THE EFFECT OF GENDER ROLE ORIENTATION AND PARTICIPATION IN A SINGLE SEX OUTDOOR RECREATION PROGRAM ON SELF-EFFICACY

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Submitted to the Faculty of the
Graduate college of the
Oklahoma State University
In partial fulfillment of
the requirements for
the Degree of
DOCTOR OF EDUCATION
May, 2004

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PARTICIPATION IN A SINGLE SEX OUTDOOR

RECREATION PROGRAM ON

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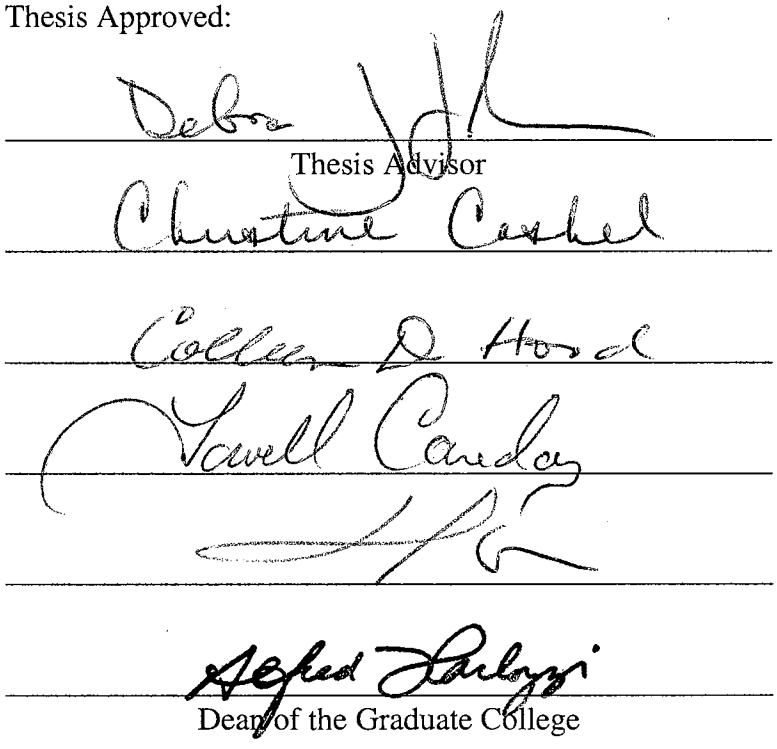
Thesis Approved:



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ACKNOWLEDGMENTS

I wish to acknowledge and thank every who encouraged, guided, supported, and cheered for me throughout the dissertation process. A special thank you to my advisor, Dr. Deb Jordan, for her constant guidance, instruction, and encouragement. Sincere gratitude is extended to my committee members, Dr. Chris Cashel, Dr. Colleen Hood, Dr. Lowell Caneday, and Dr. Hailin Qu, for their flexibility in scheduling meetings, their suggestions and guidance in the development of my dissertation topic and research methodology.

A wonderful and supportive advisor and also a mentor, in every sense of the word. I have been very lucky to have had the chance to work with such an understanding and dedicated individual. I have been able to learn about being a leader, facilitator, mentor, and teacher from working with Dr. Deb Jordan.

Have been very supportive and encouraging committee members, Dr. Chris Cashel, Dr. Colleen Hood, Dr. Lowell Caneday, and Dr. Hailin Qu. I appreciate your motivation and guidance. Have continued to provide guidance and support to make this current research possible. Thank you for your dedication to both furthering the field and for helping with my professional development.

The data collection would not have been possible without the following groups and individuals. A special thank you to the BOW workshop coordinators in West Virginia, Oklahoma, New York, Ohio, and Texas.

A special thank you to my classmate, Tina. This project would have been difficult to complete without her friendship.

Lastly, this project would have been difficult to complete without the loving support of my family. I am especially grateful to my wife, Gloria, my daughter, Yo-Yo, and my second baby for their patience, understanding, words of encouragement, and faith in me.

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CHAPTER I

INTRODUCTION

Women tend to consider themselves to be part of nature, not dominant over of nature. In addition, women have not always had the same opportunities for enjoying and being involved in outdoor activities as have men (Henderson & Bialeschki, 1986). Today more than ever, girls and women are interested in participation in outdoor activities which involve uncertain circumstances and potential risk. At the same time, their outdoor activity involvement is often related to feelings of well-being, self-confidence, and self-actualization that provides an opportunity for them to empower themselves (Henderson, 1992). Henderson and Bialeschki (1986) also suggested that girls and women are often empowered and affirmed through outdoor experiences designed as women-only.

The Becoming an Outdoors-Woman (BOW) program is an outdoor skills program that provides an environment where women feel comfortable learning outdoor recreation skills in a non-threatening atmosphere that encourages camaraderie and fun (Thomas, 1995). BOW offers women a chance to develop their outdoor recreation skills, and more

than 20,000 women attend BOW events every year (Farrell, 2003). BOW has been established as a popular outdoor recreation program in the United States and Canada. Studies, therefore, are needed to investigate the impact of BOW programs and examine possible implications for skill-based outdoor recreation education for women. The BOW program, coupled with the inherent value of outdoor experiences, offers women a stimulating medium for personal development and renewal.

Research has shown the benefits of outdoor recreation activities to include increased self-esteem, self-confidence, self-efficacy, and self-actualization; in addition, a sense of well-being, friendship and belonging, and empowerment are also benefits (Ewert, 1989; Mitten, 1992). Of particular interest to this study, self-efficacy is one of the key factors in the development of individuals and behavior change. Bandura's (1977a, 1982a) self-efficacy theory provides a theoretical basis for understanding and explaining the psychological benefits of outdoor recreation interventions. Csikszentmihalyi (2000) indicated that experiencing a sense of control, mastery, and efficacy are the fundamental motivations of participation in leisure activity. Bandura (1982a) asserts that enactive attainment is the primary means for increasing self-efficacy. Furthermore, leadership development, personal growth, friendships and sharing, and the development of problem-solving skills and confidence which may be attained through an outdoor

experience can contribute to a woman's overall quality of life (Henderson, & Bialeschki, 1986).

Over the past three decades, a number of researchers have explored sex-role and gender-role issues (Bem, 1974; Bryant, 1997; Gold, & Hawley, 2001; Lenney, 1991; Wittmer, 2001); the effects of self-efficacy on social learning, career development, exercise, and academic achievement (Bandura, 1977a, 1982a, 1986, 1995a, 1997; Bong, 1999; Matsui, 1994; Mihalko & McAuley, 1996); and outdoor recreation programs (Culp, 1998; Ensign, 1999; & Hoff, & Ellis, 1992). Traditionally, sex (the biological distinction between females and males) has been used as a demographic variable in outdoor recreation and experiential education research. Gender-role orientation (GRO) (the psychological/sociological distinction among androgyny, masculine, feminine, and undifferentiated), as Bryant (1997) suggests, is substantially related to perceived self-efficacy. It has been found that GRO and self-efficacy have significant impacts on individual and group behaviors. Some studies, such as Bryant's (1997) research, have indicated a relationship between GRO and self-efficacy.

Bryant (1997) showed that people with high self-efficacy tend to be more willing to take risks on exploring new skills. One of the major findings of Bryant's (1997) study was that GRO is substantially related to perceived self-efficacy and masculinity.

Masculinity was a more important construct in predicting self-efficacy than femininity. The relationship of self-efficacy to GRO has not been addressed specifically in the context of a BOW workshop. This study, therefore, was intended to augment the gap in the literature. This research provides an understanding of GRO and how participation in a single-sex outdoor recreation program impacts in the development of self-efficacy.

Statement of the Problem

Over the past 30 years, research has accumulated that explores sex-role and gender-role issues (Bem, 1974; Bryant, 1997; Gold, & Hawley, 2001; Lenney, 1991; Wittmer, 2001), effects of self-efficacy (Bandura, 1977a, 1982a, 1986, 1995a, 1997; Boyce & Bingham, 1997; Harrison, Preece, Blakemore, Richards, Wilkinson, & Fellingham, 1999; Hoff & Ellis, 1992; Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982), and women and leisure/outdoor recreation (Culp, 1998; Henderson, 1994a, 1994b, 1995, 1996a, 1996b, 1997; Jackson & Henderson, 1995; Jordan, 1992; Shaw, 1994). Much research has focused on the sources of self-efficacy (Bandura, 1977a, 1982a, 1986, 1995a; Bryant, 1997; Chase, 1998; Feltz 1992), self-efficacy beliefs (Bandura, 1977b, 1995b; Bandura, Barbaranelli, Caprara & Pastorelli, 2001; Whittinghill, Whittinghill, & Loesch, 2000), the relationship of gender-role and self-efficacy (Bryant, 1997; Long, 1989; Reiser, & Troost, 1986), and self-efficacy

outcome expectation (Nyhus, 1993; Matsui, 1994; Schunk, & Gunn, 1986). A number of measures of self-efficacy have been reported in the literature and empirical evidence of the effects of self-efficacy on learning has been provided. Past research has also examined the effects of adventure programs on self-concept, locus of control, and self-esteem (Ewert, 1982; Marsh, 1986).

Some studies have indicated a relationship between gender-role and self-efficacy (Bryant, 1997; Long, 1989; Reiser & Troost, 1986), but that relationship has not yet been satisfactorily addressed. There is no reported research that examines the relationship between self-efficacy, GRO, and participation in a single-sex outdoor recreation skills development program. Thus, this study examined the effect of participation on a single-sex outdoor skill-based BOW workshop and GRO on self-efficacy.

Significance of the Study

This research contributed to a further understanding of gender-role types in a specific outdoor experience and provides insights to improve outdoor recreation and outdoor skill-based program design.

The problem this investigator examined was important for several reasons. First, the study considered GRO in a single-sex outdoor skill-based program (BOW workshop). Weekend-long BOW workshops are widely offered in the United States and Canada.

Early related research focused specifically on the barriers of participating in BOW programs and the effect of participation on outdoor activities and attitudes (Ensign, 1999; Gransee, 2002; Lueck, 1995; Schnell, 2000). No research has been reported about the effect of participation on a one-weekend BOW workshop of skill-based outdoor recreation experience on self-efficacy. This research used pre-test and post-test scores to examine self-efficacy changes in a one-weekend BOW workshop. A pre-experimental design provided information about the difference in self-efficacy among four types of GRO of those participating on a BOW outdoor skill-based program.

Several researchers have indicated that gender-role is a significant factor related to women's participation in leisure/recreation activities (Henderson, 1991; Henderson & Bialeschki, 1991). The research in this study contributes to a more inclusive understanding of GRO and women's self-efficacy as they relate to outdoor recreation participation. It may also be helpful to outdoor recreation providers and researchers who may want to explore how gender-role orientation and self-efficacy relate to the contexts of women's life. The results of research will make the dimensions of gender-role within women visible in the leisure and outdoor recreation field.

A review of related literature revealed no study that investigated whether a single-sex outdoor recreation workshop and GRO affected the perception of individual

self-efficacy. Thus, the purpose of this study was to investigate the effect of gender-role orientation and participation in a single-sex outdoor recreation workshop experience on self-efficacy. Using the Bem Sex Role Inventory (BSRI) (Bem, 1979, 1981a) and Self-Efficacy Scale (SES) (Sherer et al., 1982), this study examined how GRO affected participants' general and social efficacious feelings after the completion of a women-only outdoor recreation skills workshop.

Research Questions and Hypotheses

The study was designed to answer the following questions:

1. Is there a significant difference between pre-test and post-test self-efficacy scores of those who participate in a one-weekend BOW workshop?

   H0-1: There is no significant difference between the pre-test and post-test scores on self-efficacy of those who participate in a BOW workshop.

2. Is there a significant difference among participants with different GRO on pre-test scores on self-efficacy?

   H0-2: There is no significant difference among people with different GRO on pre-test scores on self-efficacy.

3. Is there a significant difference among different participant GRO in post-test scores on self-efficacy?

H0-3: There is no significant difference among different participant GRO in post-test scores on self-efficacy.

4. Is there a significant interaction between GRO and BOW workshop participation on self-efficacy?

   H04: There is no significant interaction between GRO and BOW workshop participation on self-efficacy.

5. Do GRO, marital status, highest education level, age, and the number of BOW workshop attendance significantly predict participants' post-test self-efficacy?

   H05: GRO, marital status, highest education level, age, and workshop experience do not significantly predict participants' post-test self-efficacy.

Assumptions

The assumptions upon which this study was designed, conducted, and analyzed included:

1. All participants responded honestly to the questionnaires.
2. GRO was a personality attribute that was relatively stable and conceptualization remained consistent across situations.
3. GRO could be assessed and categorized into relatively discreet classifications.
4. Standardized administration instructions given by each proctor resulted in uniform

data collection.

5. People who represent all four gender-role types would participate in this study.
6. The distribution of the sample was a normal distribution and the sample does not violate the homogeneity assumption.

Delimitations

The sample of the present study was delimited in following way:

1. This sample consisted of female participants over the age of eighteen who participated in a BOW workshop in the fall 2003 season.

Limitations

The results of this study might have been affected by the following limitations:

1. The female participants utilized in this study might not have been representative of the larger population of women in the United States, as the sample was not randomly selected.
2. Participants were the entire population from five BOW workshops.
3. The participants might have participated in different classes in the BOW program, which might have affected results.
4. This study included participants from several states' BOW workshops. Data from similar BOW workshop programs might have yielded different results.

Definition of Terms

To facilitate a better understanding of the various terms used in this study, operational definitions are provided in the following section.

Becoming an Outdoors-Woman Workshop (BOW). A weekend-long workshop designed for women new to the outdoors. The curriculum of the workshop is divided equally among hunting- and shooting-related activities, fishing, and non-harvest activities in four sessions of a weekend-long program (Thomas, 1995).

Gender. It is the development resulting from social and psychological prescriptions of feminine and masculine traits based on an individual's sex (Caplan & Caplan, 1994; Matlin, 1993).

Gender role. This term describes "shared expectations about appropriate conduct that applies to individuals solely on the basis of their socially identified sex" (Eagly & Wood, 1991, p. 309).

Gender-role orientation (GRO). An inclusive term referring to how "individuals perceive and evaluate the appropriateness of the attitudes and behaviors of men and women" (Gold & Hawley, 2001, p. 200). It is socially endorsed as androgynous, masculine, feminine, or undifferentiated for oneself (Bem, 1981b).

Self-efficacy. Bandura (1977a) described self-efficacy as a person's belief that he or

she can successfully carry out a behavior called for by a particular situation to produce desired outcomes.

Self-esteem. The belief that what we do, think, feel, and believe matters. "It expresses an attitude of approval or disapproval and indicates the extent to which the individual believes himself [sic] to be capable, significant, successful and worthy" (Coopersmith, 1967, p.4, cited in Gauthier & Kjervik, 1982, p.46)

Sex. Sex is the physical and biological nature that "refers to the grouping of humans into categories—females and males" (Eagly, 1987, p. 5).

Sex-role identity. The fundamental sense of one's maleness or femaleness and the societal and contextual expected characteristics that are part of the fundamental sense (Eells, 1996).

Sex-typing. The cultural definition of masculinity and femininity which specifies sex-appropriate preferences, personality attributes, and behaviors for males and females (Bem, 1983; 1984).

Organization of the Study

A review of literature is presented in the next chapter, which contains a discussion of GRO, women and outdoor recreation, self-efficacy, gender-role and self-efficacy, and self-efficacy and outdoor recreation. Chapter II also includes a discussion of the benefits

and constraints of outdoor recreation for female participants and the interaction of GRO, self-efficacy, and participation in all-women skill-based outdoor recreation programs. In addition, the review of literature provides a historical account of outdoor recreation and how gender-role and outdoor recreation impact an individuals' self-efficacy. Chapter III is the methodology section, which contains explanations of the subjects, instruments, research design, procedures, and data analysis. Chapter IV reports the results and findings of this study to audiences and researchers based on the data analysis. Chapter V addresses the discussions and conclusions of this study and provides the implications and recommendations for future researches and reflection.

CHAPTER II

REVIEW OF LITERATURE

This chapter presents a review of literature related to gender-role orientation, women and the outdoors, and self-efficacy. In addition, the relationship between the areas that are related directly to the design and theoretical rationale of this study is discussed. The review is divided into five sections: (1) sex and gender, (2) women and outdoor recreation, (3) self-efficacy, (4) gender-role and self-efficacy, and (5) self-efficacy and outdoor recreation.

Sex and Gender

Theories of Sex and Gender

The biological theory. The term, *sex*, is a distinction between females and males, which is made on the basis of biological criteria. For instance, animals, infants, and athletes are categorized two sexes, male and female. Scholars and researchers have paid attention to the biological and physical differences between males and females for centuries. During the nineteenth century and the early 20th century, women's unequal status in society was rationalized based on biological differences. It is no doubt that there are biological and physical differences between men and women.

These includes muscle mass, hair cover, and reproductive organs. The biological perspective has provided us much insightful information regarding males and females (Udry, 1994).

Biologists use the term, *sex dimorphism*, to refer to the existence among animals of the same species of two distinct shapes that are different in one or more characteristics, and to describe how behavior is controlled by hormones. All mammals have basically similar primary sex hormones. These sex hormones guide the development of sex-dimorphic body structures. Most of the early progress in understanding human reproduction resulted from studying animal models. A fairly widely known phenomenon in reproduction is the existence of a chromosomal difference between males and females. This distinction is used as a key factor for distinguishing and defining the sexes (Archer & Lloyd, 1982).

Utilizing the biological theory of sex, Cook (1990) reported that individuals tend to behave in ways to reach the expectations of society based on their biological sex. Deaux (1985) and Eagly (1987) indicated that the term, *sex*, refers to the two categories of people: female and male. These categories of people are based on biological differences between two groupings of humans and cultural differences of societies. Researchers refer to this difference as a *sex* difference.

Psychological theory. From the perspective of evolutionary psychology, human sex differences reflect adaptations to pressures of the differing physical and social environments that impacted females and males during primeval times (Eagly & Wood, 1999). Because males and females faced different adaptive problems as they evolved, the two sexes developed different strategies to ensure their survival and to maximize their reproductive success. The adaptive strategies used to resolve the problems resulted in the evolution of psychological mechanisms that are specific to each problem domain and that differ between women and men.

Buss (1995) reported that men and women have faced substantially different adaptive problems throughout human evolutionary history. For example, women have encountered the challenge of childbirth; men have not. Historically, women were required to secure a reliable supply of resources throughout their pregnancy, especially when food resources were limited. Evolutionary psychologists anticipate that the sexes will differ, particularly in those domains in which females and males have encountered different kinds of adaptive needs.

The psychological theory of sex differences suggests that sex differences in numerous psychological dispositions arose from different goals set up by women and men based on contrasting sexual strategies. From the perspective of evolution, men competed with other men for sexual access to women. Hence, men evolved

dispositions that favor violence, competition, and risk-taking. On the other hand, women developed a tendency to nurture and a preference for long-term partners who were family-oriented. As a result, men strived to acquire more resources than other men in order to attract women, and women developed preferences for successful and ambitious men who could provide resources for their existence (Eagly & Wood, 1999).

Sociological theory. From a social/structural perspective, Eagly & Wood (1999) argued that a society's division of labor between males and females has tremendous impact on sex-differentiated behavior, because it brings social constraints into men's and women's lives. Sex differences are believed to be causes leading to differing restrictions and opportunities that a society maintains for its men and women, as well as girls and boys. Sex-differentiated behavior evolved depending upon a range of individual, situational, and cultural conditions. Physical differences between the sexes, particularly men's greater size and strength and women's childbearing and breastfeeding, were important because they interact with cultural beliefs, social organization, and the demands of the economy to influence roles and work, which, in turn, produces sex differences.

Gender roles, on the other hand, directly relate to stereotypical sex differences because gender roles tend to be associated with behaviors that are socially accepted

for each sex. Often, each sex's social behaviors conform to people's stereotypic expectations for female and male characteristics. From the perspective of sociological theory, men and women, as well as boys and girls, fulfill their roles in several ways (Eagly, 1987).

Both men and women, as Fukuyama (1998) noted, participate in perpetuating the stereotypical gender identities that associate men with war and competition and women with peace and cooperation. To seek to accommodate sex-typical roles, men and women acquire the specific skills and resources that are linked to successful role performance and requirements (Eagly & Wood, 1999). A variety of sex-specific skills and beliefs arise from the typical family and economic roles of men and women, which in many societies can be described as resource provider and homemaker. For example, women learn domestic skills such as cooking and men learn skills that are marketable in the paid economy. Women (more than men) occupy roles that demand communal behaviors, domestic behaviors, or subordinate behaviors for successful role performance; such tendencies become stereotypical of women and are incorporated into a female gender role (Eagly, 1987; Eagly & Wood, 1999).

In summary, in social-structural accounts, women and men are differently distributed into social roles, and these differing role assignments can be broadly described in terms of a sexual division of labor.

Sex-Role and Gender-Role Orientation

Sex-role orientation. Sex-role orientation relates to the study of sex-role identity. Sex-role identity is categorized into two characteristics between female and male individuals regarding self-assertive behavior and interpersonally oriented behavior based on sex (Spence & Helmreich, 1978). Spence (1985) indicated that sex-role identity is the fundamental sense of an individual's femininity and masculinity (for more discussion on femininity and masculinity, please see the section of *Gender-role orientation,* following). The characteristics of cultural and social expectations are seemingly inseparable parts of this fundamental sense. It is the "acceptance of one's gender as a social-psychological construction that parallels the acceptance of one's biological sex" (p. 59). The social-psychological factors have a fundamental influence on the (re-)construction of one's world.

