOW PROGRAM PARTICIPATION,  
OUTDOOR RECREATION ACTIVITY PARTICIPATION,  
ENDURING INVOLVEMENT, AND LEISURE SATISFACTION

Thomas M. Blaschko  
President, Idyll Arbor, Incorporated

APPENDIX C

PERMISSION TO USE MODIFIED INVOLVEMENT SCALE

## APPENDIX C

----- Original Message -----

From: "Gerard T Kyle" <[gtkyle@ag.tamu.edu](mailto:gtkyle@ag.tamu.edu)>  
To: "Karen Hargrove" <[khargrov@bellsouth.net](mailto:khargrov@bellsouth.net)>  
Sent: Sunday, November 08, 2009 3:22 PM  
Subject: Re: The MIS scale---questions

Hi Karen: Apologies for the delayed response.

1. Attached is a version we've been using. It has a few more items for each dimension compared to the published manuscript.
2. I don't think we've published anything more recently using that conceptualization.
3. Feel free to use as you please.
4. I've not experienced problems using broader attitude objects. It depends on the purpose of the research. If "program-level" is adequate, then fine. IT is sometimes useful, however, to know more precisely what folk are involved with; e.g., specific programs, service providers, settings, etc. Let me know if you have any questions.

Sincerely,  
Gerard

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APPENDIX D  
MTSU IRB APPROVAL

## APPENDIX D

August 9, 2010

Karen L. Hargrove and Dr. Tara Perry  
Department Health and Human Performance  
[khargrov@mtsu.edu](mailto:khargrov@mtsu.edu), [tperry@mtsu.edu](mailto:tperry@mtsu.edu)

Protocol Title: "Becoming an Outdoors-Woman: Relationships among BOW Program Participation, Outdoor Recreation Activity Participation, Enduring Involvement, and Leisure Satisfaction"

Protocol #: 11-020

Dear Investigator(s),

The MTSU Institutional Review Board, or a representative of the IRB, has reviewed the research proposal identified above. The MTSU IRB or its representative has determined that the study poses minimal risk to participants and qualifies for an expedited review under 45 CFR 46.110 Category 7.

Approval is granted for one (1) year from the date of this letter for 3,300 participants. According to MTSU Policy, a researcher is defined as anyone who works with data or has contact with participants. Anyone meeting this definition needs to be listed on the protocol and needs to provide a certificate of training to the Office of Compliance. **If you add researchers to an approved project, please forward an updated list of researchers and their certificates of training to the Office of Compliance (c/o Emily Born, Box 134) before they begin to work on the project.** Any change to the protocol must be submitted to the IRB before implementing this change.

Please note that any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918.

You will need to submit an end-of-project report to the Office of Compliance upon completion of your research. Complete research means that you have finished collecting and analyzing data. **Should you not finish your research within the one (1) year period, you must submit a Progress Report and request a continuation prior to the expiration date.** Please allow time for review and requested revisions. Your study expires **August 9, 2011**.

Also, all research materials must be retained by the PI or faculty advisor (if the PI is a student) for at least three (3) years after study completion. Should you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,  
Emily Born  
Office of Research Compliance

APPENDIX E  
PARTICIPANT-IDENTIFIED DISABILITIES

*Disabilities Identified by Study Participants (N = 76)*

Disability	Times Reported
ADD	2
Amputee	1
Arthritis	11
Back injury, defect, or pain	10
Balance issues	1
Bone Marrow Transplant	1
Brain Injury	1
Breathing issues (asthma, COPD, etc.)	4
Depression	1
Diabetes	2
Ehlers-Danlos syndrome (connective tissue disorder)	1
Fibromyalgia	2
Hearing loss	10
Heart Condition (QT syndrome)	1
Hip Problems	3
Joint Pain or problems	3
Kidney Transplant	1
Knee Problems	11
Learning Disability, including Dyslexia	3
Leg. Feet issues	2
Loss of vision	4
Lupus, systemic	1
Lymphodema	1
Mental Illness or Disability	2
Migraines	1
Multiple Sclerosis	3
Obese	1
Post Traumatic Stress Disorder	1
Seizures, including epilepsy	2
Walking or climbing, difficulty with	3