HOME BREWING AND SERIOUS LEISURE: AN EMPIRICAL EVALUATION

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HOME BREWING AND SERIOUS LEISURE: AN EMPIRICAL EVALUATION

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THESIS ABSTRACT

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This study examines the serious leisure experience through the perspectives of cognition and affect for the home brewer of craft beers. This research offers evidence that brewing beer at home fulfills the established criteria of serious leisure (Stebbins, 1982, 1992). Home brewing is a serious leisure pursuit in which the already fine line between amateurs and professionals is more easily crossed and less easily defined; and empirical scales measuring the dimensions of motivation, satisfaction, and emotion are employed to glean a deep and quantitative analysis of this serious leisure activity. This study analyses descriptive statistics to create a demographic profile of home brewing participants.

Additionally, exploratory factor analysis of the developed components within the three scales was employed to gain a better understanding of those factors which drive both motivation and the satisfaction derived from the activity. Analyses of the correlation within the scales reveal the goodness of fit of the scale variables. The measurement of the participant's aggregate satisfaction scores has also been analyzed to determine the link between satisfaction and the likelihood to continue and recommend home brewing, ultimately offering predictive ability and indications of future behavioral intentions. The measurement of motivation and emotion will offer insight into the depth of self-identification and actualization that result from involvement in this serious leisure activity.

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TABLE OF CONTENTS

Page

LIST OF TABLES

Table Page

LIST OF FIGURES

Figures Page

Chapter I

Introduction

Overview

Acknowledged the father of serious leisure as a concept and avenue of social scientific investigation, R. A. Stebbins first articulated the idea of serious leisure in a conceptual paper written in 1982 (Stebbins, 1982) and devoted his academic career to advancing the understanding of leisure pursuits relative to the emerging psychological and sociological trends of the late 20th century (Iso-Ahola, 1980). Home brewing, a propitious merging of art (flavor, color, and texture) and science (fermentation, systematic processes, and sanitation methods), is an ideal endeavor through which to measure serious leisure and modern amateurism (Stebbins, 1977) and its practitioners in terms of cognition and affect. The blend of both the creative and formulaic aspects of home brewing allows the practitioner an outlet for both of these behavioral aspects, and further gives insight towards the understanding of causes and correlations into behavioral factors and outcomes across the full spectrum of intellectual activity. Stebbins' construct asserts that serious leisure participation allows for the fulfillment of human potential through the search for resonance in regards to the self: expression, gratification and identification, in an increasingly technological world (Stebbins, 1982). The effect of leisure on the conceptualization of the self is strongly supported in other research (Csikszentmiihalyi & Kleiber, 1991).

The literature divides leisure into categories. Serious leisure (Stebbins, 1982) defined as the "systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for a participant to find a career there in the acquisition and expression of special skills and knowledge" (p.3). Career in the discussion of serious leisure is further defined as a moral career which is not limited to occupations but that is available in "all substantial and complicated roles" in life (p.3). In contrast casual leisure is defined as an immediately, intrinsically rewarding, relatively short-lived and pleasurable activity requiring little or no special training to enjoy it (Stebbins, 1997). Usually hedonistic in origination (Stebbins, 2001), these activities are susceptible to the cycles of pursuit and boredom (Iso-Ahola & Weissinger, 1987). Project based leisure has recently been identified as leisure which carries the intensity of the serious leisure aspect but is short-lived in duration and moderate in complexity (Stebbins, 2007).

Purpose of the study

The reasons for the examination of serious leisure are both timely and compelling. In times of economic turmoil and an unpromising job market, the traditional method of developing satisfaction and fulfillment through employment can become problematic. Reduced selection, or worse yet, loss of employment entirely forces individuals to look elsewhere for fulfillment and satisfaction (Miller, 1991). The tough economy merely exacerbates a trend already becoming apparent to researchers, namely the gradual shift in both the meaning and importance of work in the current society (Ghazzawi, 2008; Herr & Cramer, 1988; Weiner & Hunt, 1983), where it has been found that the traditional role of

work as regards self fulfillment and identification is weakening. Add to this the increasing percentage of older populations throughout most of the developed world and the coming surge of the baby boom generation as they near retirement age and the primacy of fulfillment of the self through work becomes ever more remote as people transition from a working to a leisure career (McQuarrie & Jackson, 2002).

In so far as the interplay of work to leisure is understood there is support in the literature for the bi-directional affect of leisure most especially where there is positivity (Barnett, 2006). Leisure serves different individuals differently in supplying work/leisure congruency, one avenue is leisure mitigating work; the other through spillover and compensation, put simply leisure as an extension of work (Snir & Harpaz, 2002). The underlying hypothesis of serious leisure studies is that the career leisure activity can resolve this dichotomy by replacing the cultural norm of work's centrality (a prevailing western worldview regarding the importance of work as the definer of the self) while simultaneously supplying individuals the intrinsic hedonic role that leisure has been traditionally relegated to.

Increasingly, leisure pursuits are coming to be the vehicle through which the individual finds both fulfillment and the expression of self (Miller, 1991; Weiner & Hunt, 1983). This understanding has become main stream in the literature of career choice, career typologies, and career satisfaction and career counseling (Ghazzawi, 2008; Herr & Cramer, 1988; Holland, 1985, 1996; Snir & Harpaz, 2002). In conducting meta-analyses of counseling models (Kinicki, McKee-Ryan, Schriesheim, & Carson, 2002; H. Tinsley & D. Tinsley, 1986), the authors definitively illustrate the relationship between the

individual's degree of leisure activity commitment to their levels of mental health and overall life satisfaction; calling for the addition of leisure to a comprehensive model of career counseling. This claim is buttressed by the World Health Organization's inclusion of the opportunity for and participation in recreation and pastimes in their quality of life assessment (Richards, 1999). In fact the literature supports the idea that leisure satisfaction has been found to be the strongest influence on quality of life perception (Lloyd & Auld, 2002) in recent research. The importance of leisure is indeed international, where the concept of leisure as an entitlement, though differing culturally (money-intensive in Japan and the U.S. versus time-intensive in Europe), has become ingrained. Tourism research has expressed this deep etching as becoming a primal need, described by international agencies as a universal right to leisure (Urry, 1995).

The primary research purpose is to examine and shed light on home brewing as a serious leisure activity and to explain the emotion, motivation and satisfaction factors that influence its practitioners. Secondarily, the purpose is to explore the satisfaction derived from home brewing and how it relates to future behavioral intentions; namely, the likelihood of the participant to continue home brewing and to recommend the activity to others; becoming in effect an apostle of the activity, who spreads the good word and influences others to participate in this leisure career (Reichheld, Markey, & Hopton, 2000; Reichheld & Sasser, 1990). Finally, the purpose is to identify and describe who is engaged in home brewing as a serious leisure activity.

Existing scales have been employed, leisure satisfaction and motivation scales (Beard & Ragheb, 1980, 1983) as well as emotion (Russell, 1980) to allow statistical

analysis and tease out the inner relationships and levels of influence at work within the activity. Measuring motivation (cognition) and emotion (affect) illuminates the factors that cause leisure to be sought at all. Measuring satisfaction allows insight into the outcome of the activity. The experience affect has been analyzed to determine if the emotion generated is a predictor of the likelihood to continue brewing and to recommend it to others. Positive outcomes can signal decreases in boredom and dissatisfaction while lowering stress and anxiety. Negative outcomes can produce the opposite affect and if continual will lead to abandonment of the activity as the cost/benefit ratio is unsatisfying (Ragheb & Tate, 1993). Each key construct is examined through a comprehensive review of the literature as the basis for the subsequent statistical analysis.

Several research questions have been developed and have been empirically tested. The attendant theoretical and statistical evidence has been compiled and reported. It is the intention of the researcher that this project will lead to further research in the area of serious leisure studies.

Significance

Leisure has been a subject much studied for many decades and by many researchers. The conceptualization and study of serious leisure is much more recent (Stebbins, 1982, 1992) but still extensive. The underlying theory of serious leisure (Glaser & Strauss, 1967; Holland, 1985; Kaplan, 1960; Parker, 1983) and qualitative examination of different serious leisure participant groups such as golfers, magicians, etc. is comprehensive (Baldwin & Norris, 1999; Brown, 2007; Gibson, et al., 2002; Hastings, Kurth, Schloder, & Cyr, 1995; Hunt, 2004; I. Jones, 2000; I. Jones & Symon, 2001; Kane

& Zink, 2004; Orr, 2006; Stebbins, 1979). The aspects of what constitutes a serious leisure activity have been well defined and articulated by Stebbins in his seminal conceptualization and subsequent qualitative research using ethnographic technique has supported these assertions. Likewise, researchers have created leisure specific motivation and satisfaction scales (Beard & Ragheb, 1980; 1983) which have been independently tested and verified (Ryan & Glendon, 1998; Trottier, Brown, Hobson, & Miller, 2006; Weissinger & Bandalos, 1995) ; while Russell (1980) has developed the circumplex model of affect to measure emotion which has been applied to many differing activities and found both valid and reliable (Sorensen, 2008). Grounded Theory initially formulated by Glaser and Strauss (1967), in essence a hypothesis created after the examination of data, was used by Stebbins as the basis for the development of the serious leisure construct.

In a comprehensive review of the pertinent literature however, no study has been found which has applied the developed measurement scales to serious leisure pursuits generally, and home brewing in particular. This seems to be a weakness in the existing literature and an opportunity to add quantitative evidence to the serious leisure construct via the study of home brewing. This study will add to the literature by quantitatively evaluating the motivation and satisfaction factors of home brewers. The exploratory factor analysis technique was chosen to specifically examine the fit of the scales chosen relative to home brewing with subsequent adjustments tailored and retested to deepen understanding. Additionally, satisfaction scaling has been applied to predict the likelihood to continue home brewing and recommend the activity to others.

Research questions

This study postulates that home brewing meets the standards as described in serious leisure literature. The application of existing measurement scales and respondents' self-evaluation will uncover interrelationships between motivation, satisfaction, and emotion. This examination will allow for the following primary research questions to be answered: (1) What are the motivational, satisfaction, and emotive factors of home brewers; (2) does the brewer's satisfaction with the experience help explain the likelihood to recommend and continue to be engaged in the activity?

Definitions

The following definitions of terms are furnished to provide, as nearly as possible, clear and concise meanings of terms used in this study.

1. Brewing – The act or process of producing malt liquors (beer) through fermentation. A partial list, though not limited to types/styles of malt liquors include: ale, lager, pilsner, lambic (naturally fermented Belgian fruit infused), wheat, filtered, unfiltered, porter, and stout.
2. Home brewing – Amateur or hobbyist brewing occurring in non commercial location for purposes other than sales, e.g. inside the home, in a shed or workshop, in conjunction with a social group in a specified location.
3. Sea change – an idiom denoting a profound transformation, by any agency. Attributed originally to Shakespeare in The Tempest (Quinion, 2000).

4. Leisure career - Career in the discussion of serious leisure is further defined as a moral career which is not limited to occupations but that is available in "all substantial and complicated roles" in life (Stebbins, 1982, p.3).

Summary

In conclusion this chapter has provided both the overview and foundation for the subsequent work examining home brewing as a serious leisure activity. The purpose of the study and the specific research questions have been identified, as have the scales that have been employed in this study. The question of significance was addressed along with a description of the sample group. Terms used and potential limitations of the study were identified. The following chapter is a comprehensive review of the pertinent literature.

Chapter II

Literature review

Overview

The focus of this chapter is to provide a comprehensive review of the relevant literature to support both the research construct and the research questions developed for this study. Each aspect under scrutiny is laid out in a logical and systematic progression layering the different parts into a consistent whole. The foundation is a short history of brewing in the United States and a brief synopsis of the current state of the craft beer movement. The burgeoning number of commercial craft beer breweries and brew pubs will be explained through an examination of current numbers of breweries and market share and the current trends related to home brewing. This foundation sets the stage for an examination of the career aspects of serious leisure, and highlights the increasing blurring of the line, seen most acutely in home brewing, between career leisure and remunerative career endeavors. Career and individual typologies, counseling, and fulfillment literature will be included in this review. Serious leisure as a construct and as a research subject will be closely examined. The underlying framework on which the serious leisure construct was built as well as the body of general leisure research is explored to provide the supporting reasons for leisure pursuit and benefits derived from

it. This section includes a comprehensive look at several serious leisure research studies each using a different activity as an entry into understanding serious leisure.

The preceding chapter outlined the three important scales used in the present research study. This chapter includes sections defining emotion, satisfaction, and motivation, offering a full description of each along with confirmatory support from separate, independent research. The chapter concludes with a summary tying together the disparate elements under consideration.

Researchers in all the fields of human endeavor (social science, psychology, consumer behavior, business, etc.) have strove to understand the diverse elements of satisfaction and motivation. Understanding the driving forces of behavior and satisfaction (either confirmation or disconfirmation) and most importantly, what, if any, satisfaction feelings are of a durable and continuing nature has been a prime research focus. Increasingly, emotion though even more nebulous than motivation and satisfaction is coming to be seen as indispensible in understanding what drives human behavior and contributes to satisfaction/dissatisfaction outcomes. No longer considered noise emotions are now driving the research, most especially through creative and innovative advances in cognitive Neuroscience; often referred to as Neuroeconomics when applied to consumer behavior.

Beer

Brewing beer is a propitious blend of art and science. These two elements are usually manifested in different activities. The following example will aid in understanding the distinction. Cooking though grounded in technique, prizes creativity,

experimentation, and even serendipity as the highest form of the craft. Baking by contrast is formulaic and chemistry driven; precision and exactitude are the performance hallmarks for this endeavor. Brewing combines rigorous science (fermentation processes, microbiological and bacterial control, and in some instances cold filtering techniques) with a wide spread of variation based on personal taste, brewing method, and indigenous or imported ingredients.

The American beer myth states that German immigrants brought the brewing process to America, though beer production dates back to ancient Egypt (at least) and English style ales and porters were commonly drunk in pre and post revolutionary America. It is more correct to say that though beer was brewed from the earliest colonial times the lager style of beer was widely introduced by German immigrants and due to the lighter color and flavor profile became the dominant American choice by the mid 19th century (Ogle, 2006). Historically beer was regionally limited, distributable about as far as a horse-pulled wagon could travel in a day, with a short shelf life. Prior to prohibition over 2,000 of what we would today call microbreweries operated supplying their local markets (Carroll & Swaminathan, 1992). Paved roads, trucks, and refrigeration changed the industry which came to be increasingly consolidated with beer produced with the widest possible appeal (American lager). The Great Experiment, prohibition, finished the industry transformation. After ten dry years only the wealthiest brewing families retained the capacity, both financial and facility to start up again. In fact marketing and distribution became more important than the beer itself. As vast economies of scale were put in place consolidation within the industry ensued and advertising became the most

expensive ingredient of beer (Carroll & Swaminathan, 1992). By 1980 there were 45 breweries in operation in the United States (Ogle, 2006).

The number of small specialty brewers in the U.S. has increased dramatically since 1980; this sea change is linked to President Jimmy Carter's signing, in 1976, of legislation allowing home brewing, though it is still illegal in some states. The interest and perceived higher quality of the artisan made craft brews has spurred increased growth in the commercial side of brewing as well. Ironically and perhaps counter intuitively the growth in the number of small brewers has increased as consolidation among the large commercial brewers has continued (Carroll, 1985; Victor, Natsuko, & Horton, 2005). In 1997 for the first time the number of U.S. breweries exceeded that of Germany, the nation that still enjoys the strongest brewing tradition and the highest per capita consumption of beer worldwide (Carroll & Swaminathan, 1992). These authors quote from statistics supplied by the Institute of Brewing Studies which reveal that as of June 1997 there were 1,273 operational breweries in the U.S. versus 1,234 in Germany with the number of American breweries rising to 1,414 in 1999. These numbers highlight the incredible renewal of the brewing industry and the growing hunger of consumers for differentiation (Carroll, 1985).