Based on gender schema theory, Bem (1981b) argued that gender schema is a lens through which an individual organizes his or her world. Gender schema theory (Bem, 1981b, 1985) asserts that human beings become sex-differentiated because the gendered lens influences the ways in which people come to perceive, evaluate, and regulate their beliefs, and in turn, shape their behaviors. Moreover, the theory maintains that gender comes to have priority over other alternative conceptual classifications because sex is one of the most important categories in human social

life that is communicated both implicitly and explicitly. Bem (1987) argued strongly that sex-typing is a process through which a developing child comes to fulfill and match the expectations of preferences, skills, personality attributes, behaviors, and self-concepts prescribed by the culture as appropriate for his or her sex. It is through this process that a culture transforms male and female children into masculine and feminine adults.

The constructs of masculinity and femininity have been considered in many cultures (including the American culture) to represent complementary domains of positive traits and behaviors. Early in the study of sex-role identity, the masculine identity was associated with instrumental traits or a cognitive focus of performance and problem solving while femininity was associated with expressive traits. These expressive traits included the emotional concern for the welfare of others and the harmony of the group (Parsons & Bales, 1995).

Gender-role orientation (GRO). GRO has been considered to be the way in which individuals view, judge, and manage their own behaviors and attitudes as women and men and girls and boys (Gold & Hawley, 2001). Eagly and Wood (1991) noted that gender-role is shaped by the expectation of individuals' socially identified sex that applies to an individual. Due to the different developmental histories associated with one's attributes, Spence (1985; 1993) indicated that individuals'

attributes are influenced by numerous resources that are related to each other in a variety of ways. As a result, a great deal of variability exists within each sex that is specific to the characteristics of gender-congruent qualities.

In the early 1970s, Bem challenged the traditional view of masculinity-femininity and the consequences for gender identity and gender-role socialization. She argued a new concept of psychological androgyny, which has received much attention from social personality and developmental psychologists. Bem (1974) contended that an individual could possess instrumental and expressive traits simultaneously, and it was possible for individuals to internalize both masculine and feminine psychological attributes. The psychologically androgynous person, who possessed both levels of masculinity and femininity, purportedly had an advantage over a sex-typed individual in flexibility and psychological well-being.

Bem (1974) related masculinity to instrumental traits and femininity to expressive traits. Instrumental traits refer to "assertiveness, independence, ambition and need to dominate". Expressive traits, on the other hand, "encompass sensitivity to the needs of others, altruism, warmth and co-operativeness" (Bozionelos and Bozionelos, 2003, p. 423). Echoing Bem's (1974) argument, Helgeson (1994) believed that instrumental and expressive traits existed in both men and women.

Because of the different cultural and social expectations, men tend to possess more instrumental traits and women tend to characterize with more expressive traits.

Although gender schema theory presented that the attribution of adult roles is based on sex, Bem (1981b) stated, "The distinction between male and female serves as a basic organizing principle for every human culture" (p. 370). That is, a child learns gender appropriate attributes through a gender-biased schema, and compares herself or himself to the culture's model of male as masculine and female as feminine. A person, then, comes to understand self as sex-typed (female/feminine and male/masculine), cross-sex-typed (female/masculine and male/feminine), androgynous (both female and male: high masculine and high feminine) or undifferentiated (both female and male: low feminine and low masculine). Once gender-role orientation has been established (sex-typed, cross-sex-typed, androgynous, or undifferentiated), individuals process new information through their GRO (Bem, 1983, 1984)

While past research suggests that GRO influences behavior, societal changes based on perceptions of appropriate gender role behavior provide conflicting results. The Bem Sex Role Inventory (BSRI) measures an individual's gender role personality and uses gender as a lens to view the world. However, many gender studies used the

term "sex-role orientation" or "gender-role orientation" to articulate an individuals' perception of gender role personality.

Over the past 30 years, studies have explored the issues of sex-role and gender-role from a variety of dimensions. Initially, research was directly conducted toward the examination of the nature of GRO (Urschel, 1996). Results of those studies contributed to a substantial theory that the characteristics of masculinity and femininity did not exist on a continuum, but two independent dimensions in varying degrees (Bem, 1974, 1981c; Spence, Helmreich & Stapp, 1975). Masculine gender-role characteristics often are referred as instrumental attributes such as assertiveness, independence, and ambition while feminine gender-role characteristics are often categorized as expressive traits, such as altruism, warmth and cooperativeness (Bozionelos & Bozionelos, 2003; Helgeson, 1994).

Eagly and Wood (1991) have defined gender-roles as "shared expectations about appropriate conduct that apply to individuals solely on the basis of their socially identified sex" (p. 309). These expectations can be observed from two dimensions: communal and agentic. The communal dimension is often seen as friendliness, unselfishness, caring for others; it is most frequently applied to women and girls. The agentic dimension is often considered as being independent, masterful, assertive and capable. These attributes are more present in men and boys.

Gender-Role Socialization Theory

Although the influence of the feminist movement has helped many people to challenge the traditional beliefs about how women should behave, the persistent view on gender-appropriate behaviors is still deep-seated in this traditionally male-dominated society (Eagly & Wood, 1991). Children learn their biological sexual identity at an early age and they become aware of sex roles, which differentiate males and females. They later begin to notice differences in the roles males and females assume in their daily activities (Havighurst, 1983). Between the ages of three to seven years, a child realizes that people fall into one of two categories: boys or girls, mothers or fathers, men or women (Kagan, 1964).

A study by Jackson, Sullivan, and Rostker (1988) attempted to examine the relationship between gender role and body image. The rationale for this study was that the relationship between gender role and self-concept, and the relationship between body image and self-concept, suggested a relationship between gender role and body image. Subjects for this study were 166 college undergraduates. Results indicated that females who identified with the feminine gender-role evaluated their physical appearance less favorably than did androgynous females and masculine females.

People are socialized to adopt certain attitudes and behaviors regarding gender roles, although those behaviors and attitudes can be modified (Greendorfer, 1983; Hargreaves, 1994; Unger & Crawford, 1992). Unger and Crawford (1992) note:

> [A]lthough behavioral differences between baby boys and girls are minimal, evidence is accumulating that parents treat their sons and daughters differently from the earliest days of life.... Parents consistently promote differences in activities and interests and, somewhat less consistently, react to boys' and girls' personal and social behaviors in different ways. (p. 234)

According to social learning theory, two particular types of interaction influence this socialization in a child's earliest years: parental reward of sex-appropriate behavior and punishment of sex-inappropriate behavior, and imitation of role models (Greendorfer, 1983). The process is influenced by such factors as class, race, ethnicity, religion, and home environment (McPherson & Brown, 1988; Unger & Crawford, 1992). Later in childhood, interactions with peers and the school environment play a significant role in a child's socialization (Hargreaves, 1994; Lewko & Greendorfer, 1988; Unger & Crawford, 1992).

A number of theoretical perspectives (i.e., psychoanalytic theory, social learning theory, and cognitive development theory) explain how individuals acquire their gender-role (see Hyde, 1996; Matlin, 1993; Unger & Crawford, 1996). For example,

social learning theory relies on the constructs of behavioral theory and proposes that children will (1) be rewarded for gender-appropriate behavior and be punished for behavior considered be gender-inappropriate; and (2) learn gender appropriate role behavior through the processes of imitation and observational learning. Imitation pertains to the process by which children spontaneously (and sometimes immediately) do what they see others doing. Observational learning refers to the process by which children learn by observation, even though the information gained might not be used until months or years later (Unger & Crawford, 1996).

Early research into sex and gender generally focused on the biological and physiological differences between the sexes. These differences were often used as the primary explanations for peoples' attitudes and behaviors. By the early 20th century, however, the focus shifted to the study of psychological gender after researchers theorized that biology and physiology were insufficient (Morawski, 1987). In response to the quest for empirical data, several studies were administered to measure masculinity and femininity (M-F tests), based on the assumptions that masculinity and femininity were opposite ends of a spectrum, or an continuum and that congruence between sex and gender was important for mental health and proper adjustment (Lenney, 1991; Morawski, 1987).

Studies concerning gender-role identity, particularly the concept of psychological androgyny, entered the research literature in the mid-1970s (Thomas & Robinson, 1981). This, in part, was due to the development of the Bem Sex Role Inventory (BSRI). The BSRI was designed to measure the psychological traits of femininity, masculinity, and the co-presence of these traits, which was called androgyny (Bem 1974, 1975). The majority of this research was conducted with college students and older adults (Thomas & Robinson, 1981) for two reasons: (1) there is a lack of suitable instruments for younger populations, and (2) the controversy about the origins of the type of sexual identity defined as androgyny limited its use.

Sex-Role/Gender-Role Instruments

Androgyny has been defined as the presence of both masculine and feminine characteristics in one individual (Bem, 1979; Spence & Helmreich, 1979). Androgyny theory differs form earlier gender theories in its assertion that masculinity and femininity are, in fact, independent dimensions (orthogonal constructs), rather than opposite ends of a continuum (bipolar constructs), which are neither tied to nor determined by biological sex. Furthermore, the theory asserts that androgyny, rather than masculinity or femininity, is indicative of mental health and good psychological adjustment. The concept of androgyny and the scales developed to measure it, such as

the Bem Sex Role Inventory (BSRI) (Bem, 1974, 1981a) and the Personal Attributes Questionnaire (PAQ) (Spence, Helmreich, & Stapp, 1974), have proven to be very popular. Lenney (1991) reported that the BSRI is ranked among the top five most frequently administered psychological tests.

The PAQ is a self-report measure of gender-role orientation developed by Spence, Helmreich, & Stapp (1975). This form consisted of 55 items on a 5-point Likert-type scale. The original form was later shortened to a more conceptually clear form that consists of 24 items. There are three subscales on the PAQ. The M scale reflects instrumental personality traits that are more desirable for males than females. The F scale reflects expressive personality traits that are more desirable for females than males. The M-F scale reflects both instrumental and expressive traits. Each subscale consists of eight items. The short form was later extended to 40 items as a result of adding eight socially undesirable traits to both the M scale and the F scale.

As mentioned earlier, another instrument to be utilized in gender-role orientation research is the Bem Sex Role Inventory (BSRI). The BSRI is a self-report measure of gender-role orientation developed by Bem (1974). The original form consisted of 60 items: 20 masculine items, 20 feminine items, and 20 neutral items on a 7-point Likert scale. Respondents were instructed to indicate how well each item described them to

measure the degree to which respondents identified with culturally determined stereotypes of positive masculine and feminine characteristics.

On the BSRI, a response of "one" indicates that the participant never or almost never believes the adjective describes him/her while a "seven" indicates that the subject always or almost always believes the word is an accurate descriptor (Bem, 1981a). Four classification scores are then created from the inventory as Masculine (high score on the masculine scale, low score on the feminine scale), Feminine (high feminine, low masculine), Androgynous (high masculine and high feminine), or Undifferentiated (low masculine, low feminine).

Bem (1981b) investigated whether the four groups differed on several personality measures. She formed four groups using a median split: androgynous, feminine, masculine, and undifferentiated. She cited the correlation coefficients between femininity and masculinity within each gender group to add more evidence of the independence of each construct. The coefficients reported ranged from -.14 to .11 on the original form, and from .10 to .33 on the short form.

Many point out that the concepts of masculinity, femininity, and androgyny continue to be defined (both conceptually and operationally) in different ways and thus lead to confusion and erroneous comparison of results (Deaux, 1984, 1985; Locksley & Colten, 1979; Morawski, 1987). Further, Morawski (1987) noted that

there is evidence to suggest that people define masculinity and femininity according to several dimensions (such as physical appearance, movement, power, and status), rather than by personality traits alone. Hence, Morawski suggests that various scales fail to measure "true" masculinity and femininity.

Critics have also argued that the "positive" aspects of androgyny are, in fact, masculine characteristics that are necessary for successful behavior in an androcentric society, rather than a new combination of masculine and feminine characteristics (Locksley & Colten, 1979: Morawski, 1987). Related to this criticism is the argument that the concept of androgyny is actually based upon traditional notions of masculinity and femininity (Deaux, 1984; Locksley & Colten, 1979). To respond to the above criticisms, Bem (1979) indicated:

> If there is a moral to the concept of psychological androgyny, it is that behavior should have no gender. But there is an irony here, for the concept of androgyny contains an inner contradiction and hence the seeds of its own destruction.... But to the extent that the androgynous message is absorbed by the culture, the concepts of femininity and masculinity will cease to have such content and the distinctions to which they refer will blur into invisibility. (p. 1053)

In summary, the BSRI and PAQ are the two major instruments used in measuring sex-role and gender-role. The BSRI is utilized more heavily than

PAQ, despite its controversy. In addition, the BSRI has been used not only in many educational settings, but also in the field of leisure and sports; the BSRI was also used in this study.

Influences of Sex and Gender on Leisure and Sport

Contrary to strongly held beliefs that would suggest that female athletes are more masculine than female non-athletes, some research indicates that (1) female athletes in general tend to fall into the androgynous category (Hall, Durborow, & Progen, 1986: March & Jackson, 1986), and (2) female athletes, while classified as more masculine than non-athletes, are generally not less feminine in gender-role orientation than female non-athletes (Marsh & Jackson, 1986). Male athletes involved in team sports were found to have significantly stronger masculine orientation than male athletes in individual sports or non-athletes, but there were no differences in femininity scores among the nonathletes, individual sportsmen and team sportsmen (Caron, Carter, & Brightman, 1985).

Interestingly enough, by contrast, Colker and Widom (1980) found that female athletes had a significantly less feminine, but not a more masculine orientation, than female non-athletes. Similarly, Hall et al. (1986) found that female athletes tended to be androgynous; non-athletes were significantly more feminine in gender-role orientation than female nonathletes. In a second study comparing team sport athletes

to individual sport athletes, Wrisberg, Draper, and Everett (1988) determined that a higher percentage of team sport athletes of both sexes had masculine and androgynous orientations, while female athletes in individual sports had higher feminine orientations (with the second highest orientation for individual sport females being undifferentiated).

Given that gender roles are learned early in life, the impact of these roles on attitudes toward and participation in sport, outdoor recreation, and leisure activities is worth noting. Regardless of individual gender-role orientation, however, sport and the outdoors are still regarded as a masculine domain (Boutilier & SanGiovanni, 1983: Kane, 1989; Kane & Greendorfer, 1994; Kane & Snyder, 1989). In a study on adolescents, Salminen (1990) found that androgynous girls were more likely to participate in culturally defined sex-inappropriate sports than were masculine or feminine girls. Burke (1986), however, found contradictory results in his examination of androgyny and female athletes' participation in sex-appropriate and sex-inappropriate sports. He found no relationship between those with an androgynous orientation and type of participation for university athletes, although higher percentages of androgynous women participated in every type of sport (followed by masculine women).

Several studies have examined the relationship between activity appropriateness and participation. Matteo (1986) examined the effects of sex-typing and gender definition of sport (i.e., as appropriate or inappropriate to cultural expectations of one's sex) on college men's and women's sport participation. One of the instruments used in the study contained a list of 68 different sports, which had been rated on a 9-point scale by 80 students (40 male, 40 female) regarding how stereotypically male, female, or neutral the activities were viewed. Matteo found that students rated 30 of the 68 activities as masculine, 26 as neutral and only 12 as feminine. Included in this list of 68 were several outdoor recreation activities, such as mountaineering, rock climbing, backpacking, canoeing, bicycle touring, skiing (cross-country and downhill), and snowshoeing. All of the outdoor activities were rated as either masculine or neutral, and those classified as neutral fell on the masculine side of the scale.

The subjects were further asked to indicate (1) which sports they had tried at least once during their elementary and high-school years, and (2) which sports they participated in at least two hours per week (per sport). Matteo found that women had greater experience with and commitment to feminine sports (the participants rated and considered the sports as appropriate for females) than males did. The reverse was true for men. Interestingly, while both sexes reported greater experience with sex-appropriate sports than with sex-inappropriate sports, women had a broader base than

men. As a matter of fact, both sex-typed men (those with masculine orientations) and cross-sex-typed men (those with a feminine orientation) did not report performing a single feminine activity (the participants rated the sport was more appropriate for females than males) on their own time. These results indicate that while participation levels are similar for women and men, actual experiences might be quite different in terms of the types of activities in which females and males participate. Matteo (1986) suggests the perceived cultural values of sports could be the critical factor involved in the results.

Women and Outdoor Recreation

Background

Outdoor activity is interpreted broadly to include those physical, emotional, social, or service pursuits that use the natural environment as the primary focus for involvement (Bialeschki & Henderson, 1993). Traditionally, the outdoors has been associated with, and described as, a male domain. More males than females engage in outdoor recreation. The fact that young girls often prefer to play with dolls and young boys often prefer to play with trucks is due, in part, to what adult caretakers provide and reinforce (Knapp, 1985). In general, women have been perceived by society as the weaker sex, thus, the "second sex." This perception was often based on biological

differences which were interpreted as limitations to women's physical activity (Bialeschki, 1990).

Beauty, freedom, peacefulness, and solitude are found when women are involved in outdoor activities. They view the outdoors as a spiritual home (Bialeschki & Henderson, 1993). Women involved in outdoor recreation often talk about their self-esteem in terms of increased self-respect and self-integrity. They also gain strengths, skills, and self-esteem through participating in outdoor activities (Bialeschki, 1990). In a society where being a woman is often perceived as a weakness, successfully facing challenges women encounter in outdoor settings may help women challenge socially imposed limitations. Going beyond these limitations results in higher self-esteem and self-reliance, which, in turn, leads to a greater sense of personal empowerment (Bialeschki & Henderson, 1993).

Bialeschki (1990) indicated that through physical recreation, women are able to experience self-confidence and feelings of empowerment. Women may also benefit from seeing other women participate and succeed. Through sports and fitness, many women gain a sense of self-definition and self-determination. By applying the principles of strength, cooperation, and solidarity gained through physical recreation activities to other social constructs, women may transform politics, business, the family, as well as physical recreation, into less oppressive social contexts.

Knapp's (1985) research demonstrated that males and females are often caught in their sex roles and respond according to stereotypical patterns. This "gender trap" limits their growth as leaders, and limits the potentials of those they lead. The established norms in outdoor recreation programs guide the sex-role behavior of the participants. Leisure involvement in outdoor activities, however, can become an avenue for empowerment and a release from gender roles (Henderson, 1990). If androgynous norms are clearly modeled and advocated, gender traps can be minimized.

The Women's Movement

From the late 1800s through the early 1900s, was a time of great social change for women in the United States, as well as in other parts of the world. The early feminist movement was beginning to influence society, altering the roles and expectations for women participating in physical recreation in the following decades (Bialeschki, 1992). Bialeschki noted that as women struggled for increased independence and equality, a "new woman" – confident, independent, and adventurous – emerged in the late 1800s. From the earliest beginnings of outdoor recreational activities, women's achievements were often questioned or minimized and their accomplishments often obscured in the literature due to the exploits of their male counterparts and the relegation to the role of helpmate (Bialeschki, 1990). The

feminists of the early movement wanted transformation of the society rather than reformation. The drive for equality and freedom initiated an ongoing process of social change, which resulted in a greater status and self-respect in women. This movement offered a powerful stimulus to female participation in physical recreation that began to loosen traditional restraints imposed on women (Bialeschki, 1990). Along with the Civil Rights Movement, the second wave of feminism emerged in the 1960s. A new era for women in outdoor pursuits began (Bialeschki, 1992).

In this second, or modern, feminist movement, feminism was defined not only as a set of beliefs, but also a set of theoretical constructs about the nature of women's oppression and the part oppression plays in social reality (Bialeschki, 1990). The nature of women's participation in physical recreation in the 1980s was in part a result of the social changes brought about through new attitudes about women and their roles in society. The emergence of the modern women's movement has given women greater freedom of choice. This movement, coupled with the inherent value of outdoor experiences, has given women a stimulating medium for personal development and renewal (Henderson & Bialeschki, 1986). In the 1970s and 1980s, women progressed in many areas of society, including physical recreation. This progress may be attributed to an increased awareness of women's issues resulting from the modern

feminist movement (Henderson & Bialeschki, 1986). Consequently, along with the women's movement, more and more women participate in outdoor recreation.

Women's Outdoor Recreation

Outcomes from recreational experiences can transfer into other realms of daily life, thus, resulting in a sense of empowerment and social change for women (Henderson, 1992). Past research provides evidence that outdoor recreation can help society deconstruct gender stereotyping (e.g., Bialeschki & Henderson, 1993). Such deconstruction can start with women's beliefs about their relationship with the nature.

Henderson and Bialeschki (1986) reported that women have tended to believe that they were part of the nature and therefore did not feel that they had the right to "overpower" nature. In addition, women have not had the same opportunities for enjoying and being in the wilderness as have men. Henderson (1992) noted that females seem to choose outdoor activities because of the "journey" and empowerment, reasons that may not always be important to males. As Bialeschki and Henderson (1993) documented, women went into the outdoors for many reasons, one of which was for journeys that resulted in a variety of adventures.

Today more than ever, girls and women are interested in the outdoors and are seeking to empower themselves through involvement in outdoor activities. Outdoor activities involve potential risk and uncertainty. At the same time, feelings of well-

being, self-confidence, and self-actualization are often associated with outdoor activities (Henderson, 1992). Miranda and Yerkes (1982) also suggested that women are an emerging outdoor audience who are interested more in freedom than gender-imposed roles.

