

MASCULINITIES, SELF-EFFICACY AND INTERIOR PLANTS AS LEISURE

BY

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THESIS

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ABSTRACT

This thesis explored the complexity of how men choose leisure activities. I examined the interplay between participant's perceived benefits of indoor plants, perceptions of masculinities, and self-efficacy in men's decisions to grow interior plants.

This exploration was facilitated through the administration of a questionnaire that included two interval level scales and four open ended questions. The participants' responses to the scale items were examined for correlations and used to perform a regression analysis. The responses to the open ended questions were analyzed using conceptual ordering matrixes to establish themes.

I learned that the participating men did perceive benefits from interior plants. Their perceived self-efficacy with plants did influence their decision to grow interior plants. Participants' responses also indicated that perceptions of masculinity did not affect their choices to grow interior plants.

Two interesting findings of this research were that there was no all-encompassing view of masculinity among the participants. Rather, there were multiple and complex masculinities perceived by the participants. I also found that positive interest in plants as a form of leisure activity was the greatest contributor to whether or not participating men grew interior plants.

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CHAPTER 1

INTRODUCTION

The Beginning of Research

Do not train boys to learning by force and harshness, but lead them by what amuses them, so that they may better discover the bent of their minds.

-- *Plato*

In the winter of 1984, Sister Margaret taught an excited group of third graders the process of growing plants in the most simplistic of terms. Sixteen students eagerly planted bean seeds in Styrofoam cups labeled with their names and marveled at the soil that we were told contained all the nutrients necessary to sustain the plant. We sat in awe as she explained that the right amount of exposure to light and water would help the seed grow more quickly. We learned the basics of scientific experimentation as we competed for whose plant would be closest to the window for maximum light exposure. We overflowed our cups with soil thinking that somehow the quantity of soil would give our plants more nutrients. We overwatered our plants to the point that some of the sixteen had to replant and start over when Sister Margaret realized the poor bean seed had been drowned. When the first seeds sprouted through the dirt, jubilation was expressed by those students while others stared into their cups wondering what had gone wrong.

With our black markers we made butcher paper wall charts that reflected whose plants reached maturity first. Every time we came into our classroom the class rushed toward our plants with rulers in hand to measure whose plant was winning and pushing the furthest out of the cup. As our plants grew it became a contest to see who could better grow plants, boys or girls. As the contest intensified plants were moved into clusters of boys and girls plants with wide open ledge space in between.

At parent/teacher conferences, Sister Margaret sent each student's plant home with him or her. Some students took their plants home and continued watering and being fascinated by them until the bean plant died; other students simply pitched their plants in the trashcan believing the lesson to be complete. The students came back into a classroom devoid of plants and bare cinder block walls. Sister Margaret cleared away all evidence of our plants and threw our wall charts away so there was no way to prove if boys or girls had won the contest. And, as happens with third graders and students of all ages, we moved on to the next lesson without ever really appreciating what we had learned.

This anecdote frames some of the topics that are addressed by this research. Even as third graders, our class developed perceptions about the benefits of plants, navigated our developing perceptions of gender, and participated in an activity that shaped our sense of self-efficacy as it related to a specific task. It is my belief that leisure involvement is often based on our perceptions and reactions to lived experiences. Because of lived experiences involving plants that I remember positively, I have developed an appreciation of leisure activities that include both passive and active encounters with nature. This research is my attempt to explore how some such perceptions may affect men's participation with interior plants in a leisure context.

Leisure, as it relates to involvement with plants, is defined as circumstances where plants are nurtured, maintained or simply appreciated by men in an interior environment for reasons other than economic gain. This research is a broad exploration of men's perceptions regarding interior plants for non-occupational, therapeutic or economic purposes. Stebbins (1992) noted that activities can serve an occupational or economic function and still serve as leisure. Studies focused on gender in relation to household duties involving lawn care and gardening are a

growing literature stream in the field of leisure. The therapeutic benefits, mental and physical, gained by encounters with plants is another growing field of research across academic disciplines that I hope to someday explore further. I acknowledge and appreciate that the time and money dedicated to nurturing plants for golf courses, municipal parks, specialty and home gardens, tourist locations and for therapeutic purposes can also be explored as leisure. I also appreciate that these opportunities represent a growing economic sector in the United States. While I look forward to participating in future studies about men's perceptions about involvement with nature in a wide variety of contexts, this study explores men's perceptions in the context of interior environments, specifically within their homes. I believe this particular research contributes broadly to existing disciplines and particularly benefits leisure research by thoroughly exploring men's participation with interior plants through several theoretical lenses.

Research Goals

Specifically, this research had three research goals:

1. exploring the benefits of interior plants perceived by men;
2. examining the impact that perceptions of masculinity had on men growing interior plants; and
3. examining the role that self-efficacy, as it related to interior plants, played in men's leisure choice to grow interior plants.

CHAPTER 2

LITERATURE REVIEW

Benefits of Interior Plants

An old adage says that an apple a day keeps the doctor away, but research has demonstrated that there are benefits from plants other than nutrition. “There is growing evidence to support the belief that contact with nature is helpful to emotional states, focusing attention, relieving mental fatigue, positive behavior, and personal health.” (Han, 2009, p. 658). The wide array of benefits that people may be receiving from exposure to nature warrants further study. Research involving leisure activity and interior environments is especially poignant when one considers that people in the United States may be spending more of their leisure time indoors. Fjeld, Veierstedb, Sandvike, Riisec, and Levyd (1998) found that Americans were spending eighty percent (80%) of their time indoors. It could be argued that people staying indoors has been a growing trend in the United States as a similar study done roughly a decade later found that Americans were spending ninety percent (90%) of their time indoors (D&R International, Ltd., 2007). Because people are spending so much time indoors and plants have been shown in previous studies to benefit individuals in a variety of ways, I believe that it is important for researchers to explore and begin to understand the benefits of plants as an interior leisure opportunity.

Benefits from plants are not isolated to physical interaction in external environments. Studies have found that the benefits gained from exposure to nature are also found in interior environments. “Research has found that passive encounters with nature can improve levels of satisfaction with job and home life and can affect mood and cognition.” (Doxey, Waliczek, & Zajicek, 2009, p. 390). A simple walk through the park, looking out a window at green spaces,

or even seeing nature depicted on television are examples of passive encounters with nature. Interior plants may offer psychological and restorative values such as reduced tension and increased satisfaction in home, school and work atmospheres (Ulrich, Simons, Losito, Fiorito, Miles & Zelson, 1991; Dravigne, Walicek, Lineberger, & Zajicek, 1998; Waliczek, Zajicek, & Lineberger, 2005). Other studies have shown that the presence of indoor plants may have positive effects on individual's moods, recovery from mental fatigue, stress levels, and creative task performance (Shibata & Suzuki, 2004; Kaplan, 2001; Ulrich et al, 1991; Dijkstra, Pieterse & Pruyn, 2008). Many of these studies have focused on measuring specific participants' emotive and physical reactions to exposure to plants, but have not offered participants the opportunity to iterate their own perceptions about other benefits they may have gained from interactions with plants. This study attempts to build on the work done by these previous studies, while providing new information gained from directly from participants.

Other studies have focused on the health effects of plants in specific environments like schools, hospitals and offices. There is scientific research that validates the common perception in the United States that plants aid in creating healthier interior environments. A search of "benefit of house plants" on the internet will lead to countless magazines and newspapers run articles claiming that plants improve air quality. Research has found that offices with plants have cleaner air than those without plants (Coombs, 2008; Nelly, 2005; Bringslimark, Hartig, & Patil, 2007).

"The number of indoor plants proximal to a worker's desk had small but statistically reliable associations with sick leave and productivity. Although small, such associations can have substantial practical significance given aggregation over the large number of office workers over time." (Bringslimark et al, 2007 p. 581).

Further studies of plants' effect on air quality may contribute to the growing of interior plants being seen as a way leisure activity can create health benefits.

In addition to positive changes in air quality, studies in a variety of interior contexts have found that participants experienced measurable physical and emotional benefits when they were exposed to plants. Chang and Chen (2005) used electromyography, blood volume pulse, and electroencephalography test results to measure the anxiety of participants to simulated workplace environments. They found that participants were less nervous or anxious when there were windows with a view of nature or even televised views of plants. Similar research suggested that indoor plants in hospital rooms can lead to a lessening of perceived stress in patients (Dijkstra, Pieterse, & Pruyne, 2008). Because of the measurable health benefits found from studies like these and others, interdisciplinary exploration focused on horticulture therapy continues to grow as a field of research. Horticulture therapy includes treatments involving cognitions of nature, viewing nature, visiting gardens and, for those who are physically able, actually working with plant life or tools in garden settings (Soderback, Soderstrom, & Schalander, 2004). In addition to air quality improvement and measurable health benefits, some research has explored how plants may contribute to positive experiences in academic settings.

It could be argued that many adults spend much of their time awake at work. A similar argument could be made that many children and adult students spend much of their time awake in classrooms. For this reason, it is important to explore how plants may benefit students in academic settings. Han (2009) conducted an experiment involving six small trees being introduced to the back of an eighth grade classroom in Taiwan. In his experiment the students exposed to the classroom with trees initially had significantly stronger feelings of friendliness, comfort and preference than the control group. He found that the experimental group had fewer

occurrences of misbehavior and reported less sick time than the control group during the same time period. Research done by Doxey, Waliczek and Zajick (2009) supported earlier research that found plants have a role promoting positive feelings in university students and serve value above and beyond simple aesthetics. More research is necessary to explore how plants can help create environments that offer increased senses of comfort, friendliness and positive feelings among students. I believe this study contributes to the literature by providing an opportunity for men who experience plants in a wide variety of interior environments to offer insight into the perceived benefits they gain from exposure to plants.

Having provided an overview of the variety of benefits gained from exposure to plants found through previous studies, I will now explore the literature regarding how men's perceptions of self-efficacy and masculinity may affect his leisure choices.

Theoretical Perspectives

This research is framed by several theoretic perspectives. Theories exploring self-efficacy and its interaction with leisure, gender and masculinities, and the interplay between masculinities, self-efficacy and leisure are explored.

Self-Efficacy and Leisure

There are many different theories that examine how and why individuals choose particular leisure activities. One theory that has been examined as a contributor to leisure choice in previous studies is self-efficacy. "Efficacy beliefs influence how people think, feel, motivate themselves, and act" (Bandura, 1995, p. 2). Bandura (1995, 2006) further explained common beliefs held about efficacy. Among them are that a person is not born with an innate, all-encompassing sense of efficacy. Rather, through a variety of ways, people develop a constantly evolving sense of efficacy as it relates to specific tasks. These task dependent perceptions of

self-efficacy can be measured for specific tasks and be varied within an individual depending on his personal interests, beliefs and lived experiences. These perceptions of efficacy can change over time as a person encounters new opportunities and experiences. A person can also develop a sense of efficacy based on watching others succeed or fail at a given task. While a person may feel that he can accomplish one task with ease, he may fear that he will fail miserably at another task. "A host of factors, including personal, social and situational ones, affect how efficacy-relevant experiences are interpreted." (Bandura, 1995 p. 5). It is within a person's ability to interpret how he views a particular situation or task and to use that analysis for making decisions in the future.

Prior research has shown that perceptions of efficacy had an impact on the activity choices made by individuals. While much of the research focused on efficacy's effect on vocational aptitudes and career choices, in the field of leisure studies it examined leisure involvement. Many of the leisure studies focused on how individuals' beliefs about self-efficacy affected active leisure (Anderson, Wojcik, Winett & Williams, 2006; Louck-Atkinson & Mannel, 2007; McAuley, 1992; Sylvia-Bobiak & Caldwell, 2006; Tsai and Coleman, 2009). Sylvia-Bobiak & Caldwell (2006) found that while perceptions about efficacy were affected by peer groups and varied by gender, they directly affected college students' active leisure participation. The more the student believed he could be active, the more often he participated in active leisure. Tsai and Coleman (2009) indicated that perceptions of self-efficacy affected students' level of interest, intention and participation in active leisure. They found that the more a student felt they could be active, the more interested they were in active leisure. The higher the level of interest there was in active leisure, more likely they were to engage in active leisure and physical activity.

