

Home Brewing and Serious Leisure: A Mixed Methods Examination

by

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A dissertation submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Doctor of Philosophy

Auburn, Alabama
May 9, 2011

Keywords: serious leisure, home brewing,
satisfaction, mixed methods

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Abstract

The study of serious leisure since its introduction (Stebbins, 1982) is extensive, covering a multitude of leisure endeavors (Baldwin & Norris, 1999; Brown, 2007; Dilley & Scraton, 2010; Gibson, Willming, & Holdnak, 2002; Hunt, 2004; Jones, 2000; Jones & Symon, 2001; Kane & Zink, 2004; Orr, 2006; Smith, Costello, Kim, & Warren, 2010). To date the studies have been largely qualitative in nature, limited to the examination of specific activities. Though rich in detail and thorough in their explanation of the activity under study, the lack of quantitative research regarding serious leisure is conspicuous by its absence. This appears to be a significant weakness in the literature and it is this lack that is addressed in this study. Adding quantitative methods to the study of serious leisure specifically in the area of satisfaction will, when considered in combination with the qualitative data, provide greater depth and detail to the understanding of this increasingly important subject.

In this study exploratory and confirmatory factor analyses were conducted to test the empirical dimensions of serious leisure participation through the lens of home brewers by application of the Leisure Satisfaction Scale (Beard, & Ragheb, 1983). The results obtained indicate a moderate goodness of fit for the theoretical model. The chi-square result 323.83 (df 123, n = 2100) was not significant and the RMSEA .043 result but indicated strong goodness of fit. The NFI (.75) and CFI (.78) fell just short of the optimum result (.95). The qualitative inquiry methods revealed four dimensions that

could enable the scale to reach the optimum fit levels. These dimensions are history, creativity, science, and authenticity. It is concluded that future research is needed to add these dimensions to the scale and replicate the study to assess the improvement in fit results.

Acknowledgments

I wish to acknowledge and express my sincere gratitude to my committee; Dr. Martin O'Neill for showing me the path and telling me the truth, Dr. Carey Andrzejewski for initiating me into the mysteries of qualitative inquiry, and Dr. Douglas White who has been so generous of his time and support since I first arrived on campus. I also appreciated the insight and assistance of my Outside Reader, Dr. Maria Witte who spent a summer teaching me how to write a dissertation. I would like to thank my family, my friends, and fellow colleagues for their support and encouragement. Finally, and most importantly I must confess that without the extraordinary love and support of my wife Gina none of this would be possible.

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Chapter I

Introduction

Background

The most commonly accepted definition of leisure refers to purely hedonistic pursuits, often accompanied by the concept of mitigation or relief from work e.g. “noun: time available for ease and relaxation, freedom to choose a pastime or enjoyable activity” (Princeton University, “about wordnet,” 2010). The construct of traditional leisure research parallels the classical Greek concept that leisure exists solely within the state of perceived freedom (Goodale & Godbey, 1988). This concept of choice was seminally described as “the free time of choosing” (Parker, 1983, p. 9). The underlying implication is that freedom, in the case of leisure, constitutes freedom from obligation, “there are no external or internal pressures or coercion to engage” (Iso-Ahola, 1999, p. 39).

This conceptualization of leisure however fails to address the dynamic societal changes and pressures currently at work. Fundamental sea changes have and continue to occur across all strata of society. These social forces have conspired to alter the sociological landscape. These changes include; aging and the changing attitudes of the aged (Heo, Lee, McCormick, & Pedersen, 2010), the traditional intrinsic rewards from work, and the extrinsic rewards of leisure (Berg, Trost, Schneider, & Allison, 2001; Driver, 2003). These changes are further reflected in the ever increasing impacts of

technology and technological isolation (Stebbins, 2001) as work shifts from an artisan and central geographic perspective to service and decentralized norms. Recent research highlights the impact of consumer culture on leisure behavior and motivation (Lepp, 2009).

The serious leisure construct, first articulated by Stebbins (1982) has served to bridge the leisure gulf between the traditional worldview of leisure and the demands represented by the changing society. Stebbins (1982) defines serious leisure 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). Stebbins (2001) further explains that participation in serious leisure can overcome feelings of helplessness and life dissatisfaction; the creeping realization, for many, that life unfolds outside of individual control and is devoid of significant excitement and resonance. Stebbins posits that it is through participation in serious leisure that an individual can find meaning and a profound lifestyle that adds individual richness and contributes to the community, human fulfillment and the maximization of human potential. Thus it can be seen that Stebbins’ construct bridges the presumed dyadic view of work/leisure incongruity replacing it with a unifying leisure view that explains both intrinsic and extrinsic reward within an activity.

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.

Problem statement and significance

The study of serious leisure since 1982 is extensive, covering a multitude of leisure endeavors (Baldwin & Norris, 1999; Brown, 2007; Dilley & Scraton, 2010; Gibson, Willming, & Holdnak, 2002; Hunt, 2004; Jones, 2000; Jones & Symon, 2001; Kane & Zink, 2004; Orr, 2006; Smith, Costello, Kim, & Warren, 2010). To date, with few exceptions, the studies have been largely qualitative in nature, limited to the examination of specific activities. Though rich in detail and thorough in their explanation of the activity under study, the lack of quantitative research regarding serious leisure is conspicuous by its absence. This appears to be a significant weakness in the literature and it is this lack that is addressed in this study. Adding quantitative methods to the study of serious leisure specifically in the area of satisfaction will, when considered in combination with the qualitative data, provide greater depth and detail to the understanding of this increasingly important subject. The original contribution of this research is to, through the use of mixed methods; begin the development of a valid and reliable serious leisure satisfaction instrument using home brewers of craft beers and ales as the subject group.

Purpose of the research

The current investigation into serious leisure is 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 long 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 self-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 an earlier examination of this subject, a well-used and validated (Trottier, Brown, Hobson, & Miller, 2006) general leisure satisfaction scale (Beard & Ragheb, 1980) was modified and exploratory research was conducted to identify the dimensions and variables that best explained the underlying structure of home brewers satisfaction with the activity. That initial research serves as the basis for the more comprehensive interdisciplinary and mixed method approach undertaken in this study. The use of both qualitative and quantitative method allowed for triangulation of the data (Guba & Lincoln, 1989) offering the most complete view possible of the subject under investigation.

It was intuitive to suspect that the modification of an *a priori* research scale that measured satisfaction within the traditional definition of hedonic leisure, as outlined above, might not fully address all the dimensions and variables inherent in a serious leisure pursuit. It was for this reason that the research design used both concurrent and sequential triangulation as the mixed method strategy (Creswell, 2009) for data collection. The majority of the qualitative and quantitative data were collected concurrently in the initial stage and then additional quantitative data was collected specifically to address the possibility of deficiencies in the theoretical model and provide additional confirmation as to the dimensions and variables needed to validate the proposed instrument.

Research questions

RQ1: Does the theoretical model provide the goodness of fit required for statistical confirmation of the serious leisure satisfaction scale when it is applied to home brewing?

RQ2: What variables and dimensions are needed to improve the instrument so as to obtain a full goodness of fit confirmatory factor analysis result?

RQ3: To what extent are home brewers satisfied with their participation in home brewing?

In a general sense, serious leisure has application for the leisure and recreation market as well as for the hospitality industry in terms of tourism, travel and the related lodging and food and beverage opportunities that attach. Specifically, home brewing shares both the indirect hospitality application just described, but more importantly by the nature of the product itself, is particularly relevant to food and beverage operations. Craft

brews are an important offering in broad appeal restaurants and are becoming increasingly important and visible as niche operations such as micro breweries and brew pubs. This study reveals the demographics and market impact potential of this group and will benefit the industry through drawing conclusions and implications from this research.

Definition of terms

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

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.

Home brewing – Amateur or hobbyist brewing occurring in a non commercial location for purposes other than sales; e.g. inside the home, in a shed or workshop, or in conjunction with a social group in a specified location.

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).

Qualitative method – “any social research design that relies primarily on data in the form of words” (Schwandt, 2007, p. 247-248). Creswell (2007) posits five qualitative approaches; narrative, phenomenology, grounded theory, ethnography, and case study.

Quantitative method - a “synonym for any design (e.g. experimental and survey) that relies principally on the use of quantitative data, for example, in numbers, graphs, or formulas...the activity or operation of expressing something as a quantity or amount” (Schwandt, 2007, p. 250).

Sea change – an idiom denoting a profound transformation, by any agency. Attributed originally to Shakespeare in *The Tempest* (Quinion, 2000).

Delimitations

This study has been deliberately delimited to include only home brewers and craft beer enthusiasts. Other serious leisure pursuits and sample populations were not included. While a broad understanding of the entire serious leisure participant field is ultimately desirable, the issue of an unwieldy sample was of major concern. It was believed that a controlled single use sample group was the more appropriate vehicle for what is, in essence, exploratory research. The research was further delimited to members of the American Homebrewers Association and through them a snowball sample of other craft brew enthusiasts. The large number (25,000) of members and wide spread geographical dispersion (all fifty states) made this an ideal population that was both accessible and sufficient to conduct this research project.

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 scale that has been employed in this study. The question of significance was addressed along with

a description of the sample group. Some potential market impacts concerning the hospitality industry have been addressed as well. The 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. These sections will highlight the impact that home brewers have had on this market segment and provide the ability to understand the market and its potential impact for the hospitality field.

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. The impact of serious leisure in areas as diverse as

health, emotional and trauma recovery, and successful aging are examined as well. This section includes a comprehensive look at several serious leisure research studies each using a different activity as an entry into understanding serious leisure. Since mixed methods is the technique used in this study the literature review includes an examination of the methodologies used; a combination of qualitative and quantitative inquiry, and the theoretical rationale behind the mixed method approach.

The preceding chapter identified the Leisure Satisfaction Scale which has been used in the present research study. No understanding of satisfaction can be attained without considering the motivation to engage and the emotion derived from engagement. This chapter examines each of these critical elements to provide the full spectrum of empirical understanding necessary to understand engagement in an activity and the satisfaction derived through participation. Constraint and obligation are further elements examined to complete the holistic view of serious leisure engagement. 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 worked to understand the diverse elements of satisfaction through emotion 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 indispensable 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 most 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 combination of elements inherent in home brewing makes it an activity ideally suited to serious leisure investigation.

American beer mythology 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 resume production. 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 beer market

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 nationally. 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 seemingly counter intuitively, the growth in the number of small brewers has increased as consolidation among the large commercial brewers has continued (Carroll, 1985; Tremblay, Iwasaki, & Tremblay, 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).