The market has changed dramatically since home brewing legalization. Nearly every regional brewery, microbrewery, and brew pub traces its antecedents to home brewing (Carroll & Anand, 2000). The explosion of unleashed creativity due to legalization and the interaction of home brewing enthusiasts is well documented (Ogle, 2006). Currently, craft beer is a five billion dollar annual market capturing 5.4% of the

commercial dollar volume market share (Brewers Association, 2007). Home brewers quite justifiably consider themselves the creators of the craft beer movement and perceive themselves as craftsmen and the economic engine of craft beer.

Serious leisure construct

The theoretical underpinnings for Stebbins' work have been built on the foundational work of Kaplan (1960) and Parker (1983). These researchers defined and identified the leisure dimensions incorporated into the structure of serious leisure research. Kaplan who seminally defined the essential elements of leisure as: an antithesis to work as an economic function, with pleasant expectations and recollections, a minimum of involuntary social-role obligations, providing the psychological perception of freedom, with a close relation to the values of the culture, and the inclusion of an entire range spanning inconsequence to weightiness (Kaplan, 1960, p.22-24).

Kaplan further identified an element of play as intrinsic to leisure and certainly the post brewing opportunity for conviviality is inherent in home brewing as an activity. Leisure then is an activity, actively defined as such, by those engaging in it (Shaw, 1985). One person's therapeutically spent day planting, weeding; put simply tending the garden is another person's daily employment from which chess or other indoor pursuits might well provide the therapeutic leisure experience and other benefits of leisure (Driver, 2003). The motivation to engage in serious leisure, written to describe participants in Civil War re-enactments powerfully expresses the inner logic of participation shared by all serious leisure pursuits: "…a meaningful activity to sustain and enhance life-style

interests…through camaraderie, collective involvement, and a subjective understanding of authenticity" (Hunt, 2004).

The proactive expression of choice and the perception of freedom are critical to understanding leisure. Time, as it relates to our day to day life is said to have five dimensions (Parker, 1983, p.8-9).

1. The first of these time dimensions is remunerative work, which consists of securing subsistence, wage earning, and/or selling.
2. Secondly time is spent in peripheral work related activities such as grooming and commuting.
3. The third dimension is fundamental existence with the attendant elements of sleeping, eating, etc.
4. Fourth is non-work yet still not leisure per se, this consists of the gray areas such as family obligation, gardening (unless hobby related), or pet care. Pet care is an illustrative case in point. The daily activities of feeding and walking inherent in dog ownership is rightly considered a non-work obligation , but the much more demanding in terms of labor, time, and money inherent in the free choice of dog show participation is leisure and has been classified as a serious leisure activity (Baldwin & Norris, 1999).
5. Finally the fifth dimension which is leisure, an individual's true free time or time of choosing.

Societal changes such as dwindling career options, reliance on technology, etc. have led social scientists to speculate that serious "career orientated" leisure battles a

growing *ennui* of leisure boredom that is increasingly prevalent in today's society (Iso-Ahola, 1980; Iso-Ahola & Weissinger, 1987). Stebbins based his research and serious leisure conceptual statement on Grounded Theory and inductive reasoning as articulated by Glaser and Strauss (1967). Grounded Theory as described by Glaser and Strauss is the development of a theory from collected or observed data, what might be called a reverse engineered hypothesis creation. Inductive reasoning is conclusions drawn from observable inference. These ideas are the pillars on which qualitative research has been constructed. The value of qualitative research, especially in exploratory areas, is definitively defined by Eisenhardt (1989) who equates problem definition and construct validation from Grounded Theory and inductive reasoning to hypothesis-testing.

Within the context of serious leisure Stebbins describes three sub groups of participants:

1. Amateurs, who he describes as participants in an activity that is highly organized and in which professionals as well as amateurs engage (e.g. golf). For the amateur any remuneration is secondary to the pursuit itself. The participant is freer to renounce the activity than if it were a bread winning activity, in other words the obligation to engage is self-imposed. The modern amateur (Stebbins, 1977) becomes part of the Professional-Amateur-Public System, "serving a public and adhering to standards set and communicated by professionals" (p.586). Often these amateurs serve as the keepers of the historical flame and as the public advocates for the activity.

2. The second type is the hobbyist, one who engages in an activity with no professional counterpart, but whose commitment surpasses that of a casual dabbler (e.g. a passionate collector), with the activity being self-directed with no professional set of standards or formal guidelines.
3. Finally, there are the volunteers, whose activities carry the element of service; the participant combines self-interest with altruism/positivity (e.g. a museum docent or hospital volunteer). These participants might be described as the ultimate frequent visitors and the act of volunteering can often develop as a logical progression of a leisure activity (Stebbins, 2001) as well as when career constraints (e.g. retirement) influence the transition from a working career to a leisure career (McQuarrie & Jackson, 2002).

In so far as the interplay of work to leisure is understood there is support in the literature for the bi-directional affect of leisure most especially where there is positivity (Barnett, 2006). Leisure serves the individual differently either by supplying work/leisure congruency, that is leisure mitigating work; or through spillover and compensation, put simply leisure as an extension of work (Snir & Harpaz, 2002). All three categories of participation allow entry into a specialized social world, a critical component in assessing the seriousness of a leisure activity. Membership within the social world can be self-identified or formal with distinct sub worlds within the activity; for example contract bridge players who self-identify as casual bridge players or serious bridge players according to their perception of their own commitment level. Research

indicates that these "bridge players are not stages within a continuum of specialization but members of different social worlds (Scott & Godbey, 1994, p.293).

According to Stebbins (1992, p.6-7) there are six criteria identified that distinguishes serious leisure from casual leisure pursuits and for an activity to be classified as serious leisure:

1. The need to persevere - the requirement that the activity involves overcoming hardships and difficulty, often necessitated in attaining competence coupled with a significant investment in goal-related behavior over time.
2. The tendency to career – the requirement that the activity has meaningful and enduring pursuits shaped through their own histories, turning points, and stages of achievements.
3. The investment of significant personal effort - the requirement that expertise in the activity is achieved through gaining specially acquired knowledge, training, or skill. This criterion is the key dividing line between serious leisure participants and casual leisure enjoyers.
4. The activity must offer eight durable benefits consisting of: self-actualization, self-enrichment, self-expression, self-renewal or regeneration, accomplishment, self-image, self-identification (belonging), and lasting physical property resulting from the activity (e.g. stocks of craft beer). Additionally, Stebbins mindful of Kaplan's injunction that there must be an intrinsic element of play has added a ninth benefit that usually exists and is the only attribute shared with casual leisure, self gratification (pure fun).

5. Unique ethos – the requirement that the activity fosters the creation of a separate substrata social world created around the activity, which has coalesced into spheres of interest and involvement for the practitioners (Unruh, 1980).
6. Strong identification with the activity - put simply, the participants present themselves in terms of the activity.

There is significant research which supports this construct and these criteria (Brown, 2007; Gibson, et al., 2002) and perhaps most definitively by Gould, Moore, McGuire, & Stebbins (2008). Home brewing, with its blend of startup and continued investment, time commitment, trial and error processes, development of expertise over time, rigor of processes, and substrata social world (club memberships, regional and national fairs and competitions) amply meets the criteria established for consideration as a serious leisure activity. The dual durable benefits; pride of craftsmanship/accomplishment and an inventory of product suited to competitive and social outlet are inherent in home brewing.

Serious leisure careers

The connection to the level of commitment of the amateur in serious leisure activities has been comprehensively studied with a decidedly blurred line between amateur and professional; existing on the margin as Stebbins names this gray area (Gould, et al., 2008; Stebbins, 1977, 1979, 2004) and is particularly relevant to home brewing. As noted earlier home brewing as a leisure activity has afforded many individuals entry into the burgeoning world of commercially brewed craft beer through brew pub, microbreweries, and contract brewing. In essence these serious leisure

participants have turned their avocation into their vocation. Such brewing companies as the Anchor Brewing Company, Sam Adams, and Sierra Nevada best exemplify this transition (Ogle, 2006). The spirit of entrepreneurship and innovation described in the literature (Ottenbacher & Gnoth, 2005) provided by home brewing participants has revolutionized both the brewing industry and the consumer palette.

Career choice and satisfaction has been and continues to be an extensively researched subject. The foundational work of Holland (1985) on vocational choice using personality typology and environment closely parallel the defining criteria of the serious leisure construct. In this work Holland (1985) notes that individuals will prefer some activities over others leading to strong interests and the development of special competencies. The creation of personal disposition leads to thought perception and the eventual exercise of congruent actions. Holland's work in developing personal typologies highlights the similarity in the choice of both career and serious leisure activity. Specifically, those individuals seek fulfillment and strive to achieve personal goals through activity choice through what has been termed career architecture (C. Jones & Lichtenstein, 2000). This striving is based on the classic psychological rationale of seek/avoidance which explains the bi-directional reasons to pursue a work or leisure activity either positively (the activity as an extension) or negatively (the activity as a mitigation) of work or leisure (Emmons, Diener, & Larson, 1986). Adding further support to the fit between serious leisure and career choice, Holland's vocational typology matrix (Holland, 1996) has been adapted for use in leisure research (Holmberg, Rosen, & Holland, 1991) correlating type with leisure pursuit successfully. Confirmatory

research on both the typology matrix and congruency (Gottfredson & Holland, 1990) and the typology matrix as adaptable to leisure (Miller, 1991) has been conducted adding strong support to the validity of the matrix and its cross discipline application.

The striking parallels between the serious leisure and vocational research strengthen the underlying suppositions of career as the primary definer of serious leisure, and further that "congruence between the individual and the activity is an important predictor of fit and continuity" (Holland, 1985, p.4). The findings of fit and continuity in career choice; that an individual's choice of the activity is a form of self-expression squares neatly with Stebbins criteria that the participants presents themselves in terms of the activity.

All the literature reviewed offer robust support for the serious leisure theory of career. "…strong and fruitful parallels can be established between the general characteristics of leisure and work careers"(McQuarrie & Jackson, 2002, p. 42) with direct correlation between career literature and Stebbins six criteria (Fiona & Edgar, 2002): entering and developing a career often entails overcoming difficulties (perseverance) (Lent, Brown, & Hackett, 2000), career in the endeavor (C. Jones & DeFillippi, 1996), personal effort (Colarelli & Bishop, 1990; Iso-Ahola, 1989), durable benefit (I. Jones, 2000), and a unique ethos (corporate culture leading to self-identification (Wanous, 1980).

Classic work/leisure theories held that leisure is associated with high levels of intrinsic motivation, that is to say rewards derived internally such as satisfaction, accomplishment, hedonic experience, etc.; while work's reward is extrinsic including

such aspects as compensation, advancement, recognition, etc. (Wagner, Lounsbury, & Fitzgerald, 1989). However, more recent research indicates that there is extrinsic cognitive spillover in the compensative aspects of work leisure while indicating that there is a clear demarcation in terms of affect. This work rejects the unitary conceptualization of the work/leisure relationship replacing it with a dyadic model of behavioral modality (instrumental, affective, cognitive) and social environment (work and home) (Elizur, 1991). This spillover blurs the conventional belief of differentiation between work and leisure. The tendency to cling to this unitary approach has been explained as the perpetuation of the assumption that they are dichotomous experiences (Primeau, 1996). However, additional literature offers further support that leisure activities provide rich sources of intrinsic and extrinsic reward (H. Tinsley, Hinson, D, Tinsley, & Holt, 1993). This research clearly offers validity to the assertion that serious leisure can bridge the traditional contribution of work related extrinsic benefit while still supplying the intrinsic hedonic experience in an increasingly fragmented society.

Serious leisure studies

Serious leisure has been the subject not only of conceptual development and theory but has been the subject of numerous segment researches. Athletics, both team and individual, fandom, education, history, canine activities, to name a few have been studied and identified as serious leisure pursuits. These studies have been conducted to validate the criteria as developed by Stebbins and to tease out the nuances within each of the activities under scrutiny to add to the breadth and richness of serious leisure understanding. These studies examined activities as diverse as adventure tourism

vacationing (Kane & Zink, 2004), college football fans (Gibson, et al., 2002), European soccer fans (I. Jones, 2000), post compulsory education or lifelong adult learning (Jones & Symon, 2001), involvement in the American Kennel Club (Baldwin & Norris, 1999), Master's swimming (Hastings, et al., 1995), and Carolina shag dancing (Brown, 2007) to name some important examples.

Serious leisure transcends normal geographical and political division. One example of this is the numerous groups, representing thousands of individuals, who though citizens of Great Britain, belong to and participate in American Civil War historical re-enactments (Hunt, 2004). The social dynamics of self-identification and the quest for authenticity drives what appears at first glance to be the counterintuitive behavior of enduring often inclement weather, purposely primitive camping conditions, significant time commitment and expense to faithfully and historically recreate what is in fact a war in which the participants' country of origin had no part. It must be noted that Great Britain is a nation with a long tradition of war and battles that have occurred on its own soil going back to Julius Caesar and the Roman legions through the Norman Conquest, and their own civil war (War of the Roses) to name but a few excellent examples of national conflict that might be reenacted. The choice of America's War Between the States speaks to the power of the twin aspects of identification; belonging derived from group membership, and the association of an activity with the self. Obviously there is something about the American Civil War and the extent of the reenactment activity in the US that has sparked identification capable of transatlantic migration.

The length to which people risk failure and embarrassment, suffer stage fright at open mike nights in comedy clubs, as amateur magicians; barbershop quartets traveling the country to compete and perform without remuneration or prize money, et *al.*, speak eloquently to depth of commitment that comprise serious leisure activity as well as the dynamic nature of leisure immersion (Hull & Stewart, 1992).

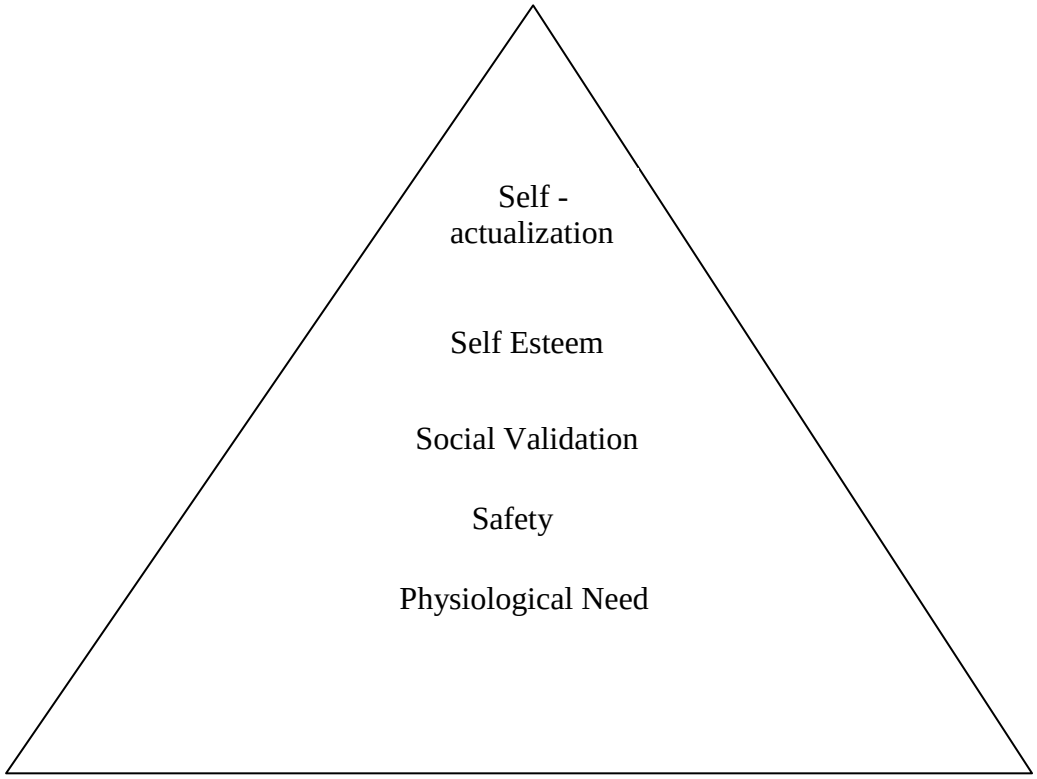
Motivation

Human motivation and the factors that comprise it is the greatest question, in essence, the holy grail of social research and human psychology. The activities of ancient human kind, primarily hunting and gathering along with the more modern modes of subsistence endeavor are most easily understood, though still a mirrored hall of choice and options. Leisure by its very nature, existing outside basic survival activity is more complex making analysis and rationalization more difficult. As described earlier the matrix of work and fulfillment of the self are changing, with leisure activities becoming increasingly the source of both self-actualization and self-gratification. This is of course a prime reason for examining leisure motivation. There is additionally a more prosaic reason to undertake such a study. The economy of leisure makes such investigation important as well. The impact of leisure on the U.S. economy was measured, in the year 1981, as $224 billion (U.S. News and World Report, 1981). It has only increased since then. The motivations of what drives the behaviors with a market this large are important information to business, communities, and governments. As cited by Beard and Ragheb (1983) the nature of the argument for studying leisure motivation was expressed clearly by the National Academy of Sciences (1969) “In order to understand recreation (leisure)

better…we must recognize: the forces that drive it, springing from the behavior patterns of people who engage in it and the social and psychological needs they seek to satisfy…" (National Academy of Sciences, 1969).