Kane (1990) asserted that engaging in outdoor recreation can empower women to engage in self-nurturance and to foster feelings of stability, revitalization, and renewal. Leisure experiences are important vehicles through which women can feel entitled to freedom and autonomy. Leisure can provide a context for liberating oneself from the oppressiveness of gender-role conformity. This power, in turn, can transform other aspects of their lives. Although there are some benefits for women participating in outdoor recreation, gender-role stereotypes often constrain the leisure experience in the out-of-doors (Kane, 1990).

Leisure and Outdoor Recreation Constraints

Many barriers to outdoor recreation are socially-based fears rather than physical ones. Fear-enhancing components include non-acceptance by a group, not being able to keep up, letting one's self down, and making wrong decisions (Ewert, 1988). Women reported a lack of partners, family commitments, shyness, lack of transport, and physical inability as limits to their outdoor involvement (Henderson, Bialeschki & Sessoms, 1990). Jackson (1990) called the gender roles expected of women an

antecedent restraint on their activities. Discrimination has been demonstrated toward women in the field of outdoor recreation, especially in attitudes about inherent differences in roles and abilities between the sexes (Theobald, 1978).

A constraint may be anything that inhibits people's ability to participate in leisure activities, to spend more time doing so, to take advantage of leisure service, or to achieve a desired level of satisfaction (Bialeschki & Henderson, 1993). As researchers have conducted research about women and leisure, gender expectations, an ethic of care, physical and psychological safety and lack of skills, and opportunities appear to be the major constraints that affect more upon women's involvement in outdoor pursuits than on men's involvement (Bialeschki & Henderson, 1993).

A constraint to women's involvement may have to do with the way they conform to gender expectations (Bialeschki & Henderson, 1993). Women's roles in society have changed, but a sense that gender expectations are important still remains. One of the reasons that women say they enjoy women-only activities in the outdoors is because it allows them to be free of gender-imposed roles (Miranda & Yerkes, 1982). Physical and psychological safety are issues with which all people are concerned when participating in any kind of active pursuit.

Loeffler (1997) pointed out that as part of the socialization process many women have been taught that participating in physical recreation activities such as sports and outdoor pursuits is inappropriate and unacceptable. Women's femininity is often called into question when they go into the woods, a place they have been told over and over again that they don't belong. Loeffler also indicated that one of the major constraints identified was that many women outdoor leaders tend to perceive themselves as less qualified or competent, how a lack of self-confidence in their leadership limited them in pursuing their outdoor careers. This significant finding makes it critical to examine the concept of competence and how gender-role socialization influences competence development in outdoor recreation activities.

Women's participation in outdoor activities relies heavily on their ability to negotiate through constraints (Henderson & Bialeschki, 1993). Constraints influence women's preferences, negotiation, and participation in leisure activities. Women who are able to negotiate constraints are more likely to have greater leisure activity (Henderson & Bialeschki, 1995). It is difficult to say what leisure means for most women, but the idea of leisure as a meaningful experience is one way to understand it (Henderson, 1990).

Kane (1990) indicated that gender as constraint is examined through the social construction of gender-role conformity. She suggested that gender-role conformity

acts as two seemingly distinct, yet ultimately interconnected areas in leisure and physical recreation: (1) young children's play behavior, such as girls playing with dolls and boys playing with trucks, and (2) dual career women who are busy with their job and family and therefore lack time for leisure activities. Because the institution of gender is so pervasive in society, its influence affects all aspects of the leisure experience, especially physical recreation. Through the influence of gender as a social institution, female socialization serves as a powerful constraint against women's involvement in a physical recreation experience.

Leisure research has begun to address how socialization impacts both males and females. Jackson and Henderson (1995) found that women met more societal expectations that constrained their leisure pursuits than men. In examining the connection between wilderness recreation and social change for women, Pohl, Borrie, and Patterson (2000) collected data from 24 qualitative interviews with women who participated in wilderness recreation. Analysis indicated wilderness recreation can influence women's everyday lives in the forms of self-sufficiency, a shift in perspective, connection to others, and mental serenity.

Jackson (1994) found that participation in outdoor activities was more constrained in resource-based outdoor recreation compared to participation in other forms of recreation and leisure. Specific constraints identified included the cost of

equipment, no opportunity close to home, the cost of transportation, and lack of transportation. Henderson, Stalnaker, and Taylor (1988) found similar constraints that were specific to women. They found that women did not have enough time, too busy a schedule, had other priorities besides recreation, were too tired, and had too much stress to take time for recreation. Women did not know what recreational resources were available, did not have anyone with whom to recreate, and did not know where to find recreation opportunities. Many women did not have direction regarding leisure interests. They were not able to plan recreation, neither did they know how to use their time. They did not have the physical skills (strength and coordination) needed or the self-confidence and empowerment to participate in outdoor recreation. Women were concerned with putting the needs of family first and found it difficult to fit their leisure time around family obligations and commitments. Poor experiences or self-consciousness in recreation also keep women from participating (Henderson et al., 1988).

Henderson et al. (1988) cited ten recreation barriers for women including: time, money, facilities, family concerns, unawareness, lack of interest, decision-making, body image, skills, and social inappropriateness. Gender differences were found in many of these studies. Citing Searle and Jackson's research (1985), Henderson et al. (1998) reported that women had more barriers to participation then men including

lack of partners, family commitments, lack of information, shyness, lack of transport, and physical inability. Searle and Jackson (1985) concluded that the changing roles of women had not sufficiently changed the perceptions of barriers to recreation for women. They noted that the higher the educational level of the women, the less these barriers were a problem for women.

Henderson, Stalnaker, and Taylor (1988) examined the relationship between barriers to recreation and gender-role personality traits for women. They indicated that women with masculine and androgynous personalities (as measured by the Bem Sex Role Inventory) were found to perceive fewer barriers to recreation than women with feminine and undifferentiated personalities. Lacking self-confidence to participate, not being physically fit, and lacking the physical skills to participate were significantly greater barriers for women with stereotypic feminine and undifferentiated personalities than for women with masculine and androgynous personalities (Henderson et al., 1988).

Women Only Outdoor Programming

Mitten (1985) pointed that women and men grow up learning different ways of being and coping in our society which influences women to come to outdoor programs with a different socialization than men. Therefore, many women prefer to adventure with other women because the styles of the trips are different from those of

mixed groups and from all-men's groups. Mitten believed that women's exclusive responsibility for early childcare is an important factor contributing to this different socialization. Because women grow up with different acculturation than men, women often bring different strengths and have different expectations for outdoor programs. It is important for outdoor educators to examine their program's agendas so they may communicate to participants.

Fortunately, in outdoor recreation women are given opportunities to hold leadership positions and have unlimited opportunities to develop leadership and other interests (Henderson & Bialeschki, 1986). They also gain insight into themselves through the self-determination of a lifestyle. In addition, in female groups, women develop the consciousness of friendships with other women and gain assurance that enables them to become independent mature women.

In female-only groups, women are given a chance to ask questions, to try skills, and to have equal time to practice. Women seek and need the temporary privacy and security of all-female groups for support or permission to engage in activities that are not generally catered to women (Henderson & Bialeschki, 1986). Through outdoor experiences, women are able to enhance their pride in themselves as individuals and as women. Lichtenstein (1985) suggested that when women take on difficult

challenges in the outdoors, the spirit that develops through the process is not competition against others, but one of intense bonding, cooperation, and support.

Yerkes and Miranda (1985) found that women who joined in female groups to go into the outdoors did not find the tasks easier than when they went with men. Because they had to rely on themselves, they increased their physical skills and outdoor judgment. Yerkes and Miranda also found that women chose the all-female groups for the following reasons: for the adventure, novelty, to make new friends, out of curiosity, and to develop skills for their own trips

Hornibrook, Brinkert, Parry, Seimens, Mitten, and Priest (1997) conducted research to determine and describe the benefits and motivations associated with all-women outdoor programming. Six hundred-fifty females participated in a Woodswomen program during 1995. Woodswomen was a service organization that provided one-day to three-week-long outdoor adventures for women and children. Hornibrook et al. (1997) described that the participants of Woodswomen tended to be professional, well-educated, middle-aged women. The top three program components that were important to respondents were the all women participants, the opportunity to merge with nature, and the inclusive environment. The top three reasons for participating in the Woodswomen program were to take part in a physical activity, to gain a new experience, and the non-competitive atmosphere.

Along with providing single-sex learning environments, there are other pedagogical strategies that can assist in the development of competence. Using cooperative learning methods and the setting rather than competitive methods assists women in developing a sense of competence (Loeffler, 1997). Such environments provide enough support for women to take both the emotional and physical risks required to learn new skills and to develop a sense of competence. As new skills increase, the supportive environment allows women to both recognize and claim this competence. Loeffler (1997) urged that in assisting women to feel competent in outdoor activities, it is important to assist women in bridging the missing link by providing single-sex learning environments, unbiased mixed-sex learning environments, and supportive learning experiences that allow women to know their competence.

Miranda and Yerkes's (1983) study reported that over 90% of the 130 women outdoor leaders agreed that gender was a critical influence in their career development and professional advancement. Hence, women and men have developed different strategies and made different efforts to respond to the perceived influence. As an outdoor leader, women's frustration seemed to come from the resistance of male participants in accepting them as a leader. On the other hand, those who worked primarily in all-women's groups had a highly conscious commitment to women and

their well-being. For example, Miranda and Yerkes (1983) indicated that university women would like to share concern for sex equity with all-women group leaders and engage in all-women outdoor programs at a high rate themselves.

Becoming an Outdoors-Woman Program

Dr. Christine Thomas developed the "Becoming an Outdoors-Woman" (BOW) program for women-only in 1991. The BOW is a skill-based outdoor program in which hunting/shooting, fishing, and non-harvest activities are taught. The program strives to provide an enjoyable, comfortable, and non-threatening learning atmosphere and experiences for adult women in order to foster immediate success (Thomas, 1995). The sense of immediate success has brought numerous advantages in women's participation in BOW program, and their participation in outdoor activities after the program, such as increased activity in outdoor recreation, increased interest in resource management, increased purchase of hunting and fishing licenses and park permits, and a more positive attitude toward state natural resource management agencies (e.g., Ensign, 1999; Lueck, 1995; Lueck & Thomas, 1997; Thomas Ensign, & Lueck, 1999).

Lueck's (1995) study looked at the effect of BOW participation on the attitudes and activities of women. The survey compared women who attended workshops in six states over the first three years of the program, with women who were on program

mailing lists, but had not attended workshops. Lueck found that, compared to non-participants, women who participated in workshops significantly increased their participation in most outdoor activities that they learned about. In addition, the women purchased equipment related to those activities and they became significantly more interested in environmental protection. By contrast, non-participants dropped out of outdoor activities at a significantly higher rate than did BOW participants. This research showed that women who did not participate in BOW workshops tended to quit their outdoor activities. BOW participants indicated they felt more positive about hunting, fishing, and other outdoor activities as a result of the program. These same women were more likely to hunt or fish in the future than women who did not attend a workshop. The value of BOW workshops was highlighted by data which indicated that more women learned to hunt and fish with less fear because of the program.

Ensign (1999) conducted research on the factors that enhanced or inhibited the involvement of BOW participants in fish and wildlife-based recreation. In total, 2099 surveys were sent out with 618 (29%) usable surveys returned from three states. The research showed that respondents who attended a BOW program were significantly more likely to be able to identify the state resource management agency in their state. In addition, Ensign found that the BOW program positively influenced the sale of hunting and fishing licenses and park permits. Respondents listed time, not owning

equipment, lack of companions with whom to participate, and lack of knowledge about how to get involved as major barriers to participation. This is consistent with findings in the general recreation literature. Involvement in outdoor activities was enhanced by availability of inexpensive programs and equipment, companions with whom to participate, and close to home participation. Barriers to participation in a workshop were the same for BOW participants and non-BOW respondents.

Lueck (1995) conducted research about the effect of participating in BOW on outdoor activities and attitudes. Two hundred and four (53%) usable surveys were analyzed in this research. Attendance at a BOW workshop had a positive influence on the factors surveyed. Participants were likely to increase their level of participation in activities associated with what they learned at the workshops. In many cases, they discovered an interest and ability in an activity they might have never considered if they had not participated in BOW program. In addition, they tended to continue with these activities, with almost no dropout rate. The control group increased participation less than BOW participants, and they had a higher rate of decreased involvement in outdoor activities.

Schnell (2000) conducted research to determine the barriers to participation in natural resource-based recreation for minority women. Three major barriers to participation were identified: lack of minority role models at workshops, distance of

workshops from urban centers, and the perception that minorities were not invited to participate in the program. Suggested strategies to build bridges to minority populations included: (1) diversifying publicity with images of women from different ethnic groups, (2) inviting women in person to make them feel welcome, and (3) creating role models by training minority women and men to be instructors with program.

Another research study concerning BOW workshop participation was conducted by Wu and Jordan (2003). Wu and Jordan reported research about perception of self among women engaged in a BOW workshop. A questionnaire was designed to elicit the subjects' self-perception as outdoor women. The 45 items on the survey were formatted as a semantic differential with a broken line continuum. This resulted in a 7-point scale of opposite concepts. Surveys were distributed to 149 women at an outdoor recreation workshop and 136 usable surveys (91.2%) were returned. A factor analysis was manipulated to determine the underlying factors of women's self-perceptions.

The factor analysis provided seven factors (competence, belonging, initiative, freedom, personal value, gender, and risk) from 40 items. The data were treated with a standard multiple regression and showed that education level was the best predictor of self-perception in all seven factors. Four factors (competence, belonging, freedom,

and personal value) were significant and predicted by education level, workshop experience, age, household income, and marital status. The seven factors encompass many elements of self and show that women engaged in outdoor recreation learning opportunities experience many positive elements of self. These elements include both feminine and masculine qualities, reinforcing the concept of gender as being multidimensional.

Self-Efficacy

Self-efficacy theory, as postulated by Bandura (1977a), suggests that a person's behavior and behavior change are mediated by beliefs concerning his or her ability to perform certain tasks or behaviors. Self-efficacy expectations can be used to examine whether behavior will be initiated, how much effort will be expended on the behavior, and how long the effort will be maintained in the face of obstacles (Lent & Hackett, 1987; Bandura, 1995a, 1997). According to Bandura (1977a), expectations of self-efficacy are the most powerful determinants of behavioral change because self-efficacy expectancies determine the initial decision to perform a behavior.

Self-efficacy has been defined as the belief in one's ability to perform a task or to execute a specified behavior successfully (Bandura, 1997). Bandura (1977a, 1997) formally defined perceived self-efficacy as personal judgments of one's capabilities to organize and execute courses of action to attain designated goals. He sought to assess

its level, generality, and strength across activities and contexts. According to Bandura (1997), self-efficacy has three components: (1) magnitude, which refers to belief about performance in increasingly difficult aspects of the task; (2) strength, which refers to the effort expended to maintain the behavior in the face of obstacles; and (3) generality, which refers to the broadness of the applicability of the belief.

Bandura (1986) suggested that individual assessment of self-efficacy could be influenced by four information sources: (1) personal performance accomplishments, (2) vicarious learning, (3) verbal persuasion, and (4) emotional arousal. With personal performance accomplishments, a successful personal performance of a given behavior will raise efficacy while an unsuccessful performance will lower it. Actual performances are the most powerful source of self-efficacy information (Bandura, 1986, 1997; Lent, Lopez, and Bieschke, 1991). Individuals with high levels of self-efficacy will not be adversely affected by an occasional failure (Bandura, 1986).

Vicarious learning or modeling is less influential than actual performance. Models who display effort and perform tasks successfully will be more influential than models effortlessly completing tasks. Perceptions of efficacy will be further enhanced if models are similar to the individual in background and ability (Bandura, 1986). Forms of persuasion include positive verbal feedback from peers, teachers, and family. Positive verbal feedback should be given thoughtfully and honestly if it is to

have a positive impact. Emotional arousal is indicated by an elevated pulse rate and feelings of anxiety or fear. Conscious awareness of personal anxiety about a particular task may lower efficacy beliefs.

Self-efficacy theory asserts that personal mastery expectations are the primary determinants of behavioral change (Sherer et al., 1982). Further, it is suggested that individual differences in past experiences and attribution of success to skill or chance result in different levels of generalized self-efficacy expectations. To measure these generalized expectancies, Sherer et al. (1982) developed the Self-Efficacy Scale. A factor analysis yielded two subscales: A General Self-Efficacy subscale (17 items) and a Social Self-Efficacy subscale (6 items). Confirmation of several studies predicted conceptual relationships between to self-efficacy subscales and other personality measures (i.e., Locus of Control, Personal Control, Social Desirability, Ego Strength, Interpersonal Competence, and Self-esteem) thus, providing evidence of construct validity. Positive relationships between the Self-Efficacy Scale and vocational, educational, and military success established criterion validity.

Self-efficacy theory has shown that all forms of psychotherapy and behavioral change operate through a common mechanism: the alteration of an individual's expectations of personal mastery and success (Bandura, 1977a, 1982a). According to this theory, two types of expectancies powerfully influence an individual's behavior:

(1) outcome expectancies, the belief that certain behaviors will lead to certain outcomes; and (2) self-efficacy expectancy, the belief that one can successfully perform the behavior in question (Maddux, Sherer, & Rogers, 1982). According to Bandura (1977a), expectations of self-efficacy are the most powerful determinants of behavioral change because self-efficacy expectancies determine the initial decision to perform a behavior, the effort expended, and persistence in the face of adversity.

Sources of Efficacy Expectations

Sources of self-efficacy have been identified, and include: (a) enactive mastery experiences, which provide obvious evidence of personal ability; (b) vicarious experiences, which establish personal beliefs derived from comparing oneself to others; (c) verbal persuasion, which shapes personal beliefs in self-efficacy from the comments made by others; and (d) affective and physiological states, which ground personal perception of personal competence (or lack of it) (Bandura, 1986; 1995b).

Enactive mastery experiences. Enactive mastery experiences are the most influential source of efficacy beliefs because they are predicated on the outcomes of personal experiences. Through performance accomplishments, self-efficacy can be attained through actual performance. In general, a series of successes is believed to increase levels of self-efficacy. A series of failures, on the other hand, is believed to decrease levels of self-efficacy. When one achieves a series of successes or failures,

those experiences (past performance) become the major determinant of self-efficacy. Then, the perceived self-efficacy acts as a better predictor of future performance than the past performance (Bryant, 1997).

Martin, Moritz, and Hall (1999) proposed that motivational general-mastery imagery, which refers to effective coping and mastery of challenging situations (e.g., feeling confident while climbing a difficult rock face), may be used to modify cognitions, and specifically, may be beneficial in terms of increasing self-efficacy and self-confidence. Likewise, Jones, Mace, Bray, and MacRae's (2001) theory about motivational general-mastery and motivational general-arousal types of imagery can be effective in controlling emotions during athlete activity and may also enhance self-efficacy. Feltz (1992) explained that the most dynamic source of self-efficacy in sport and exercise is the perception of a successful performance, which subsequently affects the amount of effort exerted, as well as persistence.

Vicarious experience. Vicarious experience depends on an observer's self-comparison with, as well as outcomes attained by, a model. If a model is viewed as more able or talented, observers will be more likely to discount the relevance of the model's performance outcomes for themselves. On the other hand, if a model is seen as less able or talented, observers will be more likely to increase the relevance of the

model's performance outcomes for themselves. This can be observed in our daily lives when observing and comparing with others' performances.

Self-efficacy also can be acquired through modeling because modeling has an impact on appraisal of the self-efficacy level through comparison (Bandura, 1982a). When new situations are encountered, individuals compare this stored information with the current setting to appropriate actions. Of critical importance in this process are the "self-efficacy" judgments individuals make concerning their personal ability to successfully negotiate the demands of the situation (Hoff & Ellis, 1992).

Verbal persuasion. Verbal persuasion has a limited impact on people's self-efficacy because outcomes are described, not directly witnessed, and thus depend on the credibility of the persuader. Verbal persuasion can have significant effects on the listener depending on the "perceived credibility and expertness" (Bandura, 1986, p. 406) of the persuader. For example, when a person has had a strong relationship with the persuader and trusts her/him, the persuader's encouragement will be more likely to be persuasive and will have a more powerful impact on the person. Lopez and Lent (1992) supported Bandura's contention by reporting a statistically significant correlation between level of verbal persuasion and self-efficacy.

Physiology and affective state. It is suggested that emotional arousal can increase or decrease self-efficacy (Bandura, 1977a). Emotional arousal is one

component source of information that can affect perceived self-efficacy in coping with threatening situations. People rely partly on their state of physiological arousal in judging their anxiety and vulnerability to stress. Because high arousal usually debilitates performance, individuals are more likely to expect success when they are not troubled by negative arousal (Bandura, 1977a).

People base their self-efficacy judgments on their perceived physiological reactions, such as fatigue, stress, and other emotions which are often interpreted as indicators of physical incapability. Unlike self-beliefs that are assumed to have trait-like stability across time and setting, self-efficacy is assumed to be responsive to changes in personal contexts and outcomes, whether experienced directly, vicariously, verbally, or physiologically. As a result of this sensitivity, self-efficacy beliefs are studied as indicators of change during instructional interventions as well as indicators of initial individual differences.