These studies have social impact when one considers that what people do as their primary activities are important influences on their development in a range of domains, including skills, abilities, social relationships and behavior. Based on previous research examined from an ecological perspective, McHale, Dotterer and Kim (2009) found that youth's daily activities affected the choices they made by providing opportunities to learn and practice skills, contributing to identity formation, creating or maintaining social ties, and limiting the number of activities in which they engaged. Identity, social ties, and activity choice are all important aspects of leisure research. This study contributes to the literature by examining how the perception of efficacy may affect men's choice regarding interior plants as a leisure choice.

Perceptions of self-efficacy are derived from four main sources or influences. Bandura (1994) explains that through cognitive, motivational, affective, and selection processes individuals make choices that affect their behavior. While individuals consider what others say they can accomplish, they also create a set of internalized perceptions of efficacy that they create and recreate through exposure to activities and experiences. Bandura (1997) says that while both external and internal processes are important, personal accomplishments may have the most impact on self-efficacy (Bandura, 1997).

Cognitive processes are those related to how an individual visualizes and plans his involvement before an activity occurs. Individuals who have high levels of certainty that they can accomplish a particular task envision themselves succeeding in the task. They are also able to process the uncertainty about similar tasks or situations in a positive framework. Those who are less certain they can achieve particular tasks may picture themselves failing and spend more time focused on the possibility of what could go wrong if they were to attempt a particular

course of action. Individuals who have failed repeatedly at a task are less likely to engage in the task again. They are also unlikely to undertake tasks that remind them of their failures.

Motivational processes are those related to how an individual motivates himself in regard to a particular activity. Some view this component as the goal-setting section of self-efficacy. The motivational processes are those things that encourage or discourage an individual from choosing to participate in an activity. The level of interest a person has in a particular task can motivate him to participate. An individual who is more interested in an activity is more likely to try that activity than someone who has no interest in it. Positive and negative peer and social pressure can also influence the level of certainty that individuals have regarding choices. People who feel encouraged to try activities are more likely to do so. Bandura wrote that motivational processes affect the goals people set by determining the amount of effort they are willing to contribute toward starting the activity. They affect the amount of effort a person will put into a task and how long he is willing to try to succeed. These perceptions also affect how resilient he will be if he fails (Bandura, 1994). Those who feel they can succeed are willing to put much more effort into an activity than those who feel it is hopeless.

The third set of processes is affective processes. These processes deal with a person's ability to perceive how he can cope with the stresses of a situation. More than just identifying possible stressors, these processes are what determine how a person actually imagines himself coping with stress or adversity. Those who are more certain that they can accomplish a task believe that they can handle the stress of a task and mitigate negative experiences that happen. An individual who is less certain of his abilities envisions the constraints as being much greater in impact and occurrence.

Selection processes are how people use perceptions of self-efficacy in decisions they make and the activities they select to participate in. These processes involve how people examine and categorize experiences as things they are certain they can or cannot do. People typically do not choose to participate in activities they feel exceed their coping abilities; rather, people engage in activities they perceive themselves capable of handling. Successes and failures in similar activities affect their perceptions of efficacy and can motivate them to open themselves to become more involved with particular tasks and to explore similar new experiences. Failure in particular tasks may encourage a person to not engage in those tasks or others that they view as being similar. Through selection processes, people choose, practice and master certain activities while avoiding others.

It is important for leisure researchers to explore how the perception of self-efficacy can affect individual's leisure choices and how the different processes related to efficacy affect leisure choices. Many of the leisure studies mentioned previously have focused on the affective processes of self-efficacy in relation to the lived experiences of their participants. Research has focused on how individuals utilized the affective processes associated with efficacy to navigate perceived constraints in regard to active leisure. Findings from previous studies indicated the more individuals believed that they were able to handle the constraints to creating a healthier lifestyle by organizing time, and navigating risky situations, the more likely they were to actually take steps towards becoming healthier (Anderson, Wojcik, Winett & Williams, 2006; Louck-Atkinson & Mannel, 2007; McAuley, 1992; Sylvia-Bobiak & Caldwell, 2006). This study contributes to leisure research by examining the role that motivational processes play in the perception of self-efficacy. It does this by examining both the level of interest men reported in plants as a leisure activity and the relationship that interest had on if men were growing plants.

Gender and Masculinities

An individual's sex is viewed by most researchers to be determined biologically. While gender may be linked to sex, gender is far more complex (Pryzgoda & Chrisler, 2000; Small, 1998; Connell, 2005; Carinci & Wong, 2009). An individual's gender is complex and socially constructed as he encounters life (Connell, 2005; Cornish, 1999; Kivel & Johnson, 2009; Moller, 2007; Wetherell & Edley, 1999). While some people may share similar beliefs about the characteristics that make an activity or person gendered, this research was conducted with the belief that perceptions of gender are malleable and can be held separately by individuals. I do not assume that there is one shared societal understanding of what determines gender.

It is important for me to acknowledge that this research deals with theories of gender, specifically masculinities, and does seek to explore how perceptions of gender affect men. Masculine theories and researchers who explore them owe a great debt to feminism. In a thought-provoking article about the relationship between theorizing masculinity and different strands of feminism, Robinson (2003) critiqued the emergence of masculine studies and its relationship with feminism. Robinson presented the arguments of different feminist scholars who argued that the use of a feminist framework to gain an opening of experience for men was inappropriate as, in their views, patriarchal society is still dominant. Robinson ended her article about the relationship about masculinity theorists and feminism by saying, "An unanalyzed and taken for granted entente cordiale with feminism will do nothing to encourage the furthering of a mutually productive exchange of ideas" (Robinson, 2003, p. 136). I respectfully acknowledge that the research I am undertaking owes much to the feminist scholars who examined and wrote about gender and have tried to highlight both feminist theories and the masculine theories of gender that grew from them.

Based on literature, there are many views about how a person comes to recognize gender. Many of the views held about gender have also changed throughout time. Theorists such as Foushee, Helmerich, and Spence (1979) reported that gender could be viewed as a binary construction between masculine and feminine, but that the binary should be based on characteristics, not simply anatomical sex. Their research found that there were differences between men and women, but that the two differed less than stereotypes led people to believe. Based on their research, they argued that men, in general, had more characteristics that were masculine and women had more characteristics that were viewed as feminine. Masculine characteristics were viewed as assertive and independent while feminine characteristics were viewed as being expressive and communal. Characteristics were masculine and feminine, not the anatomical person. It was the quantity of individual characteristics viewed as masculine and feminine that a person had that made him or her masculine or feminine.

Other theorists have argued that gender is a combination of biological factors and lived experiences. Diamond (2006) outlined nature and nurture arguments of gender with theories of psychosexual development. His work highlighted research that argued that individuals were born with gendered tendencies based on biological factors, but came to recognize themselves as gendered based on recognizing their physical differences and experiencing different acts as being masculine or feminine.

As suggested earlier, modern gender theorists have argued that it is through lived experiences that a person becomes gendered. Simone de Beauvoir (1952) argued that one became a woman based on her experiences, not simply by being born. Similar arguments have been presented for men. “That gender is not fixed in advance of social interaction, but is constructed in interaction, is an important theme in the modern sociology of gender” (Connell,

2005, p.35). Modern sociology offers the opinion that there are many different perspectives about gender based on the lived experiences of individuals. There is not one set idea about what gender is; rather, each individual perceives gender differently based on his lived experiences. Theorists have argued that gender is individually constructed through the repetition of specific acts done by an individual as a result of societal pressures (Scott, 1986; Messner, 1990; Butler, 1993; Connell, 2005; Coles, 2009). These theorists have argued that through lived experiences, interactions with others and consumption of mass media, individuals construct their beliefs about gender and gender appropriateness.

While there may be some similarities among people, a study of youth found that those who grow up in different circumstances still have access to differing resources and are subject to different socialization pressures (McHale, Dotterer & Kim, 2009). If gender is constructed through lived experiences as some theorists believe, individuals experience different pressures and benefits from society that could play a role in their leisure choices. More research is necessary in the leisure field regarding how women, men and transgender individuals choose their leisure opportunities. This study attempts to contribute to that body of literature by exploring how individual's perceptions of what is masculine may be similar to or different from their perceived belief of how society views the same activity.

Masculinities, Self-Efficacy and Leisure

While children have a difficult time defining what makes activities masculine and feminine, research has shown they are still aware of differences (Pinel, 1999; Schmalz & Kerstetter, 2006). Research has also shown that the benefits from and participation in leisure is often dependent on gender (Schmalz & Kerstetter, 2006; Koivula, 1995; Agahi & Parker, 2008). Kivel and Johnson (2009) found that even after 30 years of feminist effort to change social

boundaries, participants in studies still indicate that there are still deeply rooted roles and expectations of what it means to be a man in U.S. society.

Research has been done in the field of leisure focused on examining how perceptions of gender play a role in the leisure choices made by individuals (Henderson, 2005; Shaw, 2007; Crawford & Godbey, 1991; Hubbard & Mannell, 2001; Skowron, Stodolska, & Shinew, 2008). These studies have explored the barriers and constraints experienced by individuals, mostly women, because of gender. Little empirical research has been done to examine how perceptions of masculinity affect men's participation in leisure activities (Cornish, 1999; Connell, 2005, Kivel & Johnson, 2009). "Within the research literature about adolescent development and leisure, there are very few empirical investigations that explicitly address socialization processes around gender and none (apart from sport investigations) that exclusively examine masculinity"(Kivel & Johnson, 2009, p. 113). This study contributes to the literature by examining how perceptions of masculinity may affect how men choose a specific leisure activity.

Stigmas and stereotypes pertaining to masculinity may be one of the dominant reasons that men do or do not participate in certain leisure activities. Feminist and other researchers have examined how a variety of internalized boundaries limit the leisure opportunities for a variety of groups. Much of this internalized limitation may be done without individuals even being aware of those labels or boundaries. Schmalz and Kerstetter (2006) found that gender stigmas restricted specific sport participation more among boys than girls. While girls were able to engage in sports that were deemed gender neutral or even masculine, boys were far less likely to participate in a sport labeled as feminine. "The social production of gender within individuals reproduces the "gendered" social structure in the context of daily living and in the institutions that define social order" (Vannoy, 1991, p. 253). Without even realizing it men may be selecting

leisure activities because those activities are ones they believe men should do. “Gender role self-concept can be conceptualized as the amount of gender stereotypical traits and behaviors that persons use for self-description” (Athenstaedt, Mikula, & Bredt, 2009, p. 400). But, as research has demonstrated gender roles, stigmas, and leisure choices are all malleable.

Research done by Wetherell and Edley (1999) found that men’s behaviors are not set in a particular masculinity, but rather make choices about their behavior from a set of behaviors that they believe to be culturally acceptable. “There are many ways to be a man, and different ways in which boys and men learn to become one” (McCann, Minichiello & Plummer, 2009, p. 202) McCann, Minichiello, and Plummer (2009) found that men who moved from single sex male environments like single-sex schools, jobs, and sports teams became less rigid about what they felt was appropriate behavior for men. They reported feeling freer of social pressures based on competition and homophobia than they had in a single-sex environments. “Men who experienced difference, saw that it added colour, and was not a challenge to their existence” (McCann, Minichiello, & Plummer, 2009, p. 216). The results of this study demonstrated that men were able to recognize the flexibility of gender roles based on specific environments.