The foundational research of motivation generally as well as being the specific source of the Leisure Motivation Scale (LMS) used in the present study is the seminal work of Maslow and his theory of motivation and hierarchy of needs (Maslow, 1970; Maslow, 1943). Maslow postulates that the motivation of all human activity is based on need fulfillment and that behavior is driven by the cognitive dissonance (tension) created when there are unsatisfied needs. These needs are hierarchical and range through five levels leading from one to the next progressively as the tension, when and only when, created by an unsatisfied need is relieved. As seen in Figure 1; the needs range from the primal; physiological and safety (survival needs), through social validation (emotive need), to self-esteem (mental need), ending ideally in self-actualization which Maslow describes as transcendence (creativity need).

Figure 1: Maslow's Hierarchy of Human Needs

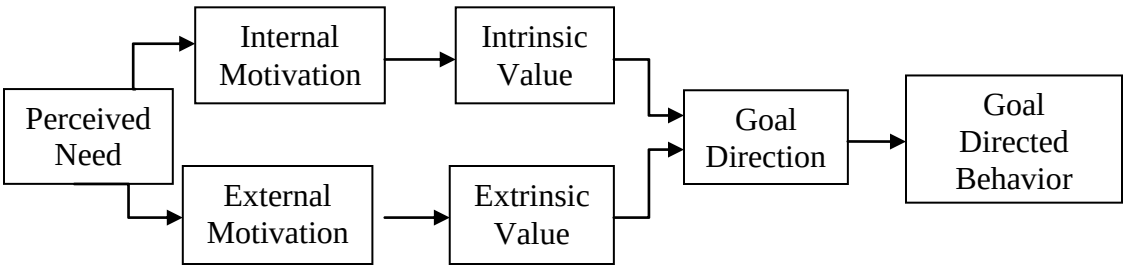


Source: Maslow 1970

Research of leisure motivation has been applied to multiple and diverse areas including leisure and health (Coleman, 1993), leisure continuity (the likelihood to continue) (Backman & Crompton, 1990), sports (Madrigal, 2003; Wagner, et al., 1989), school (Bergin, 1992), and tourism (Ryan & Glendon, 1998). All of the literature reviewed indicates that the choice of a leisure activity is driven by personality types (Barnett, 2006): choice of activity and setting (Avni, Kipper, & Fox, 1987; Emmons, et al., 1986), the ability to experience fun and pleasure (Schill, Beyler, & Sharp, 1993), types and variety of activities (Kirkcaldy & Furnham, 1991), and the ability to become absorbed in the activity (Wild, Kuiken, & Schopflocher, 1995). For example it is a widely held belief that extroverts become more absorbed in social activities than

introverts who prefer solitary forms (Kirkcaldy, 1990). Personality typology "… suggests that individuals differ to degree…and that these differences influence behavioral choice" (Weissinger & Bandalos, 1995, p. 380). These individual differences mediate cognitive interpretations of perceived needs and motives. The motives in turn energize both goal direction and goal directed behavior, as illustrated in Figure 2 below. The influence of personality on an individual's behavior and leisure experiences and the affect on the activity choice and setting has been demonstrated in the literature (Larsen, Diener, & Emmons, 1986), with personality showing stronger affect in leisure selection than in other settings.

Figure 2: Motivation Schema



Source: Larsen, et al., 1986

What makes home brewing such a compelling study is its uniqueness in comparison to other activities studied to date by the duality of its appeal. There are the unarguable social aspects of home brewing; club and association memberships, competitions, product sampling, teaching acolytes, etc., that will appeal to extroverted personality types. At the same time brewing can be a solitary quest for creation and perfection providing internalization and inner dialogue; the chance to commune with oneself. In other words there is both intrinsic and extrinsic impetus that exists

dichotomously within the home brewing activity. Since individuals are complex they may often defy easy either/or personality classification so that unitary motivations must be suspect. It is indicated that home brewing as a serious leisure activity appeals to the dyadic mix inherent to a greater or lesser degree in each person.

The literature informs that there are additional motivational factors as well. Mood (Hull, 1990) and attitude were strong indicators of the likelihood to engage in leisure activities (Lewinsohn & Graf, 1973) with participants enjoying lower anxiety levels in comparison to the control group and gaining direct health benefits(Coleman, 1993) . The impact of absorption in a leisure activity added measurably to the participants' state of mind and general positivity. Further there is research which confirms the negative relationship between boredom and leisure activity participation (Iso-Ahola & Weissinger, 1987, 1990). Authenticity has been identified as an important serious leisure attribute as has the power of needs fulfillment and self-actualization. Research has linked leisure studies and tourism comparing both to the highest of human aspiration, equating leisure pursuits to a spiritual search (Smith & Godbey, 1991) for needs fulfillment. To paraphrase this research, the search for authenticity as a driving force is one familiar in tourism research but is equally true in leisure studies; these fields of study sharing the same dialectic between applied research and theory and conceptual development. This is the same search for authenticity that drives individuals to wear rough woolen uniforms, sleep on the ground, and sit in a field all day rain or shine waiting for their three minute charge up a slope as their part of recreating Pickett's charge at the battle of Gettysburg on the Salisbury plains of England.

Satisfaction

There has been extensive research into satisfaction across all the differing life cycles including; job satisfaction (Ghazzawi, 2008), satisfaction from and with family (Berg, Trost, Schneider, & Allison, 2001), consumer satisfaction with product and more recently service (O'Neill, 1992), retirement (Brown & Frankel, 1993), as well as leisure (Backman & Mannell, 1986). In fact, in a meta- analysis of the literature conducted by Ghazzawi (2008) it was found that by 1991 there were over 12,400 studies examining job satisfaction alone. As is often the case when examining variables there are no exact boundaries between motivation and satisfaction and overlap and interdependence exist. Maslow (1943) postulated that motivation is driven by need, but he presents this in terms of the satisfaction or relief of the need. Other research supports the notion that satisfaction is its own unique motivation and driver of behavior, with one author declaring "satisfaction is the fulfillment of drives, motives, needs or expectations" (Mannell, 1989, p.288). In leisure specific research useful definitions have been offered: "Conceptualized as the positive perceptions or feelings which an individual forms, elicits, or gains as a result of engaging in leisure activities and choices" (Ragheb & Tate, 1993, p. 63); or more simply, "the degree to which one is presently content or pleased with his/her general leisure experiences and situations" (Beard & Ragheb, 1980, p. 23).

Leisure satisfaction research has demonstrated significant relationships between leisure satisfaction, and psychological health (Brown & Frankel, 1993), supported by more recent research confirming this link (Pearson, 1998). Leisure satisfaction has been correlated positively with leisure participation, in other words participation itself provides

intrinsic satisfaction (Backman & Mannell, 1986); and negatively with stress (Misra & McKean, 2000) who found that individuals who were not engaged in leisure activities manifested significantly higher levels of stress and anxiety. Perhaps most powerfully of all research has shown leisure satisfaction to be the most significant contributor to and predictor of an individual's overall satisfaction with their own life (Berg, et al., 2001).

In consumer satisfaction models satisfaction is gauged relative to the confirmation/disconfirmation theory, that being satisfaction relative to delivering quality to the level of consumer expectation. This preconceived expectation sets the bar for judging the experience whether for product and/or service quality delivery. The resultant satisfaction/dissatisfaction depends upon what level, if any, of cognitive dissonance (discomfort) exists between the pre experience expectation and the post experience evaluation. This theory relates well to Maslow's needs hierarchy which states that unsatisfied needs (undelivered quality) create tension that subsequently drives behavior designed to meet the need, in this case for consonance (comfort), such as a complaint to management or the total defection by the consumer of the product/brand.

Leisure satisfaction requires a different model as it examines the less tangible relationship of satisfaction to affective activity, such as self-identification through activity choice. In leisure the very act of choosing an activity generates satisfaction with a significant relationship found between leisure participation and leisure satisfaction (Ragheb & Tate, 1993). It is important to stress the fundamental difference between an individual's levels of satisfaction as a consumer versus the same individual's satisfaction level as regards leisure. Consumer satisfaction is a post consumption reaction where the

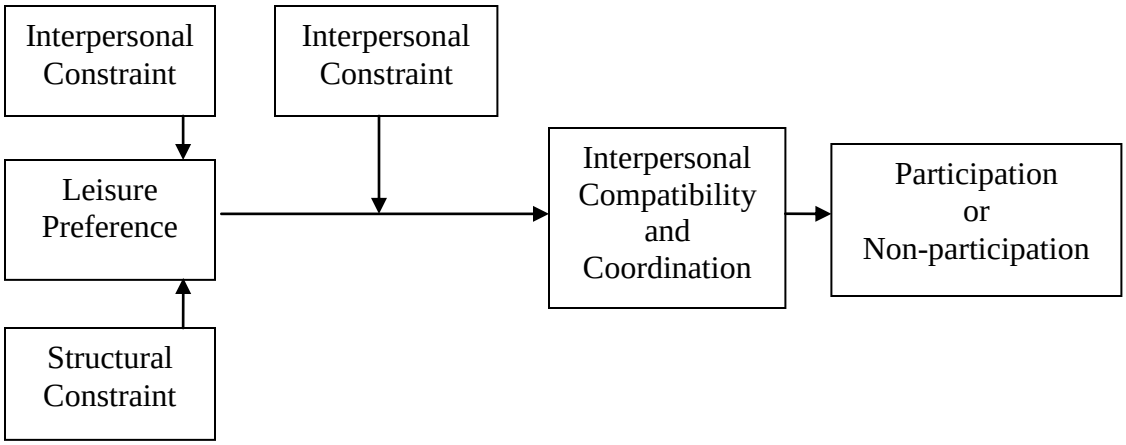
product/service delivered is assessed in retrospect while leisure participation satisfaction is already being felt pre consumption. An analogy might be drawn here comparing food satisfaction in two locations. When visiting a fast food operation the consumer typically has an expectation of a speed, quality, and price matrix based on past experience and expectations of consistency with the food evaluation being relatively straightforward. Contrast this with a visit to a premium full service restaurant where the lighting, music, and tactile sensation of the menu and linen feel envelopes you creating a predisposition of wanting to like what is to come. The risk of course is the greater opportunity for dissatisfaction that exists from heightened expectation levels.

This relationship between participation and satisfaction offers similar striking parallels to career choices and typology outlined in the serious leisure career section. The important serious leisure criterion of self-identification with the activity is found in the career typology research as well. Holland (1996) suggests that the concept of self-identification is the strongest predictor of satisfaction in work. The act of choosing in career choice as in leisure initiates the creation of strong associations and positivity from the outset. In fact further parallels can be drawn between the literature reviewed comparing leisure motivation with leisure satisfaction as well, through research which demonstrates the correlation of satisfaction in leisure activities to personality (Pavot & Diener, 1993) the same correlation as illustrated in the section on motivation.

Research has been conducted seeking to understand how individuals are socialized into leisure activity and to identify the influencing factors that translate into positive or negative association (Mannell & Kleiber, 1997). This research has found that

the perception of freedom plays a vital role in leisure satisfaction, as stated earlier through the act of choosing, though no one is fully free even in something as non obligatory as leisure participation. Freedom exists as a matter of degree with most people constrained to some level be it financial, time, perceptions of talent, or family support (Ellis & Witt, 1994; Hultsman, 1993; Mannell & Kleiber, 1997), with family interdependence influencing both the degree of freedom to choose and the choice of activity itself (Rusbult & Arriaga, 1997). Some individuals are able to overcome the constraint difficulties they face, in other words persevere (Jackson, Crawford, & Godbey, 1993), other research has suggested that satisfaction through participation in a leisure activity per se depends on the ability to overcome constraint (see Figure 3). Crawford, Jackson, & Godbey (1991) have suggested that successful negotiation of constraint actually increases the satisfaction derived from the activity (Jackson, et al., 1993).

Figure 3: Hierarchal Model of Leisure Constraint



Source: Crawford et al., 1991

The ability to overcome difficulty and persevere is of course the first of Stebbins' six criteria for serious leisure inclusion. The links between career and perseverance and

serious leisure; and leisure motivation, and leisure satisfaction demonstrate clearly that all the literature reviewed to this point is mutually supportive with a strong thread of commonality tying the disparate elements together.

The short form of the Leisure Satisfaction Scale (LSS) used in the present study was also used in confirmatory research which specifically tested the scale longitudinally for use by occupational therapists determining satisfying and appropriate leisure activities for therapeutic engagement. The scale was found to exhibit good test-retest reliability (Trottier, et al., 2006).

Emotion

As is true of both the motivation and satisfaction research examined, human emotion is a state of mind complicated by cognition, but with the added and unique aspect of neural action/reaction, put simply feelings. Individualistic and subjective, operating both consciously and below conscious awareness emotion is both difficult to define and measure. The search for emotional understanding as with the other aspects under consideration transcends disciplines and is studied in areas as diverse as economics, consumer behavior and loyalty, Neuroscience, social relationships, and leisure and it comes as no surprise that there are differing perspectives and analysis. Emotion has been defined broadly as feeling states involving positive or negative valence (Frijd, 1988). More specifically emotion has been defined as "a collection of changes in body and brain systems that respond to specific contexts of one's perceptions, actual or recalled, relative to a particular object or event" (Damasio, 2003, p. 86). Damasio draws

a clear distinction between feelings (perception based) and emotion (system change) and further describes affect or affective state as a combination of both.

Traditionally cognition was seen as the determinant or predictor of behavioral action. Emotion was viewed primarily as the outcome of action (positive or negative) often viewed as background noise. Today researchers across disciplines are finding that emotion plays a more important role. Some research has claimed that "emotion dominates over cognition as a predictor of conative attitude and action" (Morris, Chongmoo, Gleason, & Jooyoung, 2002, p. 7). Increasingly, however, research supports the notion that affect is inexorably entwined with cognition bi-directionally. Put simply, in a given situation, emotion (especially emotion incited by prior emotional processing) can occur prior to cognition. Likewise cognition can trigger emotional response (Damasio, 2000). Recent research, using neuroscience techniques such as CAT scans, MIRs, and brain scanning, has given rise to a growing understanding of the critical role emotion plays in decision-making and choice selection which is much larger than previously thought (Damasio, 2000, 2003). In fact it has been asserted that "sound and rational decision-making depends on prior accurate emotional processing" (Bechara & Damasio, 2005, p. 336).