The market has changed dramatically since home brewing was legalized. 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 social and supportive interaction of home brewing enthusiasts is well documented (Ogle, 2006). Currently, craft beer is projected to exceed \$7 billion annually, capturing over 6% of the commercial dollar volume market share (Brewers Association, 2010) with 1,625 brewing operations producing 8.5 million barrels of beer annually. These numbers highlight the incredible renewal of the brewing industry and the growing hunger of consumers for differentiation (Carroll & Anand, 2000).

The Brewers Association report shows that in the first two quarters of 2010 overall beer consumption fell by 2.7%, with domestic brands down 2.9% and imports down 9%. Craft beer sales by contrast increased 9% by volume and over 12% by revenue, providing the only positive news for the industry. This increase, in an otherwise down market, clearly indicates that the growth in craft beer sales comes at the expense of the large national and international breweries. This pace of growth dwarfs the 1.2% growth reported for table wines in the corresponding period. Home brewers quite justifiably consider themselves the creators of the craft beer movement and perceive themselves as craftsmen and the economic engine for the success of craft beers and brewing operations. The growth in both the numbers of operations and the continually growing percentage of market share and sales gives strong support to the notion that home brewers specifically, and craft beer enthusiasts more broadly, can indeed be viewed as an important and attractive niche consumer market.

The identification of home brewers as a potential niche market can prove advantageous to food and beverage operators seeking to find the same differentiation position that craft brews have created. As large broad appeal chains increasingly

consolidate and enjoy the large economy of scale and advertising budget advantage an operator who can penetrate this market can find competitive advantage. All the literature reviewed indicates that businesses which demonstrate commitment to a niche market through superior offerings and/or knowledge can gain differentiation and dominance within the niche (Caragher, 2008; Carroll, 1985; Garver, 2009; LoDuca, 2009). Further, the literature strongly indicates that satisfying the consumer needs within a niche segment positively correlates with consumer self-identification, and is the central determinant of customer satisfaction (Garver, 2009; Zhu, Wang, Yan, & Wu, 2009). Food and beverage operators who demonstrate commitment to craft beers through server education, beverage list commitment, and supporting events can achieve this same differentiation and in the process help mitigate the economy of scale advantages enjoyed by large chain operations.

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 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 pure 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 (1982) 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 case for the value of qualitative research, especially in exploratory areas, is definitively made by Eisenhardt (1989) who equates problem definition and constructs 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, 1997) 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, Willming, & Holdnak, 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 and career

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. Nationally recognized brewing companies such 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 (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, & Larsen, 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 offers 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 (Jones & DeFillippi, 1996), personal effort (Colarelli & Bishop, 1990; Iso-Ahola, 1989), durable benefit (Jones, 2000), and the unique ethos of 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 compensatory aspects of work leisure which indicates 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 (Tinsley, Hinson, 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, dog show participation, 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 a wide range of activities as exemplified by: college football fans (Gibson, et al., 2002), European soccer fans (Jones, 2000), post compulsory education, (Jones & Symon, 2001), involvement in the American Kennel Club (Baldwin & Norris, 1999), Master's swimming (Hastings, Kurth, Schloder, & Cyr, 1995), historical reenactments (Hunt, 2004), and Carolina shag dancing (Brown, 2007).

Dog shows, swim meets, committed sports fandom, and shag dancing all link, at least indirectly, with travel and tourism. Contests and events whether participated in or traveled to as spectators require lodging and food and beverage as tangential accompaniments to the activity pursued. Recent research indicates that serious leisure activities can be more directly tied to the travel and tourism business. Increasingly, tourism is dividing into niche markets driven, in many cases, by serious leisure participants. Adventure tourism with activities such as kayaking, (Kane & Zink, 2004), marathon competition (Smith, Costello, Kim, & Warren, 2010), mountain climbing (Dilley & Scraton, 2010), and festival and event travel (Mackellar, 2009) have all been linked to serious leisure. Other serious leisure niche segments such as volunteer tourism

(Palacios, 2010) and social justice tourism (Higgins-Desbiolles, 2008; Schellhorn, 2010) are currently under investigation as well.

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 well known 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

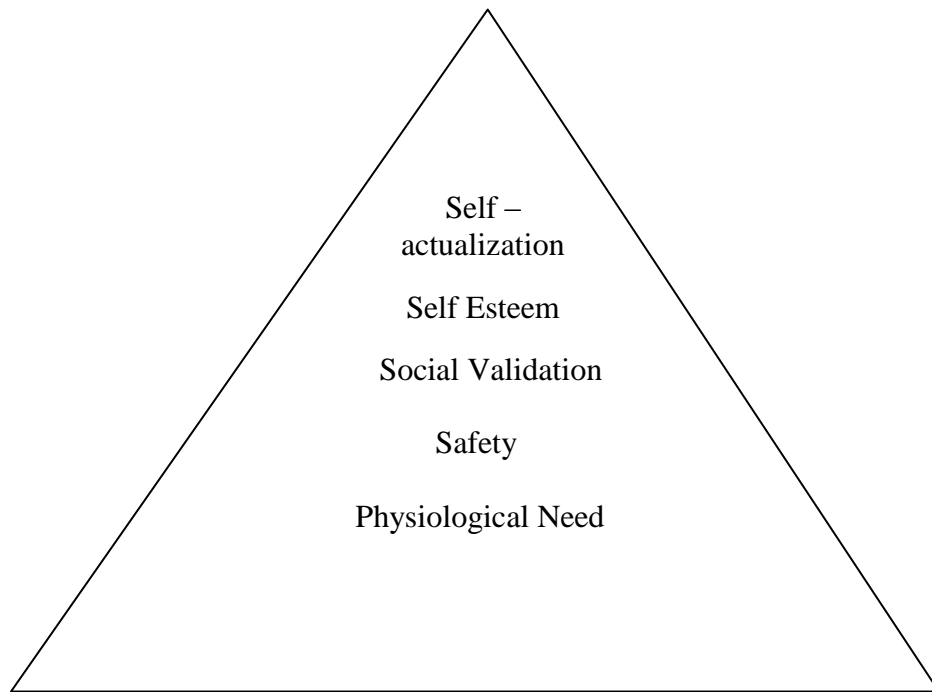
eloquently to depth of commitment that comprise serious leisure activity as well as the dynamic nature of leisure immersion (Hull & Stewart, 1992).

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 is the seminal work of Maslow and his theory of motivation and hierarchy of needs (1970, 1943). Maslow postulates that the motivation of all human activity is based on need fulfillment and that behavior is driven by cognitive dissonance; the tension that is 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).

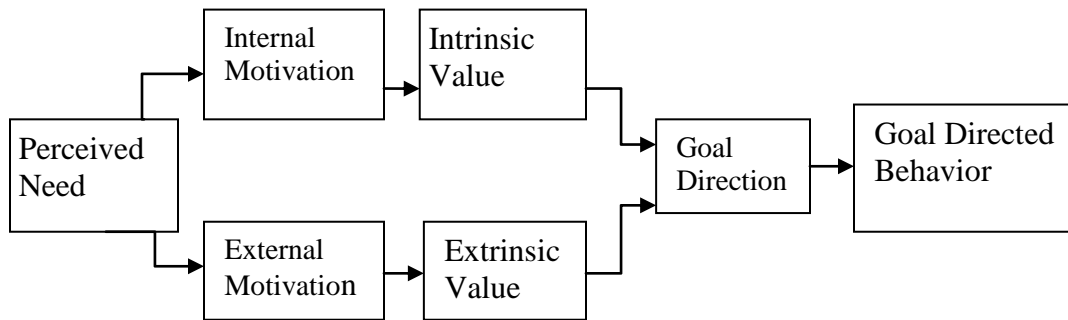
Figure 1: Maslow's Hierarchy of Human Needs



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.

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 to 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, Geason, & 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 most 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 in neuroeconomics. 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). .

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 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 fine dining 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 (William Pavot & Diener, 1993) the same correlation as illustrated in the section on motivation.

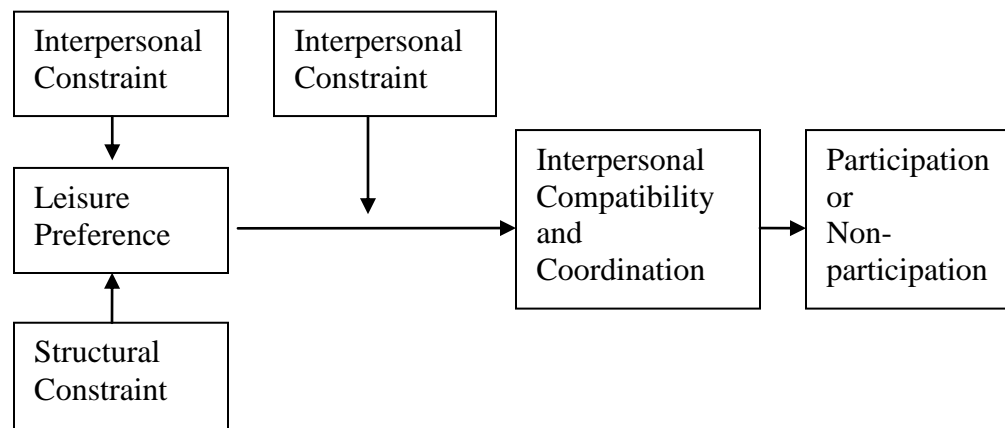
Constraint

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 and Godbey (1991) have suggested that successful negotiation of constraint

actually increases the satisfaction derived from the activity (Jackson, et al., 1993).

Recent longitudinal research (Godbey, Crawford, & Shen, 2010) has confirmed that the described link between overcoming constraint and activity satisfaction has held true over time.

Figure 3: Hierarchical 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.

Currently, research indicates the increasing depth of satisfaction and fulfillment supplied from leisure participation in response to the changing society and role of career as outlined above. Increasingly, the subject of research is what has been called "agreeable obligation" (Lepp, 2009, p. 254) such as the commitment found in volunteer

tourism where people perform work functions while on vacation in developing countries (Lepp, 2009; Mbaiwa & Stronza, 2010; Palacios, 2010). Similarly, other research points to the creation of working leisure societies, usually consisting of artisans living in a creative community, for whom leisure is the production of their craft(s), put simply, culture (Ravenscroft & Gilchrist, 2009). These communities represent the ultimate merging of career and leisure pursuit as these people change the traditionally separate relationship of production and consumption into an inseparable whole.

Perhaps most significantly, recent research (Heo et al, 2010) has definitively linked serious leisure participation with subjective well-being (SWB). SWB involves the assessment by people of their own perceived quality of life and is of interest to researchers in disciplines as varied as psychology and gerontology, as well as leisure studies (Pavot & Diener, 2004). The research highlights the dual positive relationships of serious leisure engagement and SWB. Engagement in a serious leisure activity increases SWB scores among older adults surveyed. High SWB scoring individuals report higher feelings of happiness (Diener, 2000) and exhibit increased ability to cope with stress and build relationships (Heo et al, 2010). Increased leisure activity in older adults has been shown to be a significant factor in maintaining a high quality of life (Silverstein & Parker, 2002). As life-spans and the aging population continually increase the relationship between serious leisure and quality of life satisfaction for the aged become critical. The links between health, happiness, and successful aging for those who engage in serious leisure activities and the resultant satisfaction obtained makes the importance of the study of serious leisure manifest.