It is crucial to recognize that these men were aware that they were liberated from proscribed behaviors and able to enjoy different activities when competition with other men was not a driving force. As the participants’ beliefs changed, so did their reported behaviors. Studies like this one demonstrated that men can experience liberation from gender roles when they become self-aware and move beyond socially-constructed definitions of what it means to be a man. It is my contention that creating leisure environments that allow men to freely explore who they are as individuals could have tremendous impact on the deconstruction of masculine gender roles.

Cornish (1999) found that there are differences in men raised in flexible gender-role environments in regard to conflict and shame within the context of relationships. Men who are raised in flexible gender-role environments are more likely to engage in new activities and reported feeling less uncomfortable when engaging in behaviors they felt society viewed as feminine. They were also more flexible when it came to gender role assignments within their environments.

Self-efficacy has also been found to empower people to change their leisure activities. Phongsavan, McLean, and Bauman (2007) found that as perceptions of self-efficacy involving physical activity increased, men reported being more physically active. Several studies have found that while participants reported negative consequences to being perceived as different because of the activities they participated in, they were able to negotiate the situation and actually felt their lives had been enriched because of the activities. Roster (2007) found that women motorcycle riders complained that they felt others perceived them as unfeminine or gay, but were able to “redefine femininity in a way that embraces the positive aspects of both femininity and masculinity and resists negative stereotypes that restrict women’s choices of leisure pursuits” (Roster, 2007, p. 443). One of the ways they were able to do this was by recognizing they had the skills to ride the motorcycles. Another was by recognizing that they had the coping abilities to handle the stresses created by participating in an activity that some viewed as gender inappropriate. This research provided a lived example of how perceptions of efficacy can be used for empowerment in leisure choices.

These studies highlight why it is important to research not only the gendered perceptions of girls and boys, but also of women and men. The leisure choices made by transgender individuals should also be explored in future research to provide a more complete picture about

how individuals choose their leisure activities. As knowledge is gained about the relationships between leisure, gender, and perceptions of efficacy in specific contexts it may help to create richer leisure offerings that break down social barriers and contribute to personal empowerment. Research has demonstrated that the deconstruction of gender roles is possible, now it is the responsibility of the leisure field to contribute in meaningful ways to the examination of how leisure can be used as a form of personal empowerment.

I believe this study can contribute to that body of knowledge by:

1. exploring the benefits of interior plants perceived by men;
2. examining the impact that perceptions of masculinity had on men growing interior plants; and
3. examining the role that self-efficacy, as it related to interior plants, played in men's leisure choice to grow interior plants.

CHAPTER 3

METHODOLOGY

Methods Overview

A mixed method study was conducted involving men and interior plants. Because the research was interested in exploring different aspects of men's perceptions and involvement with interior plants, data was collected with a face-to-face interview design. An integrated mixed method study can involve both text and numeric data collection done through one instrument. According to Creswell, Clark, Gutmann, and Hanson (2003), an example of a way to integrate at the data collection phase is to use open ended questions on a survey to explore relationships between variables and to explore some general questions. This research focused on three goals:

1. exploring the benefits of interior plants perceived by men;
2. examining the impact that perceptions of masculinity had on men growing interior plants; and
3. examining the role that self-efficacy, as it related to interior plants, played in men's leisure choice to grow interior plants.

Study Site

Champaign County and the University of Illinois were selected as the sites of the study because of the diverse demographic makeup of the campus and the community. A variety of campus locations, community events and parks were selected as collection sites to reach the widest range of participants possible. On the campus of the University of Illinois questionnaires were administered in academic departments, the student union, a recreation center, and open green spaces. It was the belief of the researcher that by including multiple locations for research it would be possible to access men who had different leisure interests. A bike tour, an arts festival, and a sporting event were included in the community events. The parks ranged from

those that had playgrounds and swimming pools to those with organic gardening plots and hiking trails.

Population

Men were approached and asked to participate in this study. The study was focused on men who were between the ages of eighteen (18) and sixty-five (65) at the study sites. Two hundred and ten (210) questionnaires were administered over a three month period at 13 locations in Champaign County, Illinois. A purposive sample of men was obtained by approaching men at specific locations. Locations that presented opportunities to encounter men who were interested in different leisure activities were targeted. Because of the second researcher's proficiency in Spanish, locations with dense Latino populations were also selected. The majority of the questionnaires (53.8%) were administered on the University of Illinois campus. Questionnaires were also administered at parks in Champaign County (27.6%) and at community events (18.6%).

Two hundred and thirty-eight (238) men were asked to participate in the study. The percentage of men who refused to fill out the questionnaire when approached was twelve percent (12%). Data collected from questionnaires completed by men who were not within the age parameters was not analyzed. This study specifically targeted men because I was interested in how men's perceptions of masculinity and efficacy affected their leisure choices regarding interior plants.

Procedures

Questionnaire

The study completed the review process of the Institutional Review Board at the University of Illinois, the Urbana Park District, and the Champaign Park District. Institutional

Review Board permission documentation can be found on Appendix page A. Participants were recruited using an oral script and written consent process approved by the Institutional Review Board at the University of Illinois. The consent form was explained orally before it was presented and a copy of the consent form was offered to each participant at the end of the process. A copy of the consent form can be found on Appendix page B.

The questionnaires were administered by two male graduate students in the Department of Recreation, Sport and Tourism at the University of Illinois. Both researchers were familiar with Institutional Review Board protocols regarding data collection. The primary researcher trained the secondary researcher about the specific purposes of the research and accompanied him during his first data collection to ensure that both researchers shared an understanding of the questionnaire administering procedures. It should be noted that the purpose of including the secondary researcher was to gather research data from ethnically diverse populations. Being of Latino descent and a fluent Spanish speaker, the secondary researcher was able to administer the questionnaire to participants who spoke little English. The primary researcher was Caucasian. Only twenty-eight (28) men refused to participate in the study. This was a twelve percent (12%) refusal rate. The primary researcher administered 186 questionnaires; the secondary researcher collected 24.

Participants were asked to volunteer contact information in case clarification was needed regarding their written or audio-recorded responses to the open ended questions. Each participant was also offered a small token of appreciation. The primary researcher purchased orange "I"s (the letter I is often used as the mark of the University of Illinois) made of recycled paper containing forget-me-not seeds made by a local artist. The "I"s along with a small card explaining instructions for planting the seeds were offered to each participant.

The questionnaire went through several layers of review. In order to pretest the questionnaire's directions and clarity, eighteen males of various ages (early 20s to mid 50s), ethnicities (Caucasian, African-American, Asian, and Latino) and nationalities who were enrolled in graduate level methods courses reviewed it and made suggestions. The methods used in this study were also reviewed by the University of Illinois Institutional Review Board.

The questionnaire was pilot tested at an event in Champaign County. The pilot test indicated that participants understood and could easily answer the questions, but that the consent process and script used for recruiting participants was intimidating. Data collected during the pilot test were not used in the analysis. Following the pilot test, the script was simplified to contain the information required by the Institutional Review Board, but in language that was not as daunting for participants. The standard script used by both researchers was:

“Hello, my name is XXX and I am a graduate student at the University of Illinois. I'm doing research on why men do or do not grow houseplants. It will probably take you between five and ten minutes and all you have to do is circle the responses that best reflect how you feel about the statements. Then, there are four open ended questions at the end that you can either answer in writing or I can audio-tape your response and transcribe it later if that is easier for you. If at any point you don't want to answer a question or don't feel like participating anymore you can stop. It's totally voluntary. Your help is appreciated.”

Measurements

In this study, the number of interior plants being tended to by men at home served as the dependent variable. As part of the questionnaire, participants were asked to indicate the number of plants they had at home on a zero (0) to five or more (5+) scale. The number of interior plants at home was treated as an interval variable and used in the analysis.

Demographic characteristics were collected as part of a section on the questionnaire. From the demographic items collected, age in years, education level, and personal yearly income

were treated as independent interval variables and used in the statistical analysis.

Two scales were utilized in this study. One was adapted to measure the participant's perceptions of masculinity in relation to men's participation with interior plant maintenance and the other to measure the participant's perceived self-efficacy in regard to growing plants. These scales provided interval level data that were used in the analysis as independent variables.

Finally, four open ended items on the questionnaire served the purpose of thematically exploring men's involvement and perceptions with interior plants.

Scales

Perceptions of Masculinity Scale

In order to examine the impact that perceptions of masculinity had on men growing interior plants a six item scale was adapted from work done by Schmalz and Kertstetter (2006), with insight drawn from Pinel (1999) and Liben and Bigler (2002). Schmalz and Kertstetter (2006) researched the role that perceptions of gender, both internalized and perceptions of societal views of appropriateness, played in children's decisions to participate in certain sports. Pinel's social consciousness questionnaire explored how social stigma affected behavior and beliefs among various populations. Liben and Bigler's (2002) Children's Occupation, Activity and Trait (COAT) scale explored participants' perceptions through both attitude measures and personality measures. According to Schmalz and Kerstetter (2006), attitude measures examined to what degree an individual acknowledged that socially created gendered stereotypes regulated his or her behavior. In simpler terms, attitude measures explored if a person did or did not engage in a particular activity because he or she felt others would view the behavior as gender inappropriate. Personality measures examined to what degree the social stereotype regarding

gender appropriateness had been adopted by the individual. These explored if an individual engaged in a behavior based on his or her own belief about gender appropriate activity.

Schmalz and Kertstetter drew from Pinel (1999) and Liben and Bigler (2002) to create their modified stigma consciousness questionnaire which was used to explore children's perceptions and involvement in sports as it related to perceived gender appropriateness. Some examples of the items boys would have answered on Schmalz and Kerstetter's (2006) modified stigma consciousness questionnaire are: People have strong beliefs about boys who play girls sports, even if they don't say so; People think I should act like a boy and do things boys do, just because I am a boy; and, If I play a girls sport, people treat me differently.

For the purpose of examining the impacts that perceptions of masculinity had on men growing interior plants, an adapted seven item scale was created that contained items measuring both attitude and personality measures. The modified scale was then pretested for item clarity in two graduate level methods courses. The men who participated in the pretest reported that while the six items made sense, they felt there should be an item to indicate their level of interest in interior plants as a leisure activity that did not also involve gender. Because of this feedback, an item was added to the scale that was not gendered in nature, but that simply measured the participant's interest in interior plants as a leisure activity. This item also allowed me to investigate how motivational processes (level of interest) might play a role in self-efficacy beliefs and men's choice to grow plants.

On the final perceptions of masculinity scale, participants ranked the seven items on a scale of 1 (strongly disagree) to 5 (strongly agree). No labels were given to numbers two through four. The three items on the scale used to explore attitude measures were: People have strong perceptions about men based on their recreational activities; People think I should do masculine

activities because I am a man; and, People treat men who tend interior plants differently.

Personality measures were explored with the statements: I perceive men who tend interior plants differently than those who do not tend interior plants; Interior plant maintenance is a masculine recreational activity; and, When I choose recreational activities I consider how others will perceive my participation.

The seventh item, created at the request of the pretest groups, was “I am not interested in interior plants as a recreational activity”. This item was reverse coded so that all items in the scale were positively phrased and relabeled as Positive Interest in SPSS.

Plant Self-Efficacy Scale

The second scale utilized in this study measured men’s perceptions about their abilities to maintain interior plants. The eight item scale was constructed according to guidelines suggested by Bandura (2006). The scale statements were written to read in such a way to measure if the participant felt he could do the activity, not if he actually was going to do the activity.

Responses were measured utilizing a 10 percent increment scale ranging from 0 (certain I cannot do at all) to 100 percent (highly certain I can do). The scale was not labeled on the questionnaire as an efficacy scale; in fact, no title was given to the scale at any point to the participant. All personally identifiable information, except for the consent form required by the Institutional Review Board, was collected after the scale was completed to minimize any potential motivational effects related to self-assessment. The scale measured both perceptions of knowledge and skills that are required to maintain interior plants. Several items also measured the men’s perceived ability to perform tasks through time. This is what Bandura refers to as “gradations of challenge” (2006, p. 311).