In a very real sense, as in so many things, the current thinking is grounded in the past. In 1789, Jeremy Bertham, as cited by Loewenstein (2000), in a treatise on economics described the construct for utility "as the net sum of positive over negative emotion" (p. 427). Though much eschewed by economists over the next 200 years currently there has been a revival of interest in the significance of emotion in decision-

making. The growing understanding of the roles of cognitive and affective interaction and affective response has increasingly led economists to tie emotion to both individual behavior and overall market performance (Loewenstein, 2000).

Researchers posit that emotion divides into two aspects: anticipated emotion based on expected future outcomes; and anticipatory emotion which is emotion currently experienced based on the prospect of an event (Sorensen, 2008). Leisure activity supplies rich experiential affect by engaging both these emotional triggers and has been referred to as "a major source of happiness" (Hills & Argyle, 1998, p. 523). Similar to the literature reviewed regarding motivation and satisfaction there is a physiologically generated emotional affect from leisure engagement in both positive therapeutic activities and negative reductions in stress and anxiety (John, Hakuei, & Jessica, 2002). The affective outcomes move beyond these prescriptive aspects to the proactive benefit of "infusing positive emotions" (John, et al., 2002, p.272).

It has been found that in addition to psychological and physiological emotional benefits leisure activity engagement offers important emotional benefits in times of crises. Participation in a leisure activity can supply critical buffering dimensions in four emotional functions; two that provide coping buffers and two that provide reinvention buffers. Leisure participation enables coping and self-protection through distraction and absorption in the activity and through the generation of feelings of optimism. Reinvention stems from engagement providing a canvas through which the reconstruction of the life narrative can be constructed and as a vehicle of personal transformation (Kleiber, Hutchinson, & Williams, 2002).

Emotion offers other links with the literature reviewed regarding motivation and satisfaction. The evidence suggests that there is a positive affective response to leisure experiences that correlates with personality typology (Hull & Stewart, 1992) and freedom of choice. Similar conclusions are found throughout the literature "They reason that the personal choice of leisure activities from a wide variety of possibilities is a reflection and extension of our uniquely individualistic personality" (Barnett, 2006, p. 445). This insight squares neatly with the literature which posits that understanding motivation and emotion is personal and can only be interpreted based on each individual's response through the examination of the dual associations with the experience itself and concurrent external events; "This suggests that individuals differ to degree… and that these differences influence behavioral choice" (Weissinger & Bandalos, 1995, p. 380). This supports the notion that emotion can serve as an indicator of future behavioral intention. In the present study, Russell's (1980) Circumplex Model is used to measure emotion. The advantage of the circular modeling method is twofold. The first advantage being that circularity allows for a continuous blending of the eight basic emotive states identified by Russell (1980), one into the other described as the "fuzziness of affect terms" (p.1165). The eight emotive states are:

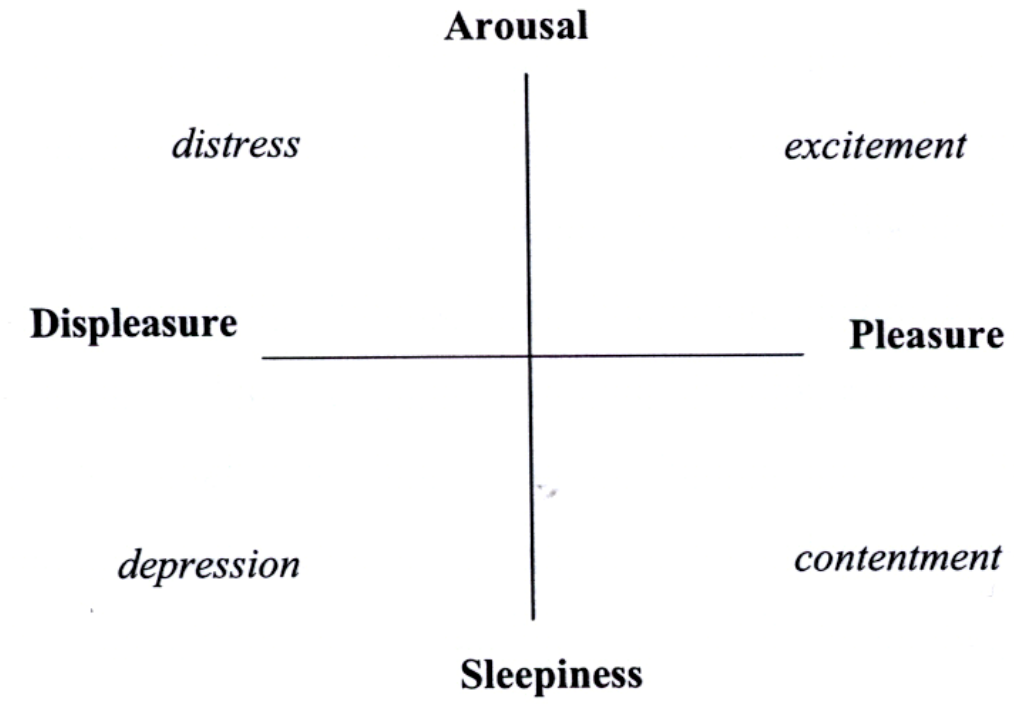
1. Arousal
2. Excitement
3. Pleasure
4. Contentment
5. Sleepiness (non arousal)

6. Depression
7. Misery
8. Distress

These states fall along the bipolar axis of arousal/non arousal and pleasant/unpleasant (see Figure 4 below). It rings true that emotions are interdependent and can mix forming a new emotive connotation; one illustrative example used by Russell (1980) is fear mixed with surprise yields awe. The use of emotive states along a circular model is supported by the elegance of fit with each emotive antonym a perfect fit for its opposite e.g. sad to happy across the diameter of the circular model.

The second advantage lies in the beneficial mapping capability of the circle as regards emotion. Rather than numerous and unwieldy monopolar dimensions, Russell's model matches a two dimensional compass with bipolar opposites of arousal to non-arousal and pleasant to unpleasant with the emotive states clustering nicely within the quadrants formed by the bipolar axis. Here too the elegance of fit and statistical plotting of antonyms aligned as opposites adds support to the theoretical construct.

Figure 4: Circular Model of Emotion



Source: Russell, 1980

Summary

In closing this chapter has reviewed the relevant literature regarding leisure overall and serious leisure specifically and demonstrated leisure's impact on psychological and physiological health and quality of life assessment. In addition the literature regarding the aspects of career typology, satisfaction, motivation, and emotion were examined as well as the validated scales to be used in the present study. This review found strong links between these aspects and leisure activities. The links between emotion, motivation, and satisfaction were particularly strong in respect to personality, freedom of choice and health and well being.

As stated at the outset, though extensive literature both qualitative and quantitative exist in leisure studies and extensive qualitative research has been conducted on serious leisure activities the use of empirical measurement to analyze serious leisure is lacking in the literature. This study will add to the literature by using quantitative analysis to the home brewing leisure experience to advance the literature and offer an entry to future research. The following chapters will examine and describe the analytical results followed by a discussion of said results and conclusions and recommendations drawn from them.

Chapter III

Methods

Overview

In the broadest terms the purpose of leisure study in general and serious leisure in particular is to gain a fundamental understanding of the underlying importance of leisure participation for individuals relative to the concept of the self and the contribution to quality of life and overall well-being. In the context of this study, qualitative measures are employed and empirical data is offered to add depth and richness to the understanding of serious leisure. The integration and interplay of motivation, satisfaction, and emotion have been tested, adding original insight into the body of work so as to incrementally advance the literature.

Research Questions

While the importance of serious leisure research has been highlighted in the literature and this study, as stated earlier, quantitative examination has been found to be lacking. To fill this void, and to test both the domains and dimensions within the serious leisure construct, three scales have been used: the Leisure Motivation Scale (LMS) (Beard & Ragheb, 1983); the Leisure Satisfaction Scale (LSS) (Beard & Ragheb, 1980); and Russell's Circumflex Model of Emotions (1980).

The first important measurement tool used in the present study is the Leisure Motivation Scale (LMS) (Beard & Ragheb, 1983). The LMS is based on the foundational work of Maslow, who first conceptualized the four prime domains of motivation used by Beard and Ragheb below (Maslow, 1970). Put simply, serious leisure activity cannot be understood without first understanding what drives those who pursue the activity to engage in it in the first place. The LMS was designed to identify the domains within leisure motivation and develop an instrument to measure them. The shortened version of the scale was used in its entirety, the only changes to the scale consisting of the survey page being named Home Brewing Motivation and the words home brewing added to the questions to contribute to the relevance perception of the participants.

The LMS scale identifies four domains:

1. Intellectual – This includes the dimensions of learning, exploring, discoveries, creating, and imagining.
2. Social – This includes the dimensions of the need for friendship, interpersonal relationships, and self-esteem from others.
3. Competence-Mastery – This includes the dimensions of achievement, mastery, challenge, and competition.
4. Stimulus-Avoidance – This includes the dimensions of calming conditions, stress reduction, and relaxation.

This scale has been found to be accurate when tested in other studies (Ryan & Glendon, 1998). Thus, the first research question is presented:

Q1 – What are the motivational factors which influence home brewers?

The second research tool used in this study is the Leisure Satisfaction Scale (Beard, & Ragheb, 1980). Since the primary purpose of leisure and recreational endeavors is to provide individuals' satisfaction, self-attainment, and quality of life the need for a tool that measures the resultant satisfaction of the activity is manifest. The LSS measures the extent to which individuals perceive that their personal needs are met through leisure activities. The shortened version of the scale was used in its entirety, the only changes to the scale consisting of the survey page being named Home Brewing Motivation and the words home brewing added to the questions to contribute to the relevance perception of the participants.

The research has identified six domains through which to measure leisure satisfaction:

1. Psychological – with the dimensions of hedonic, self-actualization, challenge, accomplishment, individuality, exploration, and discovery.
2. Educational – which include the dimensions of intellectual stimulation, learning, use of abilities and talents.
3. Social – which include the dimensions of interaction, communication, altruism, fellowship, social respect and esteem.
4. Relaxation – which include the dimensions of rest, restoration, relief from stress.
5. Physiological – which include the dimensions of health, energy, fitness.
6. Aesthetic – which include the dimensions of pleasing - well-designed environment, and beauty.

This scale too has been found to be accurate when tested in other studies (Trottier, et al., 2006) thus; the second research question is presented:

Q2a – What are the satisfaction factors which influence home brewers?

It is intuitive that the production and consumption of home brewed beer can carry a negative connotation in terms of health and fitness. Likewise, the beer production and bottling facilities which can range from temporary home kitchen use, basement/garage space, or shed/outbuilding locations are not easily understood as park like and/or beautiful. However, as a serious leisure pursuit with the attendant passion and absorption that implies, and that satisfaction is a perceived attribute, an extension of the above question is presented:

Q2b – Will the physiological and aesthetic domains described in the LSS be significant to home brewers?

The third research tool used in this study is Russell's Circumflex Model of Emotions (1980). This model measures emotion by degree and frequency. Russell posits the continuous nature of emotional responses with one feeding into the other with no strict lines of demarcation, hence the circularity of the construct. The opposing axis points of the circle represent the bipolar opposites of the extremes of pleasant/unpleasant and aroused/not aroused, the domains are identified as:

1. Excitement – surprised, happy
2. Contentment – calmness, sleepiness
3. Depression – sad, disgust
4. Distress – anger, fear

The scale was used in its entirety, the only changes to the scale consisting of the survey page being named Home Brewing Motivation and the words home brewing added to the questions to contribute to the relevance perception of the participants. This seminal work has received robust support in the literature (Dorman, 2005; Sorensen, 2008) crossing a wide spectrum of disciplines.

Emotion has been linked to human survival and evolutionary success guiding our approach and avoidance response that have kept us safe in the past and informing our decision making processes to the present day (Sorensen, 2008). It has been posited that emotions play a key role in the determination of satisfaction, motivation, consumer behavior, and future behavioral intentions (Baumgartner, Pieters, & Bagozzi, 2008), as well as cognition (Damasio, 2000) in short every aspect of human thought and endeavor. In spite of this dominance of emotion in human affairs research into affect and behavior is limited. Indeed, the very intangibility and inherent unconsciousness development of emotions makes measure difficult and complex, but complexity cannot preclude the need for illumination. Hence the third research question is presented:

Q3 – What are the emotional factors that influence home brewers?

It adds depth and value to the research if the examined factors can be used to aid in prediction and provide concrete results. Thus the fourth research question is presented:

Q4 - Can the aggregate satisfaction scale score be used to predict the future behavioral intentions of home brewers to continue in and recommend the activity?

Plan of research

The identification of a population from which to solicit participation, identification of validated measurement scales, instrument development, field testing of the instrument, and IRB approval was needed to proceed. The following sections will explain the manner in which these issues were met allowing for the research instrument to be operationalized.

Sample

The American Home Brewers Association (AHA) is the national organization which supports individual members in their pursuit of the non-commercial (home) production of craft beers. The organization is a clearing house for supplier information, brewing education, and governmental lobbying efforts on behalf of the craft. The organization also promotes the important leisure social aspects of fellowship and conviviality with fellow craft people. Brewing competitions, exhibitions, and events add aspects of learning, challenge, and competition that has been defined as important leisure dimensions. With a membership of approximately 25,000 individuals brewing throughout the United States, this group represented an ideal population from which to draw a sample to study the home brewing leisure experience. The AHA's willingness to support the research from development through administration of the instrument gave the researcher access to a broad data set that by virtue of the number of participant and geographic diversity of the membership allows for meaningful statistical evaluation. The survey was administered to the membership, with 4,207 usable results obtained representing an approximately 17% participation rate.

Instrument

Three tested measurement scales as described above were identified and included in the survey instrument in their entirety (the short scales were used in the LMS and LSS measures). Demographic information (age range, education level, type of profession, average family income, ethnicity, location, etc.) was solicited, as was a self-identification rating of commitment to home brewing as a device to seek the percentage of serious leisure participants among the sample. To better understand the home brewing experience a section on brewing technique preferred beer styles, average expenditures, and purchasing behaviors was developed and a section assessing the overall experience and likelihood to continue was developed as well. The content validity of the instrument is supported by the participation and expert review of the AHA leadership, with refinement to the instrument made based on this expert input.

The instrument consists of a mix of ordinal (demographics, brewing options, etc.) and continuous (scales and reason/intentions) measures. The LMS scores ranged from 1 (never true) to 5 (always true). The LSS scale ranged from 1 (very dissatisfied) to 5 (very satisfied). Russell's circumplex scale of emotion was scored from 1 (not very often) to 5 (very often). The reasons for brewing section scores measured importance with 1 being most important to 5 being least important. The use of continuous measurement scoring allows for the depth of statistical technique required for academic research. Analytical methods used include: means testing, standard deviation, multivariate analyses, reliability testing, and factor analyses. These procedures offer the support necessary to answer the research questions and from which conclusions and recommendations can be drawn.

Field Test

To minimize the potential for ambiguity of the survey questions a pilot study was initiated. The instrument was administered to the Auburn chapter of the AHA and feedback and comments from the respondents was solicited with an emphasis placed on the relevance and clarity of the questions. Twelve chapter members participated in the field test. The time needed to complete the survey was monitored through the field test process. The resultant feedback led to further refinement of the instrument. The criterion of face validity is met by the participation of this group of practitioners in the development of the survey.

Ethical Considerations

Great care was given to meeting the exacting standards required and proper procedures for conducting human research. The researcher and supervising faculty are all CITI trained and certified. The Internal Review Board of Auburn University reviewed the study prior to administration, examining the study construct, survey instrument, supporting literature, and potential for harm. All ethical considerations having been met the review resulted in approval to conduct the research. The instrument was administered directly by the AHA, collected by an independent third party then transformed into statistical data for analysis by the researcher. The participant's anonymity has been protected throughout.