Methodology of inquiry

It is useful to define the three methodological approaches used in this study. The definitions will be taken from Thomas A. Schwandt's (2007) book; *The Dictionary of Qualitative Inquiry*.

Quantitative research - might best be defined as a “synonym for any design (e.g. experimental and survey) that relies principally on the use of quantitative data, for example, in numbers, graphs, or formulas...the activity or operation of expressing something as a quantity or amount” (Schwandt, 2007, p. 252-253).

Qualitative research — Schwandt goes on to define qualitative research as “any social research design that relies primarily on data in the form of words” and employs non-statistical means of analysis and interpretation (p. 247).

Mixed methods research – “using multiple methods (qualitative and quantitative) to generate and analyze different kinds of data in the same study” (p. 196).

Debate has, and sadly too often still does, raged as to the efficacy of each method of inquiry. Qualitative researchers have linked quantitative methods to positivism and have claimed that traditional counting measures cannot describe the individual in naturalistic settings (Smith & Heshusius, 1986). Quantitative researchers countered that qualitative research data is soft, interpretive, and therefore unreliable (Gherardi & Turner, 1987). These opposing views encapsulate the quantitative/qualitative paradigm.

The late Fred Kerlinger, quantitative research par excellence, once said... ‘There’s no such thing as qualitative data. Everything is either a 1 or 0.’ Against this view, we

have Berg's equally fervent dictum that all data are basically qualitative: to a raw experience we may attach neither words nor numbers.

In the formation of the design of this study the researcher has encountered some members of the academy who have expressed disdain for the research method that they do not espouse. Interestingly, the one area of agreement for these individuals was the opposition to mixed methods as a research strategy.

Mixed methods entail the use of multiple methods, both qualitative and quantitative so as to achieve convergence of the data from multiple viewing points. The multiplicity of views serves to maximize the strength of each method and minimize their inherent weaknesses. Quantitative research through statistical analyses can inform as to how a group will behave in general. Elections can be called within hours of the polls closing, consumer trends and spending patterns can be finely calculated, and niche markets can be identified and targeted, even the likelihood of future behavior can be accurately predicted in aggregate. But of course no statistical analysis can predict or explain what any single individual will do. Qualitative research on the other hand can provide what is described as thick description, the interpretive characteristic of description (Guba & Lincoln, 1989; Schwandt, 2007). The qualitative investigation can provide a deep understanding of individual and/or group behavior through interviews and observations.

One of the more important strengths of qualitative research is the ability to make sense of outliers. Where statistical research tends to drop or transform outliers to decrease skewness, the solicitation of feedback and verbal data collection illuminates

these outliers. It is important, especially in social research, to remember that outliers are in fact human and not to be lightly disregarded. In fact it can be argued that the most dynamic and important social changes have always originated from those who fall outside the normal distribution.

All researchers, regardless of preferred method, seek to illuminate the area under consideration. Each method calls for efforts to ensure reliability; qualitatively the reliability of the process, quantitatively the validity and reliability of the instrument. Quantitatively whether a method investigates what it purports to investigate, qualitatively the trustworthiness and credibility of the findings. In both methods validity and trustworthiness are enhanced by triangulation, quantitatively through multiple or confirmatory statistical analysis; qualitatively through the aggregation of multiple sources (Schwandt, 2007).

It might be argued that the genesis of all research is qualitative. No quantitative scale is considered valid without a clear path of development beginning with a question. The question can be based on existing theory or it can be original. The steps taken to validate the research are the same; comprehensive review of the literature, interviews and/or focus groups to determine dimensions and variables, expert review, sorting techniques (Q sort, card sort), and pilot studies. All the early work is of a qualitative nature and is intrinsic to quantitative inquiry. This however, limits qualitative research to development. Rossman and Wilson (1991) have established three reasons for using a mixed method design; to enable confirmation or corroboration of one method by the other through triangulation, to elaborate or develop analysis and provide richer detail, and to initiate new lines of thinking. In this view each method reinforces and improves the

other regardless of the order the method is used. In this light either method can serve as the confirmatory method of the other. Research has posited that all research is a blend of the two methods that exist somewhere on a continuum (Newman & Shannon, 2000).

Firestone (1987, p. 20) provided an exemplary explanation;

Quantitative studies persuade the reader through de-emphasizing individual judgment and stressing the use of established procedures, leading to more precise and generalizable results...qualitative research persuades through rich depiction and strategic comparison across cases, thereby overcoming the abstraction inherent in quantitative studies.

In this study the mixed method approach will be employed to most fully explore the research questions posed above. The study posits that using mixed methods; survey data, measurement scales, respondent comments, interviews, and field observation will provide the most comprehensive look at serious leisure as viewed through the lens of the artisan home brewer. Put simply this approach will answer the criteria as espoused by Myrtle Scott of Indiana University, “I like to know what people say, but I like to see some numbers too” (class discussion, Applied Qualitative Research, April 2010), or more academically “But at bottom we have to face the fact that numbers and words are both needed if we are to understand the world” (Miles & Huberman, 1994, p. 40).

Specifically, this study takes the pragmatic view of research. Mixed methods are at its core a method of pragmatism; the research question(s) is the focus and the use of all approaches to obtain answers are valid. There is no need to choose a paradigm as researchers are not, at least not usually, examining paradigms in social research, but

rather the human experience. To paraphrase Creswell (2009), a pragmatist believes that there is reality both within and without the mind, the point is to advance research not defend a paradigm. Put another way, “let method be the servant not the master” (Firebaugh, 2008, p. 207).

In this study the research questions examined the satisfaction outcomes of participation in a serious leisure pursuit. The combination of quantitative and qualitative methods offers a comprehensive triangulated view and better enables the study to answer the research question, while offering fresh insights into the experience. Qualitative inquiry has been shown to enrich and enhance quantitative results (Gilgun, 2004; Schonfeld & Farrell, 2010). The use of mixed methods extends the concept of interdisciplinary research, long a staple of qualitative methodological thought (Grechhamer, Koro-Ljunberg, Cilesiz, & Hayes, 2008), to its ultimate conclusion. The underlying rationale for conducting mixed method research is the belief that by using all methods of inquiry available the optimum confluence of both corroboration and convergence is achieved and the fullest illumination of the subject under study obtained.

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 scale 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. Finally, the literature regarding qualitative, quantitative, and mixed method research along with some attendant paradigmatic issues was discussed. The following chapter will provide a comprehensive explanation of the methods used in developing the research plan, data collection and data analysis.

Chapter III

Methods

Overview

Put 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 and quantitative measures have been employed and the resultant empirical data is offered to add depth and richness to the understanding of serious leisure and the development of a serious leisure satisfaction scale.

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, the Leisure Satisfaction Scale (LSS) (Beard & Ragheb, 1980) has been used to provide the initial *a priori* basis from which to examine the subject. The subsequently identified domains and dimensions extracted from the *a priori* dimensions through factor analysis provided the initial framework for the theoretical model developed for this study as well.

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 was the heading of the survey title page being named Home Brewing Satisfaction and the words home brewing added to the questions to contribute to the relevance perception of the participants.

The LSS consists of 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 a space or environment which is pleasing - well-designed even beautiful.

This scale has been tested and confirmed many times, most recently by Trottier *et al* (2006).

Based on the LSS scale and supported by the comprehensive review of the literature; the following research questions were developed.

RQ1: Does the theoretical model provide the goodness of fit required for statistical confirmation of the serious leisure satisfaction scale when it is applied to home brewing?

RQ2: What variables and dimensions are needed to improve the instrument so as to obtain a full goodness of fit confirmatory factor analysis result?

RQ3: To what extent are home brewers satisfied with their participation in home brewing?

Plan of research

The research plan included identification and solicitation of a sample group to collect the quantitative and qualitative data necessary to answer the research questions. The parent organization of home brewers and micro breweries became the contact point from which the survey instrument and interview protocols were given expert participant scrutiny. This organization then served as the distribution point for the administration of the survey and the qualitative comment section. The organization provided the introduction to the local chapter and recommendations for potential key informants. Since this research was conducted under the auspices of Auburn University IRB approval

was sought and obtained as well. The following sections will provide detailed examination of the processes leading to the research instruments being 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 social aspects of fellowship and conviviality with fellow craft people; such as brewing competitions, exhibitions, and events which add the aspects of learning, challenge, and competition long defined as important serious 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 participants and the geographic diversity of the membership allowed for both meaningful statistical evaluation and generalizability. The link to the developed online survey was communicated, via email, to the AHA and Brewer Association membership then forwarded through them to other enthusiasts and interested parties in the craft beer community resulting in 4,207 usable results obtained; 3,449 (approx. 79%) coming from AHA members and 758 (approx. 21%) coming from outside the organization.

Instrument

The tested LSS measurement scale as described above is included in the survey instrument in its entirety. Solicited responses include demographic information (age range, education level, type of profession, average family income, ethnicity, location, etc.), and 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 sections on brewing techniques of preferred beer styles, average expenditures, purchasing behaviors, and a section assessing the overall experience and likelihood to continue were included in the survey. 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 LSS scale ranged from 1 (very dissatisfied) to 5 (very satisfied). 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 necessary to produce the quantitative testing required for this study. Analytical methods used include: means testing, standard deviation, multivariate analyses, reliability testing, and both exploratory and confirmatory factor analyses. The qualitative examination was conducted using an interdisciplinary approach, which incorporated constant comparison, ethnography, and case study methodologies.

The instrument contains a section soliciting comments. The comment section offered participants the opportunity to express what was important to them regarding home brewing. The comments obtained provided a rich source of qualitative data which served to illuminate the strength of connection with the activity and the *a priori* assumptions, while revealing the emergent themes, this triangulation of the data lies at the heart of the investigation. The collection of both qualitative and quantitative data simultaneously is the process of concurrent triangulation (Creswell, 2009). After the initial data analyses additional themes emerged and another sequential round of data analysis was undertaken using both extensive interviews with key informants and field observation of the local home brewing chapter during chapter meetings and at an annual event dubbed the *Big Brew* where each member transported brewing equipment and the group brewed simultaneously. The benefits of using interviews and observation are well documented in the literature (Holloway & Jefferson, 1997; Kvale & Brinkman, 2009; Tanggaard, 2009; Watts, 2007; Witz, 2006). These procedures offer the qualitative 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 one home brewing chapter which belonged to the AHA. Feedback and comments from this group were 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.