Participants were asked to rate how certain they were that they could do the eight activities on the scale. They were informed that all of the activities dealt with interior plants, and were asked to rate the items on a scale of 0 (certain I cannot do at all) to 100 (highly certain I can do). For clarification, the area between 40 and 50 was labeled moderately certain I can do. The items that measured a gradation of challenge were: Keep a plant alive for a month; Keep a plant alive for six months; and, Keep a plant alive for a year. Perceptions of knowledge were measured by the items: Identify good plants for specific interior environments; and, Find necessary knowledge to ensure plant survival. Perceptions of skill were measured by the items: Pot a plant; Maintain a watering schedule; and, Prune or trim a plant if necessary.

After the plant self-efficacy scale was created following the guidelines outlined above, it was pretested in two graduate level methods courses. The men in the class reported that the instructions and items included on the scale were easy to understand.

To conclude the section on quantitative methods, one dependent variable was used for analysis purposes in this study, the number of interior plants at home. There were seven independent variables used for analysis. From the demographic information, the participant's age, education level, and personal yearly income were used. From the perceptions of masculinity scale: Perceptions score; Positive Interest; and item score for the statement, Interior plant maintenance is a masculine recreational activity were used. And, from the plant self-efficacy scale, the plant efficacy score was used in analysis.

All scale items and variables can be found on Table 1.

Table 1.

Independent and Dependent Variables used in Numerical Analysis

Items from Socio-demographic information	Perceptions of Masculinity Scale	Plant Self-Efficacy Scale	Dependent Variable
Age	Perceptions Score	Plant Efficacy Score	Number of plants at home
Education Level	People have strong perceptions about men based on their recreational activities	Pot a plant	
Personal Yearly Income	I perceive men who tend interior plants differently than those who do not tend interior plants	Identify good plants for specific interior environments	
	People think I should do masculine activities because I am a man	Keep a plant alive for a month	
	When I choose recreational activities I consider how others will perceive my participation	Find necessary knowledge to ensure plant survival	
	Interior plant maintenance is a masculine recreational activity	Keep a plant alive for six months	
	Positive Interest	Maintain a watering schedule	
		Keep a plant alive for one year	
		Prune or trim a plant if necessary	

Open Ended Questions

Four open ended questions were included on the questionnaire. The purpose of the questions was to help the researcher gain a broader understanding of phenomenon associated with men growing interior plants. While this study prioritized numeric knowledge through the use of scales and its methods of analysis, I believed that rich information could be had by asking participants to also narrate their perceptions. Greene, Caracelli, and Graham (1989) identified five main purposes for mixed methods studies: triangulation, complementarity, development, initiation, and expansion. In this study, the four open ended questions served the purpose of expansion, which is defined as: “Expansion seeks to extend the breadth and range of inquiry using different methods for different inquiry components” (Greene, Caracelli, & Graham, 1989, 127).

The four questions were developed following conversations with men after the scales were pretested. During these conversations common themes emerged that the researcher wanted to explore further to gain a richer understanding of men’s involvement with plants as a leisure activity. Because of the many different responses that emerged during conversations following the pretest, the researcher used qualitative questions to further explore differing perceptions of masculinity that affected men’s involvement with plants. It was the researcher’s belief that it would not have been possible to gain deeper insight by adding scale items to the perceptions of masculinity scale.

The first open ended question was: Did you have experience with growing plants as a child? The purpose of this question was to gain an understanding of the prevalence of participants having previous experience with plants and to learn what had prompted those

experiences. The researcher was also interested in examining in what contexts men had experienced plants.

The second open ended question was: Why do or do you not have interior plants? The purpose of this question was to explore the first research goal, exploring the benefits of interior plants perceived by men. Another goal of this question was to explore reasons why men did not have interior plants. Many of these answers dealt with processes related to self-efficacy.

The third and fourth open ended questions related to the perceptions of masculinity scale. Question three asked, How do you feel *others* perceive men who tend interior plants? Question four asked, How do *you* perceive men who tend interior plants? The purpose of these questions was to explore if there was a difference in the way men felt society viewed interior plant maintenance versus the way individual participants viewed it. These questions also related to the research goal of examining the impacts that perceptions of masculinity had on men growing interior plants.

Analysis

A full copy of the questionnaire can be found in Appendix page C. As questionnaires were administered they were entered into SPSS. Participant responses to the plant self-efficacy scale, perceptions of masculinity scale, number of plants at home and work, and number of minutes per week tending interior plants at home and work were entered into SPSS as interval data. Missing scores were coded into SPSS using a -9.

The three research goals dealt with different phenomenon of men growing interior plants, so a variety of analytical methods were utilized. In situations where statistical analysis was utilized SPSS performed the operation. *Discovering Statistics Using SPSS Third Edition* by Field

(2009) was used a reference guide to determine the most appropriate order for various tests and to assist in the interpretation of results.

The participants' written responses to the open ended questions were analyzed by identifying common categories in the responses. Categories were then clustered into themes using conceptual ordering in the form of a thematic conceptual matrix (Leech & Onwuegbuzie, 2008, p. 109-111). A thematic conceptual matrix was created by grouping similar responses together and examining them to identify unifying concepts or underlying issues. This method of analysis was selected because many of the participant responses addressed more than one research goal. The underlying issues and concepts emerged as headings in the matrix that I describe as themes.

In summary, statistical analysis was done using SPSS to determine the relationships between numeric data and conceptual ordering was done to analyze data from the open ended questionnaire items.

CHAPTER 4

RESULTS

Results Overview

In order to ease in the understanding of the findings of this research, the results are discussed in four sections. First, information is presented to familiarize the reader with a brief overview of the socio-demographic information about the participants in this study. This section also provides the reader with the number of plants men reported having at home. The second section addresses research goal number one by thematically exploring the perceived benefits of interior plants reported by participants. The third section examines the impact that perceptions of masculinity had on men growing interior plants through statistical analysis and thematic analysis of participants' written responses. The final section focuses on research goal three by examining how perceptions of plant self-efficacy affected participants' choices to maintain interior plants as a leisure activity. This is done through statistical analysis and thematic analysis of responses.

Participants' Socio-demographics and Number of Plants at Home

Two hundred and ten men chose to complete parts of the questionnaire. The majority of participants were US citizens (86.7%), Caucasian or Asian (80%), between the ages of 18-34 (64.2%), and single (64.8%). Roughly fifty-eight percent (58%) of them were renters, and around sixty-nine percent (69%) lived with roommates or family. Eighty-eight percent (88%) had some education at or above a high school degree and around fifty-seven percent (57.2%) reported a personal yearly income of less than \$40,000. More information about the socio-demographics and number of plants reported by participants can be found in Table 2.

Participants reported maintaining an average of 1.14 plants at home. Around forty percent (41.6%) reported that they had one or more plants at home while roughly sixty percent (58.4) indicated they had no plants at home.

Table 2.

<i>Socio-demographics of Participants and Number of Plants at Home Reported (N=210)</i>			
Variable	Percentage	Variable	Percentage
Race/Ethnicity		Education Level	
American Indian	.5	Less than high school	.5
Asian	12.9	High school equivalency	1.9
African-American/Black	7.6	High school diploma	9.5
Caucasian	67.1	Some post high school	25.2
Latino	5.2	Bachelors degree	31.4
Middle Eastern	1.4	Some post Bachelors degree	6.7
Other/Multiracial	3.4	Graduate degree	24.3
Missing	1.9	Missing	.5
Age by Group		Personal Yearly Income	
18-24	4.1	Under \$19,999	34.8
25-34	23.3	\$20,000 - \$29,999	12.4
35-44	10.5	\$30,000 - \$39,999	10.0
45-54	10.5	\$40,000 - \$49,999	6.2
55-65	7.1	\$50,000 - \$59,999	7.1
Missing	7.6	\$60,000 - \$69,999	4.3
Marital Status		\$70,000 and more	15.2
Single	64.8	Missing	10.0
Married	29.0	Number of Plants at Home	
Divorced	4.3	Zero	58.3
Missing	1.9	One	8.6
Living Arrangement		Two	14.8
Live alone	27.6	Three	5.3
Live with family	34.3	Four	4.7
Live with roommates	34.3	Five or more	8.1
Missing	3.8	Missing	.5

Participants' Perceived Benefits of Interior Plants

In order to examine what participants perceived as being benefits of indoor plants responses to the open ended items were reviewed through the use of a conceptual matrix. Several

overarching themes emerged from the participants' responses focused on the benefits of interior plants.

Men perceive that interior environments are aesthetically enhanced by the presence of plants

The most common responses were those that indicated that participants had plants to improve interior environments in terms of décor. These were often talked about in terms of making the home more attractive and welcoming. More often than not, participants with plants went on to list an additional benefit in the same response, usually these were improvements to air quality or a sense of pleasure from maintaining the plants. One participant said, "Right now we have one cactus inside our room –just for fun and to 'spice up' the room." Another respondent said, "I have plants because I believe it attributes to clean air quality in the house and increases home décor". Echoing that comment another participant said, "to make my home more attractive. And, they smell nice." Another said, "We have/maintain plants because they enhance the décor of the house, and because it is satisfying to help cultivate the growth of plants." The final statement is an example of another theme found in the responses.

Men perceive that growing and being exposed to plants contributes to well-being

Respondents spoke of personal benefits that they gained from having interior plants. They spoke of the experience as a type of stress relief, a way of relaxing and a way of sharing an experience with their family. Other respondents relayed that growing plants gave them a sense of satisfaction as they watched the plants grow. One respondent said, "It's a relaxing thing to do. Don't need to worry about other problems...it's a stress reliever." Another said, "Makes interior seem less stark; fun to see if I can help them flourish." Interior plants were also mentioned as interaction between a participant and his spouse, "I have a bamboo that was a competition with my wife's bamboo to see who could grow theirs tallest. I won!" Throughout the participant

responses it was clear that plants served a variety of roles to contribute to well-being.

Men perceive that plants are appreciated gifts and reminders of life events

The idea of interior plants as appreciated gifts and a way of remembering loved ones or special occasions also emerged from participant comments. Participants spoke of keeping plants because they were gifts on special occasions. Several participants specifically mentioned that they had received a crown of thorns plant as a wedding gift. One participant seemed to sum up the thoughts expressed by the men with his quote, “Funny story...I save plants from funerals of loved ones. A good last memory of them. Other plants were gifts.”

In all, the most common benefits perceived by men who responded were plants served the purpose of home décor, improved air quality, increased personal satisfaction in a variety of life experiences, and as reminders of special occasions and people.

Participants’ Perceptions of Masculinities

SPSS was used to calculate frequency of response to the items contained in the Perceptions of Masculinity Scale. The results of the perceptions of masculinity items suggest that men believe that society has strong perceptions about men based on their leisure activities. The highest mean score, 3.97, corresponded to the item “People have strong perceptions about men based on their recreational activities”. Seventy-four percent (74%) of the participants scored this as a four or higher with five representing strongly agree. There was also a mean response greater than three to the item “People think I should do masculine activities because I am a man”. The higher mean scores on these two items seem to indicate that participants believed that society has expectations of their leisure behavior because of their sex. However, roughly sixty-eight percent (68%) of the participants reported a score of two or lower with one being strongly disagree to the item “When I choose recreational activities I consider how others

will perceive my participation. The statement had the lowest mean score of 2.11. Participants' percentage of response, mean, and standard deviations for the items can be found in Table 3.

Table 3.