Data Collection

The survey was administered from the AHA office to their membership electronically, using email. Email is the standard communication device employed by the

AHA and to maximize participation the survey was designed to be web-based. The membership was asked to respond through an embedded link to the website hosting the instrument. In addition to the fact that electronic communication is the device employed for communication between AHA and the membership there is support for the notion that online instruments are attractive to participants. The ease and immediacy of an online survey is conducive to response. The elimination of paper, envelopes, stamps, and mailing adds convenience for the participant. Handling the data electronically eliminates human error in both computation and moving the data into the statistical package for analysis. The AHA sent out a reminder email two weeks prior to the survey closing deadline to solicit the greatest possible response. All the responses were collected and stored on the website. When the survey was closed the data was exported to a spreadsheet generated from Excel software and then transferred again to the SPSS 17.0 statistical package where the desired analyses could be run.

Returned questionnaires

The sample was collected from the membership of the American Homebrewers Association (AHA). The questionnaire was designed to capture demographic information and collect information to enable analyses of motivation, satisfaction, and emotion relative to future behavioral intentions. The entire AHA membership consisting of approximately 25,000 individual was invited via email to participate. The survey was administered over an eight week period encompassing March and April 2009. Of the original solicitation 4,536 individuals responded to the online survey representing an approximate 18% return. Upon closer examination 329 of these surveys were deemed

unusable due to the level of incompletion; resulting in 4,207 usable surveys equaling an approximate 17% return. The survey was deemed unusable if less than half the questions were unanswered or if the majority of the specific scale questions were left blank. The high rate, approximately 92% of acceptably completed returns offered an early indication of the depth of identification home brewers hold for the activity.

Summary

In closing this chapter provided a full description of the research undertaken and the measures and methods used to obtain the data. The sample group, data collection, and research tools used were described as well. Support for the design and approaches used in this study are based on the literature regarding design and analysis (Clark, Riley, Wilkie, & Wood, 2005; Creswell, 2009; Maxwell & Delany, 2004). The next chapter will present the data analysis, research results, and disposition of the hypotheses offered.

Chapter IV

Results

Introduction

This chapter will present the results obtained from the questionnaire. The chapter will be divided into five sections. Section one will present a short description of the collected responses. Section two will present a detailed breakdown of the respondent demographic information and self-identification results. Section three will present the measurement instrument properties. Section four will address the validity and reliability of the instrument and the technique used to determine non response bias. Lastly, the chapter summary will recap the overall results.

Demographic Information

Table 1 reveals a strongly male dominant environment with approximately 95% of all respondents classifying themselves as male; additionally, approximately 93% of the respondents self-described as Caucasian. The age range indicates a prime of life orientation among the respondents with approximately 42% falling in the 35-49 age grouping. What is striking is the overall profile of the respondent sample: approximately 72 % of the respondents have earned a Bachelor's or higher graduate degree; 63% (approximate) enjoy household annual incomes over $75,000; and 50% (approximate) self-reported that their field of work is in one of the professions with an additional 15

percent (approximate) reporting they carry management responsibilities. Though not listed in the table approximately 86% of the respondents are married or in a committed relationship with approximately 61% of their significant others fully supportive of the home brewing endeavor with another 9% (approximate) described as fully engaged themselves in the activity. This level of support squares nicely with the literature reviewed regarding the impact of family on leisure activity selection and continuance.

Table 1: Demographic profile of respondents

Frequency of Ages	**N**	**%**	**Frequency of Gender**	**N**	**%**
<21	7	0.2	Male	4001	95.1
21-25	229	5.4	Female	186	4.4
26-34	1109	26.4	Missing*	20	.05
35-49	1746	41.5	**Total**	**4207**	**100.0**
50-65	1023	24.3			
>65	85	2.0			
Missing*	8	0.2			
Total	**4207**	**100.0**			
Annual Family Income (Thousands)	**N**	**%**	**Education Level**	**N**	**%**
<25	140	3.3	Some High School	12	0.3
25-39	258	6.1	High School Grad	118	2.8
40-54	388	9.2	Voc/tech	132	3.1
55-75	690	16.4	Some College	591	14.0
76-99	885	21.0	Associate's Degree	312	7.4
100-145	1078	25.6	Bachelor's Degree	1791	42.6
>145	699	16.6	Master's Degree	887	21.1
Missing*	69	.16	Ph.D.	359	8.5
Total	**4207**	**100.0**	Missing*	5	.01
			Total	**4207**	**100.0**
Field of Work	**N**	**%**	**Type of Work**	**N**	**%**
K-12	152	3.6	Student	136	3.2
College/University Educator	383	9.1	Educator	236	5.6
Military	125	3.0	Construction	372	8.8
Government	435	10.3	Clerical	110	2.6
Service Industry	1095	26.0	Sales	93	2.2
IT	841	20.0	Management	620	14.7
Non-profit	152	3.6	Consultant	267	6.3
Manufacturing	807	19.2	Professional	2110	50.2
Brewing	119	2.8	Retired	49	1.2
Missing*	95	2.3	Missing*	18	0.4
Total	**4207**	**100.0**	**Total**	**4207**	**100.0**

*** Denotes non response to these variables**

Table 2 clearly illustrates the emotional connection and enthusiasm prevalent in this home brewing respondent sample. Over 56% of the participants experiment and develop their own recipes. This percentage allows the strong inference that the hedonic aspects of risk and excitement are an integral part of the home brewing experience. Interestingly, when asked to name their entry point to home brewing, the largest group response totaling 37% answered that they came to home brewing on their own as a result of sampling craft beer and developing an interest. Clearly, these respondents exhibit strong serious leisure behavior in their self-identification of their brewing commitment. Nearly 93% of the respondents' self- identified as either passionate brewers who are fully committed to the craft or enthusiasts who though committed experience time constraints.

Table 2: Brewing self-identification

Recipe Preference	**N**	**%**	**Commitment Level**	**N**	**%**
Tried and true	381	9.1	Passionate	1743	41.4
Outside sources	1451	34.5	Enthusiast (time constraint)	2165	51.5
Experimentation	2361	56.1	Dabbler	146	3.5
Missing*	14	.3	Special occasion	14	.3
Total	**4207**	**100.0**	Quit brewing	1	.0
			Missing*	16	.4
			Total	**4207**	**100.0**
Source of Interest	**N**	**%**			
Friends	1456	34.6			
Tasting craft beer	1558	37.0			
Media	52	1.2			
Scientific interest	58	1.4			
Book/lecture	91	2.2			
Other publications	38	.9			
High quality beer	932	22.2			
Missing*	22	.5			
Total	**4207**	**100.0**			

***Denotes non response to these variables**

The respondents were asked to self-identify their reasons for engaging in home brewing based on the seven options in Table 3. The table makes it clear that home brewing does encompass the dual benefit of providing the opportunity to create, approximately 90% of the respondents' listed creative outlet as most important or important, while being immersed in the rigor of a process driven activity; approximately 58% of the respondents cited employing scientific technique as most important or important reason. The desire for quality scored the highest in importance with approximately 93%, described earlier as the hunger for differentiation which drives the craft beer market, this value scored highest as the most important or important reason for brewing.

The results reported in Table 3 square nicely with the serious leisure literature regarding the profit hypothesis described earlier. This is congruent with the survey results since only approximately 24% of the respondents cited saving money as most important or important, the lowest score reported. Nearly 35% of the respondents cited their ambition to brew commercially as most important or important. This too fits well with the literature as career is an integral part of the serious leisure definition.

Table 3: Reasons for brewing

	Most Important*		Important*		Neither Important Or Unimportant		Not Important		Least Important	
	N	%	N	%	N	%	N	%	N	%
Drink better beer	2033	48.3	1872	44.5	235	5.6	32	.8	15	.4
Creative outlet	1385	32.9	2403	57.1	294	7.0	67	1.6	18	.4
Scientific Technique	611	14.5	1844	43.8	1138	27.1	387	9.2	132	3.1
Friendship	493	11.7	1541	36.6	1326	31.5	531	12.6	231	5.5
Advance the craft	422	10.0	1439	34.2	1467	34.9	561	13.3	228	5.4
Commercial Ambition	572	13.6	886	21.1	1053	25.0	688	15.9	949	22.6
Save Money	122	2.9	901	21.4	1284	30.5	986	23.4	228	5.4

***Table is rank ordered by highest combined value scores of the most important and important categories.**

In an effort to understand the respondents own prediction of their future behavior, and by inference glean insight into the depth of self-identification with the activity, the questionnaire asked the respondents to rate their likelihood to both remain engaged as home brewers and to recommend home brewing as a leisure pursuit to others. In essence the questions were designed to reveal the likelihood that the respondents would serve as ambassadors for the activity. Additionally, it squares intuitively that the overall satisfaction level expressed by individuals provides validity to future behavioral intention questions when the response levels are aligned, and thus the respondents were asked to rate their overall satisfaction level as well.

Table 4 clearly shows that home brewing is meeting the needs of its practitioners with approximately 99% declaring themselves satisfied or very satisfied. To the question

asking the likelihood to recommend the activity approximately 96% reported they were either likely or very likely to recommend. To the question asking the likelihood to continue as home brewers approximately 99% answered they were likely or very likely to continue. Table 5 presents these question results through means and standard deviation scores.

Table 4: Overall satisfaction and likelihood to recommend and continue

	Very Unsatisfied		**Unsatisfied**		**Neutral**		**Satisfied**		**Very Satisfied**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Overall satisfaction	6	.1	2	.0	31	.7	1205	28.6	2950	70.1
	Very Unsatisfied		**Unsatisfied**		**Neutral**		**Satisfied**		**Very Satisfied**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Likelihood to recommend	5	.1	15	.4	131	3.1	1232	29.3	2821	67.1
Likelihood to continue	3	.1	5	.1	35	.8	725	17.2	3419	81.3

Table 5: Mean and standard deviation

	N	**Mean**	**Standard Deviation**
Overall Satisfaction	4194	4.6907	.49848
Likelihood to Recommend	4204	4.6292	.57567
Likelihood to Continue	4187	4.8037	.43624

Measurement instrument properties

The measurement instrument used in this study was composed primarily of the three scales outlined in the earlier chapters; namely, the shortened versions of the Leisure Motivation Scale (LMS), the Leisure Satisfaction Scale (LSS), and Russell's Circumplex Scale. Each scale was used to represent one of the three variables under investigation. The scales were used in their entirety with the only change the use of home brewing as a naming convention. Below are descriptions of each of the scales along with the descriptive statistics for each scale item.

The LMS is divided into four domains totaling 34 items. The domains are:

(1) Intellectual: comprising dimensions such as curiosity, exploration, learning, and creativity.

(2) Social: comprising dimensions such as belonging, respect, and friendship.

(3) Competence/mastery: composed of dimensions as challenge and competition.

(4) Stimulus avoidance: examines the multiple dimensions of physicality, relaxation, and escape.

Table 6 illustrates the full complement of variables with each of the individual items divided by domain with their accompanying descriptive statistics.

Table 6: Leisure Motivation Scale

		Mean	SD	Skew
Intellectual:				
M1	learn about things around me	3.6976	.85619	-.643
M2	satisfy my curiosity	3.5695	.90006	-.629
M3	explore new ideas	3.8272	.79875	-.774
M4	learn about myself	2.6118	1.07129	.268
M5	expand my knowledge	4.1230	.79587	-.908
M6	discover new things	3.9687	.80109	-.752
M7	be creative	4.1904	.77452	-.851
M8	use my imagination	3.8980	.88404	-.601
Social:				
M9	build friendships with others	3.1432	1.05508	-.101
M10	interact with others	3.1087	1.05663	-.085
M11	develop close friendships	2.7819	1.07708	.225
M12	meet new and different people	2.8903	1.06724	.020
M13	reveal my thoughts, feelings, skills to others	2.7275	1.08907	.112
M14	be socially confident and skillful	2.4368	1.08829	.349
M15	gain a feeling of belonging	2.1401	1.02187	.636
M16	gain others respect	2.3729	1.07752	.335
Competence/Mastery:				
M17	challenge my abilities	3.8498	.88839	-.769
M18	be good at brewing	4.4469	.67778	-.1.169
M19	improve my skill and ability in brewing	4.4597	.67810	-1.263
M20	compete against others	2.2172	1.05132	.549
Stimulus Avoidance:				
M21	be active	3.0333	1.11037	-.227
M22	keep in shape physically	1.7888	.92248	1.080
M23	use my physical abilities	1.9300	.98791	.865
M24	develop my physical fitness	1.6477	.82880	1.290
M25	slow down	2.3022	1.11394	.438
M26	because I sometimes like to be alone	2.4204	1.15821	.311
M27	relax physically	2.6580	1.12376	.031
M28	relax mentally	3.0816	1.13210	-.293
M29	avoid daily hustle and bustle	2.7987	1.18451	-.038
M30	rest	2.3313	1.10472	.475
M31	relieve stress and tension	3.0163	1.15631	-.241
M32	unstructure my time	2.2208	1.08032	.575
M33	get away from work responsibilities	2.5604	1.25333	.276
M34	get away from personal responsibilities	2.1475	1.11281	.727

Note: Each question begins I home brew to

The LSS is divided into six domains and encompasses 24 dimensions. The domains are:

1. Psychological: composed of dimensions such as accomplishment and self-confidence;
2. Educational: consisting of dimensions like knowledge , learning about the self and others;
3. Social: consisting of dimensions such as relationship formation and association;
4. Relaxation: with the dimensions of well-being, stress relief, and relaxation;
5. Physiological: which explores fitness and health; and
6. Aesthetic: which examines the pleasantness and appeal of place

Table 7 illustrates the full complement of variables with each of the individual items divided by domain with their accompanying descriptive statistics.

Table 7: Leisure Satisfaction Scale

		Mean	SD	Skew
Psychological				
S1	HB is very interesting to me	4.7335	.48134	-1.687
S2	Home brewing gives me self-confidence	3.5278	1.05743	-.419
S3	HB gives me a sense of accomplishment	4.3761	.68669	-.999
S4	I use many different skills and activities in HB	4.1381	.81920	-.769
Educational				
S5	HB increases my knowledge of things around me	3.7286	.97352	-.498
S6	HB provides opportunities to try new things	4.0961	.76842	-.720
S7	HB helps me to learn about myself	2.812	1.12008	.217
S8	HB helps me to learn about other people	2.7186	1.09003	.187
Social				
S9	I have social interaction with others through HB	3.3129	1.12379	-.352
S10	HB has helped me develop close relationships with others	2.9125	1.21797	.049
S11	The people I meet through HB are friendly	4.1696	.86972	-1.235
S12	I associate with people in my free time who enjoy HB	3.1064	1.12307	-.131
Relaxation				
S13	HB helps me relax	3.7480	.96464	-.592
S14	HB helps relieve stress	3.6396	1.04535	-.553
S15	HB contributes to my emotional well-being	3.7467	1.02469	-.713
S16	I HB simply because I like doing it	4.5267	.67058	1.422
Physiological				
S17	HB is physically challenging	2.2547	1.07124	.568
S18	HB develops my physical fitness	1.7459	.87828	1.132
S19	HB restores me physically	1.9046	.97129	.954
S20	HB helps me stay healthy	2.1879	1.07783	.616
Aesthetic				
S21	The area or place where I HB is fresh and clean	3.7493	.98578	-.480
S22	The area or place I HB is interesting	3.1473	1.07616	-.079
S23	The area or Place where I HB is beautiful	2.8731	1.16496	.152
S24	The area or place where I HB is pleasing to me	3.6903	.97953	-.444

Note: HB = Home brewing

Russell's Circumplex Scale divides emotion into eight emotive dimensions. These dimensions are:

1. Happiness;
2. Excitement;
3. Surprise;
4. Idleness;
5. Boredom;
6. Anger;
7. Anxiety; and
8. Calmness

Table 8: Emotion

		Mean	SD	Skew
E1	happiness	3.1432	1.05508	-.101
E2	excitement	3.1087	1.05663	-.085
E3	surprise	2.7819	1.07708	.225
E4	idleness	2.8903	1.06724	.020
E5	boredom	2.7275	1.08907	.112
E6	anger	2.4368	1.08829	.349
E7	anxiety	2.1401	1.02187	.636
E8	calmness	2.3729	1.07752	.335

Factor Analysis

Attention now turns to the factors that (1) influence home brewers motivation to engage in the activity, (2) influence satisfaction from engagement in the activity, and (3) comprise the emotional result derived from that engagement through the application of the existing scales identified earlier. Application of the factor analysis technique in this research enables the researcher to search for and reveal coherent subscales specific to home brewing. The analysis method employed in this study is the principle components

analysis (PCA). The PCA method was chosen specifically as it is psychometrically sound this method avoids factor indeterminacy (Stevens, 2002). The further advantage to using CPA is that it provides an empirical summary of the data set (Tabachnick & Fidel, 2007).