Self-Efficacy Beliefs

Bandura (1977b) proposed a theory of the origins, mediating mechanisms, and diverse effects of beliefs of personal efficacy. He also provided guidelines for measurement of self-efficacy beliefs for different domains of functioning. According to this theory (Bandura, 1995b), self-efficacy makes a difference in how people feel, think, and act. In terms of feeling, a low sense of self-efficacy is associated with

depression, anxiety, and helplessness. Individuals who have a low sense of self-efficacy tend to have low self-esteem and retain pessimistic thoughts about their accomplishments and personal development. As far as thinking is concerned, a strong sense of competence facilitates cognitive processes and performance in a variety of settings, including quality of decision-making and academic achievement. Action, therefore, is a result of the interaction between feeling and thought.

Bandura (1995a, 1995b) defined self-efficacy as an individual's belief in personal capability to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over a variety of tasks. People may perform poorly, adequately, or extremely well depending on individual variations in perceived self-efficacy. People with high self-efficacy choose to perform more challenging tasks. They set higher goals for themselves and stick to them. Actions are pre-shaped in thought, and people anticipate either optimistic or pessimistic scenarios along with their level of self-efficacy. Once an action has been taken, high self-efficacious persons invest more effort and persist longer than those who are low in self-efficacy. When frustrations occur, they recover more quickly and maintain the commitment to their goals. Self-efficacy also allows people to select challenging settings, explore their environments, or create new environments.

The construct of self-efficacy, as introduced by Bandura, represents one core aspect of his social-cognitive theory. While outcome expectancies refer to the perception of the possible consequences of one's action, self-efficacy expectancies refer to personal action control or agency. A person who believes in being able to cause an event can conduct a more active and self-determined life course. This "can do" cognition mirrors a sense of control over one's environment. It reflects the belief of being able to control challenging environmental demands by means of taking adaptive action. It may be regarded as a self-confident view of one's capability to deal with certain life stressors (Bandura, 1977a, 1997).

To enhance outcome expectations, self-efficacy theory (Bandura, 1977b; 1986) suggests that the development of self-determination, or a person's beliefs about his or her capability to perform specific life activities, is the key. Outcome expectations are a person's beliefs about whether his or her actions will lead to the outcome he or she desires. The following is a more explicit discussion of this notion.

Self-Efficacy in Outcome Expectation

In a study in which the relationship between self-efficacy and performance was examined, Bandura, Reese, and Adams (1982) categorized the levels of self-efficacy at three different levels: low, medium, and high. The subjects in each efficacy condition were asked to perform several tasks in increasing order of difficulty. The

results showed that success at an earlier task increased subjects' self-efficacy level significantly and the performance of the consecutive task was significantly positively affected.

The significant relationship between self-efficacy and performance has been repeatedly supported by numerous empirical studies in many behavioral domains. Many empirical studies in task specific areas have also provided evidence of a strong relationship between self-efficacy and respective performance tasks. Some examples include math self-efficacy (e.g., Hackett & Betz, 1989; Lopez & Lent, 1992), career self-efficacy (e.g., Matsui, 1994), and academic self-efficacy (e.g., Bong, 1999).

In one study, performance accomplishment was examined as a source of math self-efficacy. Lopez and Lent (1992) showed that a statistically significant relationship existed between performance accomplishment and an increase in self-efficacy. By contrast, beliefs of personal incompetence or a lack of perceived self-efficacy may be associated with such consequences as learned helplessness, depression, inability to effectively address problems, and even physiological illness (Hoff & Ellis, 1992).

Dzewaltowski (1989) reported that participants who expressed higher efficacy expectations prior to participation in a seven-week exercise regime exercised more days per week than those who were low in efficacy. Rudolph and McAuley (1996)

found that active exercisers expressed higher self-efficacy both prior to and following a 30-minute exercise program than did a group determined to be less active. Others have reported that exercise self-efficacy is associated with higher levels of physical activity and frequency of exercise, more perceived effort made during exercise, and more positive affective reactions to exercise (Dzewaltowski & Noble, 1990; Mihalko & McAuley, 1996; Rudolph & MacAuley, 1996).

In summary, self-efficacy expectations can be enhanced if an individual has experienced success with similar tasks or behaviors. People's beliefs about their capabilities influence the behaviors in which they engage, how much effort they expend, how long they persist when faced with obstacles, and whether they engage in self-debilitating or self-encouraging cognitions (Bandura, 1977a, 1977b, 1982a, 1982b, 1995b). Self-efficacy is conceptualized as a mediator of the influence of personal characteristics rather than as a specific personality trait and is therefore situation specific. This means that self-efficacy may vary greatly as a function of the task and situation at hand.

Gender-Role Orientation and Self-Efficacy

Information about the relationship between gender-role orientation and self-efficacy has been reported in the gender-role and psychological adjustment research literature. In one study, the relationship of career self-efficacy and gender role

orientation was reported by Matsui and Onglatco (1991). The subjects in the study were 412 full-time female secretarial employees in Japan. Given 30 work tasks representing different domains, subjects were asked to rate their competency in completing each task successfully. Using a median split subjects were divided into four groups based on their scores on the BSRI: androgynous, instrumental, expressive and undifferentiated (the authors defined masculine traits as instrumental and feminine traits as expressive). Among the four groups, the androgynous group showed the highest mean of self-efficacy, followed by those in the instrumental group, those rated as expressive, and the undifferentiated group.

Matsui and Onglatco (1991) also examined the contributions of instrumentality and expressiveness in predicting self-efficacy in six different environment domains: realistic, investigative, artistic, social, enterprising, and conventional environments. Based on the R^2 increment values, Matsui and Onglatco reported that instrumentality showed the most significant increment in predicting self-efficacy in the enterprising domain (.39). Expressiveness, on the other hand, showed the most significant amount of R^2 increase in the social domain (.21).

Matsui (1994) conducted a similar study using Japanese university students. The subjects were 176 males and 210 females who were enrolled in an introductory psychology course in Japan. The research showed that female students had lower self-

efficacy for male-dominated occupations, but higher self-efficacy for female-dominated occupations. Instrumentality (masculinity) was significantly related to self-efficacy for females in male-dominated occupations. High instrumentality and high expressiveness were related to males in both male-dominated and female-dominated occupations. In both of Matsui's (1991, 1994) studies, it was reported that instrumentality (masculinity) was more significantly related to career self-efficacy than expressiveness (femininity). These results indicated that a stronger relationship may exist between self-efficacy and masculinity than between self-efficacy and femininity.

Another research study related to gender role orientation and self-efficacy was reported by Bryant (1997). Bryant's doctoral dissertation examined the relationship between gender-role orientation and self-efficacy. The participants were 651 undergraduate students enrolled in an introductory psychology course at a large midwestern university. The instruments used in data collection included a demographic questionnaire, the Multidimensional Self-Efficacy Scale (Bandura, 1989), the Self-Efficacy Scale (Sherer et al., 1982), and the Bem Sex Role Inventory (Bem, 1974, 1978). One of the major findings of Bryant's study was that gender role orientation is substantially related to perceived self-efficacy. The patterns identified in the canonical correlational analyses indicated that masculine characteristics accounted

for the first variate. The second variate centered on feminine characteristics. The two functions demonstrated that masculinity was a more important construct in predicting self-efficacy than femininity. The trend held true whether self-efficacy was measured by the domain-specific scales of the MSES or by the generalized self-efficacy scale (SES).

Another major finding of this study was that different dimensions of self-efficacy may be explained by different dimensions of gender-role orientation (Bryant, 1997). That is, factors such as leisure skills, self-assertiveness, and physical activities accounted for more variability in masculinity than in feminity. These factors were believed to be rather masculine due to their competitive, independent, and self-assertive characteristics. On the other hand, factors such as meeting others' expectation efficacy, and extracurricular and enlisting resources were more strongly related to femininity than to masculinity. These factors represented a social dimension with a greater focus on interpersonal relationships. This finding partially supports the findings of Matsui and Onglatco (1991) in which instrumentality was a significant predictor of the enterprising domain of career self-efficacy, and expressiveness was an important predictor of the social domain of career self-efficacy.

These results indicate that how self-efficacy relates to gender role orientation depends on the dimensions of self-efficacy. When the dimension reflects such

characteristics as competitiveness and/or assertiveness, self-efficacy seems to be more related to masculinity. Similarly, when the dimension of self-efficacy measures social or interpersonal skills, the dimension seems to be more related to femininity.

Self-Efficacy and Outdoor Recreation

One of the goals of outdoor recreation and education is to increase participants' self-awareness and improve their self-concept (Ford & Blanchard, 1985; Miles & Priest, 1990). By increasing self-awareness, the participant may have a better quality of life, with new knowledge that can be used the rest of their lives (Cockrell, 1991; Csikszentmihalyi, 1993; Ewert, 1989). Bandura's (1977a, 1982a) self-efficacy theory provides a theoretical basis for understanding and explaining the psychological benefits of outdoor recreation interventions. Csikszentmihalyi (2000) contended that experiencing a sense of control, mastery, and efficacy are the fundamental motivations of participation in leisure activity. Bandura (1982b) asserted that enactive attainment is the primary means for increasing self-efficacy.

The nature of skill-based outdoor recreation is fundamentally experiential with the goal of providing opportunities for individuals to successfully perform tasks that they initially perceive to be outside the limits of their ability (Sachs & Miller, 1992). Bandura (1982a) noted that increase in self-efficacy due to successful performance was dependent on one's interpretation of the success. When successes were attributed

to internal factors (such as skill, ability, or effort), they led to greater increases in self-efficacy. Thus, self-efficacy theory suggests that successful completion of outdoor recreation activities will result in increased self-efficacy perceptions. Skill-based outdoor recreation often employs individual processing techniques to recognize self-attributions and the impact of outdoor recreation experience on personal efficacy.

Despite the theoretical relationship between outdoor recreation and self-efficacy, little research has been conducted to evaluate the impact of outdoor recreation on perceived self-efficacy. Initial research shows mixed findings among adolescents participating in a wilderness program. Sachs and Miller (1992) reported no significant increase in perceived self-efficacy for outpatient, emotionally disturbed adolescents who participated in a modified wilderness program. Davis-Berman and Berman (1989), however, found a significant increase in self-efficacy for disturbed adolescents participating on a backpacking trip which included daily therapy.

Shetler (1997) examined the impact of adventure recreation interventions (whitewater rafting and winter camping), on participants' perceived self-efficacy. Twenty-eight adolescents (ages 15-20) participated as subjects, 14 in each intervention group. The Self-Efficacy Scale (Sherer et al., 1982) and the Physical Self-Efficacy Scale (Ryckman, Robbins, Thornton, & Cantrell, 1982) were used as measures of self-efficacy. Pretest to posttest comparisons indicated a significant

increase on SES for winter campers and a significant difference in the degree of changes on SES between winter campers and whitewater rafters.

Paxton (1998) investigated transferability of gained self-efficacy an outdoor adventure program could offer to the daily lives of participants. The research was grounded in literature from the areas of social psychology and outdoor recreation. The researcher used both qualitative and quantitative methods in this study. Twenty participants were interviewed. The findings indicated that self-efficacy increased, but was not transferred into, participants' everyday lives. The research also demonstrated that participant self-efficacy continued to increase one year after the completion of the 21-day adventure course. These findings confirmed what many other researchers in the field of outdoor recreation and outdoor education have argued: There is a relationship between participation in an adventure course and change in participants' self-efficacy (Ewert, 1989; Hattie, Marsh, Neill & Richards, 1997).

Summary

This chapter has addressed the research that relates to the support areas for this study. The researcher has reviewed studies of and theories on sex, gender, gender-role orientation, women and outdoor recreation, self-efficacy, gender-role and self-efficacy, and self-efficacy and outdoor recreation.

First, the researcher discussed the constructs of sex and gender from a variety of dimensions. These theories can be used to explain how biological, psychological, and sociological factors contribute to the construction of gender identity and sex/gender-role orientation. Related studies have argued that people, due to the process of acculturation, are socialized to adopt certain "appropriate" sex/gender behaviors and attitudes.

The influences of sex and gender on leisure and sports are worth noticing. Review of the literature suggests that regardless of individual gender-role orientation, sport and the outdoors are still regarded as masculine domains. This explains why women inevitably have more constraints than men in participating in outdoor recreation although the emergence of the modern feminist movement has challenged the widely held limitations imposed on women and has brought a new era for women in outdoor pursuits.

Along with masculinity, femininity, and undifferentiated trait categories, androgyny (the presence of both masculine and feminine characteristics) is an important concept introduced by Bem (1979). In this section, the researcher has delineated the two major instruments used for this study: the Bem Sex Role Inventory (BSRI, Bem, 1974, 1981a) and Personal Attributes Questionnaire (PAQ, Spence, Helmreich, & Stapp, 1975).

As self-efficacy is another major construct for this study, an extensive review was also conducted to understand sources of self-efficacy, beliefs in self-efficacy, and self-efficacy in outcome expectations (Bandura, 1977a, 1977b, 1997). We have learned from this review that a person's behavior and behavior changes are mediated by beliefs concerning one's ability to perform certain tasks or behaviors. Finally, studies about the interrelationships of sex and gender orientation, self-efficacy, and outdoor recreation were discussed to provide a comprehensive background for this study.

In the following chapter, a description of the subjects, the major instruments, procedures for data collection and data analysis will be introduced.

CHAPTER III

METHODS

This study was designed to measure the effects of gender-role orientation and participation on a single-sex outdoor recreation program on self-efficacy. The topics presented in this chapter include a description of the subjects, the instruments, an outline of the procedures, and the data analyses employed in this study.

Sampling

Subjects were people who participated in a one-weekend single sex outdoor recreation program at Becoming an Outdoors-Woman (BOW) workshops in the United States, and who were at least eighteen years old. Approximately 15 states and Canadian provinces held a weekend-long BOW workshop during August to December 2003. Each individual BOW coordinator in those states was contacted by the investigator through phone or e-mail to ask for their assistance with this research. Coordinators were asked to contact individuals who had registered for the weekend BOW workshop and to invite them to participate in the study.

Potential subjects were told that the research was part of a dissertation, that three inventories would be administered, and that their participation was voluntary. Each

BOW coordinator assisted the primary investigator by contacting the potential subjects, securing their voluntary participation, and administering the three inventories. The coordinators of BOW workshops in five states (New York, Ohio, West Virginia, Oklahoma, and Texas) assisted this research. Approximately 350 women attended a BOW workshop in those five states during the study period. Two hundred seventy-four subjects agreed to participate in this research and filled out a consent form. Those participants then answered a Self-Efficacy Scale and the Bem Sex Role Inventory (BSRI) prior to participating in the weekend event, and a Self-Efficacy Scale and a demographic questionnaire after participation. Surveys with incomplete and missing data were eliminated; thus, a total of 201 people completed the pre-test and post-test and were utilized for the data analysis.

Subjects

Subjects were 201 females who participated in a one-weekend single-sex outdoor program at Becoming an Outdoors-Woman (BOW) workshops in the United States, and who were at least eighteen years old. Subjects came from BOW workshops in New York, Ohio, West Virginia, Oklahoma, and Texas. The 201 women ranged in age from 22-69 years; the mean age of the subjects was 45.0 years old. The subjects were predominately Caucasian/White (94%) and the majority of participants (66.7%) were married/cohabiting. More than half of the subjects earned a

bachelor's degree or higher (59.2%). Subjects were distributed in the different four types of gender-role orientation (GRO) (androgynous = 55, masculine = 53, masculine = 52, undifferentiated = 41).

Instruments

The instruments used in the data collection included the Self-Efficacy Scale (Sherer et al., 1982), the Bem Sex Role Inventory (Bem, 1978, 1981a), and a demographic questionnaire with questions of satisfaction and perceived success in the BOW workshop.

Self-Efficacy Scale (SES)

The Self-Efficacy Scale (SES) (Sherer et al., 1982) for use in educational settings was selected for use in this study. This was in accordance with the purpose of this study and the BOW program setting (education in outdoor recreation).

The Self-Efficacy Scale (SES) was developed to assess generalized expectations of self-efficacy. Sherer et al. (1982) developed the SES to measure self-efficacy through a self-report (paper and pencil) designed to measure the degree to which respondents perceived self-efficacy. The original version of the scale contained 36 items and the instrument utilized a 14-point Likert scale from "strongly disagree" to "strongly agree." In its development, a factor analysis was manipulated to test reliability. To be retained, an item was required to load at the .40 level or above on

only one factor. Thirteen items did not meet the criteria and were discarded. According to the initial two-factor solution for the original scale, Sherer et al (1982) developed a revised scale of 23 items.

The SES includes 23 items that provide specific self-efficacy measurement, 17 items for general self-efficacy (GSE), and 6 items for social self-efficacy (SSE). To increase the validity and reliability of this instrument, 7 filter items were added. Consequently, the final form is 30 items which constitute two subscales: general self-efficacy and social self-efficacy. Final revisions included a change from a 14- to a 5-point scale. Respondents are expected to rate their agreement with each item on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." Reversed items are converted for scoring. The higher the score, the higher the self-efficacy expectation will be.

Internal consistency/reliability was demonstrated by Sherer et al. (1982) in a study of 376 undergraduate students enrolled in introductory psychology classes. Cronbach alpha reliability coefficients of .86 for the general self-efficacy subscale and .71 for the social self-efficacy subscale were obtained.

To assess the construct validity of the Self-Efficacy Scale, Sherer et al. (1982) reported the correlation coefficients of SES to selected personality characteristic measures. These measures included Rotter's Inter-External Control Scale (I-E), for

which a moderately negative correlation was expected between scores on the SES and scores on the I-E Scale; Personal Control Subscales of the I-E Scale, hypothesized to also correlate negatively with those of the SES; Marlowe-Crowne Social Desirability Scale, for which a moderately positive correlation was expected between the Marlowe-Crowne Social Desirability Scale and SES; and the Ego Strength Scale and the Interpersonal Competency Scale were expected to show moderate positive correlations with self-efficacy.

The correlation coefficient between the I-E score and general self-efficacy subscale score was -.29, and -.17 with the social self-efficacy subscale; -.36 on Personal Control and general self-efficacy subscale and -.13 on Personal Control and social self-efficacy subscale; .43 on the Social Desirability and general self-efficacy subscale and .28 on the Social Desirability and social self-efficacy subscales; .29 on the Ego Strength and general self-efficacy subscales and .06 on the Ego Strength and social self-efficacy subscales; .45 on the Interpersonal Competency and general self-efficacy subscales and .43 on the Interpersonal Competency and social self-efficacy subscales. Based on the magnitude and direction of the correlation coefficients between those measures and the self-efficacy subscales, Sherer et al. (1982) concluded that construct validity was present in the SES.

Sherer and Adams (1983) investigated several predicted conceptual relationships between the self-efficacy subscales and other personality measures to provide the construct validation of the Self-Efficacy Scale. The measures included were the Minnesota Multiphasic Personality Inventory (MMPI) with ten subscales, the Rathus Assertiveness Schedule, and the Bem Sex Role Inventory. Results supported the interpretation of the Self-Efficacy Scale as a valid measure of expectation of personal ability to initiate and persist in behavior. Positive expectations of self-efficacy were associated with enhanced personal adjustment.

Woodruff and Cashman (1993) noted that a reexamination of the Self-Efficacy Scale indicated that the scale was more intricate than originally reported. It captured aspects of strength, magnitude, and generality of efficacy. The patterns of the correlation coefficients reported were very similar to the patterns reported by Sherer at al. (1982). The scale showed appropriate relationships to other personality measures. Criterion validity was established as the scale differentiated performance expectations.

Bem Sex Role Inventory (BSRI)

Another instrument to be utilized in this research was the Bem Sex Role Inventory (BSRI). The BSRI is a self-report measure of gender-role orientation developed by Bem (1974). The original form consisted of 60 items: 20 masculine

items, 20 feminine items, and 20 neutral items on a 7-point Likert scale. Respondents were instructed to indicate how well each item described them to measure the degree to which respondents identified with culturally-determined stereotypes of positive masculine and feminine characteristics.

Using a one to seven scale, respondents reported the extent to which they felt each word was a self-descriptor. A response of "one" indicated that the participant never or almost never believed the adjective described him/herself while a "seven" indicated that the subject always or almost always believed the word was an accurate descriptor (Bem, 1981b). Four classification scores were then created from the inventory as Masculine (high score on the masculine scale, low score on the feminine scale), Feminine (high feminine, low masculine), Androgynous (high masculine and high feminine), or Undifferentiated (low masculine, low feminine).

Bem (1974) reported test-retest reliability within a 4-week interval obtained from 28 females and 28 males (Stanford University sample). The reliability coefficient was computed separately for females and males. On the original scale, the reliability coefficients were .82 for females on femininity, .94 for females on masculinity, .89 for males on femininity, and .76 for males on masculinity, respectively. On the short form the reliability coefficients were .85 for females on

femininity, .91 for females on masculinity, .91 for males on femininity, and .76 for males on masculinity, respectively.

Bem (1974, 1978) reported a Cronbach's alpha obtained from two samples to indicate the internal consistency of the original form. Both samples consisted of undergraduate female and male students in an introductory psychology course at Stanford University. Coefficient alphas observed were .80 for the femininity subscale scores, .86 for masculinity, and .82 for femininity subscale. Those observed coefficient alphas indicated high consistency among the items.

Demographics and Perception of Satisfaction and Success

The demographic questionnaire gathered basic descriptive information about the sample including age, marital status, highest educational level, with/without children in household, ethnicity, and number of BOW workshops the individual had attended. For investigating the perception of participants' satisfaction and success in BOW workshop, the investigator added six questions in the demographic questionnaire; one question was added on the bottom of the Self-Efficacy Scale. The instruments for this study are provided in Appendix C and D.