Ethics

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. Prior to the second round of qualitative data collection IRB approval for an extension and modification of the research was obtained. All ethical considerations having been met the review resulted in approval to conduct the research. The initial instrument was administered directly by the AHA, collected by an independent third party then transformed into statistical data for analysis by the researcher using ATLAS.ti, Excel and SPSS statistical and qualitative software. The ethical considerations were significantly increased in the second round of data collection when interviews and interaction with the membership group was undertaken. Home brewing, though legalized federally, is still illegal in the State of Alabama. Concerns to protect the identity of the participants were therefore heightened. The protection of the participants and the presentation of the data to ensure anonymity of the key informants and the chapter members was an important consideration in the framing and reporting of the data (Nespor & Groenke, 2009). All the data has been carefully anonymized to protect the participants.

There are ethical challenges that all research methods share. The research process creates tension between the aims of research to make generalizations for the good of others, and the rights of participants to maintain privacy. Ethics, regardless of method, require the researcher to be responsible to the participants through: informed consent, confidentiality, doing no harm, justice for the participant, and through the commitment to a reciprocal relationship, as well as fair and representative participant selection.

The challenges inherent in mixed methods research is respecting the differences in the two methods by scrupulously keeping the method of the moment at the top of mind awareness. In quantitative research objectivity is said to be paramount in the creation and operationalization of the instrument, while in qualitative research the researcher acknowledges that she/he is the instrument. In many ways the differences, though there, are subtle. In quantitative instrument creation the researcher must guard against leading or biased questions designed however unconsciously to achieve a predetermined end result. In qualitative research this potential for bias is greatly enhanced by the immersion of the researcher into the process and direct contact with participants as observer or interviewer. Where contact is made between researcher and participant the critical issue is the power distance and opportunity for direct influence. In qualitative research there is the inherent dilemma of the tradeoff between immersion and perspective contamination; the reconciliation of the differences between the researcher's and the natives' perspective. In both cases the researcher must lead the research to an ethical result. The traditional answer to this danger is transparency, to paraphrase Eisner (1998) the researcher needs to be acutely aware and guard that he/she is being as objective about their subjectivity as possible.

This study benefited from the invaluable insight and direction provided by experienced researchers. The committee overseeing this study includes a faculty methodologist who is an expert in qualitative research design and analysis and two senior faculty with extensive quantitative research experience. Multiple meetings were held with these researchers individually where the general outline of the study was shaped and specific input was obtained. One example of this interaction is the caution I received from the methodologist regarding the importance of a full explanation of the data coding process and reporting as well as the selection and training of the participants for the inter-rater reliability testing of the codes. This advice raised my awareness of the issue so that I took sufficient time and effort to address this issue properly. Still not every piece of advice was taken at face value. Instead of including the coding book as an appendix as advised I felt the narrative worked better to report the coding strategy fully in the text and instead to make an appendix (Appendix F) with the completed and graded inter-rater reliability documents to substantiate the reliability claim and add transparency.

Throughout the interview and observation processes member-checks are the accepted strategy to ensure that what is reported is what the respondents are actually saying and/or meant. This check consists of reading back or paraphrasing what I believed I was hearing and obtaining corroboration from the participant that the quote and/or point was correct. Taking the advice received in my class training I frequently throughout the interactive process asked for confirmation of what I was taking away from the respondents' statements. Perhaps due to the continuousness of this feedback effort I had few, if any, member check issues when I did the final check in with the respondents.

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. The qualitative data gleaned from the instrument was imported from Excel into the ATLAS.ti software package and were subsequently analyzed.

Returned questionnaires

The sample was collected from the membership of the American Homebrewers Association. The questionnaire was designed to capture demographic information and collect information to enable analysis of the satisfaction derived from engagement in the

activity. The entire AHA membership consisting of approximately 25,000 individuals was invited via email to participate. The members were then encouraged to forward the survey to other home brewers and craft brew enthusiasts. This process is referred to as snowball sampling and is employed to reach the largest sample of appropriate respondents. 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. Upon closer examination 329 of these surveys were deemed unusable due to the level of incompleteness; resulting in 4,207 usable surveys. 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.

Interviews and participant observation

The interviews were conducted in the participant's homes. One key informant was interviewed twice totaling approximately four hours. The second key informant interview was conducted over a six hour span where the interview was interspersed by instruction in brewing technique, equipment, and storage/aging. The questions were derived from the approved interview protocol (see Appendix D) which was developed from the original *a priori* dimensions. Subsequent follow up and additional questions were crafted based upon the participant responses. This technique of starting from a basic protocol while allowing for free formed questions and associations based on the data received is a semi-structured interview technique, this process allows the researcher to follow the paths revealed by the key informants (Kvale & Brinkman, 2009). This give

and take over extensive time periods allowed the research to proceed in a semi-structured manner that served to provide both organization and uniformity across each interview while allowing freedom and flexibility within each encounter for the uncovering of knowledge.

The first key informant was recommended by the President of the AHA. This person is a Master Brewer and has won awards in every beer style recognized in the AHA beer style handbook and has founded two brewing clubs (one in each area of the state where he has resided) in over twenty years of participation in the activity. This person is also active in the home brewing legalization lobbying efforts in the State of Alabama and has addressed the state legislators while in session. As such, he is well known by the AHA executive officers and was recommended as a valuable source for the home brewing experience. This person is in the midst of developing a brewing and packaging concept for high end boutique bottled beer and ale and is one of the individuals so immersed in the activity that making it a remunerative career has become part of the passion.

The second key informant was recommended by the first. Though not personal friends both individuals are widely recognized for their skills, and influence throughout the local home brewing community and are cognizant of each other. The second key informant harbors no commercial ambition, but in some ways this person is more fully immersed than anyone else encountered in this study. This person has turned his whole yard into part of the brewing process with an organic garden where several strains of hops and other flavoring agents are cultivated. This brewer purchased whole grain in bulk, has installed a large propane tank (to facilitate the heating/mashing process), and

has created an elaborate system of gravity feed tanks to more readily move the brew from one stage to another. This person is also widely recognized as a mentor and teacher of those new to the activity.

The observations were conducted through attending one brew club's monthly meetings where I observed the group tasting and assessing each other's efforts. Additionally, the group allowed me to ask questions as I observed to obtain clarity on something I heard or explore some aspect raised in the club member's interaction. I attended three monthly meetings. The club also holds two semi-annual *Big Brew* events where the members gather with portable equipment and brew as a group over the course of an entire day. One of these events fell during the data collection period so I was able to attend this event and observe the brewing as well as find propitious moments to interact with the participants. These observations enriched the research by allowing me to become immersed in the home brewing culture and thus directly absorb the criteria of unique ethos as proscribed by Stebbins (1982). This might be best expressed by one brew club member at the *Big Brew* event who said "The beer improves exponentially through club membership." Other members chimed in touting the group advantages of "receiving constructive criticism", "new insights and ideas", "advice", and "mentoring for newbies" as benefits of club membership. One member told me club membership allows him "to see other people's creative approach. Additionally, the opportunity to interact added further narrative supporting that which was obtained from the open ended survey comments and interviews.

Kvale and Brinkman (2009) use the metaphor of traveler and miner to describe two underlying epistemological approaches to the creation of knowledge. The researcher

as a miner unearths existing knowledge that resides in the informant waiting to be revealed. The researcher as a traveler creates knowledge with the informant through the interview conversation. The semi-structured interview approach in keeping with the interdisciplinary philosophy employed throughout this study allowed the researcher to both mine for existing knowledge and create new links and awareness through the application of follow-up questions and the contribution of knowledge gained throughout the progress of the investigation. In essence the research in this phase took on an active aspect that is not readily achieved in quantitative methods where the collection of data and creation of knowledge is a more passive process. This highlights the fundamental difference between the two inquiry methods; the concept of the researcher as the instrument in qualitative research.

Throughout the interview and observations extensive notes were taken and noteworthy participant responses were read back to the participant and checked for accuracy. At the conclusion of the data collection process member checks with the group and key informants were conducted to ensure the accuracy of the reporting.

Coding

To meet the criterion of qualitative research rigor called for by Kline (2008) the coding strategy will be examined in sufficient detail so that the reader will readily understand the approach and key elements involved. Creswell (2009) defines coding as; “the process of organizing the material into chunks or segments of text in order to develop a general meaning of each segment” (p. 227). The organizing idea is to reduce the data to its basic informational unit(s) expressing *the mind of the speaker* (class

discussion, Applied Qualitative Research, April 2010). The coded unit (Table 1) can be a single word, a short phrase, a sentence, or an entire paragraph of data. The data unit may be placed into one or more codes. Table 1 reports the finalized dimensions/codes identified after the factor analysis and qualitative data were triangulated.

An example of a single word as an organizing thought is “self-accomplishment” which was coded into the *a priori* dimension – self-accomplishment.

An example of a short phrase taken from a sentence as an organizing thought is “I love sharing it with other people...” coded into the *a priori* dimension – social.

An example of a complete sentence as an organizing thought which codes onto more than one dimension is “I enjoy home brewing as a scientist because it combines and uses my interest in both biology and chemistry while providing a creative outlet.” coded in the emergent dimensions – science and creativity/art.

An example of an entire paragraph as an organizing thought coding onto multiple dimensions is;

I brew because it is honest physical work that provides me with a sense of accomplishment, is a creative outlet for my interest in science, and I enjoy the fruits of my labor. In a world of instant gratification it satisfies a primal need for me to invest my time and energies into something that will pay a dividend later. It also helps me to develop more patience that benefits my family and friends. I think it relaxes my mind and my spirit, it is physically demanding enough to reduce or eliminate whatever stress I may have, and has a positive effect on my

overall emotional well-being. It also has a good bearing on my social interaction with other people.

This paragraph coded onto the *a priori* dimensions of social, physiological, and relaxation and the emergent dimensions of creativity/art and science.

There are multiple methods that can inform the researcher in coding data. Grounded Theory (Glaser & Strauss, 1967), an inductive process, calls for codes to be assigned and emerge as the inquiry proceeds. Through continual constant comparison codes are initiated and then fine tuned as the researcher comes to grips with the emergent themes of the data. Miles and Huberman (1994) call for a start list of codes, developed prior to data collection, which reflect the empirical theory, research question(s), and variables under consideration. Strauss and Corbin (1990) advocate the inductive application of codes only after the data have been collected with the codes created and applied line by line as the data is reviewed. In this study a combination of the Miles and Huberman (1994) and Strauss and Corbin (1990) methods were employed. The dimensions identified in the Leisure Satisfaction Scale provided the *a priori* starting point. The factor analysis reduced the original six dimensions to five and the line by line coding of the qualitative data conducted in ATLAS.ti at the conclusion of the data collection process has revealed four additional emergent themes.