Percentage and Mean Responses to Perceptions of Masculinity Scale Items (N=210)

Statement Item	Strongly Disagree					Strongly Agree	
	1	2	3	4	5	Mean	Sd
People have strong perceptions about men based on their recreational activities	0.5	3.8	21.4	47.1	27.1	3.97	.83
People think I should do masculine activities because I am a man	9.5	15.7	21.4	35.7	17.6	3.36	1.21
I am interested in interior plants as a recreational activity (Positive Interest)	20.9	19.5	22.3	21.9	15.2	2.91	1.36
I perceive men who tend interior plants differently than those who do not tend interior plants	21.9	19.5	30.4	19.0	9.0	2.74	1.25
Interior plant maintenance is a masculine recreational activity	15.7	26.6	47.1	8.5	1.9	2.54	.92
People treat men who tend interior plants differently	14.3	20.4	39.0	19.5	6.6	2.34	1.10
When I choose recreational activities I consider how others will perceive my participation	40.0	28.0	17.1	0.1	4.7	2.11	1.18

On statements that dealt specifically with interior plants, participants' mean scores on the four items ranged between two and three. Participants' mean score regarding being interested in interior plants was a 2.91 and had the highest standard deviation of any item. Roughly seventy-two percent (72%) of the participants reported a three or lower to the item "I perceive men who tend interior plants differently than those who do not tend interior plants." Similarly, seventy-

four percent (74%) of participants ranked the item “People treat men who tend interior plants differently”, with a three or lower. This could suggest that participants’ perceptions of men tending interior plants matched their perceptions of how society treated men tending plants. Forty-seven percent (47%) of participants scored the item “Interior plant maintenance is a masculine recreational activity”, as a three compared to only around ten percent (10%) of participants reported a four or five to the item “Interior plant maintenance is a masculine recreational activity”.

In summary, the descriptive results suggest that participants felt society had strong perceptions about men regarding leisure activities and that society felt they should do masculine activities because of their sex. At the same time, they reported disagreement with the idea that they considered societal perception when determining their own leisure activities. Interior plant maintenance was neither strongly agreed nor disagreed with as a masculine leisure activity; although; more participants disagreed that it was a masculine leisure activity. Participants’ scores suggest that neither they nor society treated men differently who did tend interior plants than those who do did not.

Thematic Analysis of Open Ended Responses

In order to examine how perceptions of masculinity were related to men tending interior plants participants’ responses to the open ended questions were conceptually ordered into themes. Overarching, and sometimes divergent, themes dealing with masculinity and the characteristics of men who tended plants emerged from the participants’ responses. Participants’ responses diverged greatly when participants were asked how *they* perceived men who tended interior plants compared to the responses when they were asked how they felt *others* perceived men who tended interior plants. While comments focused on gender and sexuality were

prevalent answers to the question of how *others* felt, very few participants said that *they* perceived differences in gender or sexuality about men based on involvement with interior plants.

Participants had never thought about and did not have opinions about men based on involvement with plants.

The most common theme expressed by men's comments when asked how *they* perceived men who tended interior plants was that they had never thought about it or that they had no opinion or that interior plants were not criteria they used for judgment. Some examples of these comments include: "To be honest I had never really thought about it before this survey. I don't think it's real out of the ordinary, but I also am not going to be one to do it myself"; "Hadn't thought of it. I think others see it as less masculine. Personally, I don't see it that way"; "No opinion really. It is a neat hobby for someone to have. My dad has a lot of indoor plants, but I never think twice about it"; "I don't have any particular preconceptions about men based upon whether or not they tend house plants. I admire anyone with the patience and skill to make things grow, whether that is a houseplant or an outdoor crop"; and, "What they do is their own business. If it makes them happy I'm all for it."

Participants felt that others view men who tend interior plants as less masculine

A common theme of responses addressing how *others* felt about men who tend interior plants was that men who tended plants are gender atypical. Examples of participants' comments include: "Pussies"; "Definitely less masculine. It is the kind of nurturing activity more commonly perceived as being for women"; "I feel that they think they are less of a man than those who do not"; "I don't really know, and to be honest, I don't care. I'm sure that some view growing plants (exterior and interior) as an effeminate activity, but I think that perception is

much less prevalent than it once was”; ”A majority of men probably feel those other men that tend plants are a little effeminate. Women probably think they’re more comfortable in their masculinity”; “I think this is perceived as pretty neutral by adults – probably perceived differently by boys and teens with them leaning toward seeing it as a more feminine activity”; and, “I feel people would perceive men as less masculine or weird.”

Participants felt there was no difference between men who do and do not tend interior plants

A divergent theme emerged from the responses when participants were asked how *they* felt about men tending interior plants. The participants reported that they perceived no difference between men who did and men who did not tend interior plants. In fact, one comment clearly identified that the participant had reservations about the questionnaire linking plant maintenance and gender: “If they are happy doing it then more power to them. No worries. Personally, I think it is strange that you are implying this is a gender thing. Perhaps growing up on a farm my association is different than most, but for me it is more about time, having a regular schedule, balancing everything else that requires attention with the time I have...I’d rather pursue my passions to grow things outside.” Some other examples of the participant comments: “It’s whatever if they like doing it then they should do it for themselves and not worry about other people’s opinions”; “Not differently than if they don’t have plants. I’m sure there is a good reason for either choice”; “Again, it depends on how they carry themselves. To me, they are the same as any other man”; “I see it as a hobby like any other; not strange at all”; “Different in a positive way”; “I see nothing wrong with it. Whether or not a man grows plants does not define masculinity to me”; and, “No different. It depends on how the man carries himself outside of that activity.”

How men tending interior plants are perceived depends on the specific circumstances

A theme that emerged from the responses was that participants felt that the circumstances in which a man tended interior plants would determine how both they, as individuals, and others would perceive men tending interior plants. Some responses to how *they* perceived men tending plants dealt with the number of plants or where the plants were located: “I feel like it is normal to have 2-3 plants. When there gets to be more than that it probably seems a little out of the ordinary”; “If it is excessive, it could be seen as slightly odd, but is seen as normal in other instances”; and “I don’t think perception is strong either way. I think on average that men are perceived less masculine if they have interior plants, but not if they have plants outside.”

Similar comments emerged when participants were asked how *others* would perceive men who tended plants: “I feel that the way men are perceived by others has little to do with their involvement with interior plants. However, I would guess women may perceive a man who tends interior plants to be more nurturing and other men might perceive a male interior plant tender to be feminine”; “Depends on the household structure they were raised in. If it was acceptable for the male in the home to have plants I believe it would be perceived to be okay. But if not it would have a negative sense to it”; and “Negatively if young, positively if 40+ age.”

There were positive perceptions about men who tend interior plants

A final theme that emerged from the responses revealed that individual perceptions and perceptions of societal beliefs attributed many positive characteristics to men who tended interior plants. Participants wrote that they thought *others* would perceive men who tended plants in terms of their skills and personalities: “They are environmentally conscious and they focus on decoration in a natural way”; “People probably think those who tend interior plants are more

environmental friendly”; “Similar to stay at home dads or guys that help with chores. It is widely accepted except by macho men”; and “He should be very sensitive.”

Similar comments dealt with the skills and personality traits that individual participants ascribed to men who tended interior plants: “I believe they tend to be more organized and care more about their living space”; “I find men who tend interior plants as cultured and unique for pursuing non-conventional hobbies”; “Talented, patient, caring, responsible”; “Progressive. Caring. Value a piece of the outdoors in our house. They enjoy God’s creation”; and, “I think it’s neat when I see them. Helps with air quality. Smart thing to do shows responsibility.”

To summarize, some participants reported that *their* perceptions and the perceptions of *others* were similar about the personality and skills of men who tend interior plants. Other participants reported that their perceptions and the perceptions of others were similar regarding the appropriate circumstances surrounding men tending interior plants. Participants’ responses diverged greatly between how *they* felt and how they thought *others* would feel about men tending plants in regard to gender. Some participants felt that *others* would view men tending interior plants as less masculine, but *they*, as individuals, did not perceive men who tend interior plants as less masculine and many reported that they had no opinion at all about men tending interior plants.

Component Analysis

In order to more easily explore the descriptive data from the perceptions of masculinity scale, a principal component analysis was performed using SPSS. Principal component analysis was selected because it is, “... a psychometrically sound procedure, it is conceptually less complex than factor analysis, and it bears numerous similarities to discriminant analysis” (Field, 2009, p. 638). Varimax (a method of orthogonal) rotation was used to load the factors into

components. Two components emerged from the scale responses. The first was relevant to perceptions of men as it related to tending interior plants. For this reason, this component was labeled as Perceptions. The two statements that grouped into the second component both focused on the activity of plant maintenance. However, because I believed they were distinct items and they scored a low Cronbach alpha (.743), I kept them as separate items. The factor loadings for the perceptions of masculinity scale can be found in Table 4.

The variable labeled Perceptions factor contained the following five scale items:

1) People have strong perceptions about men based on their recreational activities; 2) I perceive men who tend interior plants differently than those who do not tend interior plants; 3) People think I should do masculine activities because I am a man; 4) People treat men who tend interior plants differently; and, 5) When I choose recreational activities I consider how others will perceive my participation. The Cronbach alpha for this component was .785. Participants' rating for each of the five items were summed and averaged to create a new variable in SPSS that was labeled as Perceptions score. This score became an independent variable used in analysis.

The other two items: 6) Interior plant maintenance is a masculine recreational activity; and, 7) Positive Interest were treated as independent variables in analysis.

Table 4.

Varimax Rotation Principal Component Analysis Perceptions of Masculinity Scale

Scale Items	Component	
	Perceptions	
People have strong perceptions about men based on their recreational activities.	.619	
I perceive men who tend interior plants differently than those who do not tend interior plants.	.684	
People think I should do masculine activities because I am a man.	.746	
People treat men who tend interior plants differently.	.688	
When I choose recreational activities I consider how others will perceive my participation.	.282	
Interior plant maintenance is a masculine recreational activity.		.743
Positive Interest		.556

Correlation Analysis

A correlation analysis was performed utilizing SPSS utilizing the interval variables. The number of plants at home was utilized as the dependent variable. In the correlation analysis, age, education level, and personal yearly income were used as independent variables. The Perceptions score, Plant efficacy score, and responses to items six and seven were also utilized as independent variables.

Table 5.

Correlations between independent variables

Measure	Education Level	Personal Yearly Income	Plant Efficacy Score	Perceptions Score	Positive Interest	Interior plant maintenance is a masculine recreational activity	Age
Personal Yearly Income	.429*						
Plant Efficacy Score	.062	.217*					
Perceptions Score	-.089	-.161*	-.234*				
Positive Interest	.020	.131*	.368*	-.156*			
Interior plant maintenance is a masculine recreational activity	-.035	.001	.324*	-.146*	.176*		
Age	.275*	.717*	.254*	-.144*	.127*	.061	
Number of plants at home	.073	.310*	.326*	-.118	.428*	.238*	.310*

Note. *Pearson correlation significant at $p < .05$

Table 5 demonstrates the correlations found to exist between independent variables and the number of plants at home. Correlations were found to exist among the socio-demographic variables. The highest correlation was between age and personal yearly income ($r=0.717$, $p < .05$). Personal yearly income was also positively correlated to education level ($r=0.429$, $p < .05$). The highest correlations between the number of plants at home and the independent variables were positive interest ($r=0.428$, $p < .05$) and the plant efficacy score ($r=0.326$, $p < .05$). Moderate correlations were also found between the number of plants at home and two of the socio-demographic variables, personal yearly income and age (both $r=0.310$, $p < .05$).

It should be noted that the perceptions score had weak, but still significant, negative correlations with plant efficacy score ($r=-0.234$, $p < .05$), positive interest ($r=-0.156$, $p < .05$),

personal yearly income ($r=-0.161$, $p<.05$), “Interior plant maintenance is a masculine recreational activity” ($r=-0.146$, $p<.05$), and age ($r=-0.144$, $p<.05$). Due to there being no significant correlation found between the number of plants at home and the perceptions score it was eliminated from future analysis. Because I wished to further explore how socio-demographic variables might have played a role in the number of plants men had at home, I retained education level even though it also had no significant correlation in future analysis.