Procedures

Approximately fifteen states and Canadian provinces held BOW workshops for women during August to December 2003. Each state/province has a coordinator to

organize and administer the BOW workshop. The BOW workshop schedule, coordinators of each state, and contact information was obtained from the website of the BOW homepage (http://www.uwsp.edu/cnr/bow/). Women who were interested in a BOW workshop made contact with a state/province coordinator and registered for a BOW program.

Once this study was conceptualized and approved by the research committee, a proposal was made to the Institutional Review Board (IRB) of Oklahoma State University. The letter from this IRB granting approval for this research is presented in Appendix E. After this research was approved, the researcher contacted coordinators who held a BOW workshop during August to December 2003 to ask them to assist with the research. Upon receiving their approval, the researcher sent the coordinators a package which included a solicitation letter (see Appendix A), consent form (see Appendix B), demographic questions, SES and BSRI (see Appendix C and D).

The coordinators contacted the potential subjects, securing their voluntary participation and administered the inventories prior to the start of the weekend experience. Potential subjects were told that the research was part of a dissertation, that three inventories would be administered, and that their participation was voluntary. They would be free to discontinue participation at any time.

Upon arrival at the BOW workshop, the coordinator read the solicitation letter to the participants and those who agreed to participate completed a consent form. The participants were asked to complete two inventories (SES and BSRI) regarding their self-perception and feelings before beginning the BOW outdoor recreation experience. This process took about 20 minutes.

After completing the consent form and two inventories, the participants engaged in a number of outdoor recreation activities at the BOW workshop. BOW workshops span a weekend, beginning on Friday at noon and lasting through Sunday noon. The BOW program was divided into four 4-hour sessions; six to nine classes were offered per session. The classes included shooting sports, fishing, and non-harvest activities (e.g., camping, kayaking, plant identification). The participants chose one class in each session in which they liked to participate.

Following the conclusion of the BOW workshop, the coordinator gave research participants the SES questionnaire (the same instrument the participants completed before the BOW workshop) as well as a questionnaire of demographics and perception of satisfaction and success as a post-test while still at the facility. This took about 20 minutes. Those responses were on a 7-point Likert scale (Bem Sex Role Inventory) and 5-point Likert scale (Sef-Efficacy Scale), conducted in a survey format.

Demographic questions were asked relative to age, marital status, highest education level, with/without children in household, ethnicity, and number of BOW workshop experience. Six questions on the demographic questionnaire and one question on the bottom of the Self-Efficacy Scale were added to ascertain participants' perceptions of satisfaction and success. The Self Efficacy Scale (Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982), the Bem Sex Role Inventory (Bem, 1978, 1981a), and a self-made demographic questionnaire, were utilized for all subjects. After all the participants completed the pre and post-test, the coordinator returned the package with the data to researcher. A total of 201 subjects completed all surveys during September to December 2003.

Research Design and Data Analysis

This study employed a 2 X 4 pre-experimental design. Although not randomly selected, four groups were formed: 1) people of the masculine type of GRO who participated in the BOW workshops; 2) people of the feminine type of GRO who participated in the BOW workshops; 3) people of the androgynous type of GRO who participated in the BOW workshops; and 4) people of the undifferentiated type of GRO who participated in the BOW workshops.

The dependent variables were the scores of individual's GSE and SSE from the Self-Efficacy Scale. Pearson Correlation was manipulated to test the correlation

between GSE and SSE. The results of correlation between GSE and SSE reached statistical significance in pre-test ($r = .387$, $p \leq .05$) and post-test ($r = .421$, $p \leq .05$). To avoid the violation of covariance, one-way Analysis of Variance (ANOVA) and two-way ANOVA were utilized instead of a Multivariate Analysis of Variance (MANOVA).

A T-test, One-way Analysis of Variance (ANOVA), two-way ANOVA, and Multiple Regression were conducted to test the GSE and SSE scores. The research outcome was determined by taking two measures of the dependent variable from the GSE score and the SSE score, and repeated measurements before and after the completion of the BOW workshop; the investigator then compared the mean change of each group over the BOW workshop experience.

A T-test was utilized to test Hypothesis 1: " Was there a significant difference between pre-test and post-test self-efficacy scores of those who participated in a one-weekend BOW workshop?". A one-way ANOVA was manipulated to test Hypothesis 2: "Was there a significant difference among participants with different gender-role types on pre-test scores on self-efficacy?" and Hypothesis 3: "Was there a significant difference among people with different gender-role types on post-test scores on self-efficacy?" A two-way ANOVA was conducted to test Hypothesis 4: "Was there a significant interaction between gender-role orientation and BOW workshop

participation on self-efficacy?" A standard multiple regression was utilized to test Hypothesis 5: "Did gender-role orientation, marital status, highest education level, age, and the number of BOW workshops attended significantly predict participants' post-test self-efficacy?" For all significant main effects in the one-way ANOVA and two-way ANOVA, the Tukey HSD post-hoc analysis was performed to determine the specific sources of significance. A Multiple Regression was also utilized to test the significant predictions of participants' GSE and SSE.

All hypotheses were tested using an experiment-wide error rate of .05. The data were analyzed using SPSS 11.0 for Windows. Means and standard deviations were calculated and presented to dependent variables in the study. The independent variables included the within variable of the test (pre-test and post test) and gender-role types (4 levels). Dependent variables included the general self-efficacy subscale and social self-efficacy subscale.

CHAPTER IV

RESULTS

This chapter reports the results of the statistical treatment of the data collected for this study. Data were collected from participants of five "Becoming an Outdoors Woman" (BOW) workshops (New York, Ohio, West Virginia, Oklahoma, and Texas), and were analyzed using the processes described in Chapter 3. Study instruments were distributed to 274 participants as a pre-test (before BOW workshop) and post-test (after BOW workshop). Missing data and incomplete data were eliminated; thus, a total of 201 respondents completed the pre-tests and post-test and were utilized for the data analysis.

Independent variables including age, marital status, education level, children in household, ethnicity, and BOW workshop experience were generated from the demographic questionnaire. One independent variable, gender-role orientation (GRO), was measured using the Bem Sex Role Inventory (BSRI, Bem, 1978, 1981). The dependent variable, level of general self-efficacy (GSE) and social self-efficacy (SSE), was measured using the Self-Efficacy Scale (Sherer et al., 1982). The quantitative data were analyzed using two-tailed paired t-tests, one-way ANOVA, two-way

ANOVA, the Tukey HSD post-hoc analysis, multiple regression, and descriptive statistics.

The statistical approaches were selected for their suitability in examining the data in supporting or rejecting the tested null hypotheses. In an attempt to find a balance between the chances of a Type I and Type II error, a significance level of .05 was set as a minimum for rejecting the null hypotheses.

Demographic Description of Study Respondents

In this study, the total number of subjects was 201 female participants. These participants attended a BOW workshop and volunteered to participate in this project. Each respondent completed two research instruments and one demographic questionnaire before and after participating in the BOW workshop. The demographic description of participants is presented in the following sections.

Age

"What year were you born?" was designed to gather participants' age information. The researcher did the mathematics to determine participant age. The age range of participants was from 22 to 69 years and the mean age was 45.01. Because of the 47 year age range, the researcher categorized participants' ages by essential difference of 10 years into four groups (below 36, 36 to 45, 46 to 55, and above 56) for the data analysis.

Table 1 shows that 43 participants (21.4%) were aged below 35 years, 59 participants (29.4%) were aged between 36 and 45 years, 62 participants (30.8%) were aged between 46 to 55 years, and 37 participants (18.4%) were over age 56.

Table 1

Summary Table for Age

Age	Frequency	Percent	Valid%	Cumulative%
Below 36	43	21.4	21.4	21.4
36 - 45	59	29.4	29.4	50.7
46 - 55	62	30.8	30.8	81.6
Above 55	37	18.4	18.4	100.0
Total	201	100.0	100.0	

Marital Status

Participants were asked "What is your marital status?" for the marital information. The data were not equally distributed among the four categories (single, married/cohabiting, divorced, and widowed). Therefore, the data were collapsed to two categories (not married and married/cohabiting) for data analysis. Table 2 shows that 65 participants (32.3%) were single, 134 participants (66.7%) were married or cohabiting, and 2 participants (1.0%) did not answer this question appropriately.

Table 2

Summary Table for Marital Status

Marital Status	Frequency	Percent	Valid %	Cumulative %
Not married	65	32.3	32.7	32.7
Married/Cohabiting	134	66.7	67.3	100.0
Total	199	99.0	100.0	
Missing	2	1.0		
Total	201	100.0		

Highest Education Level

"What is your highest education level?" was utilized for determining participants' educational background. Table 3 shows that 40.8% of individuals had some college/associate's degree or less; more than 50% of participants in this research earned at least a bachelor's degree. In terms of highest education level achieved, the readers will note that because only one individual had not completed high school, that piece of data was not treated in the data analysis. Only four categories (high school, some college/associate's degree, bachelor's, and post bachelor/graduate) were utilized in the data analysis.

Table 3

Summary Table for Highest Education Level

Highest Education Level	Frequency	Percent	Valid %	Cumulative %
Below high school	1	.5	.5	.5
High school	16	8.0	8.0	8.5
Some college/Associate's	65	32.3	32.3	40.8
Bachelor's	70	34.8	34.8	75.6
Post bachelor/graduate	49	24.4	24.4	100.0
Total	201	100.0	100.0	

Children in Household

Participants were asked "Do you have children (infant to 18 years old) in your household?" One individual did not answer this question appropriately. Approximately one third of participants had children who were under 18 years old in their household, while more than two thirds of participants in this study did not have any children (under 18 years old) in their household (see Table 4).

Table 4

Summary Table for Children in Household

Have children in household	Frequency	Percent	Valid %	Cumulative %
Yes	61	30.3	30.5	30.5
No	139	69.2	69.5	100.0
Total	200	99.5	100.0	
Missing	1	.5		
Total	201	100.0		

Ethnicity

Participants were asked to write in their "Ethnicity". Table 5 shows that more than 90% of participants were Caucasian/White women; other ethnic women were less than 5% in this BOW workshop research. No participant was African American or Asian American and two participants (1%) did not answer this question.

Table 5

Summary Table for Ethnicity

Ethnicity	Frequency	Percent	Valid%	Cumulative%
African American	0	0.0	0.0	0.0
Caucasian/White	190	94.5	95.5	95.5
Hispanic	3	1.5	1.5	97.0
Native American	4	2.0	2.0	99.0
Asian American	0	0.0	0.0	99.0
Other	2	1.0	1.0	100.0
Total	199	99.0	100.0	
Missing	2	1.0		
Total	201	100.0		

BOW Workshop Experience

Participants were asked "How many BOW workshops have you attended (including this one)?" Ninety-nine participants responded "once" and the other 101 participants responded from two to 10 times. Therefore, the researcher collapsed the data of previous BOW workshop attendance into two categories: those with previous workshop attendance and those with no previous workshop attendance, for the data analysis. Table 6 shows that just under one half of participants had never been to a BOW workshop before this one and another half of the participants had been to a BOW workshop before this one.

Table 6

Summary Table for Previous BOW Workshop Attendance

Previous BOW workshop attendance	Frequency	Percent	Valid%	Cumulative%
No	99	49.3	49.5	49.5
Yes	101	50.2	50.5	100.0
Total	200	99.5	100.0	
Missing	1	.5		
Total	201	100.0		

Gender Role Orientation

The Bem Sex Role Inventory (BSRI) was utilized to determine the participants' gender-role orientation (GRO). The BSRI is a self-report measure of GRO, which consisted of 60 items: 20 masculine items, 20 feminine items, and 20 neutral items on a 7-point Likert scale. Respondents were instructed to indicate how well each item described them to measure the degree to which respondents identified with culturally-determined stereotypes of positive masculine and feminine characteristics.

Each participant received one masculine score and one feminine score after completing the BSRI. The range of the participants' masculine scores was from 2.80 to 6.90 and the range of feminine scores was from 2.75 to 6.35. To determine participants' GRO, the median raw scores of the normative sample (masculine = 4.95, and feminine =

4.90) were suggested to compare with participants' masculine and feminine scores by BSRI manual (Bem, 1978, 1981).

The participants were considered the androgynous type of GRO if they possessed high masculine and feminine scores. The participants with high masculine and low feminine scores were considered masculine, the participants with low masculine and high feminine scores were considered feminine, and the low masculine and feminine score persons were considered undifferentiated. Table 7 shows that each of type of GRO was represented somewhat equally (55 androgynous, 53 masculine, 52 feminine, 41 undifferentiated) in this project.

Table 7

Summary Table for Gender Role Orientation

Gender Role	Frequency	Percent	Valid %	Cumulative %
Androgynous	55	27.4	27.4	27.4
Masculine	53	26.4	26.4	53.7
Feminine	52	25.9	25.9	79.6
Undifferentiated	41	20.4	20.4	100.0
Total	201	100.0	100.0	

The Effect of BOW Workshop on Self-Efficacy

Hypothesis 1

"Is there a significant difference between pre-test and post-test self-efficacy scores

of those who participate in a one-weekend BOW workshop?"

H0-1: There is no significant difference between the pre-test and post-test scores on self-efficacy of those who participate in a BOW workshop.

To test this hypothesis, a paired t-test was calculated to determine whether a significant increase in General Self-Efficacy (GSE) and Social Self-efficacy (SSE) between the pre- and post-tests occurred. For this study, 201 participants completed pre- and post-tests. A paired t-test was used because the same subjects responded to the Self-Efficacy Scale on two occasions. Results of this paired t-test are displayed in Table 8 and Table 9.

As presented in Table 8, the results of the paired t-test showed that there was a statistically significant difference ($t = 3.821$, $df = 200$, $p \leq .05$) between the mean of the GSE pretest score ($M = 68.283$, $SD = 8.705$) and the mean of GSE post-test score ($M = 70.283$, $SD = 9.573$). The range of scores was 17 to 85. This represents the total score for GSE as directed by the instrument instructions. There was a statistically significant change in the means of the pre- and post-tests (mean difference = 2.00), suggesting that participants had a significant increase in personal GSE as a result of participation in the one-weekend BOW program.

Table 8

Results of Paired T-tests for General Self-Efficacy (N = 201)

Variable	Mean	Std. Dev.	t	df	Sig.
Pre-test	68.283	8.705	3.821*	200	<.001
Post-test	70.283	9.573			

*Significant at the .05 level

As shown in Table 9, the results of the paired t-test indicated that there was a statistically significant difference ($t = 5.854$, $df = 200$, $p \leq .05$) between the mean of the SSE pretest score ($M = 20.766$, $SD = 4.196$) and the mean of SSE post-test score ($M = 21.970$, $SD = 4.451$). The range of scores was 6 to 30. This represents the total score for SSE as directed by the instrument instructions. There was a statistically significant change in the means of the pre-test and post-tests of 1.204, suggesting that participants had a significant increase in personal SSE as a result of participation in the BOW program.

Table 9

Results of Paired T-tests for Social Self-Efficacy (N = 201)

Variable	Mean	Std. Dev.	t	df	Sig.
Pre-test	20.766	4.196	5.854*	200	<.001
Pos-test	21.970	4.451			

*Significant at the .05 level

Results indicated that there was a statistically significant difference between the means of the pre-test and post-test self-efficacy scores (GSE = ($t = 3.821$, $df = 200$, $p \leq .05$); SSE = ($t = 5.854$, $df = 200$, $p \leq .05$). Therefore, the researcher rejected the null hypothesis "H0-1: There is no significant difference between the pre-test and post-test scores on self-efficacy of those who participate in a BOW workshop," and concluded that participants had a statistically significant difference in GSE and SEE scores between before and after participation in the BOW workshop.

The Effect of Gender Role Orientation on Self-Efficacy

Hypothesis 2

"Is there a significant difference among different gender-role types of participants in pre-test scores on self-efficacy?"

H0-2: There is no significant difference among different gender-role types of participants in pre-test scores on self-efficacy.

One objective of this research was to determine if differences of self-efficacy existed among different types of gender-role orientation (androgynous, masculine, feminine, and undifferentiated). To test this hypothesis, a one-way ANOVA was manipulated to determine whether a significant difference in mean scores on GSE and SSE among

different types of GRO before a one-weekend BOW workshop existed. In this study, 201 participants completed the Self-Efficacy Scale before their BOW workshop. A one-way ANOVA and the Tukey HSD post-hoc analysis were used because more than 3 groups responded to the Self-Efficacy Scale. Results of this one-way ANOVA and Tukey HSD post-hoc are displayed in Table 10 and Table 11.

As presented in Table 10, the results of the one-way ANOVA showed that there was a statistically significant difference ($F(3, 197) = 14.120$, $p \leq .05$) among the means of the pre-test GSE scores of different types of gender-role orientation. Thus, the null hypothesis was rejected. There was a statistically significant difference in the means of the types of GRO, which suggested that participants had a significant difference in personal GSE by the different types of GRO before participation in a the BOW program.

Table 10 also presents the results of a one-way ANOVA showing that there was a statistically significant difference ($F(3, 197) = 4.942$, $p \leq .05$) among the means of the pre-test SSE score for different types of GRO. There was a statistically significant difference in the means for the types of GRO, which suggested that participants had a significant difference in personal SSE by the different types of GRO before participation in the BOW program.

Table 10

One-way ANOVA Source Table for Individual Pre-test Self-Efficacy Scores by Gender Role Orientation (N=201)

		Sum of Squares	df	Mean Square	F	Sig.
Pre-test General Self-Efficacy	Between Groups	2682.62	3	894.208	14.120*	<.001
	Within Groups	12476.21	197	63.331		
	Total	15158.83	200			
Pre-test Social Self-Efficacy	Between Groups	246.51	3	82.170	4.942*	.002
	Within Groups	3275.49	197	16.627		
	Total	3522.01	200			

*Significant at the .05 level

To understand the difference of means on GSE scores and SSE scores among the four different types of GRO, a Tukey HSD post-hoc analysis was calculated. Table 11 presents the results of the Tukey HSD post-hoc test for the pre-test. The results showed that the androgynous group had a significant mean difference of GSE score between the feminine group (mean difference = 6.650, $p \leq .05$) and the undifferentiated group (mean difference = 9.824, $p \leq .05$). There was no significant difference of GSE scores between the androgynous and masculine groups (mean difference = 2.727, $p \leq .05$).

Table 11

Post-hoc Comparisons of Pre-test Self-Efficacy by Gender Role Orientation (N=201)

	Gender Role Orientation (I)	Gender-Role Orientation (J)	Mean Difference (I – J)	Std. Error	Sig.
Pre-test	Androgynous	Masculine	2.727	1.531	.286
General	(n = 55)	Feminine	6.650*	1.539	<.001
Self-Efficacy		Undifferentiated	9.824*	1.641	<.001
	Masculine	Androgynous	-2.727	1.531	.286
	(n = 53)	Feminine	3.923	1.553	.059
		Undifferentiated	7.097*	1.655	<.001
	Feminine	Androgynous	-6.650*	1.539	<.001
	(n = 52)	Masculine	-3.923	1.553	.059
		Undifferentiated	3.174	1.662	.277
	Undifferentiated	Androgynous	-9.824*	1.641	<.001
	(n = 41)	Masculine	-7.097*	1.655	<.001
		Feminine	-3.174	1.662	.277
Pre-test Social	Androgynous	Masculine	2.282*	.784	.021
Self-Efficacy	(n = 55)	Feminine	2.105*	.788	.041
		Undifferentiated	2.923*	.841	.003
	Masculine	Androgynous	-2.282*	.784	.021
	(n = 53)	Feminine	-.177	.795	.996
		Undifferentiated	.641	.848	.874
	Feminine	Androgynous	-2.105*	.788	.041
	(n = 52)	Masculine	.177	.795	.996
		Undifferentiated	.818	.851	.772
	Undifferentiated	Androgynous	-2.923*	.841	.003
	(n = 41)	Masculine	-.641	.848	.874
		Feminine	-.818	.851	.772

*Significant at the .05 level

The results show that there were no statistically significant mean differences of GSE scores between the masculine and androgynous groups (mean difference = -2.727, $p \leq .05$), and the masculine and feminine groups (mean difference = 3.923, $p \leq .05$). There was a statistically significant mean difference of GSE scores between the masculine and undifferentiated groups (mean difference = 7.097, $p \leq .05$).

The results indicate that there was a statistically significant mean difference between the feminine and androgynous groups (mean difference = -6.650, $p \leq .05$), but there were no statistically significant mean differences between the feminine and masculine group (mean difference = -3.923, $p \leq .05$) or the undifferentiated group (mean difference = 3.174, $p \leq .05$).

Finally, the results showed that there was a statistically significant mean difference of GSE between the undifferentiated and androgynous groups (mean difference = -9.824, $p \leq .05$) and the undifferentiated and masculine groups (mean difference = -7.097, $p \leq .05$). There was no statistically significant mean difference of GSE between the undifferentiated group and the feminine group (mean difference = -3.174).