The ATLAS.ti. software package was selected for several reasons. The software proved a powerful tool and aided in the organization of the data throughout the coding process. ATLAS.ti. color coded the comments along the side of the inputted data as well as keeping a running computation of frequencies occurring within each code. ATLAS.ti.

also facilitated memos I wrote to myself in the initial coding rounds that easily allowed me to follow my reasoning trail as I returned and fine tuned the codes and coding process. It must also be stated that ATLAS.ti. was selected as it is the qualitative package that I am familiar with and I have received some training and opportunity to work with through exposure in class work. The same can be said of the use of SPSS for the statistical analyses, this is the software package I have experience with and has been used as the primary teaching tool in all my quantitative class work and previous research.

Table 1 Coded units and frequencies

<i>From a priori</i>		From Emergent	
Code Name	Frequency	Code Name	Frequency
Social	56	Authenticity	38
Intellectual	38	History	28
Self-confidence	25	Creativity/Art	67
Restoration	45	Science	48
Self-actualization	24		

The *a priori* and emergent dimensions are identified as what Miles and Huberman (1994) describe as core categories due to their frequency of appearance and their connection to the empirical theory underlying the study. All the qualitative data reported in this study were collected through the combination of open ended survey comments, interviews, and comments solicited through interaction during the participant observations.

The findings reported in Table 1 show 369 coded statements that combined to either support the *a priori* or reveal the emergent dimensions. The majority of these statements (283) were collected through the open ended question included in the survey instrument. The brew club participants contributed 81 comments and the key informants

provided 21 comments. I noticed that the first meeting I attended and the first hour of each interview contributed the bulk of the comments that I coded. This is intuitive as it indicates that, at least for this group and these respondents, I reached saturation as far as new information is concerned. The interviews and group meetings though less numerous in terms of comments were the most significant contributors to my understanding of the motivation and satisfaction of home brewers in context. The ability to observe these group members as they conducted the sensory evaluations of the beers created each month and discussed the elements visually, olfactory, and on the palette allowed me to enter their unique world and gain a more visceral understanding of the activity. Watching the group brewing event gave me the first person perspective of the effort and absorption that home brewers pour into the activity. Though pleasurable for these participants until the end of the meeting or brewing when things became more social and relaxed they conducted themselves professionally and seriously.

The interviews with the key informants provided the richness and texture that fleshed out my understanding. Indeed it was these interviews and the depth of commitment and emotion these key informants conveyed that gave me the truest insight into just what serious leisure means to the participants. Their body language and tonality in many cases were more expressive than their words. One important outcome of the observations and interviews was that they revealed no new dimensions to what the open ended comments provided while supplying support for both the *a priori* and emergent dimensions.

Once the core categories are identified the researcher stops coding data that fails to relate to them. In the analysis of the quantitative data many comments were geared

towards specific brewing questions, styles of beer, judging criteria, etc. Many comments were aimed at critiquing the survey instrument itself, both positively and negatively. Other participants used the comment section to discuss their favorite style of beer. Due to the affiliation of the researchers with Auburn University alumni took the opportunity to say hello through the AU specific greeting *War Eagle*, rival Southeast conference university alumni took the opportunity to express disdain for the Auburn Tigers or boost their favorite team. The most frequent comment overall was the well-known salutation coined by craft beer guru Michael Jackson in numerous publications and lectures - *relax, have a home brew*. Since these and other unrelated comments did not speak to satisfaction with the endeavor these comments, after close examination, were omitted from the coding process.

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 and Findings

Introduction

This chapter will present the results and findings obtained from the questionnaire, interviews, and group observations. The chapter will be divided into six sections. Section one will present a short description of the collected responses. Section one will present a detailed breakdown of the respondent demographic information and self-identification results. Section two will present the measurement instrument properties. Section three will present the qualitative data obtained from the questionnaire and subsequent data collection. Section four will discuss the emergent dimensions identified through the qualitative data analysis. Section five will address the validity and reliability of the instrument and the qualitative data, along with the technique used to determine non-response bias. Lastly, the chapter summary will recap the overall results.

Demographic Information

Table 2 revealed 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 % (approximate) reporting they carry management responsibilities. Though not listed in the table approximately 86% of the respondents reported being 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 constraint on leisure activity selection and continuance.

Table 2: 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 3 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 3: Reasons for brewing

Recipe Preference	N	%	Commitment Level	N	%
Tried and true	381	9.1	Passionate	1743	41.4
Outside sources	1451	34.5	Enthusiast (time constrained)	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 4. 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 4 square nicely with the serious leisure literature regarding the career 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 tendency to career was exhibited in the qualitative comments as well with many of the respondents reporting current activity as a brew pub owner or commercial brewer or previous professional brewing experience. This too fits well with the literature as career is an integral part of the serious leisure definition. The following are some illustrative comments:

“I brew at a local brewery; the interaction with the other brewers helps me generate new ideas for my home brews.”

“I home brewed for 15 years before deciding to invest with friends and open a microbrewery in 2007, I am now brewing professionally as well.”

“I worked in a professional brewery in college and then started home brewing.”

“My home brewing is quickly becoming an income proposition; I will be opening a microbrewery soon.”

“One day I will take it (brewing) commercially through opening a small local/regional commercial brewery.”

“Started brewing professionally in 1998 then added home brewing in 1999 because of the creative and socially interactive nature of the craft.”

“I liked home brewing so much I chose to be involved in it every day by buying a home brew supply store.”

One respondent considered the philosophical nature of turning a vocation into an avocation, “Now I am in serious thought about the pros/cons of taking my passion for brewing to the professional level – will it still be satisfying? Can I compete in the marketplace? What will I do for leisure then?”

The results in Table 4 offer strong support to the emergent themes identified in Table 1 as well. Coupled with the qualitative comments to be discussed below this agreement between the methodologies lends powerful support and empirical evidence to the mixed methods concepts of triangulation, convergence, and corroboration.

Table 4: Outcomes from brewing

	Most Important*		Important*		Neither Important		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.**

Measurement instrument properties

The measurement instrument used in this study was composed of the scale outlined in the earlier chapters; namely, the shortened version of the Leisure Satisfaction Scale (LSS). The scale was used to measure the variable satisfaction under investigation. The scale was used in its entirety with the only change the use of home brewing as a naming convention. Below is the description of the scale along with the descriptive statistics for each scale item.

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

Table 5: Leisure Satisfaction Scale

		Mean	SD	Skew
Psychological				
S1	HB is very interesting to me	4.734	.4813	-1.69
S2	Home brewing gives me self-confidence	3.528	1.057	-.419
S3	HB gives me a sense of accomplishment	4.376	.6867	-.999
S4	I use many different skills and activities in HB	4.138	.8192	-.769
Educational				
S5	HB increases my knowledge of things around me	3.729	.9735	-.498
S6	HB provides opportunities to try new things	4.096	.7684	-.720
S7	HB helps me to learn about myself	2.812	1.120	.217
S8	HB helps me to learn about other people	2.719	1.090	.187
Social				
S9	I have social interaction with others through HB	3.313	1.124	-.352
S10	HB has helped me develop close relationships with others	2.913	1.218	.049
S11	The people I meet through HB are friendly	4.170	.8697	-1.24
S12	I associate with people in my free time who enjoy HB	3.106	1.123	-.131
Relaxation				
S13	HB helps me relax	3.748	.9646	-.592
S14	HB helps relieve stress	3.640	1.045	-.553
S15	HB contributes to my emotional well-being	3.747	1.025	-.713
S16	I HB simply because I like doing it	4.528	.6706	1.42
Physiological				
S17	HB is physically challenging	2.255	1.071	.568
S18	HB develops my physical fitness	1.746	.8783	1.13
S19	HB restores me physically	1.905	.9713	.954
S20	HB helps me stay healthy	2.188	1.078	.616
Aesthetic				
S21	The area or place where I HB is fresh and clean	3.749	.9858	-.480
S22	The area or place I HB is interesting	3.147	1.076	-.079
S23	The area or Place where I HB is beautiful	2.873	1.165	.152
S24	The area or place where I HB is pleasing to me	3.690	.9795	-.444

Factor Analysis

Attention now turns to the factors that influence satisfaction from engagement in the activity. Application of the factor analysis technique in this research enables the researcher to search for and reveal coherent subscales specific to home brewing. The sample ($n=4027$) was divided randomly into two data sets. The first set was examined using exploratory factor analysis (EFA). The specific EFA 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). The resultant output was examined and a theoretical model based on the empirical data from the EFA results was designed. The second data set was then used in the confirmatory factor analysis (CFA) using the AMOS 17.0 statistical software package to seek confirmation of the theoretical model.

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. The results of the analyses showed that the distribution was normal, the factors were sufficiently correlated to hang together yet sufficiently differentiated to be measuring different aspects.

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. The n of 4207 makes the sampling adequacy robust to this assumption.
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, & Donovan (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.

Leisure satisfaction scale (LSS)

The 24 items of the short version of the LSS were tested to identify the factors that best explained satisfaction as it applied to home brewers. Prior to performing (PCA), the ability of the data to meet the assumptions of normality of distribution, independence, linearity, and sample size was tested and accepted. The PCA revealed the presence of six factors with eigenvalues above 1.0 which explained 65.15% of the variance. In keeping with Patil *et al* (2008) admonishment that reliance on eigenvalues alone can defeat parsimony, the scree plot was examined (see Appendix E) where it was determined that a five factor solution better represented the underlying structure using fewer variables and dimensions. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy result of .878 exceeded the recommended value of .6 and Bartlett's test for sphericity result of 4995.87 $p. < 0.001$ supported the initial factorability of the correlation matrix.

However, some problems with individual items appeared. In the interests of parsimony items that feel below .4 or loaded on multiple components were removed. PCA was re-run on the newly obtained five-factor model with 14 variables. The data remained favorable for factor analysis with Bartlett's Sphericity test score 8043.13 $p. < 0.001$ and the KMO result .838 remaining above the .6 benchmark. The five-factor analysis explained a still robust 65.10% of the total variance; using fewer variables; thus, realizing the purpose of factor analysis to reduce the data to the fewest factors possible to explain the underlying structure.

The modified LSS with 14 items was further tested and to aid in the interpretation of these five components Varimax rotation was performed. The rotated solution revealed an optimal loading result offering the simplicity of structure called for seminally by Thurstone (1947). The loadings were clear, each with considerable values, all of them loading on only one component. The five components are identified as restoration, intellectual, social, self-accomplishment, and self-confidence. Cronbach's Alpha for the resultant scale was .821 indicating strong reliability for the factors. The validity of the instrument is supported by the factor loadings and clarity of the underlying structure.