Positive interest was found to most positively correlate with the number of plants at home ($r=0.428$, $p<.05$). There were also significant correlations between positive interest and the plant efficacy score ($r=0.368$, $p<.05$) and “Interior plant maintenance is a masculine recreational activity” ($r=0.176$, $p<.05$). There were also weaker positive correlations between positive interest and two socio-demographic variables, age and personal yearly income.

“Interior plant maintenance is a masculine recreational activity” also had a significant correlation to the number of plants at home ($r=0.238$, $p<.05$). The item’s highest correlation was with the plant efficacy score ($r=0.324$, $p<.05$). “Interior plant maintenance is a masculine activity” was not significantly correlated to any socio-demographic variable.

Significant correlations were found between all of the independent variables and the number of plants participants reported at home with the exception of education level. In order to further explore the relationship between the number of plants at home and the independent variables a regression analysis was conducted.

Regression Analysis

A stepwise regression analysis was conducted using SPSS. *Discovering Statistics Using SPSS Third Edition* (2009) was used to guide the process and to provide acceptable ranges for the findings. It was done utilizing the backward method. A stepwise regression is a method by

which each a time variable is added to the equation a test is conducted to determine and eliminate the least useful variable (Field, 2009, p. 213). The backward method begins by putting all variables in the model and then calculates how much each contributes to the model based on the significance of its t-test value. If the variable does not meet the significance requirement, in this case $p < .05$, it is removed and the remaining variables are reassessed. Stepwise regression was chosen because of its ability to more easily explore data and the backward method was chosen because it is less likely to create a situation where a variable is found to be significant because another variable is held as constant (Field, 2009, 212-213).

Age, education level, and the item “Interior plant maintenance is a masculine recreational activity” were removed from the model due to lower than acceptable t-test values. Positive interest, personal yearly income, and the plant efficacy score were the most likely to affect the number of plants. Table 6 highlights which variables were shown to be related to the number of plants participants had at home and which were excluded due to insignificant t-test values.

Table 6.

Backward Stepwise Regression Analysis of Variables Predicting Number of Plants at Home

Model	Variables Entered	Variables Removed	Method
1	Interior plant maintenance is a masculine recreational activity, Personal Yearly Income, Positive Interest, Education Level, Plant Efficacy Score, Age		Enter
2		Age	Backward (criterion: Probability of F-to- remove \geq .050).
3		Education Level	Backward (criterion: Probability of F-to- remove \geq .050).
4		Interior plant maintenance is a masculine recreational activity	Backward (criterion: Probability of F-to- remove \geq .050).

Field (2009) suggested a number of tests before drawing conclusions about a regression model. One is the Durbin-Watson test, which examines the serial correlation between independent errors by testing for correlation between adjacent residuals. Durbin-Watson test results range from 0-4 with 2 indicating no correlation between the residuals. The Durbin-Watson test score for the regression model was 1.97. This score demonstrated that it is almost certain the assumption of no collinearity had been met (Field, p. 236).

Field (2009) presented a guide to assessing the assumptions of multicollinearity that can also be used to check regression analysis. Variance inflation factor and tolerance are two measures that can be used to assess a regression. "Variance inflation factor indicates whether a

predictor has a strong linear relationship with the other predictor(s)” (Field, p.796). Field reported that if the average variance inflation factor (VIF) is substantially greater than one the regression may be biased according to Bowerman and O’Connell (1990) (Reported in Field, 242). If tolerance is below 0.1 a serious problem is indicated. If VIF values are below 10 and the tolerance statistics are above 0.1 it is safe to conclude that there is no collinearity within the data (Fields, 242). Based on these guidelines, the regression model did not exhibit multicollinearity.

Table 7.

Summary of Regression Analysis for Predicting Men Growing Plants

Statistic		Positive Interest	Personal Yearly Income	Plant Efficacy Score
Mean		2.91	3.14	70.76
<i>SD</i>		1.36	2.28	22.02
<i>Adjusted R</i> ²	.30			
<i>t</i>	-4.38*	5.69*	3.59*	2.23*
<i>SEB</i>	.361	0.08	0.04	0.01
β		.39*	.23*	.15*
Tolerance		.861	.952	.838
VIF		1.16	1.05	1.19

Note. *Significant at $p < .05$

Based on this regression analysis outlined in Table 7, positive interest, plant efficacy scores, and personal yearly income explained a significant proportion of the variance in the number of plants participants at home, $R^2 = .30$, $F(1,171) = 25.88$, $p < .05$. They accounted for thirty percent (30%) of the variance in the number of plants participants had at home.

By examining the standardized betas of the model it was possible to examine which variables had more of an effect. Standardized beta, “...is the change in the outcome (in standard deviations) associated with a one standard deviation change in the predictor” (Field, 781). In other words, as positive interest, personal yearly income and plant efficacy scores increased so

did the likelihood that the number of plants will increase. Positive interest was the most important predictor of men having interior plants ($\beta = 0.39$, $t(171) = 5.68$, $p < .05$). Personal yearly income played a secondary role ($\beta = 0.23$, $t(171) = 3.59$, $p < .05$) and the plant efficacy score was a significant, but less important predictor ($\beta = 0.154$, $t(171) = 2.23$, $p < .05$).

Participants' Perceptions of Self-Efficacy

The plant efficacy scale revealed that participants perceived themselves as being able to tend interior plants. The mean score of all items among all participants was close to seventy percent (70.7%). This means that participants on average believed they were seventy percent (70%) certain they could do all the listed activities. In regard to specific activities, the highest mean scores dealt with participants' certainty that they could pot a plant and find necessary knowledge to ensure plant survival. On both of these items, the mean scores were above 80%. Participant responses are outlined in Table 8.

Table 8.

Percentage of Responses, Mean and Standard deviations of Plant Self-Efficacy Scale Items (N=210)

Statement Item	0%	10	20	30	40	50	60	70	80	90	100%	Mean	Sd
Pot a plant	1.4	1.4	0.9	2.8	3.3	4.7	3.8	8.1	15.7	9.0	48.5	82.1	24.2
Identify good plants for specific interior environments	6.6	9.5	0.1	11.4	9.0	7.6	10.9	9.5	8.5	6.1	10.4	49.9	30.9
Keep a plant alive for a month	0.9	4.2	0.4	2.3	2.3	7.6	4.7	10.0	11.9	19.5	34.2	78.3	25.3
Find necessary knowledge to ensure plant survival	2.8	0.4	0.9	2.8	1.4	3.3	3.8	9.0	14.2	16.1	44.7	82.7	24.0
Keep a plant alive for six months	3.3	3.3	4.2	2.8	7.6	6.6	5.7	12.8	13.3	13.3	26.6	70.1	29.1
Maintain a watering schedule	3.3	2.3	3.8	3.3	3.8	11.4	3.3	12.3	14.2	12.8	29.0	71.9	28.4
Keep a plant alive for one year	5.7	5.7	5.7	8.0	3.3	8.0	8.0	10.9	11.4	9.0	24.2	63.4	32.4
Prune or trim a plant if necessary	1.9	4.2	5.2	6.6	7.1	7.6	7.6	8.5	12.8	15.2	22.3	67.3	29.3

Participants' certainty that they could keep a plant alive for a given period of time decreased as the length of time increased. The mean percentage for keeping a plant alive for one month was around seventy-eight percent (78.4%), but dropped to roughly sixty-three percent (63.4%) when the participants were asked their certainty in being able to keep a plant alive for a year. Participants were least certain in their ability to identify good plants for specific interior environments. The mean percentage indicated that they were only about fifty percent (49.9%) certain that they would be able to pick a good plant for a particular interior space.

Component Analysis

Using SPSS to perform a principal component analysis, only one component emerged from the eight item plant efficacy scale. The factor loadings associated with this component can be found in Table 9. The Cronbach alpha score for this scale was .910. Based on these findings, the scores from the eight items were summed and averaged into one score which was labeled as plant efficacy score. Participants' plant efficacy scores were used in statistical calculations and were used in the correlation and regression analyses outlined in Tables 5-7.

Table 9.

Component Analysis of Plant Self-Efficacy Scale

Scale Item	Component 1
Pot a plant	.601
Identify good interior plants	.589
Keep plant alive month	.881
Find plant knowledge	.773
Keep plant alive six months	.923
Maintain watering schedule	.827
Keep plant alive year	.883
Prune or plant	.788

Correlation Analysis

Interesting insights about the role of self-efficacy in men's leisure choice to tend plants can be gleaned by examining the correlation analysis results found in Table 5. Table 5 revealed that a participant's plant efficacy score did have a significant positive relationship with the

number of plants he had at home ($r=.326, p<.05$). Table 5 also revealed that the highest significant positive correlation involving participant's plant efficacy score was with their Positive interest ($r=.368, p<.05$). The relationships between plant efficacy and two socio-demographic characteristics age ($r=.254, p<.05$) and personal yearly income ($r=.217, p<.05$) were also significant.

A negative correlation was found between plant efficacy and participants' Perceptions scores ($r=-.234, p<.05$). This would seem to suggest that as a person's plant efficacy score increased he more strongly disagreed that there were perceptions about men based on their involvement with interior plants. While the Perceptions score was not found to correlate to the number of plants men had at home, plant efficacy was. This could indicate that perceptions of efficacy are more important to individuals than perceptions of masculinity when they make leisure choices involving interior plants.

As Table 5 outlined, plant efficacy was significantly and positively correlated to both positive interest ($r=.368, p<.05$) and "Interior plant maintenance is a masculine recreational activity" ($r=.324, p<.05$). Through these correlations it is possible to say that within this sample there were positive relationships between plant efficacy, positive interest and the number of plants at home. Because it was found to correlate with the number of plants at home, plant efficacy was included in further analysis.

Regression Analysis

As is demonstrated in Table 7, plant efficacy was found to be a significant contributor to the proportion of variance when a backward stepwise regression was performed on the independent and dependent variables. Plant efficacy was one three variables which together accounted for thirty percent (30%), $R^2 = .30$, $F(1,171) = 25.88$, $p < .05$ of the variance, as is demonstrated in Table 8.

While plant efficacy may have had the least predictive impact on the number of plants men had at home, it was still significant ($\beta = 0.154$, $t(171) = 2.23$, $p < .05$) as is demonstrated by Table 10. Statistical analysis of plant efficacy scores in relationship to the number of plants indicated a small relationship between increases in plant efficacy scores and increased number of plants, but an analysis of the responses demonstrated that a lack of perceived efficacy with plants kept men from having plants.

Thematic Analysis of Open Ended Responses

For the purpose of further investigating how perceptions of efficacy affected men's decisions involving interior plants, a conceptual matrix was utilized to explore underlying themes. Very clear themes emerged from the analysis regarding the perceptions that men had about plants and the reasons that they did not have plants. I think there is much to be learned from investigating the negative perceptions that men had about plants, as many of these are linked back to the processes that determine perceptions of efficacy.

After I had explored the participants' responses and themes had been created, I went back to the literature about self-efficacy and compared the themes to the processes that limit perceptions of efficacy. Each of the three themes that emerged from the conceptual matrix seemed to exemplify a certain process related to self-efficacy. While there is overlap in the

comments regarding three of the processes, it became clear from examining the themes that affective processes were not playing a great role in limiting men's involvement with plants. Affective processes are those that deal with a person's perceived ability to deal with the stress associated with an activity. Because the mean plant efficacy score was fairly high, over seventy percent (70%), it was not surprising that the men's comments did not reveal a fear of failing at growing plants. I also believe that another reason affective responses did not contribute greatly is that there would seem to be few negative consequences to participants if a plant did die.

Participants felt that plants required too much time and attention

The theme that emerged most strongly from the analysis of responses was that men felt that plants required too much of their time. Also in this theme was the belief that plants required more attention than the participants had time to give them. Among those respondents who indicated that they did have plants, no one commented on the amount of time that plants required or that plants required attention. Comments from those without plants indicated a clear perception that plants were time-consuming. Some examples are: "It's time consuming and I like to keep my surroundings simple and plain"; "It takes a time commitment that I am not ready to make"; " Busy doing other things"; "I travel a great deal and do not have the time"; and, "I'm not at home enough".