Table 12

One-way Analysis of Variance Source Table for Individual Post-test Self-Efficacy Scores by Gender Role Orientation (N=201)

		Sum of Squares	df	Mean Square	F	Sig.
Post-test General Self-Efficacy	Between Groups	2609.73	3	869.911	10.902*	<.001
	Within Groups	15719.10	197	79.792		
	Total	18328.83	200			
Post-test Social Self-Efficacy	Between Groups	293.02	3	97.675	5.242*	.002
	Within Groups	3670.79	197	18.633		
	Total	3963.82	200			

*Significant at the .05 level

Post-hoc tests on the mean difference of SSE among the four GRO groups also revealed differences. Table 11 shows that the androgynous group had a statistically significant mean difference of SSE scores from the masculine group (mean difference = 2.282, $p \leq .05$), feminine group (mean difference = 2.105, $p \leq .05$), and undifferentiated group (mean difference = 2.923, $p \leq .05$). In addition, there was a statistically significant mean difference of SSE scores between the masculine and androgynous groups (mean difference = -2.282, $p \leq .05$); however, there were no statistically significant mean

differences of SSE scores between the masculine, feminine (mean difference = -.177, $p \leq .05$) and undifferentiated groups (mean difference = .641, $p \leq .05$).

Post-hoc tests revealed that there was a statistically significant mean difference of SSE scores between the feminine and androgynous groups (mean difference = -2.105, $p \leq .05$). There were no statistically significant mean differences between the feminine, masculine (mean difference = .177), and undifferentiated groups (mean difference = .818).

The last post-hoc tests run on these data indicated that there was a statistically significant mean difference of SSE scores between the undifferentiated and androgynous groups (mean difference = -2.923, $p \leq .05$), but there were no statistically significant mean differences between the undifferentiated, masculine (mean difference = -.641), and feminine groups (mean difference = -.8183).

Results indicated that there was a statistically significant difference among the means of the pre-test GSE ($F(3, 197) = 14.120$, $p \leq .05$) and SSE ($F(3, 197) = 4.942$, $p \leq .05$) scores for different types of GRO. Therefore, the researcher rejected the null hypothesis "H0-2: There is no significant difference among different gender-role types of participants in pre-test scores on self-efficacy" and concluded that participants had a statistically significant difference in different types of GRO on GSE and SSE scores

before participation on a BOW workshop.

Hypothesis 3

"Is there a significant difference among different participant gender-role types in post-test scores on self-efficacy?"

H0-3: There is no significant difference among different participant gender-role types in post-test scores on self-efficacy.

A one-way ANOVA was conducted to determine whether a significant difference of means existed among different types of GRO after participating on a BOW workshop. GSE and SSE scores were examined. A Tukey HSD post-hoc analysis was utilized to determine specific sources of significance.

Table 12 indicates that there was a statistically significant difference ($F(3, 197) = 10.90$, $p \leq .05$) among the means of the post-test GSE scores for different types of GRO. There was a statistically significant difference in the post-BOW mean scores for the types of GRO, which suggests that participants had a statistically significant difference in personal GSE after participation on a BOW workshop.

The results show a statistically significant difference ($F(3, 197) = 5.242$, $p \leq .05$) among the means of the post-test SSE scores for different types of GRO. According to the results, participants showed a statistically significant mean difference among GRO types

on SSE scores after participation on a BOW workshop. Post-hoc comparisons were conducted for the specific test and are presented in Table 13.

The Tukey HSD post-hoc analysis was utilized to test the mean difference of GSE scores and SSE scores among the four GRO types (see Table 13). The androgynous group had a significant mean difference of GSE scores when compared to the feminine group (mean difference = 6.901, $p \leq .05$) and the undifferentiated group (mean difference = 9.841, $p \leq .05$). No significant difference of GSE scores was found between the androgynous and masculine groups (mean difference = 1.719).

There was a statistically significant mean difference of GSE scores between the masculine and undifferentiated group (mean difference = 6.201, $p \leq .05$), but there were no statistically significant mean differences of GSE scores between the masculine, androgynous (mean difference = -3.640), and feminine groups (mean difference = 3.261). A statistically significant mean difference on GSE scores between the feminine and androgynous groups (mean difference = -6.901, $p \leq .05$) was found, but there were no statistically significant mean differences between the feminine, masculine (mean difference = -3.261), and undifferentiated groups (mean difference = 2.939).

Table 13

Post-hoc Comparison of Post-test Self-Efficacy by Gender Role Orientation (N=201)

	Gender-Role Orientation (I)	Gender-Role Orientation (J)	Mean Difference (I – J)	Std. Error	Sig.
Post-test General Self-Efficacy	Androgynous (n = 55)	Masculine	3.640	1.719	.151
		Feminine	6.901*	1.727	<.001
		Undifferentiated	9.841*	1.843	<.001
	Masculine (n = 53)	Androgynous	-3.640	1.719	.151
		Feminine	3.261	1.743	.244
		Undifferentiated	6.201*	1.857	.006
	Feminine (n = 52)	Androgynous	-6.901*	1.727	.001
		Masculine	-3.261	1.743	.244
		Undifferentiated	2.939	1.865	.395
	Undifferentiated (n = 41)	Androgynous	-9.841*	1.843	<.001
		Masculine	-6.201*	1.857	.006
		Feminine	-2.939	1.865	.395
Post-test Social Self-Efficacy	Androgynous (n = 55)	Masculine	2.649*	.830	.009
		Feminine	1.876	.834	.114
		Undifferentiated	3.165*	.890	.003
	Masculine (n = 53)	Androgynous	-2.649*	.830	.009
		Feminine	-.772	.842	.796
		Undifferentiated	.516	.897	.939
	Feminine (n = 52)	Androgynous	-1.876	.834	.114
		Masculine	.772	.842	.796
		Undifferentiated	1.288	.901	.482
	Undifferentiated (n = 41)	Androgynous	-3.165*	.890	.003
		Masculine	-.516	.897	.939
		Feminine	-1.288	.901	.482

*Significant at the .05 level

Finally, a statistically significant mean difference of GSE scores between the undifferentiated, androgynous (mean difference = -9.841, $p \leq .05$), and masculine groups (mean difference = -6.201, $p \leq .05$) was found. However, no statistically significant mean difference of GSE scores was found between the undifferentiated and feminine groups (mean difference = -2.939).

Post-hoc comparisons of the mean differences among the four GRO groups also revealed some significant differences on SSE scores. Table 13 shows that the androgynous group had a statistically significant mean difference from the masculine (mean difference = 2.649, $p \leq .05$) and undifferentiated groups (mean difference = 3.165, $p \leq .05$) on the SSE scores. No statistically significant mean differences were found between the androgynous and feminine groups (mean difference = 2.105) on SSE scores.

Additional post-hoc analyses showed that there was a statistically significant mean difference between the masculine and androgynous groups (mean difference = -2.649, $p \leq .05$) on SSE scores, but there were no statistically significant mean differences between the feminine (mean difference = -.772) and undifferentiated groups (mean difference = .516) on SSE scores. The feminine group did not have a statistically significant mean difference from androgynous (mean difference = -1.876), masculine (mean difference = .772), or undifferentiated groups (mean difference = 1.288) on SSE scores. Lastly, there

was a statistically significant mean difference of SSE scores between the undifferentiated and androgynous groups (mean difference = -3.165, $p \leq .05$), but there were no statistically significant mean differences between the undifferentiated and masculine (mean difference = -.516), and feminine groups (mean difference = -1.288) on SSE scores.

Results indicated that there was a statistically significant difference among the means of the post-test GSE ($F (3, 197) = 10.90$, $p \leq .05$) and SSE ($F (3, 197) = 5.242$, $p \leq .05$) scores for different types of GRO. The researcher rejected the null hypothesis "H0-3: There is no significant difference among different participant gender-role types in post-test scores on self-efficacy" and concluded that participants had a statistically significant difference in different types of GRO on GSE and SSE scores after participation on a BOW workshop.

Hypothesis 4

"Is there a significant interaction between gender-role orientation and BOW workshop participation on self-efficacy?"

H04: There is no significant interaction between gender-role orientation and BOW workshop participation on self-efficacy.

The results of the two-way ANOVA analysis on the interaction effect of GRO and

BOW workshop on GSE scores is shown in Table 14 and Figure 1. The interaction effect of the GRO types and BOW workshop had an overall $F(3, 394) = .066$, which indicated that the interaction effect did not reach statistical significance on GSE scores. GRO types and BOW workshop participation did not have an influence on each other across GSE scores. The androgynous group had the highest mean scores of GSE and the undifferentiated group had the lowest mean scores of GSE both before and after participation in a BOW workshop.

Of the main effects, the BOW workshop mean effect had an overall $F(1, 394) = 5.621$, $p \leq .05$, which indicated that the BOW workshop main effect reached statistical significance on GSE scores. The GRO mean effect had an overall $F(3, 394)) = 24.586$ and $p \leq .05$, which indicated that the GRO main effect reached statistical significance on GSE scores.

Table 14

Two-way Analysis of Variance Summary Table for BOW Workshop Participation and Gender Role Orientation on General Self-Efficacy

Source	Sum of Squares	df	Mean Square	F	Sig.
BOW Workshop	402.216	1	402.216	5.621*	.018
Gender-Role Orientation	5278.227	3	1759.409	24.586*	<.001
BOW X GRO	14.130	3	4.710	.066	.978
Error	28195.314	394	71.562		
Total	1963576.000	401			

*Significant at the $\alpha = .05$ level.

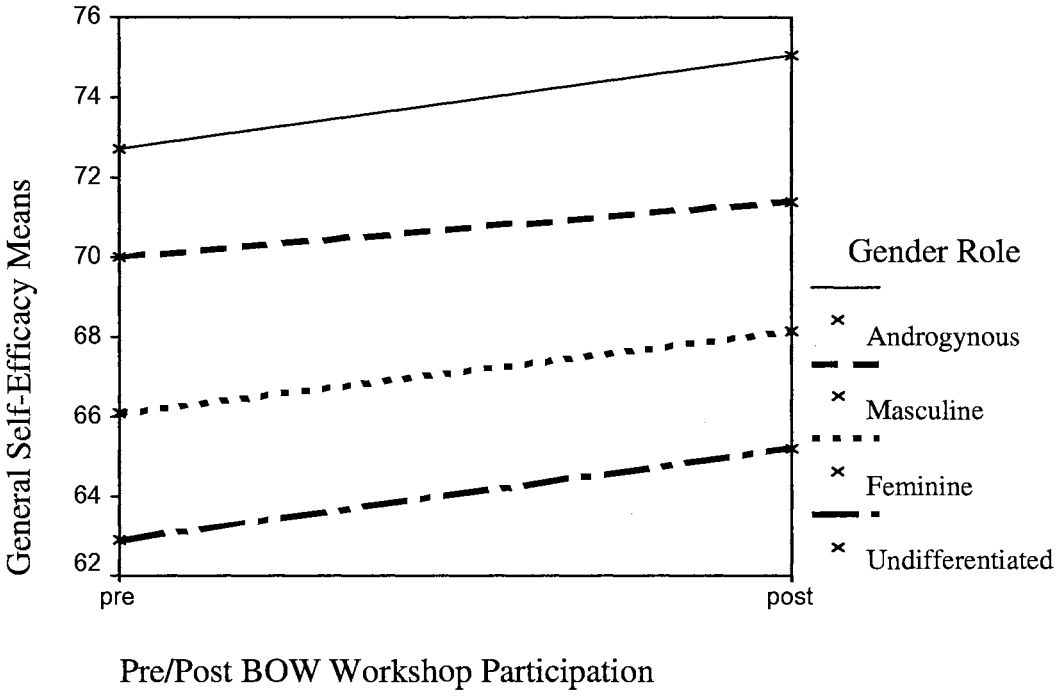

Figure 1. The Interaction of BOW Workshop Participation and Gender Role Orientation on General Self-Efficacy

Post-hoc tests of the GRO main effect of mean differences on GSE scores are shown in Table 15. The androgynous group had a statistically significant mean difference of GSE scores from the masculine group (mean difference = 3.183, $p \leq .05$), the feminine group (mean difference = 6.776, $p \leq .05$), and the undifferentiated group (mean difference = 9.833, $p \leq .05$).

A statistically significant mean difference of GSE scores between the masculine,

androgynous (mean difference = -3.183, $p \leq .05$), feminine (mean difference = 3.592, $p \leq .05$), and undifferentiated group (mean difference = 6.649, $p \leq .05$) was found. Results indicated that there was a statistically significant mean difference between the feminine, androgynous (mean difference = -6.776, $p \leq .05$), and masculine groups (mean difference = -3.592.177, $p \leq .05$); however, there were no statistically significant mean differences between the feminine and undifferentiated groups (mean difference = 3.057, $p \leq .05$).

Finally, results indicated that there were statistically significant mean differences of GSE between the undifferentiated and androgynous groups (mean difference = -9.833, $p \leq .05$), and the undifferentiated and masculine groups (mean difference = -6.649, $p \leq .05$). There was no statistically significant mean difference between the undifferentiated and feminine groups (mean difference = -3.057).

Table 15

Post-hoc Comparisons of Gender Role Orientation Main Effects on General Self-Efficacy

Gender-Role Orientation (I)	Gender-Role Orientation (J)	Mean Difference (I – J)	Std. Error	Sig.
Androgynous	Masculine	3.183*	1.151	.030
	Feminine	6.776*	1.157	<.001
	Undifferentiated	9.833*	1.234	<.001
Masculine	Androgynous	-3.183*	1.151	.030
	Feminine	3.592*	1.167	.012
	Undifferentiated	6.649*	1.244	<.001
Feminine	Androgynous	-6.776*	1.157	<.001
	Masculine	-3.592*	1.167	.012
	Undifferentiated	3.057	1.249	.070
Undifferentiated	Androgynous	-9.833*	1.234	<.001
	Masculine	-6.649*	1.244	<.001
	Feminine	-3.057	1.249	.070

*Significant at the .05 level

Table 16 and Figure 2 show that the interaction effect of GRO types and BOW workshop participation did not reach statistical significance (F (3, 394) = .101) for SSE scores. There was no interaction effect between GRO types and BOW workshop participation on SSE scores. The androgynous group had the highest mean SSE scores and the undifferentiated group had the lowest mean scores of SSE both before and after BOW workshop participation.

Table 16 shows that the BOW workshop participation main effect (F (1, 394) =

8.044, $p \leq .05$) and GRO types main effect (F (1, 394) = 10.100, $p \leq .05$) reached statistical significance on SSE scores.

Table 16

Two-way Analysis of Variance Summary Table for BOW Workshop Participation and Gender Role Orientation on Social Self-Efficacy

Source	Sum of Squares	df	Mean Square	F	Sig.
BOW Workshop	141.820	1	141.820	8.044	.005
Gender-Role Orientation	534.180	3	178.060	10.100	<.001
BOW X GRO	5.355	3	1.785	.101	.959
Error	6946.296	394	17.630		
Total	191184.000	401			

*Significant at the .05 level

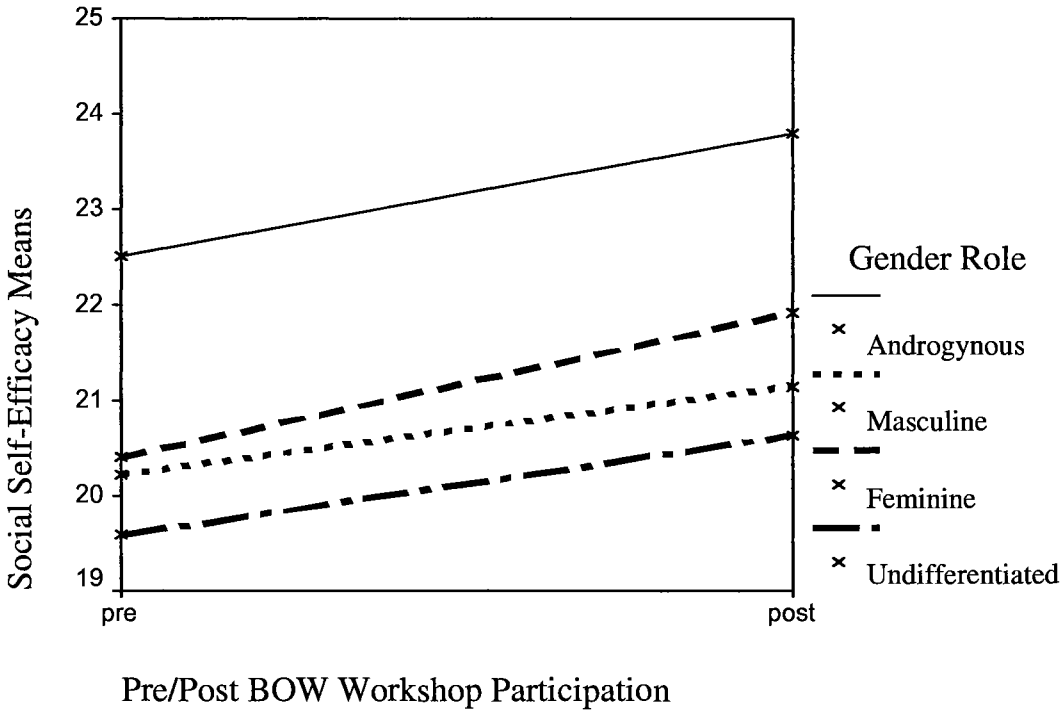

Figure 2. The Interaction of BOW Workshop Participation and Gender Role Orientation on Social Self-Efficacy

Post-hoc tests of the GRO main effect of mean differences on SSE scores are presented in Table 17. The androgynous group had a statistically significant mean difference of SSE scores from the masculine group (mean difference = 2.465, $p \leq .05$), feminine group (mean difference = 1.991, $p \leq .05$), and undifferentiated group (mean difference = 3.044, $p \leq .05$).

In addition, there were statistically significant mean differences of SSE scores between the masculine and androgynous groups (mean difference = -2.465, $p \leq .05$), but

there were no statistical significances of SSE scores between the feminine (mean difference = -.474, $p \leq .05$) and undifferentiated groups (mean difference = .578, $p \leq .05$).

Results of the mean difference of SSE scores indicated that there was a statistically significant mean difference between the feminine and androgynous groups (mean difference = -1.991, $p \leq .05$), but there were no statistically significant mean differences of SSE scores between the feminine, masculine (mean difference = .474), and undifferentiated groups (mean difference = 1.053).

Results also indicated that there was a statistically significant mean difference of SSE between the undifferentiated and androgynous groups (mean difference = -3.044, $p \leq .05$), but there were no statistically significant mean differences of SSE scores between the undifferentiated, masculine (mean difference = -.578), and feminine groups (mean difference = -3.057).

Table 17

Post-hoc Comparisons of Gender Role Orientation Main Effects on Social Self-Efficacy

Gender-Role Orientation (I)	Gender-Role Orientation (J)	Mean Difference (I – J)	Std. Error	Sig.
Androgynous	Masculine	2.465*	.571	<.001
	Feminine	1.991*	.574	<.001
	Undifferentiated	3.044*	.612	<.001
Masculine	Androgynous	-2.465*	.571	<.001
	Feminine	-.474	.579	.845
	Undifferentiated	.578	.617	.785
Feminine	Androgynous	-1.991*	.574	.003
	Masculine	.474	.579	.845
	Undifferentiated	1.053	.620	.325
Undifferentiated	Androgynous	-3.044*	.612	<.001
	Masculine	-.578	.617	.785
	Feminine	-1.053	.620	.325

*Significant at the .05 level

The interaction effect of the GRO types and BOW workshop participation had an overall GSE: F (3, 394) = .066; SSE: F (3, 394) = .101, which indicated that the interaction effect did not reach statistical significance on GSE and SSE scores. Therefore, the researcher did not reject the null hypothesis " H04: There is no significant interaction between gender-role orientation and BOW workshop participation on self-efficacy" and concluded that the effect of the GRO on self-efficacy could be generalized across the before and after BOW workshop attendance.

Hypothesis 5

"Do GRO, marital status, highest education level, age, and the number of BOW workshops attended significantly predict participants' post-test self-efficacy?"

H05: GRO, marital status, highest education level, age, and workshop experience do not significantly predict participants' post-test self-efficacy.

Multiple regression analyses were performed to examine the effect of the independent variables (GRO, marital status, highest education level, age, and the number of BOW workshops attended) on participants' post-test GSE and SSE scores. A total of 198 respondents was analyzed for this hypothesis due to three missing data were eliminated in this data analysis. Results of multiple standard regression ($F(5, 192) = 6.473$, $p \leq .05$) showed that GRO, marital status, highest education level, age, and the number of BOW workshops attended were statistically significant to predict participant's post-test GSE (see Table 18). The findings ($R^2 = 14.4$) also suggested that these independent variables explained more than 14% of the variation in post-test GSE scores. Therefore, the independent variables have been revealed as having a significant effect on the GSE.

The standardized coefficient (β-weight) and t value were utilized to compare the strength of prediction among factors and reveal any statistical significance of prediction.

Table 19 shows that GRO (β = -.375, t = -5.576) was the best predictor and the only one that reached statistical significance to predict participants' post-test GSE scores. According to the results, marital status (β = .022, t = .320), highest education level (β = -.069, t = -1.026), age (β = -.032, t = .481), and BOW workshop experience (β = 003, t = .045) did not reach statistical significance and were not good predictors of participants' post-test GSE scores in this study.