Table 6: Rotated Component Matrix

	Component				
	Restoration	Intellectual	Social	Self-accomplishment	Self-confidence
Place is beautiful	.836				
Place is interesting	.831				
Restoration	.742				
Learning about self	.659				
Stress relief	.619				
Physical benefit	.615				
Gain knowledge		.778			
Learning about others		.603			
Form relationships			.822		
Social exchange			.789		
Interest/absorption				.806	
Self-accomplishment				.784	
Self-confidence					.773
New experience					.754

The five dimensions and variables identified in the EFA are strongly supported by the qualitative data below.

Restoration

This dimension speaks to the respondents internal satisfaction and comprises the elements of physical well-being, satisfaction with place (where the brewing occurs), ultimately leading to the relief of stress, relaxation and mitigation from life's daily pressures.

“Home brewing has helped me discover the person I really am inside and how I really want to interact with those around me. It has helped me to become patient and calm in my daily life. To be curious and inquisitive but to never worry. To be kind and giving to those around me. To relax and enjoy myself from time to time”.

“It's a statement about you. It is an interpretation of your priorities and an expression of the freedom you've been given. I don't know of any other hobbies that express themselves as wonderfully as home brewing.”

“Home brewing is a low intensity, low cost hobby that helps to relieve stress and tension and can be either a solitary or a communal experience that stimulate the mind and body.”

“It's fun, relaxing and lets you be imaginative”

“An additional point that I feel is very important is that home brewing gives me a positive stress as opposed to a negative one that my work & school gives me”

“My garage is my home brewery. It may look like a messy chaos to some, but to me it's beautiful and relaxing to be in.”

“It was a means to stay mentally and physically active”

“Up to this point I've never really self-actualized why I brew, I know it pleases me, so I do it.”

“Home brewing is a way for me to be completely mindful of myself and how I am feeling. It is somewhat meditative.”

These last two statements really capture the nature of this dimension. The first one came from a brew club member with the second coming from a key informant. Though not necessarily using the direct words used to define the dimension the concepts of self-actualization and mindfulness really cut to the heart of the inner satisfaction and restorative power of serious leisure participation.

Intellectual

All the literature reviewed regarding serious leisure supports the notion that learning, the acquisition of skills over time, absorption, and perseverance (overcoming obstacles) is an integral part of what sets serious leisure apart from other activities. The level of engagement is one of the strong drivers of satisfaction for home brewers.

“Like any other human endeavor, it's the failures and unexpected results that drive us to get better at what we are trying to accomplish”

“A novice can start out and make good beer knowing only the basics, but one could spend a lifetime learning more about the craft.”

“I began to brew because I was curious about how beer was made. I have learned a lot and continue to learn new things all the time”

“One key point is education for myself and providing education to new brewers and people interested in beer in general.”

“It the knowledge I gain and share that's make it enjoyable.”

“For most guys who start brewing regularly it becomes first a hobby then almost qualifies as an obsession as you learn more and more things.”

These quotes provide solid support to the statistical results of this *a priori* dimension.

Social

The social dimension of serious leisure is important because it is through this interaction that the unique ethos that Stebbins (1982) speaks of is formed. Becoming part of a clearly defined social stratum is what allows for the development of the strong self-identification with the activity that is another serious leisure criterion.

“I very much enjoy sharing my brew with others”

“I think the greatest result you can have is to share your hard work with fellow beer lovers and have them genuinely complement you on your beer. That keeps you going.”

“Something I can do, do well, and share with others”

“It is a great community of like minded people”

“I love sharing it with other people, because not only does it show the effort I put into making something from scratch, it's also a social interaction.”

“Because I enjoy the satisfaction of brewing and sharing what I've made with my friends.”

“I have found long lasting friendships”

“My fellow home brewers whom I have met are good folks and fun to meet with.”

“I quickly found out about home brewing and learned that home brewers, as a whole, are friendly, engaging, easy going people who I felt a kinship to.”

“The majority of my friendships are with home brewers”

“The best part of brewing has definitely been the people we've met along the way!”

The quotes all support the social dimension, but the ones that speak of community, kinship, and like mindedness truly capture the level of social engagement proscribed in serious leisure participation.

Self-accomplishment

The dimension of self-accomplishment provides insight into the depth of fulfillment obtained through participation in home brewing. Self-accomplishment, much like fulfillment, conveys a feeling – a feeling of fullness of achievement. This dimension speaks to the feeling of self-actualization that is the highest level order of Maslow's pyramid of need fulfillment. The full realization of ones capacities both materially in the tangible quality and acceptance of the beer produced and intangibly in the realization of

one's potential. The argument could be made that self-accomplishment is the ultimate satisfier from an endeavor.

“I am constantly thinking about the next beer I am going to brew with my brother.”

“When you can tell your friends ‘I made this from scratch’, the look in their eyes when they taste it is amazing.”

“I enjoy home brewing mainly for the sense of accomplishment.”

“It's an endless endeavor to try to brew the "perfect" beer”

“But the real thing it's done is give me a sense of well-being and accomplishment.”

“I believe that home brewers brew for new tastes and a sense of accomplishment.”

“There is certainly a pay off and the sense of accomplishment is quite satisfying when you create something”

Self-confidence

Self-confidence speaks to the ability to look at oneself in relation to the world from a positive perspective. Self-confidence is an important dimension in the examination of serious leisure in that self-confidence increases the individuals feeling of control over their life. This aspect of control through serious leisure is the prescriptive solution to counter the feelings of helplessness in the modern world described by Stebbins (2001). The ability to generate approval from within versus reliance on approval from others heightens the sense of well-being and self-worth.

“... Many times I will brew with a friend to experiment with different ingredients (hops, grains, yeast, water chemistry) or methods (mash temperature, sparge time, carbonation, etc). With so many variables, there are MANY opportunities to try new things I gain confidence and experience.”

"Once you become fairly confident in your skills, it is best to pass the knowledge on to another".

“It is not easy to make a good beer, wine, etc. thus when you make a good product there is a high level of satisfaction.”

“I am proud to be a female brewer, and eager to share my knowledge with people. Beer has become a passion for me, more so than ever because I understand it so much more.”

“Home brewing makes me happy and being able to brew beer and have my friends tell me that they like my beer over the beer that they drink make me feel proud”

“I brew because I find it rewarding, mysterious, romantic, and challenging all tied into one. Also, learning about "new" procedures related to brewing all-grain is very interesting”

In the case of the *a priori* dimensions the triangulation of the empirical data gleaned from the literature clearly converged with the statistical data and the comments and quotes cited above. The strong overlap allows the resulting dimensions identified in the EFA to be accepted.

Confirmatory Factor Analysis

The variables and dimensions identified in the EFA provided the empirical data from which a theoretical model could be designed and tested for confirmation with the second half of the sample reserved for this test. The theoretical model is presented in Figure 4:

Figure 4: Theoretical Model

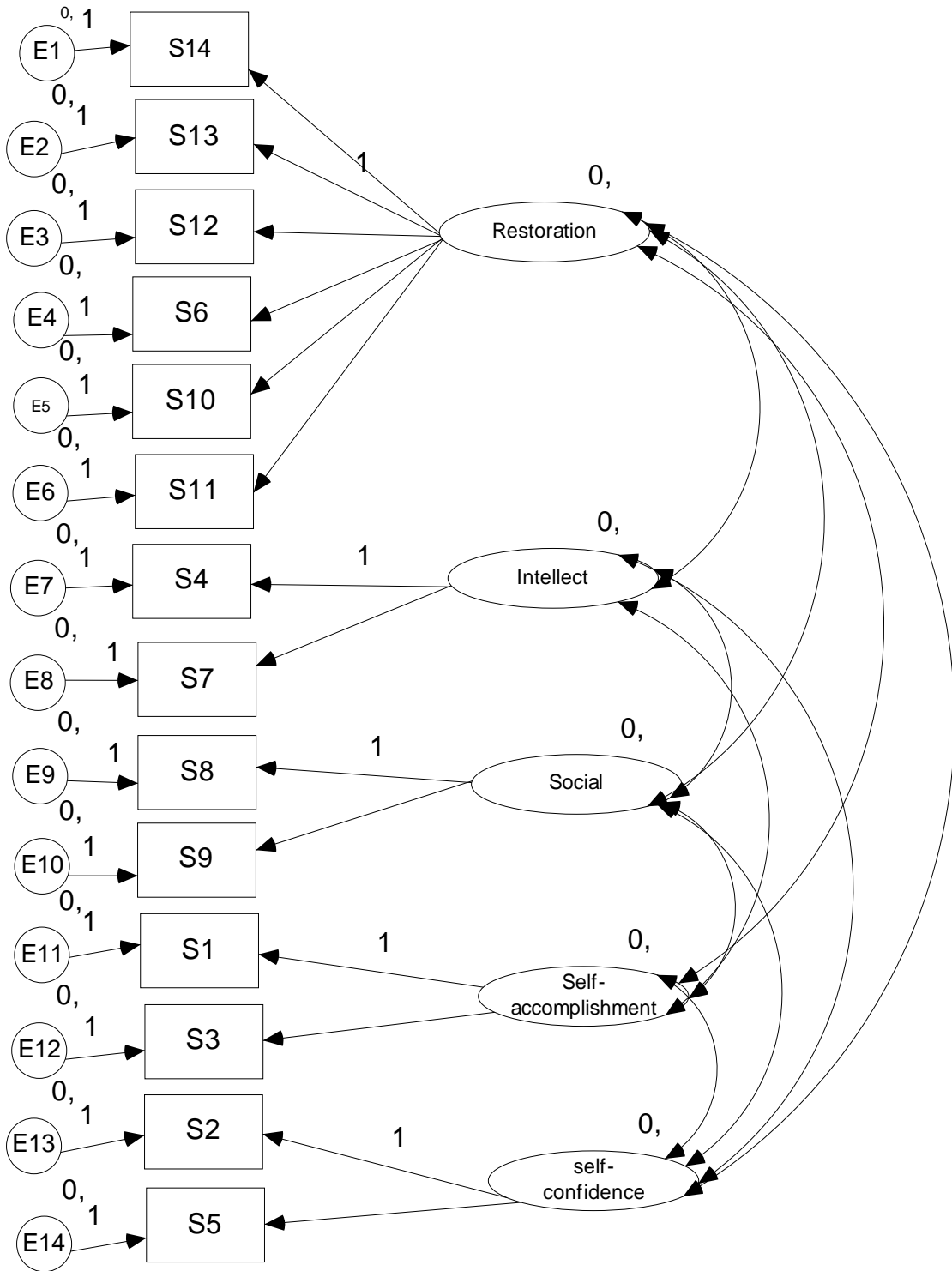
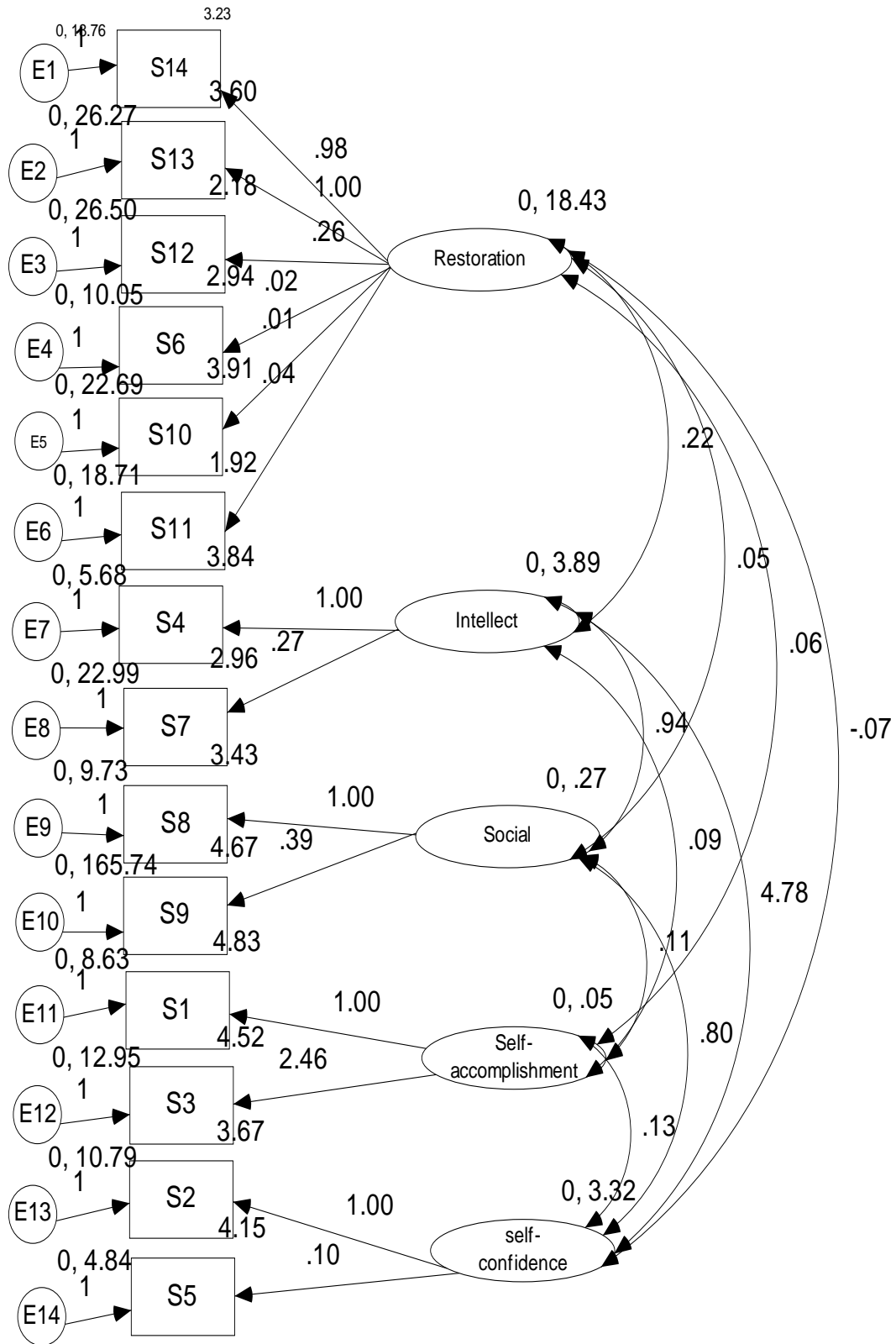