These comments shed light on how selection processes related to self-efficacy affect if men tend interior plants. Selection processes are those processes that deal with people making choices based on what they feel they can handle. In many of these comments, it is clear that the individual does not feel they have the time to care for plants and so they do not.

Participants did not view plants as beneficial

A second theme that emerged from analyzing participant responses was that there was a group of men who did not see plants as valuable. These men reported that there was not enough value to be gained from plants to justify being involved with them. Some comments reflecting this theme are: “I am lazy and unmotivated to have them. I would probably ignore them and they would die”; “I do not currently have interior plants because the effort required to maintain them does not justify the perceived benefit”; and, “I do not have an interior plant because I don’t find them particularly valuable. Most indoor plants aren’t edible. I enjoy going outside and seeing the plants and scenery, but it is a lot less demanding to have outdoor plants”.

Motivational processes are those that govern how much effort people are willing to put into an activity. These are often based on how much the participant feels they can gain or lose from participating in an activity. It is clear through the comments identified above that some participants simply did not feel that plants provided a great enough benefit for them to become involved with their care.

Participants felt that specific circumstances kept them from having plants

This theme included comments that did not portray plants negatively; rather, they identified circumstances or conditions that men identified as reasons they did not tend interior plants. These included situations like a participant’s life stage, his living arrangement, and one comment dealt with his financial situation. Some examples of these comments are: “I do not have interior plants mostly because I do not care to decorate my apartment nicely since it is very temporary and trashed by my roommates regularly”; “We have cats. They eat plant material and throw up around the house. I’d rather maintain outdoor plants than indoor plants”; “Cost of purchase and moving so often”; “I do not have interior plants because of lack of space and time”;

“No need for them now. Someday I will”; and, “I have never considered it in college. Probably once I’m married.”

Cognitive processes are those related to how individuals visualize and plan their involvement before an activity occurs. In each of the comments dealing with specific circumstances, it seemed that the participant had thought through why they did not have plants and have visualized scenarios that kept them from tending plants at the current time.

With an understanding of the literature, theoretical perspectives, and the findings of this study it is now possible to move into a synthesizing discussion of the research goals.

CHAPTER 5

DISCUSSION

Summary of Findings

I conducted this research for the purpose of exploring how participants' perceived benefits from interior plants, perceptions of masculinity, and perceived self-efficacy, as it related to interior plants, may have contributed to them having interior plants. Through the comparative analysis of statistical and written responses several key findings emerged.

The first was that the participants did perceive that a man could benefit from including plants in his interior environment. In addition to the benefits from having passive encounters with interior plants, participants reported that there were benefits associated with actively tending and growing interior plants. The primary benefits identified from passive encounters with plants were aesthetic and air quality improvements. These types of comments were consistent with previous studies (Bringslimark, Hartig, & Patel, 2007; Doxey, Waliczek & Zajick, 2009). Also consistent with the literature, was that among those men who actively engaged with growing plants as part of their leisure key benefits reported were a lessening of stress and an increase in personal satisfaction from helping the plant grow (Waliczek, Zajicek & Lineberger, 2005; Soderback, Soderstrom & Schalander, 2004).

Interesting new findings emerged from participants who mentioned that plants enriched their lives by being a vehicle for increased familial interaction and as gifts or mementos of significant life experiences. While familial relationships have been explored in conjunction with gardening activities, I did not discover evidence that familial relationships and interior plants had been as thoroughly explored through previous studies. Among the participants in this study, several mentioned how interior plants were a part of familial interaction. Two such examples

were: “I have a bamboo that was a competition with my wife’s bamboo to see who could grow theirs tallest. I won!” and, “We have plants because they enhance the decor of the house and because it is satisfying to help cultivate the growth of plants”. These comments, and others like them, demonstrated that among some of these participants interior plants were part of family leisure.

A second interesting benefit that was mentioned by some participants was that they appreciated interior plants as gifts and reminders of special occasions and people. Several participants mentioned that they had received crown of thorn plants as wedding gifts. Some participants mentioned that they had received interior plants as anniversary and other gifts. One participant wrote of plants as a way to remember those who had died, “Funny story...I save plants from funerals of loved ones. A good lasting memory of them. Other plants were gifts.” Responses, such as these, are new benefits of interior plants that have not been widely explored in previous studies.

Another key finding of this study was that perceptions of masculinity did not impact participants growing interior plants. Perceived masculinities did not affect if men grew interior plants. It was interesting to note that while 42% of the participants scored the item “Interior plant maintenance is a masculine recreational activity” as a two or lower with one being strongly disagree, 34% of the participants also disagreed with a two or lower to the item, “People treat men who tend interior plants differently”. Some participants did not seem to feel that men were treated differently for engaging in an activity that might not be viewed as masculine by society. Among the participants' written responses, not a single comment directly stated that the man was or was not growing interior plants based on it making him appear more or less masculine to either society or himself.

Participants' responses would also seem to indicate that many of them are not making their leisure choices based on the opinions of others. While 74% of the participants indicated that they agreed with the item "People have strong perceptions about men based on their recreational activities" with a four or five, 68% of the participants indicated a two or lower to the item "When I choose recreational activities I consider how others will view my participation". Five represented strongly agree and one was strongly disagree. The majority of participant responses seem to indicate that while these men were aware of societal perceptions regarding masculinity and leisure activities, they considered their own beliefs to be the most important.

These findings were consistent with some written responses from the participants. While many participants wrote that they felt others might view tending interior plants as less masculine, very few of them reported feeling that way themselves. A far more common type of response to the question of how they personally felt about men growing interior plants was, "It's whatever, if they like doing it then they should do it for themselves and not worry about other people's opinions."

These findings support some theories of gender more than others. Some participants' comments supported the ideas of blurrily defined social roles. When asked how others felt about men tending interior plants: "Similar to stay at home dads or guys that help with chores. It is widely accepted except by macho men"; "I feel that the way men are perceived by others has little to do with their involvement with interior plants. However, I would guess women may perceive a man who tends interior plants to be more nurturing and other men might perceive a male interior plant tender to be feminine"; and "I don't think perception is strong either way. I think on average that men are perceived less masculine if they have interior plants, but not if they have plants outside." These comments seem to acknowledge theories that suggest that there is a

societal belief that what a person does affects him being perceived as gender appropriate.

However, the findings also suggest that ideas about masculinity that are restrictive toward an individual's ability to freely choose his activities because of gender may not be correct. Based on their responses to the scale items and written responses, I do not believe that many of the men in this study felt that society was in control of and/or limiting their leisure choices. Some findings of this study argue against those gender theorists who have made arguments that gender roles are constructed as a result of repeated exposure to and behavior expectations from societal pressures (Scott, 1986; Messner, 1990; Butler, 1993; Connell, 2005). Rather, some findings of this study suggest that some men are fully capable and comfortable making individual leisure choices and deciding what defines masculinity. A comment that seems to most succinctly express this idea was: "I see nothing wrong with it. Whether or not a man grows plants does not define masculinity to me".

I would argue that the men who participated in this study had many different ideas about what determined masculinity. There was not one all-encompassing idea of masculinity; rather, masculinity was an individual concept. There were many masculinities presented by the participants of this study. This is consistent with research that argues that gender roles are flexible.

Some participants seemed to feel that the masculinity of the man growing plants was determined by circumstances. I would argue that this is consistent with the argument that men's behaviors are not set in a particular masculinity, but rather selected from within a culturally appropriate set as suggested by Wetherell and Edley (1999). Participants wrote: "I think this is perceived as pretty neutral by adults – probably perceived differently by boys and teens with them leaning toward seeing it as a more feminine activity"; "I feel like it is normal to have 2-3

plants. When there gets to be more than that it probably seems a little out of the ordinary. They would probably perceive them as a little less masculine”; and, “If it is excessive, it could be seen as slightly odd, but is seen as normal in other instances.” These particular participants seem to be very conscious of acceptable levels of involvement with particular activities affecting gender perceptions.

Other participant responses seemed to support research by McHale, Dotter, and Kim (2009) that socialization pressures were different for people growing up in different circumstances. This was supported by the participant whose thought regarding men having interior plants was, “Depends on the household structure they were raised in. If it was acceptable for the male in the home to have plants I believe it would be perceived to be okay. But if not it would have a negative sense to it.” If a man’s masculinity is dependent upon the household structure they grew up in and the different socialization pressures they are exposed to, then I believe it can reasonably be argued that there are many different ways to be a masculine.

The responses to scale items and written comments of many of these participants suggests that they are cognizant that society is judging them based on their leisure activities, but that their definitions of what it means to be masculine are flexible and independently determined. Many of these men did not feel that maintaining interior plants impacted a man’s gender even though some of them did not view maintaining interior plants as a masculine leisure activity. I believe many of the participants would agree with McCann, Minichiello and Plummer (2009) who wrote, “There are many ways to be a man, and different ways in which boys and men learn to become one” (p. 202).

This study raises issues about gender as a unit of analysis in leisure research. First, future studies should examine the use of gender binaries in leisure research. Research focused on how gender affected leisure choices and opportunities has often explored gender as a feminine/masculine binary, especially in the area of leisure constraints (Henderson, 2005; Shaw, 2007; Crawford & Godbey, 1991; Hubbard & Mannell, 2001; Skowron, Stodolska, & Shinew, 2008). This study indicated that participants' perceptions of gender were far more layered and contextually determined than a simple binary could hope to investigate. Also, there should be a consideration of if leisure activities are truly viewed the same by society and individuals. While some responses indicated that participants saw interior plant maintenance as more or less masculine, others clearly did not. That there was such a wide range of responses toward this one activity suggests that commonly held beliefs involving leisure activities as gendered in nature may need to be questioned. There may not be men's and women's activities; rather, leisure activities may simply be activities not related to gender when viewed through the lenses of individuals.

Future studies examining if and how men, women, and transgender populations consider gender when making choices about recreation could provide important insights for the field of leisure. These studies could contribute insights into the constructed nature of gender and how leisure can play a role in empowering individuals who wish to live outside societally-perceived gender roles. Roster (2007) found that women who engaged in riding motorcycles as a recreation choice found empowerment from gender restrictions through leisure. In her conclusion, Roster wrote of the women, "What seemed to unite and empower these women was that they were literally *redefining* by their individual and collective actions and attitude the meaning of the word 'macho'" (p. 458). These women were able to attribute new meanings to the concept of gender

that were not based on their perceptions of how society viewed an activity; instead, these empowered women shared meanings that were based on their lived experiences, and leisure satisfaction with their choices.

While no comments were found among the participants of this study indicating that they felt empowered by their participation with interior plants, empirical studies should be done to determine if there are empowering leisure activities for men. It can be hoped that leisure activities, like motorcycle riding for the women in Roster's study, will contribute to empowering both women and men to deconstruct stigmas and stereotypes so that everyone can benefit from a wider array of leisure offerings.

The final research goal was to explore how self-efficacy, as it was related to interior plants, affected men's choice to tend plants as a leisure activity. It was found through statistical analysis that a participant's perceived plant efficacy did affect if he maintained interior plants. There was a statistically significant relationship between efficacy perceptions and men tending interior plants. As participants became more certain they could tend plants, they did.