Table 18

Source Table of Multiple Regression Analysis on Post-test General Self-Efficacy (N= 198)

Source	SS	df	MS	R	R^2	F	Sig.
Regression	2602.212	5	502.442	.380	.144	6.473*	<.001
Residual	15436.541	192	80.399				
Total	18038.753	197					

*Significant at the .05 level

Table 19

Multiple Regression Analysis Results of Variables Affecting Participants' General Self-Efficacy (N= 198)

Independent Variable	β	t	Sig.
Gender Role Orientation	-.375	-5.576	<.001
Marital Status	.022	.320	.749
Education Level	-.069	-1.026	.306
Age	.032	.481	.631
Workshop Experience	.003	.045	.964

*Significant at the .05 level

Table 20 shows that the independent variables (GRO, marital status, highest education level, age, and the number of BOW workshops attended) were statistically significant to predict participants' post-test SSE ($F (5, 192) = 3.584$, $p \leq .05$). The findings ($R^2 = .085$) suggest that approximately 8.5% of the variance in participants' post-test SSE was accounted for by the combination of predictors (GRO, marital status, highest education level, age, and the number of BOW workshops attended) and these independent variables have been revealed as having a significant effect on the SSE.

Table 20

Source Table of Multiple Regression Analysis on Post-test Social Self-Efficacy (N= 198)

Source	SS	df	MS	R	R^2	F	Sig.
Regression	336.508	5	67.302	.292	.085	3.584*	.004
Residual	3605.638	192	18.779				
Total	3942.146	197					

*Significant at the .05 level

The results of the standardized coefficient (β-weight) and t value in Table 21 show that GRO (β = -.209, t = -2.997) was the best predictor and reached statistical significance to predict participants' post-test SSE scores. Table 21 also shows that marital status (β = .182, t = .631), highest education level (β = -.127, t = -1.827), age (β = -.097, t = -1.391), and BOW workshop experience (β = -.128, t = -1.842), did not reach statistical significance and were not good predictors for participants' post-test SSE scores.

Table 21

Multiple Regression Analysis Results of Variables Affecting Participants' Social Self-Efficacy (N= 198)

Independent Variable	β	t	Sig.
Gender Role Orientation	-.209	-2.997	.003
Marital Status	-.007	-.102	.919
Education Level	-.127	-1.827	.069
Age	-.097	-1.391	.166
Workshop Experience	-.128	-1.842	.067

*Significant at the .05 level

Results of multiple standard regression (GSE: F (5, 192) = 6.473, $p \leq .05$; SSE: F (5, 192) = 3.584, $p \leq .05$) showed that GRO, marital status, highest education level, age, and the number of BOW workshops attended were statistically significant to predict participant's post-test GSE and SSE (see Table 18 and 20). Therefore, the researcher rejected the null hypothesis "H05: GRO, marital status, highest education level, age, and workshop experience do not significantly predict participants' post-test self-efficacy." and concluded that the combination of the independent variables (GRO, marital status, highest education level, age, and the number of BOW workshop attendance) were statistical significant to predict of participants' post-test GRE and SSE scores.

Perceptions of BOW Workshop

As mentioned in Chapter 3, four questions were utilized to explore participants' perception of "skills I learned will help me be successful in future outdoor experiences", "satisfaction with BOW workshop", and "successful performance in BOW workshop" in this research. The questions and results are presented below.

BOW Skills for Future Outdoor Experiences

Before participating in the BOW Workshop participants were asked "To what degree do I think the skills I might learn through participation in the BOW program will help me be successful in future outdoor experiences?"

Table 22 shows that all participants thought that the skills they learned from participation in the BOW workshop at least would be "of average help" in their future outdoor experiences. Over 86% of participants predicted that the skills they learned from the BOW workshop would be "very helpful" or "extremely helpful" for them to be successful in future outdoor experiences. No participant answers loaded on "not at all helpful" or "not very helpful" and 11 (5.5%) participants did not answer the question appropriately.

Table 22

Summary Table for Perception of BOW Workshop Before Participation

BOW Skills for Outdoor	Frequency	Percent	Valid%	Cumulative%
Not at all helpful	0	0.0	0.0	0.0
Not very helpful	0	0.0	0.0	0.0
Of average help	16	8.0	8.0	8.0
Very helpful	103	51.2	51.2	59.2
Extremely helpful	71	35.3	35.3	94.5
Missing	11	5.5	5.5	100.0
Total	201	100.0	100.0	

After participating in a weekend-long BOW workshop, study participants were asked "Now that I have completed the BOW program, to what degree do I think the skills I learned will help me be successful in future outdoor experiences?"

Table 23 shows that the pattern of participants' answers on this question was similar to the responses before participating in the BOW workshop. No participant answers loaded on "Not at all helpful" and "Not very helpful" and 6 (3.0%) participant answers were missing. More than 90% of participants perceived that the skills they learned in the BOW workshop would be "very helpful" or "extremely helpful" for them to be successful in future outdoor experiences.

Table 23

Summary Table for Perception of BOW Workshop After Participation

BOW Skills for Outdoor	Frequency	Percent	Valid %	Cumulative %
Not at all helpful	0	0.0	0.0	0.0
Not very helpful	0	0.0	0.0	0.0
Of average helpful	9	4.5	4.5	4.5
Very helpful	122	60.7	60.7	65.2
Extremely helpful	64	31.8	31.8	97.0
Missing	6	3.0	3.0	100.0
Total	201	100.0	100.0	

Satisfaction with BOW Workshop

One question, "Overall, how satisfied were you with this BOW program?", was added to the post-test questionnaire to gather information about participants' satisfaction with the BOW workshop. Table 24 shows that over 95% of participants were "satisfied" or "very satisfied" with their BOW workshop. No participant answers loaded on "Dissatisfied" and "Neither dissatisfied or satisfied". Three participants (1.5%) answered "Very dissatisfied", 35 participants (17.4%) responded "Satisfied", 162 participants (81.0%) indicated they were "Very Satisfied", and one (.5%) participant answer was missing.

Table 24

Summary Table for Participants' Satisfaction with BOW Workshop

Satisfaction with BOW workshop	Frequency	Percent	Valid%	Cumulative%
Very dissatisfied	3	1.5	1.5	1.5
Dissatisfied	0	0.0	1.5	1.5
Neither dissatisfied or satisfied	0	0.0	1.5	1.5
Satisfied	35	17.4	17.5	19.0
Very satisfied	162	80.6	81.0	100.0
Total	200	99.5	100.0	
Missing 99.00	1	.5		
Total	201	100.0		

Successful Performance of BOW Program

After participating in the BOW workshop participants were asked, "Overall, how successful did you think your performance in this BOW program was?" Table 25 shows that over 95% of participants believed they were "successful" or "very successful" in their BOW workshop performance. No participant answered "Unsuccessful". Four participants answered (2.0%) "Very unsuccessful", three participants answered (1.5%) "Neither unsuccessful nor successful" and three participants answers (1.5%) were missing.

Table 25

Summary Table for Participants' Successful Performance of BOW Workshop

Successful performance of BOW workshop	Frequency	Percent	Valid%	Cumulative%
Very unsuccessful	4	2.0	2.0	2.0
Unsuccessful	0	0.0	2.0	2.0
Neither unsuccessful or successful	3	1.5	1.5	3.5
Successful	101	50.2	51.0	54.5
Very successful	90	44.8	45.5	100.0
Total	198	98.5	100.0	
Missing	3	1.5		
Total	201	100.0		

Summary

This chapter reported the results of data collection from five BOW workshops (New York, Ohio, West Virginia, Oklahoma, and Texas) from September to November 2003. Participant demographics were presented as well as data associated with BOW workshops. The results of pre-tests and post-tests were also presented, which concluded that androgynous people possessed the highest and undifferentiated persons had the lowest GSE and SSE score than other types of GRO before and after BOW workshop. As for the influence of BOW workshop and GRO on self-efficacy, the researcher found that there was no interaction between GRO and BOW workshop participation. Most of the individuals reported that participation in a BOW workshop was satisfying, and the BOW

program would help them be successful in future outdoor experiences.

Chapter V will present an interpretation and conclusion of results. In addition, implications and recommendations for future research will also be provided.

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

This chapter discusses possible interpretations of the results presented in the previous section. The results of the main hypotheses, including the effect of Becoming an Outdoors-Woman (BOW) workshop and gender-role orientation (GRO) on self-efficacy, will be presented, as well as the demographic findings of this study. Furthermore, future areas of research and considerations regarding participation in BOW workshops and self-efficacy will be discussed. Finally, the chapter will conclude with a discussion regarding implications and recommendations for future areas of research.

Demographic Description of Study Respondents

This section provides information regarding study participants' age, marital status, education, children in household, ethnicity, workshop experience, and GRO. Results from the subgroups of age, marital status, education, and children in household were compared to literature regarding outcomes for various subgroups.

Demographic data found in this study confirmed previous studies (Hornibrook, et al., 1997; Lueck, 1995). This researcher found that BOW participants tend to be

middle-aged, well-educated, and Caucasian women, and they usually have no children or none currently at home. Hornibrook et al. (1997) conducted research associated with all-women outdoor programming and also found that the participants tended to be professional, well-educated, middle-aged women.

Participants were divided into two marital groups: those not married and those who were married/cohabiting. There were more married people than not married people in the subject pool. This was surprising because Henderson et al. (1988) reported that women were concerned with putting the needs of family first and found it difficult to fit their leisure time around family obligations and commitments. In addition, married people often face additional challenges to personal leisure. They may have children at home; or they may need their spouse or partner to be supportive in order to take a weekend to participate in a BOW program. On the other hand, it might be that married women attend BOW to escape their family work; or when children are not in the household, they use a program like BOW to expand their leisure skills.

The finding that the majority of BOW participants in this study were women who did not have children living in the household was not surprising. These women likely had more discretionary time and a more flexible schedule than would women with children. This result supported findings of previous research that BOW participants usually have

no children or none currently at home (Lueck, 1995).

The majority of BOW participants were Caucasian/white women. There were no African American and Asian American participants and only a few other ethnic groups represented in this study. Previous research and anecdotal evidence suggest that the majority of outdoor activity participants are Caucasian/white people (Hornibrook, et al., 1997; Lueck, 1995). Thus, this study confirmed the continuation of this trend.

The researcher asked study subjects about the number of BOW workshops in which they had previously participated; the number ranged from one to twelve. This dispersion was so great that, for data analysis, these data were collapsed into two groups: those with BOW previous workshop experience and those without previous BOW workshop experience. It was apparent that BOW has been successful and that most participants had positive attitudes toward BOW (over half of them returned for subsequent workshops). Further, this study showed that women perceived the experience as successful, and were satisfied with the workshop. The returning participants to the BOW workshops might have been indicating an interest in learning additional skills; or perhaps they were looking forward to the sense of success, belonging, and warmth they experienced in previous BOW workshops.

Traditionally, outdoor recreation has been considered a white, well-educated, high

socioeconomic status, and masculine activity. Bow attempted to change this by designing outdoor programs for women. The result is that BOW offers outdoor recreation experiences to females, yet they have essentially mirrored the current tradition. The one demographic element that BOW changed is that women are now venturing into the outdoors. To their credit, BOW staff have been attempting to break down the barriers faced by minority women (Schnell, 2000)

In this study, participants fell into four types of GRO: androgynous, masculine, feminine, and undifferentiated. Surprisingly, research subjects in this study were relatively equally distributed into the four types of GRO. Henderson, Stalnaker, and Taylor (1988) reported that women with masculine and androgynous personalities were found to perceive fewer barriers to recreation than women with feminine and undifferentiated gender-roles. Related to this study, about half of the women were androgynous and masculine; it was expected that they would face fewer barriers to participation in the BOW workshop. The other half of participants were feminine and undifferentiated, which was surprising because according to Henderson et at. (1988) these women oftentimes experience barriers to outdoor recreation.

Henderson et al. (1988) also mentioned that feminine women and undifferentiated women had significantly greater barriers than masculine and androgynous women to

participate in outdoor recreation. The barriers included a lack of self-confidence, poor physical fitness, and few or no outdoor skills. BOW workshops provide a single-sex, enjoyable, and non-threatening setting, which might reduce barriers for all different types of women to learn outdoor skills, resulting in success for women of all GROs.

The Effect of BOW Workshop on Self-Efficacy

To provide learning experiences in an enjoyable, comfortable, and non-threatening atmosphere BOW instructors are well trained to teach beginners in skill-based outdoor recreation activities. The conditions of BOW workshops are created for beginners to foster immediate success, which generates positive outcomes. Research has shown that women who participate in a BOW program increase their activity level, become more interested in resource management issues, and have a positive attitude toward their state resource management agencies (Ensign, 1999, Lueck, 1995; Lueck & Thomas, 1997; Thomas Ensign, & Lueck, 1999). While this research did not ask these questions directly, it examined the increase in self-efficacy, which may logically relate to increased activity level, increased attitude toward resources management, and positive attitude.

According to Bandura's (1977a, 1986, 1997) theory of self-efficacy, the BOW setting would likely provide a positive impact on individuals' self-efficacy. Bandura (1977a, 1997) formally defined perceived self-efficacy as personal judgments of one's

capabilities to organize and execute courses of action to attain designated goals. Bandura (1986) also mentioned that individual assessment of self-efficacy could be influenced by four information sources: (1) personal performance accomplishments, (2) vicarious learning, (3) verbal persuasion, and (4) emotional arousal. A successful personal performance of a given behavior will raise efficacy while an unsuccessful performance will lower it.

This research regarding the impacts of participating in a BOW workshop on self-efficacy shows that participants had a significant increase in their general self-efficacy (GSE) and social self-efficacy (SSE) after participation in a one-weekend BOW workshop. These findings are consistent with results of previous research on the use of outdoor recreation settings and impact on self-efficacy. Pohl, Borrie, and Patterson (2000) indicated that wilderness recreation can influence women's everyday lives in the forms of self-sufficiency. Lueck's (1995) study looked at the effect of BOW participation on the attitudes and activities of women. Shetler (1997) indicated that participants had a significant increase on the Self-Efficacy Scale (SES) after participation in an adventure recreation experience; he also noted that the self-efficacy gained while on an adventure program does transfer into participants' every day lives.

The significant changes that occurred in participants' GSE and SSE scores after

participating in the weekend long BOW workshops in this study were not surprising since the environment of BOW workshops provides the positive circumstances of four sources of self-efficacy within most outdoor skill-based recreation programs. A discussion of this phenomenal follows.

Enactive mastery experiences are the most influential source of efficacy beliefs because they are predicated on the outcomes of personal experiences (Bandura, 1997). Through successful performance accomplishments, subjects' self-efficacy was reached through enactive mastery. BOW participants learned outdoor skills through hands-on activities and personal experience. Women had the chance to practice each skill in a logical sequence and progression, and had the opportunity to explore appropriate and basic skills during their BOW workshops. As evidence, 95% of participants in this study felt they were successful or very successful in their BOW workshop. In general, a series of successes in the BOW workshop could have resulted in the increase in participants' levels of self-efficacy.

Bandura (1982a) indicated that self-efficacy also can be acquired through modeling, because modeling has an impact on appraisal of one's self-efficacy level through comparison. Within BOW workshops, the emphasis on the educational progression of new outdoor skills appeared to create an impact on the appraisal of self-efficacy level

among participants (through modeling). Through this process, women "saw themselves" through modeling by instructors and other participants. For example, participants could experience modeling through the empathic instructors who were selected for their experiential approach to teaching and learning.

Verbal persuasion is another source of self-efficacy. Study results suggest that there were significant effects on the participants by the "perceived credibility and expertness" of the instructors and other participants. Verbal persuasion involves giving critical positive feedback about accomplishment and progress. This occurred throughout the workshop when participants received encouragement from their instructors and "classmates."

Furthermore, study subjects could see themselves through the eyes of other participants and instructors at various times during the workshop. For instance, when BOW participants shared a meal together or in were their sleeping cabins, they often verbally shared their experiences and recount the days' events. During the shared meals, instructors and participants had an opportunity to continue conversations, such as "you did well yesterday", and "I know you are going to do fine today." Moreover, the participants had a lot of opportunities to talk to each other while sharing experiences, thus engaging verbal persuasion and increasing their self-efficacy.

Emotional arousal is another source of information that can affect perceived self-efficacy in coping with perceived threatening situations. As mentioned earlier, BOW provides an environment where women feel comfortable learning outdoor recreation skills in a non-threatening atmosphere, which encourages camaraderie and fun (Hornibrook et al., 1997). Because of this unique atmosphere engendered at BOW workshops, negative emotional arousal was often reduced; it was an emotionally safe place for women to be. Thus, negative emotional arousal is limited in BOW workshops and positive emotional arousal is provided, where women are excited about learning something new, experience success, and develop new skills. The participants do not have to worry about bad feelings, feelings of anxiety, or feelings of force because of the positive emotional atmosphere.

The BOW program atmosphere is consistent with findings of previous research on the use of single-sex settings. Wu and Jordan (2003) examined gender-role and BOW program effects on the construct of women's self-perception and provided important information into understanding women's self-perception after participating in a BOW workshop. In the study, factor analysis indicated that women who participated in BOW had a positive self-perception in competence, belonging, initiative, freedom, and personal value. Wu and Jordan indicated that the participants perceived belonging, freedom, and

warmth after participation in BOW workshop.

The Effect of Gender-Role Orientation on Self-Efficacy

Several researchers (Henderson, 1991; Henderson & Bialeschki, 1991; Searle & Jackson, 1985) indicated that gender-role is a significant factor in women's outdoor recreation participation. Masculine gender-role characteristics are often categorized as instrumental and include being independent, masterful, assertive, and capable. Feminine gender-role characteristics are considered to be expressive and include friendliness, unselfishness, caring for others, and emotion (Eagly & Wood, 1991). Androgynous people exhibit both masculine and feminine traits simultaneously; thus, they are described in terms such as independent and affectionate, assertive and understanding.

Not surprisingly, the findings of this research relate to the description of androgynous characteristics. Within this study, androgynous participants possessed the highest scores and undifferentiated participants had the lowest scores on GSE and SSE before and after their participation in a BOW workshop. Before participating in the BOW workshop, androgynous participants had statistically significant higher GSE scores than feminine and undifferentiated participants, but not masculine participants. In addition, androgynous individuals had statistically significant higher scores on SSE than masculine, feminine, and undifferentiated participants. After participation in the BOW workshop, the

results showed the same pattern; androgynous people had the highest GSE and SSE scores while those who were undifferentiated had the lowest perception of GSE and SSE.

These differences might be explained as an influence of GRO. Androgynous persons may have shown a capability for performance and problem solving, as well as been associated with a concern for relationships between themselves and others. Androgynous persons may have had a greater capability to plan a trip and set up a tent, for instance; or they may have learned basic camping skills (for example) more quickly than those with undifferentiated GRO during the BOW workshop. Undifferentiated persons may have experienced less comfort with outdoor activities.

Even though the results showed that masculine individuals had a higher score on GSE and feminine participants possessed a higher score on SSE, masculine and feminine GRO participants did not reveal statistically significant mean differences between GSE and SSE. This finding was not consistent with the expectations of masculine and feminine gender roles. For instance, Matsui and Onglatco found that masculinity was a significant predictor of the enterprising domain of career self-efficacy, and femininity was an important predictor of the social domain of career self-efficacy.

The implication of this finding might be that having both masculine and feminine traits made it possible for individuals to internalize both masculine and feminine

psychological attributes throughout the BOW workshop. For instance, high masculine persons will possess higher GSE score than feminine persons, and feminine persons will possess higher SSE scores than masculine people.

The Interaction of BOW Workshop Participation and GRO on Self-Efficacy

Surprisingly, there was no interaction between participation in a BOW workshop and GRO on self-efficacy. Participation on a BOW workshop provided a similar opportunity for all types of GRO to positively increase their self-efficacy. BOW participants in this study shared similar demographic and self-perception backgrounds. It has already been mentioned that the research subjects were primarily middle-aged, well-educated, and Caucasian women, who had no children or none currently at home. One possible reason for the lack of interaction effect of GRO and participation in a BOW workshop among the participants was the homogeneity among participants in this research. Further, more than 90% of the participants in this study indicated they were "satisfied" or "very satisfied" with the BOW experience. In addition, more than 90% of participants indicated a sense of being "successful" or "very successful" in their BOW workshop after participation.

A further way to understand the lack of interaction between GRO and BOW workshop participation could be with the participants themselves. Participants and

instructors likely play an important role in the BOW workshop. In fact, it might be that peers and instructors have a strong potential for positively influencing participants in their sense of personal adequacy and social adjustment during a BOW workshop. For example, participants receive encouragement through modeling and verbal persuasion from instructors and peers during their practice that generates positive motivation toward the BOW workshop. Moreover, sharing experiences with peers has benefits and advantages when participants visit with each other during the BOW program. Again, the frequency of the interaction and quality of relationship between or among participants and instructors would have to be taken into account, but this event could be another reason why no interaction in the BOW workshop among different types of GRO was found.

One must keep in mind, that participation in the BOW workshop was generally a more important factor in participants' GSE and SSE development than was the participants' GRO types. The design of the BOW workshop could influence the development of a participant's general and social self-efficacy. BOW offers masculine activities in feminine environment, and BOW participants may choose from both masculine and feminine activities. BOW programs range from highly masculine activities (hunting, shooting, and fishing) to feminine activities (nature crafts, family camping, and

bird watching) all in an all-female environment. This likely results in a supportive environment for women in an outdoor environment. There is a strong sense of empowerment for women evident in the programs. This may be why androgynous people were so successful improving their self-efficacy, and women of other types of GRO also improved their self-efficacy. This research suggested that BOW workshop participation has a positive effect on all participants after their involvement in the program. Thus, women of all types of GRO could increase their GSE and SSE by participating in a BOW workshop.

Finally, another possible reason for these findings has to do with time and experience. Participants in a BOW workshop are exposed to a greater number of people with masculine and feminine GRO related behaviors. In fact, they are exposed to role figures in just about every aspect of their BOW program. In general, it seems that participants have many different ways of gaining exposure and of improving their self-efficacy in the BOW workshop environment.