Assumptions and conditions

For variables to be factorable certain assumptions and conditions regarding the data set should be met; the following describes the standards used in this study:

(1) General – the data must be shown to have inter-item correlation, variable pairs must be normally distributed, each case independent of the others, and exhibiting linearity to the relationships between variables.

(2) Sample size – for meaningful factor analysis Tabachnick and Fidel (2007) recommend that the sample have at least 300 cases and a minimum of a five to one ratio of subjects to variables.

(3) Variance – according to Tabachnick and Fidel (2001) to be robust the factor solution should account for at least 50% of the variance.

(4) Quantitative scales – the variables must be measured continuously.

(5) Factorability of the correlation matrix – Bartlett's test of sphericity should obtain an alpha of .05 or smaller and the Kaiser-Meyer-Olkin (KMO) measuring sample adequacy should obtain a minimum value of .6 or higher. Steven's (1992) benchmark of .4 as the minimum standard for considerable values is used.

(6) Factor selection – it is usually recommended that the study employs the eigenvalue is greater than one criterion, but often, as described by Patil, Singh, Mishra, & Donavan (2008), this leads to too many factors. For this study only factors that have an eigenvalue greater than one will be considered with the additional application of Catell's (1966) scree test. The blending of these two criteria better limits the factor selection to the most expressive subscale factors.

(7) Rotated component matrix – the concept of rotated factors is to best present the solutions in a pattern of loadings for ease of identification. The choice resides between the use of orthogonal (most commonly Varimax rotation) and oblique (most commonly Direct Oblimin) factor solutions. In practice, both approaches usually result in similar solutions (Tabachnick & Fidel, 2007). For this study Varimax rotation has been selected for its ease of interpretation and reporting.

Motivation Factors

The 34 items of the LMS were subjected to PCA using SPSS version 17.0. Prior to performing PCA, the ability of the data to meet the assumptions and conditions outlined above were assessed. The KMO measure result of .918 exceeded the recommended value of .6 and Bartlett's test for sphericity result of 97359.24 $p. < 0.001$ supported the initial factorability of the correlation matrix. Examination of the correlation matrix revealed the presence of a wide majority of the coefficients measuring .4 and above.

The preliminary PCA revealed the presence of six components with eigenvalues exceeding one, explaining 66.79% (29.56%, 12.56%, 10.50%, 5.761%, 4.73%, and 3.69%) of the variance respectively. An inspection of the screeplot (see Appendix C) revealed a clear break at the third component. Based on Catell's (1966) scree test, it was decided to retain three components for further investigation.

PCA was run on the newly obtained three factor model. The data remained favorable for factor analysis with Bartlett's Sphericity test score 70354.55 p. <0.001 and the KMO result .910 well above the .6 benchmark. The three factor analysis explained a still robust 60.55% of the total variance; with component one, stimulus avoidance 32.12%, component two, intellectual 16.44%, and component three social, 12.00% , contributing to the variance respectively. However, on the three factor analysis some problems with individual items appeared. Variables M1, M18, M19, M20, and M21 communalities fell below .4. Additionally, M1, M22, M23, and M24 loaded on multiple components. Opinions among experts vary as to whether or not multiple loaded factors should be dropped or not, with latitude left to the individual researcher to determine the best application for the analysis under consideration. Ultimately, as is shown below, the elimination of multiple loading items resulted in clearer results; high loading factors and simplicity of structure while meeting the standard for robust explanation of variance. Thus the decision was made to eliminate any variable that loaded on multiple components or whose values did not meet the required threshold. For the sake of consistency this standard has been applied to all subsequent analysis.

The modified LMS with 25 items was retested and to aid in the interpretation of these three components Varimax rotation was performed. The rotated solution revealed an optimal loading result, described seminally by Thurstone (1947) as the presence of simple structure. The loadings were clear each with considerable values all of them loading on only one component. Table 9 presents the scale.

Table 9: **Rotated Component Matrix (LMS)**

	Component		
	Component 1 Stimulus avoidance	**Component 2 Social**	**Component 3 Intellectual**
M2			.728
M3			.807
M5			.796
M6			.810
M7			.748
M8			.721
M17			.614
M9		.840	
M10		.851	
M11		.867	
M12		.841	
M13		.702	
M14		.762	
M15		.767	
M16		.661	
M25	.646		
M26	.622		
M27	.752		
M28	.769		
M29	.837		
M30	.811		
M31	.773		
M32	.752		
M33	.733		
M34	.667		
% of variance	32.116%	16.439%	12.000%
Eigenvalue	8.029	4.110	3.000
Alpha	.913	.923	.882

Satisfaction Factors

The 24 items of the LSS were subjected to PCA using SPSS version 17.0. Prior to performing PCA, the ability of the data to meet the assumptions and conditions outlined above were assessed. The KMO measure result of .878 exceeded the recommended value of .6 and Bartlett's test for sphericity result of 49949.87 p. < 0.001 supported the initial factorability of the correlation matrix. Examination of the correlation matrix revealed the presence of a wide majority of the coefficients measuring .4 and above.

The preliminary PCA revealed the presence of six components with eigenvalues exceeding one, explaining 67.20% (30.07%, 9.79%, 8.63%, 7.72%, 6.52%, and 4.47%) of the variance respectively. An inspection of the scree plot (see Appendix D) revealed a clear break at the fifth component. Based on Catell's (1966) scree test, it was decided to retain five components for further investigation.

PCA was run on the newly obtained five factor model. The data remained favorable for factor analysis with Bartlett's Sphericity test score 41529.03 p. <0.001 and the KMO result .858 well above the .6 benchmark. The five factor analysis explained a more robust 65.15% of the total variance; with component one identified as physiological, 29.65%, component two, self 10.34%, component three aesthetic, 9.39%, component four, relaxation 8.59, and component five, social 7.18 contributing to the variance respectively. However, on the five factor analysis some problems with individual items appeared. Variable S1 communalities score feel below .4. Additionally, S7 and S8 loaded on multiple components. The decision was made to eliminate any

variable that loaded on multiple components or whose values did not meet the required threshold.

The modified LSS with 21 items was retested and to aid in the interpretation of these five components Varimax rotation was performed. The rotated solution revealed an optimal loading result, described by Thurstone (1947) as the presence of simple structure. The loadings were clear each with considerable values all of them loading on only one component. Table 10 presents these results.

Table 10: Rotated Component Matrix (LSS)

	Component				
	Component 1 Physiological	**Component 2 Self**	**Component 3 Aesthetic**	**Component 4 Relaxation**	**Component 5 Social**
S2		.564			
S3		.693			
S4		.775			
S5		.751			
S6		.765			
S9					.828
S10					.721
S11					.662
S12					.821
S13				.880	
S14				.888	
S15				.748	
S16				.403	
S17	.764				
S18	.891				
S19	.848				
S20	.697				
S21			.702		
S22			.804		
S23			.837		
S24			.797		
% of Variance	29.648	10.343	9.388	8.591	7.179
Eigenvalue	6.266	2.172	1.972	1.804	1.507
Alpha	.851	.805	.824	.822	.787

Emotion Factors

The eight items of the circumplex scale were subjected to PCA using SPSS version 17.0. Prior to performing PCA, the ability of the data to meet the assumptions and conditions outlined above were assessed. The KMO measure result of .632 exceeded the recommended value of .6 and Bartlett's test for sphericity result of 5889.46 p. < 0.001 supported the initial factorability of the correlation matrix. Examination of the correlation matrix revealed the presence of a wide majority of the coefficients measuring .4 and above.

The preliminary PCA revealed the presence of three components with eigenvalues exceeding one, explaining 64.07% (25.36%, 24.46%, 8.63%, and 14.25%, of the variance respectively. An inspection of the screeplot (see Appendix A) revealed a clear break at the second component, but the examination of a two factor model showed a failure to reach the required threshold of explaining a minimum of 50% of the variance. Based on the results of these analyses it was decided to retain three components for further investigation.

PCA was run on the newly obtained three factor model. The data remained favorable for factor analysis with Bartlett's Sphericity test score 5463.01 p. <0.001 and the KMO result .618 above the .6 benchmark. The three factor analysis explained a more robust 70.53% of the total variance; with component one identified as positive, 28.36%, component two, passive 26.77%, and component three, negative 15.40%, contributing to the variance respectively. However, on the three factor analysis one problems with an individual item appeared. Variable E8 loaded on multiple components. The decision was

made to eliminate any variable that loaded on multiple components or whose values did not meet the required threshold.

The modified Circumplex scale with seven items was retested and to aid in the interpretation of these three components Varimax rotation was performed. The rotated solution revealed an optimal loading result, described by Thurstone (1947) as the presence of simple structure. The loadings were clear each with considerable values all of them loading on only one component. Table 11 presents these results.

Table 11: **Rotated Component Matrix (Circumplex Model)**

Value Table	**Component**		
	Component 1 Positive	**Component 2 Passive**	**Component 3 Negative**
E1	.782		
E2	.851		
E3	.708		
E4		.871	
E5		.836	
E6			.847
E7			.843
% of variance	28.360	26.773	15.401
Eigenvalue	1.985	1.874	1.078
Alpha	.673	.664	.627

Additional Analysis

To answer the posited research questions additional analysis was necessary in order to understand what role, if any, the factors within the satisfaction domains of physiology and aesthetic of place. Table 12 highlights the mean and standard deviation scores as compiled from the returned questionnaires. The clear separation of the two domain mean scores indicates that the aesthetic of place contributes to the participants'

satisfaction and can help explain their continued engagement in home brewing. The physiological factors however skew below the median of 2.5 on the five point Likert scale measure indicating that these factors play an insignificant role in the home brewers likelihood to continue in the activity.

Table 12: Physiological and Aesthetic Results

Domain		Mean	SD
Physiological			
S17	HB is physically challenging	2.2547	1.07124
S18	HB develops my physical fitness	1.7459	.87828
S19	HB restores me physically	1.9046	.97129
S20	HB helps me stay healthy	2.1879	1.07783
Aesthetic			
S21	The area or place where I HB is fresh and clean	3.7493	.98578
S22	The area or place I HB is interesting	3.1473	1.07616
S23	The area or Place where I HB is beautiful	2.8731	1.16496
S24	The area or place where I HB is pleasing to me	3.6903	.97953

HB denotes home brewing

Finally, to determine if satisfaction with the activity can help predict the future behavioral intentions of home brewers the score of the LSS as a total was computed. Pearson's product moment test was applied to assess the strength of the correlative relationship between the satisfaction scale scores and the variables of the likelihood you will continue as a home brewer and the likelihood that you will recommend home brewing to others? The results illustrated in Table 13 show that the correlation between satisfaction and the two question variables reached statistical significance.

Table 13: Future Behavioral Intentions

	Total Satisfaction	Likelihood To Recommend	Likelihood To Continue
Total Satisfaction		.300**	.265**
Likelihood To Recommend			.485**

**** Correlation is significant at the 0.01 level**

Reliability

Reliability is defined as the consistency of a measure (Huck, 2004). Put simply, the ability of solutions to reach valid reliability scores indicates that the measure itself, not error or chance, explains the result. Reliable research instruments allow future research to consistently measure the same factors and different results can be reliably attributed to differences in the sample and not to the instrument itself. Internal consistency was calculated for each of the three scales and then for each of the components identified within the scales from the PCA. There is disagreement within the literature as to the standard for reliability scores with some calling for .50 and above and others calling for the more stringent Cronbach's (1954) standard requiring an alpha of .70 or higher, on a scale of 0 to 1.0 to demonstrate reliability. The higher the number (closer to one) the greater the internal reliability of the instrument increasing the likelihood that error or chance produced the result. Table 14 illustrates the results of the new scales created from the factor analysis outlined above.

The table clearly indicates a robust coefficient for the LMS and the LSS both in the total scores and within the identified components of each scale. Russell's Circumplex of Affect scale did not perform as well achieving moderate reliability. The more

moderate exhibition of reliability may well rest more in the scale itself, applied in this context, than a lack of linkage of emotion to motivation and satisfaction in leisure activities.

Table 14 coefficient alpha of scales

Scale	Number of Items	Reliability
Leisure Motivation Scale		
Total Score	25	.910
Component 1	10	.913
Component 2	8	.923
Component 3	7	.882
Leisure Satisfaction Scale		
Total Score	21	.875
Component 1	4	.851
Component 2	5	.805
Component 3	4	.824
Component 4	4	.822
Component 5	4	.787
Emotion Scale		
Total Score	7	.573
Component 1	3	.673
Component 2	2	.664
Component 3	2	.627

Validity

Validity measures accuracy (Huck, 2004). Put simply, validity is the underlying soundness of the instrument signaling sufficiency that the instrument does indeed measure what it is purported to measure. Validity for this study has been determined using content validity and construct validity, with the attendant sub headings of convergent and discriminant validity. Content validity was assessed through two methods, expert input at the executive level from the AHA and through a field test of active home brewers. Construct validity was assessed through the application of

exploratory factor analysis in order to statistically determine the validity of the instrument.

Content validity

Often called face validity content validity answers the question; does the instrument measure what it is supposed to be measuring on the face of it? Executive officers of the AHA were asked to critique and offer insight into the research instrument prior to testing. This organization has vast experience in all aspects of the home brewing endeavor (technical and marketing) including experience with past surveys of the membership. The feedback obtained led to changes and improvements in specificity of the items, clarity of the questions, and the questions relevance to the activity. Additionally, the cooperation of the local chapter of the AHA was solicited and the respondents completed the questionnaire and assessed it for time, clarity of the items, ease of understanding, and the technical accuracy of the items. The feedback obtained resulted in further changes designed to enhance the instrument. The instrument was found to have content validity as determined by the expert review and field test population.

Construct validity

Construct validity is established through the examination of convergent and discriminant validity. The construct is a theoretical modeling of attributes and characteristics under scrutiny by the researcher (Clark, et al, 1998). In research involving self-reporting instruments construct validity assesses the meaningfulness of the test score, validating the usefulness of the instrument.

Convergent validity was assessed through the application of the Pearson product-moment correlation analysis of the instrument scales and the factors revealed through the Varimax rotated PCA scores identified in the previous section of this chapter. Convergent validity is supported for each of the scales and identified components measuring; motivation, satisfaction, and emotion. The scale totals obtained from the Varimax rotated PCA demonstrated correlation with the motivation scale correlating significantly with the satisfaction scale r =.677, p>.001 and the emotion scale r = .224, p>.001. Satisfaction correlated with emotion significantly with r = .184, p>.001. Table 15 reports the correlation coefficients for the factors revealed by the Varimax rotated PCA described in the previous section. M1 referring to the rotated motivation scale component 1 stimulus avoidance, etc.