Figure 5 illustrates the theoretical model with the computed standardized beta estimates:

Figure 5: Model with beta weights



The confirmatory factor analysis was conducted using the second half of the data set. The study examined the 14 satisfaction indicator variables and five factors revealed in the EFA. The theoretical model was assessed through the AMOS 16 software using the maximum likelihood factor analysis (Arbuckle, 2007).

The model was evaluated by four fit measures: (a) the chi square, (b) the normal fit index (NFI), (c) the comparative fit index (CFI), and (d) the root mean square error of approximation (RMSEA). The results generally supported the proposed model. The chi-square had a value of 323.83, (df 123, n = 2100), $p = <.001$, making it insignificant. Considering the large power due to the sample size and the likelihood of chi-square to reach significance when the power is large, this lack of statistical significance speaks strongly to the goodness of fit of the proposed model. The NFI and CFI are measures of relative fit comparing the theoretical model with the null model. The optimum value of .95 for these indexes, though very close, was not reached; with the NFI value of .75 and the CFI value being .78, indicating moderate goodness of fit in these categories. The RMSEA measures the discrepancy between the sample and population coefficients with a value $<.8$ indicative of a well-fitting model. The RMSEA was .043. The closer to zero the RMSEA the better the model fit, the obtained .043 score indicates a very strong goodness of fit to the model (Meyers, Gamst, & Guarino, 2006).

Research Question 1

The above results enable the first research question to be answered:

RQ1: Does the theoretical model provide the goodness of fit required for statistical confirmation of the serious leisure satisfaction scale when it is applied to home brewers?

The theoretical model is approaching optimum goodness of fit with strong fit shown in both the chi-square and RMSEA results, but only moderate fit found in the two relative fit indexes of the CFI and NFI tests. While these results could be interpreted as confirmation of goodness of fit the results indicated that further analysis would most likely reveal dimensions; the inclusion of which may serve the model in reaching optimum relative fit.

Revealed Dimensions

The output described above indicates that the original research proposition questioning the successful direct adaptation of the LSS to the serious leisure activity of home brewing was warranted. The assumption that a scale designed to measure purely hedonic leisure might not fully explain serious leisure satisfaction is essentially confirmed. Attention therefore was directed back to the qualitative data to examine it for unrevealed dimensions. As noted in Table 1 four dimensions were uncovered during the coding process of the qualitative data gathered from the interviews, field observations, and survey comments. These four dimensions have been identified as creativity/art, science, history, and authenticity. The following data offers the justification for these dimensions, while explaining the identification of these dimensions.

Creativity/art

The participants expressed very clearly that the aspect of creativity is a dimension that they did not feel was expressed through the survey questions and that is important to them. This dimension too speaks to the lack of intrinsic satisfaction achieved for most people in today's work environment. The data can be interpreted that home brewing unleashes an internal drive that is otherwise unexpressed for these individuals. Classic

Freudian thought describes creativity as an individual's solution to release frustration and tension that lurks within. Creativity might best be described as the ying to self-accomplishment's yang in the actualization of the self. Home brewing provides the participants with the tangible mechanism through which to demonstrate their fullest potential as originators, with the act of creation creating the circumstance through which the feelings of accomplishment can be generated.

"Every batch has the brewer's signature. It is like art. Art that you can taste. I cannot draw or paint very well but I can brew"

"Brewing is an art, and a state of mind like many other crafts."

"Creating beer from grain and hop flowers is as good as fresh baked bread from grain and rosemary."

"Home brewing provides me with a creative outlet where I can see and taste the results of my efforts."

"These are creative outlets"

"Home brewing, to me, is just a great way to try new styles of beer and to have a creative outlet."

"One of the things that I don't think your survey touched upon was that home brewing helps give one respect for the final product as an art form."

"Home brewing allows me to be creative and to gain satisfaction by making an enjoyable drink"

“Home brewing for me is a great creative outlet for someone that doesn't have the opportunity to be creative in the workplace.” “It is our hope (brewers) that the population will actively pursue creativity and artistry in all its forms.”

The above comment may well reach the very heart of what Stebbins believes serious leisure provides in terms of the dyadic contribution of engagement in terms of extrinsic and intrinsic benefit. This is leisure for the soul that transcends pure hedonism and speaks directly to the fulfillment that is rarely gained in the modern work environment.

Science

Much like creativity and self-accomplishment there is a Janus relationship between the dimensions of intellectual and science. Science as the dimension expressed in the data below can be viewed as the application of what is learned and the practice of the newly acquired skills inherent in the intellectual dimension. The learning continues through the addition of the hands on expertise gained overtime. This dimension speaks strongly to the aspect of absorption in the activity and is an important satisfier to the home brewing practitioners.

“Allows me to practice engineering skills”

“Home Brewing is an outlet of my interest in science and engineering.”

“Home brewing is a fun, sometimes challenging hobby that can be approached at many levels. On one extreme, if you can boil water, you can homebrew. On the other end of that spectrum, you'd need to have an advanced degree in food science or microbiology”

“Home brewing is a mixture of chemistry, biology, engineering, fluid dynamics, and if you’re lucky, socially rewarding.”

“Home brewing is very educational especially in the sciences”

“I enjoy mostly the science of brewing and experimentation with new recipes”

“Home brewing has greatly increased my understanding of chemistry and biology. I now understand what is in my drinking water and how it affects the way things taste.”

I have a BS in chemistry, worked with yeast in school, and work diligently to learn and apply my lab skills and experimentation to see what happens and then try to understand why. And you can't beat the fact that you get to enjoy the product of your labor after all that!

“I very much enjoy the science behind home brewing. I am a chemistry professor and enjoy conducting experiments with students related to beer. I also have developed a professional reputation as a brewing scientist. This chemistry gets me thru the day!”

This last comment illustrates once again the overlap of career and engagement in serious leisure as this brewer has found an avenue to bi-directionally bridge the avocation and vocation as a brewer, scientist, and professor maximizing the fulfillment potential of the activity.

History

In the case of the history dimension several shades of meaning have been uncovered and powerfully expressed by the participants. Home brewers have found connections with the distant past, the Founding Fathers, cultural connections, and the

inter-generational aspect of the traditional passing of lore from one generation to the next. This connectedness to the past, either familial or culturally, firmly places the participant in a continuum with those gone before and speaks strongly to the self-identification criterion of Stebbins' construct (1982).

“I also enjoy the history behind beer styles and how they were organically developed. I read about beers from around the world and through this I have learned about other cultures.”

“Home brewing precedes written history and pervades among distinct cultures, tying them together like genes from a common ancestor.”

“For me there is a spiritual component to brewing and a connection with people and cultures that have brewed and fermented grains, honey, and fruit for thousands of years.”

“I have homebrewed for over 40 years, learning from my father”

“It is an historical and cultural connection to traditions and peoples long before the rise of post-modern industrial brewing.”

“My ancestors owned and operated a brewery for decades prior to prohibition. (Great-great grandfather and family).”

“Our founding fathers brewed beer and I feel that I'm keeping up a tradition that they started.”

“From a home brewing perspective: Beer and brewing, to me, are incredibly romantic. Knowing that I'm doing something that mankind has done for thousands of years is a huge attraction to brewing.”