There was also a strong relationship between individual's plant efficacy scores and the level of positive interest they reported in maintaining interior plants as a leisure activity. In fact, positive interest accounted for more variance in the sample than any other variable. This is consistent with previous leisure research examining how positive interest and self-efficacy affect participation in leisure activities. Studies, primarily focused on active leisure, have explored the relationship between interest, self-efficacy as a motivator, and actual participation. Tsai and Coleman (2009) found that, "Self-efficacies associated with participation in regular active recreation tended to influence students' interest in active recreation rather than having a direct influence on participation" (p. 377). The findings of this study are similar in highlighting the

importance of positive interest. Based on the correlations between participants' plant efficacy scores, positive interest and number of plants at home it is clear that they are related. Positive interest and plant efficacy score were significantly correlated ($r=.368, p<.05$). And, while there was a positive correlation between the plant efficacy score and the number of plants at home, ($r=.326, p<.05$) the correlation between positive interest and the number of plants at home ($r=.428, p<.05$) was stronger. Positive interest also had the highest standardized beta weight of the three variables found to be statistically significant during the regression analysis ($\beta = 0.39, t(171) = 5.68, p<.05$).

This has practical implications for future leisure research and leisure practitioners. While self-efficacy is often used as a variable in exploring leisure choices, the participant's level of interest in the activity is not also simultaneously measured. The complex relationships that may exist between the level of interest, perceptions and leisure choices merit future research. Recreation practitioners should also be interested in exploring the relationship between efficacies and positive interest. If practitioners can find ways to increase the public's sense of efficacy in relation to specific leisure activities it may be possible to encourage and increase positive interest about leisure offerings. The hope would be that as positive interest in leisure offerings increases so would involvement. This research does not directly explore this relationship, but does add to the literature and provides another impetus for further exploration.

Limitations

The findings of this study are limited in several ways. One, the sample was not randomly selected and; therefore, are not generalizable to all men. While I feel it is important that no sex be essentialized, I do realize that future studies that offered generalizable findings may provide

benefits to practitioners as they consider strategic planning and policies related to leisure offerings.

A second weakness is that there is no way for me to explain how personal yearly income was linked to men growing plants. I could make a cognitive connection between the three socio-demographic indicators that correlated with each other. As a participant aged and achieved higher levels of education, his personal yearly income increased. This made sense to me. But why personal yearly income was the only socio-demographic variable that emerged as predictive of a man tending plants was beyond me. Participant responses were reexamined after the regression was performed to discover if any additional information could be gleaned. It did not prove possible to offer suggestions based on the responses. Only three participants mentioned finances in their responses, and only one of them was specifically related to the cost of plants. Future studies examining how personal yearly income affects the leisure choices made by men might shed light on this study.

There were statistical and data collection considerations that could be considered limitations. The low mean number of plants (1.14) and the variance of the sample could have affected the findings. While the distributions of socio-demographic characteristics were within acceptable ranges of skewedness and kurtosis, it is noted that the population did not fit perfectly on a normal distribution curve. Also, some participants were recruited at outdoor venues, but the questionnaire dealt with interior recreation. This could have affected the results.

As a final thought as to the limitations of this study, there are several things I would do differently if I were to repeat this study. First, I would conduct short interviews with the participants. There were many insightful conversations that took place as I conducted this study between the participants and me. These men had a great deal to say about masculinities, plants,

and their perceived abilities in a wide variety of leisure fields. These stories could provide much deeper understandings of how gender and efficacy affect the lived experiences of individuals. However, because I did not collect the data systematically it was not used for analysis.

I would also use a more focused question to ask the participants for how many plants they were the primary caregiver. While this study was interested in a preliminary exploration of men's perceived benefits from interior plants, future studies might make it a point to ascertain if responses are referring to the number of plants in the home, or to the number for which the population being studied is the primary caregiver.

Conclusions

The purpose of this research was to explore men's perceptions of interior plants as a leisure choice. I found that among men who participated in the study there were clear perceptions that plants are beneficial in interior environments. I found that perceptions of masculinity did not significantly impact most participants' choices to grow plants. Further, I found that some participants perceived the world in terms of multiple and varied masculinities. There was not one all-encompassing definition of what it means to be masculine. I found that how certain a participant was that he could successfully tend plants was related to his behavior in regard to growing plants.

There were two additional findings of interest. One, positive interest in plants as a leisure activity was the greatest predictor of if the participant tended plants. While this may seem like common sense, it does have implications on leisure choice. The second finding was that personal yearly income was a significant factor in participant's choice to grow interior plants.

In conclusion, I believe this study demonstrated that individuals do not view gender as an insurmountable restriction from society that limits individuals into separate activities. Viewing

gender as ever-changing and individually understood, based partially on perceptions of efficacy gained from lived experiences, empowers individuals to make more choices about what they include in their leisure choices based on their unique interests.

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APPENDIX A

INSTITUTIONAL REVIEW BOARD LETTER OF APPROVAL

UNIVERSITY OF ILLINOIS
AT URBANA - CHAMPAIGN

Office of the Vice Chancellor for Research

Institutional Review Board
528 East Green Street
Suite 203
Champaign, IL 61820

April 16, 2010

William Stewart
Applied Health Sciences Admin
Leisure Studies
104 Huff Hall
M/C 584RE: *Masculinity Self-Efficacy and Growing Interior Plants as Leisure*
IRB Protocol Number: 10528

Dear William:

Thank you for submitting the completed IRB application form for your project entitled *Masculinity Self-Efficacy and Growing Interior Plants as Leisure*. Your project was assigned Institutional Review Board (IRB) Protocol Number 10528 and reviewed. It has been determined that the research activities described in this application meet the criteria for exemption at 45CFR46.101(b). Category #2 applies because the study involves the completion of a survey by men related to growing plants as leisure activity. Interviews are audio recorded and coded for potential follow-up, however any disclosure of responses would not reasonably place the participants at risk of criminal/civil liability nor would it be damaging to their financial status, employability or reputation.

This determination of exemption only applies to the research study as submitted. **Exempt protocols are approved for a maximum of three years.** Please note that additional modifications to your project need to be submitted to the IRB for review and exemption determination or approval before the modifications are initiated. To submit modifications to your protocol, please complete the IRB Research Amendment Form (see <http://irb.illinois.edu/?q=forms-and-instructions/research-amendments.html>).

We appreciate your conscientious adherence to the requirements of human subject research. If you have any questions about the IRB process, or if you need assistance at any time, please feel free to contact me or the IRB Office, or visit our website at <http://www.irb.illinois.edu>.

Sincerely,

Sue Keehn, Director, Institutional Review Board

c: Jeremy Robinett

APPENDIX B

PARTICIPANT CONSENT FORM

Consent Form

Project Title: Why men do or do not grow houseplants

Research involving interior plants is being conducted by Dr. William Stewart and a graduate student in the Department of Recreation, Sport and Tourism at the University of Illinois. The purpose of the research is to explore processes and leisure time decisions that affect the extent to which men become involved in leisure activities involving interior plants. The research is focused on the leisure activities of men between the ages of 18-65 in the state of Illinois.

Information is being gathered through the attached questionnaire and four open ended questions. Participation in the research is voluntary. It is your right to discontinue participation at any point and/or to not answer any questions you do not wish to answer. The attached questionnaire should take around 15 minutes to complete. The open ended questions will be audio recorded for transcription purposes or the participant may write answers. Only if necessary, contact information will be used to clarify quotes and/or meanings to the open ended questions and done either by phone or email and should take less than 10 minutes. Phone clarifications will not be audio recorded. Agreeing to be contacted for clarification is not required for participation in this research.

While participants will not gain directly from participation regarding their history and reflections on their relationships with interior plants, the research will shed light on male participation and barriers to growing plants as a recreational opportunity. All participants will receive a small token of appreciation. All participant responses will be held in strict confidence by the researcher. Confidentiality will be protected through the use of pseudonyms in any publication and public presentations.

For questions regarding this research, please contact Dr. William Stewart (wstewart@illinois.edu) at 217.244.4532 or graduate student, Jeremy Robinett (robinett@illinois.edu) at 217.333.2728. If you have any questions about your rights as a participant in this study, please contact the University of Illinois Institutional Review Board at 217-333-2670 (collect calls accepted if you identify yourself as a research participant) or via email at irb@illinois.edu.

A copy of this form will be provided to you.

I agree to participate in a study regarding tendencies of men to grow houseplants.

Printed Name

Signature

Date

I give permission for the researchers to contact me to clarify my responses on the survey, if necessary.

YES _____ NO _____

I prefer to be contacted via Email: _____ Phone: _____

Participant # _____

Please rate how certain you are that you could do the activity listed below. All activities deal with interior plants. Please rate them on a scale of 0 (cannot do at all) to 100 (highly certain can do.)

	0	10	20	30	40	50	60	70	80	90	100	
	Cannot do at all				Moderately certain can do				Highly certain can do			
Pot a plant	0	10	20	30	40	50	60	70	80	90	100	
Identify good plants for specific interior environments	0	10	20	30	40	50	60	70	80	90	100	
Keep a plant alive for a month	0	10	20	30	40	50	60	70	80	90	100	
Find necessary knowledge to ensure plant survival	0	10	20	30	40	50	60	70	80	90	100	
Keep a plant alive for six months	0	10	20	30	40	50	60	70	80	90	100	
Maintain a watering schedule	0	10	20	30	40	50	60	70	80	90	100	
Keep a plant alive for one year	0	10	20	30	40	50	60	70	80	90	100	
Prune or trim a plant if necessary	0	10	20	30	40	50	60	70	80	90	100	

APPENDIX C
RESEARCH QUESTIONNAIRE

Please rate each statement based on a scale of 1 (strongly disagree) to 5 (strongly agree).

	1	2	3	4	5
	Strongly Disagree				Strongly Agree
People have strong perceptions about men based on their recreational activities.	1	2	3	4	5
I perceive men who tend interior plants differently than those who do not tend interior plants.	1	2	3	4	5
People think I should do masculine activities because I am a man.	1	2	3	4	5
People treat men who tend interior plants differently.	1	2	3	4	5
Interior plant maintenance is a masculine recreational activity.	1	2	3	4	5
I am not interested in interior plants as a recreational activity.	1	2	3	4	5
When I choose recreational activities I consider how others will perceive my participation.	1	2	3	4	5

On a scale of 0 (0) to 5+ (5 or more) please answer the following questions.

How many interior plants do you maintain at home?

0 1 2 3 4 5+

How many interior plants do you maintain at work?

0 1 2 3 4 5+

Please answer the following questions by indicating the number of minutes you spend tending interior plants.

How many minutes per week do you tend interior plants at home?

0 30 45 60 90 120+

How many minutes per week do you tend interior plants at work?

0 30 45 60 90 120+

Questions

The final portion of the survey consists of four questions and will be audio recorded to ensure your comments are preserved correctly. Following the questions you may be contacted via your preferred method to clarify any researcher questions. If at any point you are not comfortable with the questions you may stop and your comments will not be used in the research.

Question 1 : Were you exposed to interior plants as a child?

Question 2: Why do or do you not have interior plants?

Question 3: How do you feel others perceive men who tend interior plants?

Question 4: How do you perceive men who tend interior plants?

AUTHOR'S BIOGRAPHY

In order to give readers an idea about who designed, conducted and interpreted this research, I wanted to take a few lines to introduce myself. The first thing a reader should know is that I grew up in southern Missouri along the banks of the Mississippi River. For those readers who don't know, Missouri is known as the Show-Me State. I am an action-oriented, show-me type of researcher who wants to know as much as possible about the lived experiences of others. I believe personal interactions are the best way to learn about others. While I do not believe I will ever completely understand another or his or her experiences, I do believe through interaction with them it is possible for us to create a shared understanding of the experiences we're exploring.

In my free time I enjoy being outside. I am an avid gardener, runner, and can often be found heading to the lake to fish during the summertime with a book in my hand. Toni Morrison and Charles Dickens are my two favorite authors. ESPN, specifically soccer games, and the Discovery Channel are what you might find me watching on television on a rainy day. Painting and appreciating music are also ways I spend my free time.

I am most interested in the study of leisure as a form of personal empowerment. I want to explore how individuals use leisure as a form of resistance to perceptions of sex, gender and sexuality. I want to explore how individuals develop and transform their identities through their choices of recreational activities.