Table 15: correlation coefficient for factors

	M1	M2	M3	E1	E2	E3	S1	S2	S3	S 4	S5
M1											
M2	.265**										
M3	.272**	.359**									
E1	.186**	.233**	.389**								
E2	.081**	**.024**	**.050****	**.099**							
E3	**.004**	**.002**	**.015**	.088**	.269**						
S1	.391**	.364**	.231**	.142**	.037*	.050**					
S2	.296**	.409**	.561**	.390**	.040**	.042**	.374**				
S3	.197**	.192**	.245**	.260**	.097**	.115**	.266**	.297**			
S4	.594**	.260**	.226**	.213**	.041**	.078**	.332**	.465**	.336**		
S5	.126**	.668**	.226**	.213**	.044**	-.033*	.297**	.351**	.214**	.284**	

Note: ** p<.001; * p<.005

This analysis reveals some weakness with the emotion scale with some components correlating negatively and others reaching only moderate significance. The motivation and satisfaction scales demonstrate strong correlation across the table with significance at the 0.10 (1%) level.

The components identified through the Varimax rotated PCA for both the motivation and satisfaction scales demonstrate strong correlation coefficients. The initial research choice of delimiting the study to a population who has voluntarily joined an organization dedicated to the activity under examination can be seen logically to restrict range and decrease variability. The participants by the very nature of their enthusiasm for the activity might well find it difficult to perceive or identify differences across the measures. In spite of this delimitation however, the ability of the variables to factor with such strong loadings speaks to the discriminant validity of the scales.

For the recalibrated motivation, satisfaction, and emotion scales that resulted from the Varimax rotated PCA convergent and content validity were strongly supported. The reliability alpha of the motivation and satisfaction scales was found to be robust and the emotion scale was found to be moderate. Overall, the measures obtained from the motivation and satisfaction scales are accepted as reliable and valid.

Non response bias

As reported earlier, a participation rate of approximately 17% was obtained for the survey instrument used in the present study. Stated numerically, 4,207 useable responses out of approximately 25, 000 were obtained. This response rate is considered robust for statistical analysis and the acceptability of the conclusions reached. Still 83%

of the membership did not respond and the issue of non response bias must be addressed. One widely supported method to assess non response bias is to compare characteristics of early respondents with late respondents. If differences are found between these groupings the indications are that non-respondents are likely to be different as well. Conversely, if there are no significant differences between early and late respondents found then support is provided that the survey results are more likely to be generalizable to the population under consideration. The underlying rational is that early respondents are more likely to be motivated and exhibit higher enthusiasm than late respondents or non-respondents. This is because early respondents tend to have higher levels of involvement in the area under examination.

To determine if non response bias was a problem the sample was split between the respondents who participated through the original email request and those that responded after the follow up emails were sent. This created a comparison base of 2704 respondents classified as early respondents and 1503 classified as late respondents. Statistical analysis comparing the group means and the total scores from the motivation, satisfaction, and emotion scale results were computed using the independent samples t-test, with no statistically significant differences found between the two groups. This finding offers strong support that non respondents too would not be different and increases the confidence level of the generalizability of the results obtained from this study.

Summary

In summary chapter 4 presented the statistical results calculated from the research instrument. These results included a comprehensive overview of the respondents' demographic characteristics such as: age, income, education, and employment information and important brewing information such as: time in the activity, benefits derived, and needs met, and likelihood to continue and recommend with means comparison to satisfaction. Analysis of the measurement properties of the instrument was conducted as well using the exploratory factor analysis technique of Principle Component Analysis supported by obtaining the eigenvalues of the data and analysis of the scree plots. The modified measurement scales that most accurately revealed the relevant subscales and variables for the areas under consideration (motivation, satisfaction, and emotion) were determined and presented. Lastly, the overall reliability and validity of the created scales was addressed as well as non response bias. The following chapter will review the findings to answer the research questions and discuss the implications of the study and identify future research potential.

Chapter V

Discussion

Overview

This chapter is divided into five sections. First, a brief description of the study and its purpose is offered. Next, each research question and result is discussed. Third a review of the significance and contribution of the study is presented along with implications derived. Next, future research opportunities designed to improve and advance this research are presented. Finally, a brief conclusion is offered to summarize both the chapter and the study as a whole.

Description and purpose of the research

As outlined in Chapter 1, this study has been undertaken to gain deeper insight into home brewing as a serious leisure activity. The three stated purposes of the study were identified earlier. The primary purpose of the study was to shed light on the factors that generate the motivation for home brewers to engage in the activity, and assess the subsequent emotional and satisfaction outcomes. The second purpose was to determine if the dimension of satisfaction, as determined by the composite mean of the satisfaction scale, would correlate with the variables measuring the likelihood of continuance and recommendation and help predict the future behavioral intentions of home brewers.

Lastly, the study endeavored to provide a demographic profile of who is actually engaged in the home brewing activity.

Addressing the research questions

In this section each research question is addressed and linked to the reported findings. To answer the following values questions only variables with a mean score over 3.0 from the scale variables identified from the Varimax rotated solutions are accepted as significant.

Q1 What are the motivational factors which influence home brewers?

The three component rotated model of motivation factions clearly follows the literature reviewed. The strongest motivating factors where overwhelmingly found in the component identified as intellectual. The opportunity to be creative was the strongest influence overall accompanied closely, perhaps unsurprisingly by imagination. Knowledge and exploration factors (e.g. curiosity, challenge, new things and new ideas) all scored highly in this component. In the relaxation component - mental relaxation was the strongest motivation factor and in the social component forming new friendships was the strongest factor. Though social and relaxation factors contribute to home brewer motivation it is clearly intellectual engagement that supplies the greatest impetus. The concepts of perseverance, skill development, and career (articulated as absorption since no significant remuneration is involved) articulated in the serious leisure construct are very much in evidence in these results. The findings track closely with the leisure motivation factors (exploration, discovery, and creativity) as described by Beard and Ragheb (1983) as well as with Stebbins (1982) criteria for serious leisure inclusion.

Q2a What are the satisfaction factors which influence home brewers?

The findings of the five component satisfaction model factors of influence extend logically from the motivation factors described above. The component named self, in essence the LSS factors of intellect and education collapsed in the Principle Component Analysis, held the factors with the strongest influence. The highest values within the self component are feelings of accomplishment, utilization of skills, and discovering new things; followed closely by feelings of self-confidence and exposure to new things. These findings square nicely with the intellectual motivation component results and the general leisure literature. All four factors within the relaxation component scored highly with simple enjoyment the highest value followed by relaxation, emotional well-being, and relief of stress. All the relaxation factors showing high mean scores offers powerful support to the therapeutic benefits of home brewing and is very much in keeping with the literature reviewed. In the social component the highest value was found in the factor the people I meet home brewing are friendly illustrating the shared enjoyment that exists among brewers and supports the serious leisure construct and its requirement of unique ethos within the activity.

Q2b Will the physiological and aesthetic domains described in the LSS be significant to home brewers?

This question generated a mixed answer. None of the physiological factors reached the mean 3.00 standard for acceptance signaling that the physicality of the activity plays little role in the satisfaction generated from home brewing. The aesthetic

of place however produced a very different result. Three of the four factors scored high with respondents describing the place they brew as interesting, fresh and clean, and pleasing to them. The factor specifically asking is the place you brew beautiful received a mean positive response of 2.87 which while failing to meet the standard was close indeed making the aesthetic component of place a key part of home brewing satisfaction.

Q3 What are the emotional factors that influence home brewers?

The three component model of emotion generated positive response in only one component labeled positive. The three factors within this component namely happiness, excitement, and surprise all loaded with high values. The components passive and negative generated no resonance with the sample group. The positivity of the factors that were significant indicates close agreement with the literature; namely, that emotional positivity does indeed influence the participant's likelihood to continue and recommend home brewing.

Q4 Can the summed scale of satisfaction be used to predict the future behavioral intentions of home brewers to continue in and recommend the activity?

The ability to apply the summed satisfaction scale total scores to the issue of future behavioral intention became the next analysis focus. The intention being to illustrate the strength of the linear relationship between the satisfaction scale mean score to the mean scores of the variables likelihood to continue and likelihood to recommend. The two likelihood questions were framed using a Likert scale ranging from 1 very unlikely to 5 very likely. The result was determined by correlating the total mean values

of the satisfaction scale to the mean values of the two behavioral questions using Pearson's product-moment correlation. The correlations were found to be significant at the 0.10 (1%) level. Satisfaction correlated to the likelihood to recommend with r - .300, p>.001; and to likelihood to continue r - .265, p>.001. Thus it can be stated that the high satisfaction scores support the likelihood for continuance in and the recommendation of home brewing for the respondents participating in this study.

Contribution and significance

This study of serious leisure is both relevant and timely. The changing face of society and the self-identification and self-actualization resonance derived from work are the impetus for this study. The short-term economic issues faced by society today such as less work (reduced employment status) or loss of work entirely; coupled with the long-term societal changes observed by researchers regarding work benefits both intrinsic and extrinsic, and self-actualization and the aging demographics make examination of this topic particularly significant. As described in the introduction to Chapter 1, researchers and governmental agencies, local, national, and international, march in lock step in linking access to and participation in leisure to the overall quality of life. Serious leisure activities, particularly in light of the career replacement and self- identification aspects contained within are increasingly important. Government and non government organizations (NGOs), as well as the multi-faceted leisure industry will benefit from increased empirical understanding of serious leisure.

The academic significance of this study stems from the application of quantitative analysis techniques to the examination of serious leisure. The findings and solutions

presented herein are empirical and statistically sound and based on supporting academic literature. This study advances the serious leisure research, which to date has been primarily composed of qualitative efforts using ethnographic methods. Particular depth and richness for this research is added by means of the robustness of the validation of the leisure motivation and leisure satisfaction scales. Prior research using these scales focused on general leisure which includes casual, purely hedonic activities devoted entirely to enjoyment. The ability to measure serious leisure activity through home brewing, with the relevant subscales and variables identified, on its own merits, is a significant contribution to the literature.

Implications

The implications to be derived from this research are widespread. The implications for government and NGOs in planning and development are manifest. Understanding the affect of serious leisure activity, agencies can use this understanding to develop programs and activities that can add measurably to the quality of life for participants". Career, vocational, and retraining counselors can benefit from a deepened understanding of leisure to career in terms of typologies and fit. Adding serious leisure sensibility to career planning can offer the intrinsic and extrinsic benefits that can enable an employee to stay in what, without the activity, be an unrewarding career adding benefit to both the employer and employee. Physical rehabilitation practitioners will also benefit from understanding the potential of therapeutic benefit to be gleaned from this research. As mentioned earlier serious leisure can provide coping mechanisms that enable individuals to more quickly and fully recover fromtrauma. The broad scope of the

leisure and recreation industry including; retail suppliers of goods and equipment, travel and tourism agents and operators, and leisure and travel writers and publishers can all benefit from the empirical understanding offered in this research.

Limitations

Every effort has been made to plan the research so as to minimize limitations, however limitations still exist and caution must be exercised in attempting to explain and generalize the results. This section is offered to reveal potential limitations in an effort to improve the conceptualization of the research construct for future researchers who might wish to build upon this study.

One limitation lies within the sample group itself. Though large in terms of the number of respondents this sample represents approximately 17% of the population solicited to participate. This percentage, though acceptable statistically, does not fully preclude non reporting bias. Further this sample was limited to the population encompassed within the American Home Brewers Association (AHA). This research does not address home brewers engaged in the activity of home brewing outside of this organization. The act of joining may indicate that AHA members are a relatively homogeneous group that is inherently different from the entire population of home brewers and are not a representative sample of anything beyond this group and its norms.

The survey was self-administered and carries the attendant issues and ramifications inherent in self-reporting survey instruments; such as subjectivity, potential confusion/misunderstanding, and the lack of expert administration to each participant. Additionally, the survey included the full sets of three measurement scales, extensive

demographic questions, technical brewing questions, and a comment section. Considering the burgeoning growth of research inquiries and what seems to be the continual bombardment of business performance/satisfaction surveys prevalent today, coupled with the length of the instrument, fatigue is certainly a point to include in assessing both the percentage and quality of the responses. The survey was administered electronically, and while there are compelling reasons that support this method (ease of use, sense of immediacy, accuracy of data transfer, etc.) there is no question that those without computer and email access were excluded from participation. Lastly, the issue of comparability must be acknowledged. The lack of empirical studies in serious leisure and home brewing limits comparison of method and results to other research.

Future research

While significant in and of itself future research into serious leisure in terms of both specific activities and overall is called for. The intention is that this study can serve as an initial departure point to fully explore and develop theory and applications. This section details some of the prime focus areas for future research.

Replication studies applied to other serious leisure pursuits will do much to confirm and strengthen the results found in this research. Applying the leisure motivation and satisfaction scales identified in this study to these other pursuits will test the efficacy and fit of the scales and ultimately lead to an optimal result in subscales and variables that allow for generalizable measurement and comparison between and within serious leisure activities. Replication will reveal if the subscales and variables uncovered in this study are applicable only to home brewers or to serious leisure generally.

One critical area for future research would be to develop and test a specific leisure emotion scale that would meet the Cronbach's alpha reliability standard. This seems a rich area to explore as the literature quite clearly revealed the criticality of emotion to cognition and emotion to both decision making and behavior. The moderate reliability of the scale used in this study should be attributed to its general nature. The subscales and variables of both the LMS and LSS scales which were developed specifically for leisure still benefited from further factor analysis when applied to the serious leisure activity of home brewing. The scale is the issue not the dimension of emotion it was applied to. Empirically measuring emotion and its influence on serious leisure participants will vastly improve the ability to predict and understand participation and continuance in an activity.

Research should include a retesting of home brewers motivation, satisfaction, and emotion in the future. Adding a longitudinal aspect to the research serves a twofold purpose: the opportunity to confirm the original study, and the opportunity to identify and measure changes, if any, over time. Longitudinal research increases the depth of the research and the confidence to apply the results.

Finally, there is a future research opportunity to test for the viability of serious leisure participants as a valid market segment. Certainly home brewers as evidenced by their high level of education, professional, and income attainment appear to be a highly desirable group to market to and attract. Similar economic demographics seem to intuitively exist for many of the serious leisure pursuits identified in this study (e.g. golfers, adventure travelers, etc.). Research designed to identify, quantify, and determine

accessibility to, if positive, would represent enormous financial potential for many types of business operations and operators. Inherent overlaps across the activities; for example golfers, civil war re-enactors, and adventure travelers all share transportation, lodging, and food and beverage needs, already exist. Developing serious leisure research into a market segment study could potentially identify many other activities and needs based economies of scale that would justify cross marketing efforts. Much greater understanding of the abstract concepts of motivation and emotion could be gleaned by adding the element of international analysis to this research. Cross-national differences and similarities would increase both the richness of the results and researchers' ability to generalize the results.

Conclusion

This study has presented substantive analysis of home brewing and serious leisure to benefit academia, industry, and government agencies. The benefits derived from serious leisure pursuits are varied and significant. Most importantly on a human scale the benefits to serious leisure participation for each individual, by way of the development of positive concepts of the self: actualization, identification, and gratification, are its most significant contribution. This study advanced the incremental understanding to be found the serious leisure literature.

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Appendix A Survey Instrument

Informed Consent

"The Auburn University Institutional Review Board has approved this document for use From February 26, 2009 to February 25, 2010. Protocol #09-055 EX 0902."

INFORMATION LETTER:

For a Research Study entitled An exploratory investigation of the motivation(s) behind home-brewing as a serious leisure pursuit and the satisfaction derived from it.