The Prediction of Gender-Role Orientation on Self-Efficacy

Overall, results of the current study showed that GRO, marital status, highest education level, age, and the number of BOW workshops attended were statistically significant to predict participant's post-test GSE when the five predictors were combined.

However, only GRO was the best and significant predictor for women's GSE and SSE after participation in the BOW program. When each single predictor was analyzed for predicting women's GSE and SSE, only GRO was a significant predictor. This means that we can predict that androgynous women will possess the highest GSE and SSE scores than other women, and that undifferentiated women will possess the lowest GSE and SSE both before and after participation on a BOW workshop. Part of the reason that the research found that only GRO was a significant predictor for self-efficacy after a BOW workshop might be due to the fact that women self-selected to register for the BOW program.

It was interesting that no prediction was found between BOW workshop participation and GRO. This result was not consistent with previous research (Wu & Jordan, 2003). Wu and Jordan (2003) conducted research about perception of self among women engaged in a BOW workshop. They found that level of education was the best predictor for feelings of competence, belonging, freedom, and personal value after participation in a BOW workshop. The findings also indicted that individuals with higher levels of education typically had an increased sense of self and self-confidence than those with lower levels of education. In this investigation, the researcher examined actual measures of self-efficacy. The Wu and Jordan study examined perceptions. Perhaps this

distinction was enough to make the predictive value of education not appear.

Another explanation of this finding is that people with high self-efficacy tend to be more willing to take risks on exploring new skills. The relationship of self-efficacy and GRO depends on dimensions of self-efficacy. Bryant's (1997) study demonstrated that gender-role orientation was substantially related to perceived self-efficacy, and masculinity was a more important construct in predicting self-efficacy than femininity (in leisure skills and self-assertiveness). On the other hand, a factor such as the social dimension, which has a stronger focus on interpersonal relationships, was more strongly related to femininity than to masculinity.

It is worth noticing that although GRO was found to be the only significant factor for predicting participants' post-workshop GSE and SSE, a more intriguing finding is that other factors (e.g., marital status, highest education level, age, and the number of BOW workshop attended) did not conform to previous hypotheses. Therefore, they may vary according to different complex factors, relationships or interactions, which this survey measure may not have ascertained.

Perception of BOW Workshop

Perception of program success and satisfaction among participants has been examined as it relates to BOW workshop participation. Lueck (1995) acknowledged that

a result of participating in BOW activities was a positive influence of participants' attitudes toward outdoor activities. Participants were likely to increase their level of participation in activities associated with what they learned at the BOW workshops.

In this study, more than 90% of participants felt satisfied and successful with their BOW workshop. Feelings of success and satisfaction might help participants to overcome the challenges faced when they chose activities that promoted achievement and competence in their outdoor skills. The self-fulfilling prophesy ("If I think I am going to be successful, I will be") might explain participants' positive attitudes toward the BOW workshop and their perception of success in the BOW program.

One reason to explain why all participants increased their self-efficacy level after participating in BOW was because most participants possessed a high outcome expectancy both before and after BOW workshop. Participants thought that BOW would help them in future outdoor skills even before participating in BOW. After the BOW workshop participants still perceived the feelings of future successful performance. The participants' positive outcome expectancy before participation in BOW workshop might influence their feelings of successful performance after the BOW workshop. The feelings of successful performance might also influence participants' outcome expectancies after the BOW workshop. Again, there is the notion of women self-selecting for BOW

workshop participation. Women who chose to register BOW workshop may have been already thinking it was going to be good for them.

Participants' perceived satisfaction and success as determinants of successful operation of the BOW workshop. The researcher suggests further research work on conceptualizing satisfaction in BOW workshops, which is critical for the effective development and planning of BOW workshop programs.

Implications

Given the focus on participants' self-efficacy and GRO in this study, the findings provide important information for developing both traditional and creative programs. BOW instructors and coordinators, with a broader understanding of participants' perception of self-efficacy, prediction of self-efficacy, and feelings of satisfaction, help, and success in the BOW workshop, could be more capable of designing outdoor recreation settings to nurture and further develop individual participants.

According to the literature (Hornibrook, et al., 1997; Lueck, 1995) and these research findings, outdoor activity female participants tend to be not married, well-educated, Caucasian/white, and no children at home. For providing outdoor recreation opportunities a broader base of ethnic groups, Schnell (2000) suggested three strategies to recruit women of various ethnic backgrounds: (1) diversify publicity with

images of women from different ethnic groups; (2) invite women in person to make them feel welcome; and (3) create role models by training minority women and men to be instructors with BOW. This investigator agrees with these suggestions. Outdoor recreation providers may have to look at different settings for ethnic minority participation in BOW, and augment the comfortable, enjoyable, and non-threatening atmosphere for ethnic minority groups.

An important implication of the findings in this study relates to outcome expectancy and self-efficacy expectancy. Over 90% of participants possessed high outcome expectancy (BOW would be helpful for their future outdoor skills) both before and after participating in a BOW workshop. All types of GRO increased their GSE and SSE scores, and over 90% of participants felt successful and satisfied with the BOW workshop after their participation. Therefore, BOW programs and outdoor settings should continue to be designed to provide opportunities for women to experience self-efficacy and successful performance through the four modes (enactive mastery experience, vicarious experience, verbal persuasion, and emotional arousal).

Base on this study, GRO appears to be an important variable in self-efficacy acquisition and prediction; specifically, the androgynous GRO. Androgynous people face fewer barriers, especially primarily psychological barriers, to participate outdoor activity

(Henderson et al., 1988). They possess more freedom in gender-role flexibility and most people like androgynous individuals (they can relate to both the feminine and masculine traits). This evidence indicates that BOW programs offer an opportunity to break some traditional cultural views of the female gender-role. Outdoor programs that understand GRO could be beneficial to participants in understanding how their GRO affects their responses and interactions with other members in an outdoor recreation. Furthermore, the development of broader views of gender-role in outdoor settings for leading women of all GROs would be a further benefit for participation in outdoor recreation.

Outdoor researchers' and educators' understanding of participants' awareness of BOW workshop elements would assist them in making assessments of the strengths and weaknesses of their outdoor settings and programs. Evaluating BOW programs and self-efficacy from different experiences to maximize outcomes may prove helpful in understanding participants/instructor/BOW program development as a process involving self-understanding and development, gender-role orientation, and the development of specific tasks such as acquisition and application of skills. Therefore, it would be important to create positive programs that foster those aspects in developing outdoor recreation, thus reflecting current social situations.

Recommendations

This pre-experimental study lays a groundwork for future studies of BOW workshops, as well as other single-sex outdoor recreation programs. The present study represented the first attempt to explore GRO and self-efficacy related to participation in a BOW workshop. This study was the first to examine the relationship between BOW workshop participation and GRO on self-efficacy. Therefore, this study has implications for outdoor recreation programs and for comparative studies. In this regard, the suggestions for future research are as following:

1. Research is needed to determine the effects of involvement in a BOW workshop on participants' perception of self-efficacy over longer periods after the BOW program.

2. It is suggested that a researcher manipulate a comparative group and experimental group simultaneously in a replication of this study.

3. The comparison between BOW workshop participation and other outdoor recreation settings might provide new perspectives of a single-sex outdoor recreation programs.

4. A researcher could conduct interviews in the field or do field observations, which would provide more detailed information about participants' reactions and reflections during their BOW workshop experiences.

5. Researchers may explore more information about the relationship between different types of GRO and outdoor settings.

6. More than ninety percent of participants in BOW workshops were Caucasian/white, and most of them were well-educated. By comparing various minority groups across society, researchers can test hypotheses and generate new findings through different target groups.

7. Development of additional questions related to satisfaction, helpfulness, and success may provide a more complete record of participants' responses to further understanding of self-efficacy and BOW workshop participation.

8. A comparative study or true experimental study on BOW workshops should be conducted to test variables and hypotheses in order to expand and deepen our knowledge and understanding of self-efficacy and GRO.

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APPENDICES

APPENDIX A

Consent Form

Name of the Study: The Effect of Gender Role Orientation and Participation in a Single Sex Outdoor Recreation Program on Self-Efficacy

I understand that the purpose of the study is to investigate the effect of gender-role orientation and participation in a weekend-long Becoming an Outdoors-Woman (BOW) program experience on self-efficacy. I am currently 18 years of age or older. I will be requested to complete a demographic questionnaire and two paper and pencil surveys (Bem Sex Role Inventory and the Self-Efficacy Scale) before I participate on a BOW workshop. I will be also requested to complete one paper and pencil survey (Self-Efficacy Scale) right after a BOW workshop. It will take approximately 20 minutes to fill out the individual surveys before the participation of BOW workshop and 10 minutes to fill out the survey after the BOW workshop.

I will receive a code number so that the three inventories can be matched. However, no names will be taken, and the instruments will not be able to be matched to me. All records and answers will be kept confidential and used for this research project only. My participation is completely voluntary and I have the right to withdraw from this study AT ANY TIME. I may contact Dr. Deb Jordan at (405) 744-5499 should I wish further information about the research. I may also contact Ms. Sharon Bacher, IRB executive secretary at 415 Whitehurst, Oklahoma State University, telephone (405) 744-5700.

I understand that my participation is completely voluntary; that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this research at any time without penalty after notifying the researcher. I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: _____

Signed: _____

Signature of Subject

APPENDIX B

Solicitation Form

Hi, My name is Cheng-Lung Wu. I am a doctoral student in the School of Applied Health and Educational Psychology at Oklahoma State University. I would like to invite you to participate in a study I am conducting. If you are currently 18 years of age or older, your voluntary and anonymous participation in this study would greatly appreciated.

This study is an important one to be conducted. The purpose of this study is to examine the effect of gender-role orientation and a participation in a single sex outdoor recreation program on self-efficacy. I will explain the study briefly.

You will be given a code number so that the surveys can be matched according to each individual. However, no names will be taken, and you complete the instruments will not be able to be matched you. There are two parts involved with this study.

On Friday before you start your Becoming an Outdoors-Woman (BOW) program, you will be asked to complete a consent form, a demographic questionnaire, and two paper and pencil instruments (Bem Sex Role Inventory and Self-Efficacy Scale) Please, fill out the consent forms first. Keep one for yourself and turn in the other one with your other materials. Please fill out the code number on the top of the three instruments. Do not write your name on any of the instruments. This process should take about 20 minutes.

Then on Sunday, when you finish your Becoming an Outdoors-Woman (BOW) program. I will ask you to complete a paper and pencil instrument (Self-Efficacy Scale), which is the same as one you completed on Friday. Please put your code number on the top of that instrument. Do not write your name on any of the instruments. This should take about 10 minutes to complete.

Please give all surveys to the research assistant.

Thank you for your cooperation and time. If you have any questions please do not hesitate to e-mail me at wcheng@okstate.edu or call me at: (405) 744-9337.

Cheng-Lung Wu
Leisure Studies
Department of Applied Health and Educational Psychology
Oklahoma State University
Stillwater, OK, 74078
(405) 744-9337

APPENDIX C

Section I
Self-Efficacy Scale

Instructions: This questionnaire is a series of statements about your personal attitudes and traits. Each statement represents a commonly held belief. Read each statement and decide to what extent it describes you. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. Please indicate your own personal feelings about each statement below by marking the letter that best describes your attitude or feeling. **Please be very truthful and describe yourself as you really are, not as you would like to be.**

Mark:
- (A) If you **Disagree Strongly** with the statement
- (B) If you **Disagree Moderately** with the statement
- (C) If you **Neither Agree nor Disagree** with the statement
- (D) If you **Agree Moderately** with the statement
- (E) If you **Agree Strongly** with the statement

Study ID No. : _____

1. ( ) I like to grow house plants.
2. ( ) When I make plans, I am certain I can make them work.
3. ( ) One of my problems is that I cannot get down to work when I should.
4. ( ) If I can't do a job the first time, I keep trying until I can.
5. ( ) Heredity plays the major role in determining one's personality.
6. ( ) It is difficult for me to make new friends.
7. ( ) When I set important goals for myself, I rarely achieve them.
8. ( ) I give up on things before completing them.
9. ( ) I like to cook.
10. ( ) If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.
11. ( ) I avoid facing difficulties.
12. ( ) If something looks too complicated, I will not even bother to try it.
13. ( ) There is some good in everybody.
14. ( ) If I meet someone interesting who is hard to make friends with, I'll soon stop trying to makes friends with that person.
15. ( ) When I have something unpleasant to do, I stick with it until I finish it.
16. ( ) When I decide to do something, I go right to work on it.
17. ( ) I like science.
18. ( ) When trying to learn something new, I soon give up if I am not initially successful.
19. ( ) When I'm trying to become friends with someone who seems uninterested at first, I don't give up easily.
20. ( ) When unexpected problems occur, I don't handle them well.
21. ( ) If I were an artist, I would like to draw children.
22. ( ) I avoid trying to learn new things when they look too difficult to me.
23. ( ) Failure just makes me try harder.
24. ( ) I do not handle myself well in social gatherings.
25. ( ) I very much like to ride horses.
26. ( ) I feel insecure about my ability to do things.
27. ( ) I am a self-reliant person.
28. ( ) I have acquired my friends through my personal abilities at making friends.
29. ( ) I give up easily.
30. ( ) I do not seem capable of dealing with most problems that come up in my life.

To what degree do I think the skills I might learn through participation in the BOW program will help me be successful in future outdoor experiences?
(1) Not at all helpful (2) Somewhat helpful (3) Of average helpful (4) Very helpful (5) Extremely helpful

PLEASE CONTINUE NEXT PAGE

Section II
Bem Sex Role Inventory

Directions: On the following table, you will find listed a number of personality characteristics. We would like you to use those characteristics to describe yourself, that is, we would like you to indicate, on a scale from 1 to 7, how true of you each of these characteristics is. **Please do not leave any characteristic unmarked.**

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

Study ID No.: _____

Characteristics	Scale	Characteristics	Scale
1. Defend my own beliefs		31. Self-reliant	
2. Affectionate		32. Yielding	
3. Conscientious		33. Helpful	
4. Independent		34. Athletic	
5. Sympathetic		35. Cheerful	
6. Moody		36. Unsystematic	
7. Assertive		37. Analytical	
8. Sensitive to needs of others		38. Shy	
9. Reliable		39. Inefficient	
10. Strong personality		40. Make decisions easily	
11. Understanding		41. Flatterable	
12. Jealous		42. Theatrical	
13. Forceful		43. Self-sufficient	
14. Compassionate		44. Loyal	
15. Truthful		45. Happy	
16. Have leadership abilities		46. Individualistic	
17. Eager to soothe hurt feelings		47. Soft-spoken	
18. Secretive		48. Unpredictable	
19. Willing to take risk		49. Masculine	
20. Warm		50. Gullible	
21. Adaptable		51. Solemn	
22. Dominant		52. Competitive	
23. Tender		53. Childlike	
24. Conceited		54. Likable	
25. Willing to take a stand		55. Ambitious	
26. Love children		56. Do not use harsh language	
27. Tactful		57. Sincere	
28. Aggressive		58. Act as a leader	
29. Gentle		59. Feminine	
30. Conventional		60. Friendly	

THANK YOU SO MUCH FOR PARTICIPATING IN THIS SURVEY!

APPENDIX D

Section I
Self-Efficacy Scale

Instructions: This questionnaire is a series of statements about your personal attitudes and traits. Each statement represents a commonly held belief. Read each statement and decide to what extent it describes you. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. Please indicate your own personal feelings about each statement below by marking the letter that best describes your attitude or feeling. **Please be very truthful and describe yourself as you really are, not as you would like to be.**

Mark: (A) If you **Disagree Strongly** with the statement
(B) If you **Disagree Moderately** with the statement
(C) If you **Neither Agree nor Disagree** with the statement
(D) If you **Agree Moderately** with the statement
(E) If you **Agree Strongly** with the statement

Study ID No. : _____

1. ( ) I like to grow house plants.
2. ( ) When I make plans, I am certain I can make them work.
3. ( ) One of my problems is that I cannot get down to work when I should.
4. ( ) If I can't do a job the first time, I keep trying until I can.
5. ( ) Heredity plays the major role in determining one's personality.
6. ( ) It is difficult for me to make new friends.
7. ( ) When I set important goals for myself, I rarely achieve them.
8. ( ) I give up on things before completing them.
9. ( ) I like to cook.
10. ( ) If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.
11. ( ) I avoid facing difficulties.
12. ( ) If something looks too complicated, I will not even bother to try it.
13. ( ) There is some good in everybody.
14. ( ) If I meet someone interesting who is hard to make friends with, I'll soon stop trying to makes friends with that person.
15. ( ) When I have something unpleasant to do, I stick with it until I finish it.
16. ( ) When I decide to do something, I go right to work on it.
17. ( ) I like science.
18. ( ) When trying to learn something new, I soon give up if I am not initially successful.
19. ( ) When I'm trying to become friends with someone who seems uninterested at first, I don't give up easily.
20. ( ) When unexpected problems occur, I don't handle them well.
21. ( ) If I were an artist, I would like to draw children.
22. ( ) I avoid trying to learn new things when they look too difficult to me.
23. ( ) Failure just makes me try harder.
24. ( ) I do not handle myself well in social gatherings.
25. ( ) I very much like to ride horses.
26. ( ) I feel insecure about my ability to do things.
27. ( ) I am a self-reliant person.
28. ( ) I have acquired my friends through my personal abilities at making friends.
29. ( ) I give up easily.
30. ( ) I do not seem capable of dealing with most problems that come up in my life.

Now that I have completed the BOW program, to what degree do I think the skills I learned will help me be successful in future outdoor experiences?
(1) Not at all helpful (2) Somewhat helpful (3) Of average helpful (4) Very helpful (5) Extremely helpful

PLEASE CONTINUE NEXT PAGE

Secession II
Demographic Information

This sheet is designed to gather some background information about you and your perception of the sessions you took. Please write or circle your response to each question. This information is entirely confidential and will not be shared with anyone in a form that would identify you with your answers. Do not write your name anywhere in the packet of information.

Study ID No. : _____

Please put the name of the sessions you took in the boxes in the first column. Then, rank your satisfaction and level of success for each session.										
Name of session	How satisfied do you feel with this session? Very dissatisfied				Very satisfied	How successful do you think your performance was in this session? Very unsuccessful				Very successful
1.	1	2	3	4	5	1	2	3	4	5
2.	1	2	3	4	5	1	2	3	4	5
3.	1	2	3	4	5	1	2	3	4	5
4.	1	2	3	4	5	1	2	3	4	5

5. Overall, how satisfied were you with this BOW program?
(1) Very dissatisfied (2) Dissatisfied (3) Neither dissatisfied nor satisfied (4) Satisfied (5) Very satisfied

6. Overall, how successful did you think your performance in this BOW program?
(1) Very unsuccessful (2) Unsuccessful (3) Neither unsuccessful nor successful (4) Successful (5) Very successful

7. What year were you born?
19____

8. What is your marital status? (circle one)
a. single b. married/cohabiting c. divorced d. widowed

9. What is your highest education level? (circle one)
a. below high school b. high school c. some college or associate's degree
d. bachelor's degree e. post baccalaureate or graduate degree

10. Do you have children (infant to 18 years old) living in your household?
a. Yes b. No

11. Ethnicity:
a. African American b. Caucasian / White c. Hispanic d. Native American
e. Asian American f. Other: _____

12. How many BOW workshops have you attended (including this one)? _____

THANK YOU SO MUCH FOR PARTICIPATING IN THIS SURVEY!

APPENDIX E

Oklahoma State University
Institutional Review Board

Protocol Expires: 9/8/2004

Date: Tuesday, September 09, 2003 IRB Application No ED0418

Proposal Title: THE EFFECT OF GENDER ROLE ORIENTATION AND PARTCIPATION IN A SINGLE SEX OUTDOOR RECREATION PROGRAM ON SELF-EEFFICACY

Principal Investigator(s):

Cheng-Lung Wu
73 S UPL #3
Stillwater, OK 74075

Debra Jordan
107 Colvin
Stillwater, OK 74078

Reviewed and Processed as: Expedited

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact Sharon Bacher, the Executive Secretary to the IRB, in 415 Whitehurst (phone: 405-744-5700, sbacher@okstate.edu).

Sincerely,

Carol Olson

Carol Olson, Chair
Institutional Review Board

VITA

Cheng-Lung Wu

Candidate for the Degree of

Doctor of Education

Thesis: THE EFFECT OF GENDER ROLE ORIENTATION AND PARTICIPATION IN A SINGLE SEX OUTDOOR RECREATION PROGRAM ON SELF-EFFICACY

Major Field: Leisure Studies

Biographical:

Personal Data: Born in Penghu, Taiwan, August 22, 1966, the son of Ming-Chung Wu and Chi-Lung Koa

Education: Graduated from Makung High School, Penghu, Taiwan, 1983; received Bachelor of Arts degree in Physical Education from National Taiwan Normal University in June, 1990; received Master of Arts degree in Health, Physical Education and Recreation from University of South Dakota in December, 1996; completed requirements for the Doctor of Education degree with a major in Applied Educational Studies in May, 2004.

Professional Experience: Physical Education Teacher, Taiwan, 1990 – 2000; Teaching Assistant, School of Applied Health and Educational Psychology, Oklahoma State University, 2000 – 2003; Lecturer, Leisure Management, National Penghu Institute Technology, Taiwan 2003 – Present.

Professional Affiliations: National Recreation and Park Association