You are invited to participate in a research study to shed light on the nature and extent of home-brewing throughout the United States as well as the motivations driving your behavior and the satisfaction derived from home-brewing. The study is being conducted by Dr. Martin O'Neill, Professor, Active Home Brewer and Program Director of the Hotel and Restaurant Management Program, Auburn University. You were selected as a possible participant because of your interest in home brewing and the fact that you are age 19 or older. If you decide to participate in this research study, you will be asked to complete an anonymous on-line survey. Your total time commitment will be approximately 15 minutes. There are no known risks associated with participating in this study. The survey delivery software will not collect email or IP addresses. If you participate in this study, you can expect to be provided with a full account of all results through the American Home-Brewer Association's Tech Talk email service upon completion of the project. Beyond the information shared, no personal benefits are anticipated. If you wish to withdraw, simply close your browser without submitting the data. Once you have submitted anonymous data, it cannot be withdrawn due to it being unidentifiable. Your participation is completely voluntary. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Nutrition and Food Science or the Hotel and Restaurant Management program. Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by not collecting identifiable information. Information collected through your participation may be published in a professional journal, and/or presented at a professional meeting, etc. A final report will also be shared with the American Home-Brewers Association. If you have questions about this study, please ask them now or contact Dr. Martin O'Neill at (334) 844-3264. If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE CONTINUE TO THE SURVEY.

Home Brewing Survey

Demographic information:

1. I am a

    ☐ Female

    ☐ Male

2. My age is:

    ☐ Under 21

    ☐ 21-25

    ☐ 26-34

    ☐ 35-49

    ☐ 50-65

    ☐ Over 65

3. My annual family income is:

    ☐ Under $25, 00

    ☐ $25,000 - $39,000

    ☐ $40,000 - $54,000

    ☐ $55,000 - $75,000

    ☐ $76,000 - $99,000

    ☐ $100,000 - $145,000

    ☐ Over $145,000

4. I am currently:

    ☐ Single

    ☐ Married/significant other

5. In general my spouse/significant other:

    ☐ Is fully engaged in home brewing with me

    ☐ Is fully supportive of my home brewing activities

    ☐ Is usually supportive of my home brewing activities

    ☐ Is never supportive of my home brewing activities

    ☐ Is neutral towards my home brewing activities

6. My education level is:

    ☐ Some high school

    ☐ High school graduate

    ☐ Vocational training/apprenticeship

    ☐ Some college

    ☐ Associate's degree

    ☐ Bachelor's degree

    ☐ Master's degree

    ☐ Doctorate

7. The choice that best describes my work is:

    ☐ Student

    ☐ Educator

    ☐ Construction/trades

- ☐ Office/clerical
- ☐ Office sales
- ☐ Management
- ☐ Consultant
- ☐ Professional
- ☐ Craft beer retailer
- ☐ Retired

8. The following best describes where I work:
   - ☐ K-12 education
   - ☐ College/university education
   - ☐ Military
   - ☐ Government
   - ☐ Service Industry
   - ☐ IT
   - ☐ Not for profit
   - ☐ Manufacturing
   - ☐ Brewing related
9. The choice that best describes my ethnicity is:
   - ☐ Caribbean Islander
   - ☐ African American
   - ☐ Native American

- ☐ Pacific Islander
- ☐ Caucasian
- ☐ Asian
- ☐ Hispanic
- ☐ Multi-racial
- ☐ I prefer not to answer

10. I most often work from:

- ☐ Home
- ☐ Fixed employment site
- ☐ Travel to customers

11. The following best describes my work schedule:

- ☐ Flexible
- ☐ Set

12. I have been interested in home brewing for:

- ☐ Less than 1 year
- ☐ 2-5 years
- ☐ 6-10 years
- ☐ 11-15 years
- ☐ Over 15 years

13. I primarily brew from:

- ☐ All grain recipes
- ☐ All extract recipes
- ☐ Extracts with specialty grains
- ☐ Mashed grain with extracts

14. If primarily a grain brewer please choose the answer that best describes you:

- ☐ I have always brewed primarily from grain
- ☐ I started with extracts and gradually switched to grain
- ☐ I started with extracts and quickly switched to grain

15. When I brew I primarily purchase materials:

- ☐ From pre-made kits
- ☐ By purchasing the exact amount called for in the recipe
- ☐ By buying bulk for multiple batches

16. I primarily purchase materials from:

- ☐ A local homebrew shop
- ☐ A wholesale supplier
- ☐ Online/mail order because there is no local shop
- ☐ Online/mail order though there is a local shop

17. The number of batches I brew annually is:

- ☐ 1-5
- ☐ 6-10
- ☐ 11-15

- ☐ 16-20
- ☐ 21-25
- ☐ Over 25

18. My average batch size is closest to:

- ☐ Under 5 gallons
- ☐ 5-6 gallons
- ☐ 10-12 gallons
- ☐ Over 12 gallons

19. The amount that best describes my monthly average brewing expense is:

- ☐ $10-$25
- ☐ $26-$50
- ☐ $51-$100
- ☐ $101-$150
- ☐ $151-$200
- ☐ $210-$250
- ☐ $251-$300
- ☐ $301-$350
- ☐ $351-$400
- ☐ $401-$450
- ☐ $451-$500
- ☐ Over $500

20. The following statement best describes me as a brewer:

- ☐ I prefer to brew from “tried and true” recipes
- ☐ I enjoy trying new recipes and ideas from friends, club members,
- ☐ publications, and/or online
- ☐ I enjoy “experimentation” and learning and developing recipes on my own

21. The following best describes me as a home brewer:

- ☐ Passionate and fully committed
- ☐ An enthusiast who enjoys brewing when I have time
- ☐ An occasional dabbler
- ☐ A special occasion brewer (e.g. Christmas brew)
- ☐ I find that I used to brew often but my participation has waned
- ☐ I no longer brew

22. I developed my interest in home brewing from:

- ☐ My friend(s) got me interested
- ☐ By trying craft brews and developing an interest in brewing
- ☐ Media coverage of home brewing
- ☐ Science class (yeast and distilling)
- ☐ Books/lectures
- ☐ Other publications
- ☐ My personal desire to enjoy better beer than I could find commercially

23 – 29. I home brew to:

	Most Important	Important	Neither important or unimportant	Not important	Least Important
Save money	☐	☐	☐	☐	☐
Creative outlet	☐	☐	☐	☐	☐
Scientific Interest	☐	☐	☐	☐	☐
Drink Better beer	☐	☐	☐	☐	☐
Friendship	☐	☐	☐	☐	☐
Advance the craft	☐	☐	☐	☐	☐
Commercial ambition	☐	☐	☐	☐	☐

30-38. How often do you experience the following emotions from home brewing:

	Not at all	Not very often	Occasionally	Often	Very Often
Happiness	☐	☐	☐	☐	☐
Excitement	☐	☐	☐	☐	☐
Surprise	☐	☐	☐	☐	☐

Idleness	☐	☐	☐	☐	☐
Boredom	☐	☐	☐	☐	☐
Anxiety	☐	☐	☐	☐	☐
Calmness	☐	☐	☐	☐	☐

39-67 One of my reasons for engaging in home brewing is:

	Not at all	Not very often	Occasionally	Often	Very Often
Learn things	☐	☐	☐	☐	☐
Satisfy curiosity	☐	☐	☐	☐	☐
Explore new ideas	☐	☐	☐	☐	☐
Self-learning	☐	☐	☐	☐	☐
Expand knowledge	☐	☐	☐	☐	☐
Discover new things	☐	☐	☐	☐	☐
Be creative	☐	☐	☐	☐	☐
Use imagination	☐	☐	☐	☐	☐

Build friendships	☐	☐	☐	☐	☐
Interact with others	☐	☐	☐	☐	☐
Develop close friendships	☐	☐	☐	☐	☐
Meet new people	☐	☐	☐	☐	☐
Self-revelation	☐	☐	☐	☐	☐
Social confidence	☐	☐	☐	☐	☐
To belong	☐	☐	☐	☐	☐
Gain respect	☐	☐	☐	☐	☐
Challenge	☐	☐	☐	☐	☐
Be good at brewing	☐	☐	☐	☐	☐
Improve at brewing	☐	☐	☐	☐	☐
Competition	☐	☐	☐	☐	☐
Be active	☐	☐	☐	☐	☐
Be in shape	☐	☐	☐	☐	☐

Use physical abilities	☐	☐	☐	☐	☐
Develop fitness	☐	☐	☐	☐	☐
Slow down	☐	☐	☐	☐	☐
Enjoy solitude	☐	☐	☐	☐	☐
Physical relaxation	☐	☐	☐	☐	☐
Mental relaxation	☐	☐	☐	☐	☐
Avoid daily hustle/bustle	☐	☐	☐	☐	☐
To rest	☐	☐	☐	☐	☐
Relieve stress	☐	☐	☐	☐	☐
Unstructured time	☐	☐	☐	☐	☐
Relief from work stress	☐	☐	☐	☐	☐

72-74 Overall brewing experience

	Very dissatisfied	Dissatisfied	Neither dissatisfied or satisfied	Satisfied	Very satisfied
My overall satisfaction is	☐	☐	☐	☐	☐

	Very unlikely	Unlikely	Neither Unlikely or Likely	Likely	Very likely
Likelihood to recommend	☐	☐	☐	☐	☐
Likelihood to continue	☐	☐	☐	☐	☐

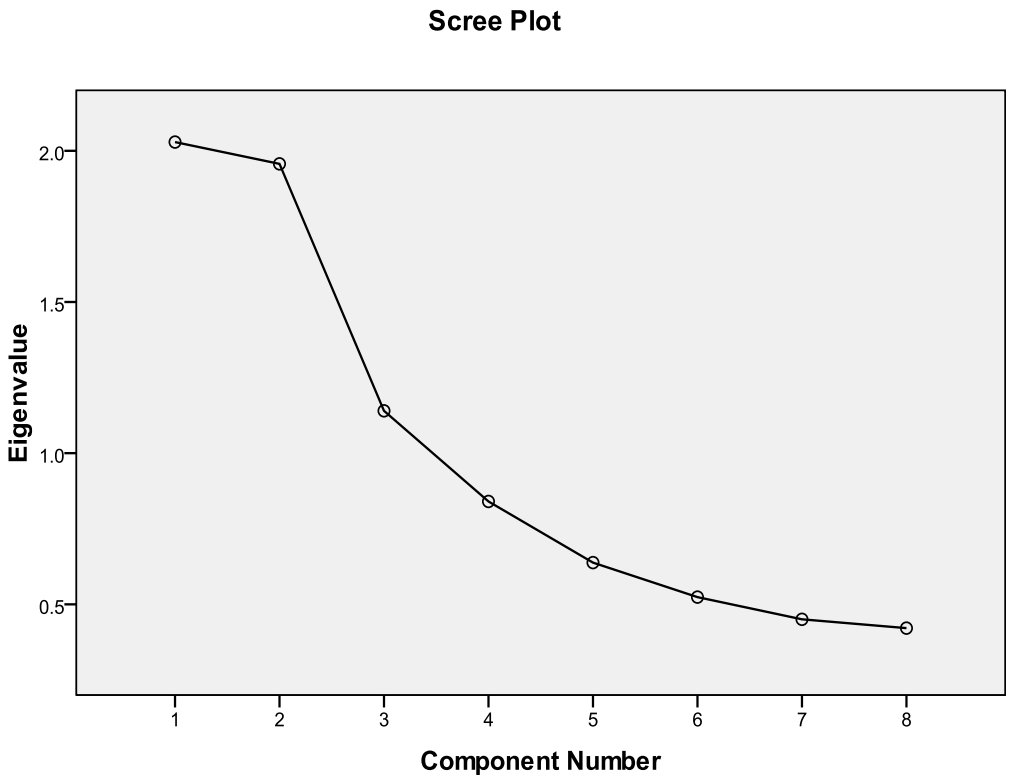
75-98 : My satisfaction level is:

	Almost never true	Seldom true	Sometimes true	Often true	Almost always true
Interesting to me	☐	☐	☐	☐	☐
Provides self confidence	☐	☐	☐	☐	☐
Provides sense of accomplishment	☐	☐	☐	☐	☐
Utilize many skills	☐	☐	☐	☐	☐
Increases my knowledge	☐	☐	☐	☐	☐
Try new things	☐	☐	☐	☐	☐
Learn about myself	☐	☐	☐	☐	☐
Learn about others	☐	☐	☐	☐	☐

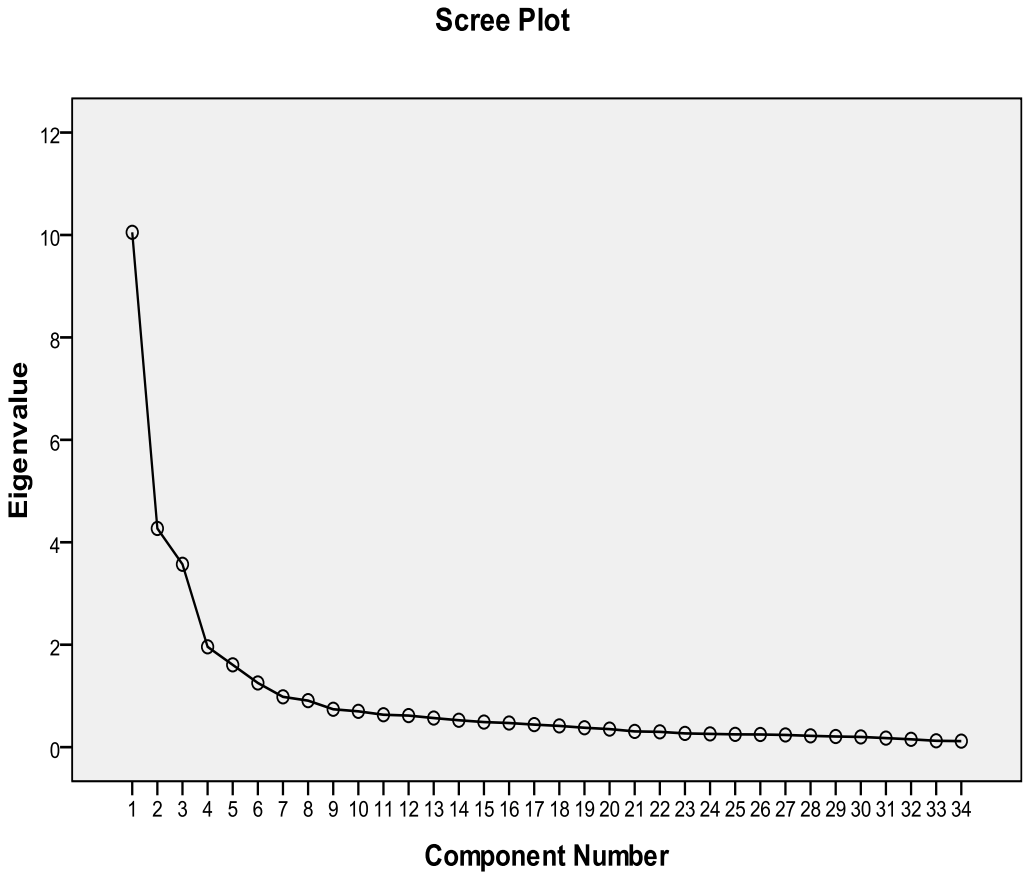
Have social interaction	☐	☐	☐	☐	☐
Develop close relationships	☐	☐	☐	☐	☐
Meet friendly people	☐	☐	☐	☐	☐
Associate with other brewers	☐	☐	☐	☐	☐
Provides relaxation	☐	☐	☐	☐	☐
Relieves stress	☐	☐	☐	☐	☐
Contributes to emotional well-being	☐	☐	☐	☐	☐
I simply like doing it	☐	☐	☐	☐	☐
Physical challenge	☐	☐	☐	☐	☐
Physical fitness	☐	☐	☐	☐	☐
Physical restoration	☐	☐	☐	☐	☐
Improves health	☐	☐	☐	☐	☐

Brewing area is fresh and clean	☐	☐	☐	☐	☐
Brewing area is interesting	☐	☐	☐	☐	☐
Brewing area is beautiful	☐	☐	☐	☐	☐
Brewing area is pleasing	☐	☐	☐	☐	☐

Appendix B Emotion Scree Plot



Appendix C Motivation Scree Plot



Appendix D Satisfaction Scree Plot