“I like the history of brewing and beer, how they have shaped civilizations, towns, customs etc. Being able to do something similar in your own home on your own brewery is really what attracts me to the hobby.”

You should have asked about History! Home brewing has given many of us the opportunity to do historical research on formulas, techniques, tools and the times in which they were used. Many of us try to recreate beers of old and adapt them to modern home brewing techniques.

“Home brewing is a family legacy that I am bringing back to my heritage”

“I use an 8 gallon crock that my great grandmother used for fermenting beer. For her it was just like baking bread. For me it is connecting history and the present. Brewing is as old as civilization and will cease when civilization does.”

I mainly participate in home brewing with my family. It has helped create stronger family bonds. Many home brewers I know were introduced to the craft by a family member. In my experience brewing, like cooking, is often handed down from one generation to the next. It is often an activity that involves many family members. Perhaps the survey should explore this important aspect of home brewing.

My initial interest in home brewing was from a historical perspective... being able to brew in a similar small-scale way as had been done in the past before big commercial breweries took over. Also, many beer styles had been either unavailable locally, or had become extinct, so home brewing was a way to revive them and experience the past first hand

“I enjoy beer... I also enjoy the knowledge that I am doing something that has been being done for thousands of years and is celebrated by many cultures. It gives me some type of attachment to that past.”

“I started brewing after I learned about the world's brewing culture. It is not so much that I wanted to be a part of it, but that I wanted to carry it on.”

“I homebrew because I like the connection with history following the same traditions and techniques as those before me.”

Authenticity

The dimension of authenticity is perhaps the most difficult to understand. On one hand it speaks to self-sufficiency and the do it yourself spirit. Analysis of the comments however, indicate the deeper underlying feelings of the search for control, self-fulfillment, and satisfaction that full ownership of and immersion in the activity provides. Many home brewers invent and manufacture their own equipment to aid in their process of brewing. Others grow hops, flavorings, and mill their own ingredients. Some speak of the deep connection with nature and provenance. In all cases the feeling of authenticity, an important aspect of the serious leisure experience, is what lies at the heart of the experience. The participants speak to the romance of brewing with one respondent saying that home brewers are “makers of things.”

“They are part of the culture that rejects bland, industrial food and drink. They crave authenticity and provenance.”

Home brewing is one way to take yourself out of the pattern of helplessness that modernity breeds. It is important to be able to use nature's gifts to sustain one's self. I think if one becomes too entrenched in modern life, he or she may just lose his or her humanity. Home brewing is one thing a person can do to regain his or her humanity.

Home brewing allows a strong connection to nature and the extremely natural process of brewing where all of the entities that are required to be successful are inherent in the ingredients. Unlike food, where the ingredients are generally manipulated to a pleasing outcome, the brewer is invited to move a natural process along by creating the necessary environment for it to work its own intrinsic magic.

I hunt because meat doesn't come from the grocery store, and because I don't pray exclusively in church. I garden because vegetables don't come from the store, and because I see God's face in my flowers. I homebrew because beer doesn't come from a bar, and because God wants me to be happy.

“I am a sucker for a gadget. A gadget junkie. A frustrated inventor. I build most of my equipment. I have built my malt mill (50# capacity), fermenter, mash tun, mash paddle, and other equipment”

Too many things now come prepackaged. We open and consume without any thought or knowledge about what it took to produce that product. It's rewarding to take grain, water, hops and yeast and understand the process and have the ability to turn out an award winning beer.

“Home brewing is a great hobby of interest. I enjoy the craft beer community. I have recently expanded my hobby in growing my own hops. I have also employed the skills of a designer to construct a logo for my home brewery.”

I've been brewing for over ten years. I'm constantly upgrading and improving my system and methods. I always brew all-grain and start by crushing the grain by hand (crank). It is important to me to have control over every aspect. I refrigerate cold filter and keg from my half barrel system.

“Home brewers are an ingenious group. I am an experienced engineer and I never cease to be amazed at the problem resolution skills of home brewers.”

“I used to work in a Commercial brewery during college and then a friend started me in Home brewing. I recently Welded up a stand and wired and plumbed it to make everything safer and easier...”

“As an engineer building two 10 gal. all stainless steel and copper breweries was large part of the hobby pleasure.”

“I also enjoy growing my own hops and culturing my own yeast. I would like to get it to where the only thing I don't have control over is the malting of the grain.”

“I brew exclusively using organic products, to eliminate the amount of pesticides entering my body”

“I have a dedicated pole-barn for brewing, and developing brewing equipment. Besides the actual act of brewing, I also harvest and ranch yeast. I also grown several varieties of hops, and use them in my brewing,”

“I have built a two tier system with two pumps and recirculation capabilities. i own a conical fermentor and I have a dedicated 12x16 "clean room" for brewing.”

“I enjoy constructing my homebrew equipment as much as making beer. I also enjoy growing hops.”

Instead of asking me if the place I brew is beautiful. Why not ask me if it is functional? I put a lot of time and effort into making a functional area to brew beer. It's not beautiful but I'm Proud of it. Another good question would be, Do you make your own brewing equipment? I built most of mine. Most of my social interaction comes from talking about building / setting up a brew systems.

Retired science, math, computer instructor. The hobby has become a continuing education and I lean to its technical side. I have taken welding classes and interned at commercial breweries. Grow hops and keep a yeast collection (40+ varieties) in long term storage.

This hobby encourages self-sufficiency and ingenuity. I know many home brewers who have come up with innovative solutions to problems they have encountered in their brewing processes. They then share that information, and the hobby advances. Not only are home brewers taking ingredients and making their own beer, they are beginning to grow the actual ingredients themselves. I know a lot of home brewers began growing their own hops, and I find it is common that they are also avid gardeners as well.

“Also, being a bit of a techie, I have and continue to enjoy making the equipment I need and use”

“I take tremendous personal pride in building and then showing off the technical detail and originality of my brewing system.”

“I brew beer for the same reasons I bake our bread and cook from scratch: It is satisfying, tasty, healthy and creative to feel independent from food processors and closer to the farmers.”

The one topic I didn't see covered is concerning self sufficiency. This is a big part of why I enjoy home brewing. I like the feeling of being self sufficient. I like not having to rely on major (or otherwise) breweries to brew exactly what I like.

Someday I hope to learn how to make my own butter, cheese, soap, etc. etc. I find the idea of, living in a time when people fended for themselves and were self reliant, a very interesting a romantic period.

“In general I consider people who enjoy home brewing "makers of things" or people that enjoy doing things themselves.”

“the hobby of home brewing has led to a larger, richer life for me in ways too numerous to write here and has opened avenues of interpersonal relationship that was missing in my life before.

“Home brewing helps define me. I brew. I am a home brewer.”

In the following comment the author tries to capture the diverse elements that make up the dimension of authenticity. While, in this researcher's opinion, this description is less than perfect; it captures the intensity of the connection that most of the

sample seems to have for the activity and shows the multiplicity of elements that make up this dimension.

I find the history of how the styles evolved into a classic style to be important.

Beer was made before instruments, gadgets, temperature control, and electronic devices. Brewing was an experimental process. It created ideas that turned into refrigeration, pasteurization, and invention. Beer evolved from cultural changes and stature. Brewing changed industrial ages as well. Brewing started out as a craft and was passed down to generations. It was a way of life, a way to support your own community, thus creating styles per region and creating an identity.

Commercial brewing has stolen that part of who we are. We are our past. Brewing and beer styles are who we are. Craft brewing gives today's brewers' new identity. It links us to our family heritage. Brewing gives me a sense of the new Revolution, Anarchy, and the right to pursue happiness. Sam Adams had it right several hundred years ago. Brewing gives me the freedom to try new things, new ideas, and to make mistakes, which is how we learn and evolve.

The key informants were most helpful in providing insight into the dimensions as well as the career aspects of the activity. The first key informant spoke of his deep familial connection to home brewing, "I'm Irish/German and both sides of my family brewed in the old country, it's just something I grew up knowing about, it was always there." The second key informant felt no direct historical connection, but the family influence is still present as is the dimension of authenticity, "My mother did all the baking from scratch and she canned and pickled what she grew in the garden. My father hunted and I used to help him make sausage and cure meat. I make farmhouse cheese,

bake, and even make my own ginger ale and root beer. I guess it's just the way I was raised."

In terms of career the first key informant has actually left his practice of law and is devoting all his efforts and finances to the invention and development of a proto-type multiple brewing system for use in a microbrew operation. This system includes grain milling and bottling components, with a computer controlled electric and gas system of multiple mash, boiling, and cooling tanks using pump feeds to move the brew through the process with a minimum of handling. This individual's decision to leave the law and to engage in the entrepreneurial effort was reached after experiencing health problems. The confrontation with illness led to a life reassessment with clarity achieved when the participant's spouse asked "why don't you do what you love?" Though financially risky, the key informant reports renewed vigor and a much improved attitude and energy since pursuing his dream, "since I made the decision to make brewing my career I feel better than I have in years."

The second key informant, while not considering a career change has still strongly evinced the dimension of authenticity. This participant is an inventor and self-proclaimed gadgeteer on a non-commercial level. He has set up staged gravity fed tanks in his brewing area to transport the beer through the process without lifting and installed a 500 gallon propane tank to expedite the firing process and increase safety. "I work alone out here most of the time and I have a bad back, I have to make this as easy and efficient as I can so I don't hurt myself again." Additionally, this brewer grows several different types of hops and cultures yeasts varietals for his brewing. His desire for self-sufficiency extends beyond brewing to wine making, ginger ale and other soda

production, ice cream, and a home-made smoking and barbecue production area. This person is driven by the desire to control the processes of what he consumes deriving immense satisfaction from the feelings of control and ownership, “I make better stuff than I can buy and I know what is in everything I make.”

The revealed dimensions of creativity/art and science square nicely with the quantitative data reported in Table 4. The dimensions of history and authenticity closely align with Stebbins’ claim that serious leisure participants are usually the keepers of the historical flame. The lore and traditions are kept alive and passed on between those engaged in the activity. The search for authenticity was strongly supported throughout the literature reviewed. The convergence of the empirical data through the literature, quotes and comments, and the statistical results support the acceptance of the four revealed dimensions.

This data allows research question 2 to be answered:

Research question 2

RQ2: What variables and dimensions are needed to improve the instrument so as to obtain a full goodness of fit confirmatory factor analysis result?

The qualitative data clearly show that the four dimensions creativity/art, science, history, and authenticity and development of appropriate variable questions are revealed as the elements necessary to improve the instrument and obtain optimum goodness of fit for the theoretical model.

Rich description

The *a priori* and revealed dimensions seen through the lens of the qualitative data and statistical results provide the needed evidence for the credibility of the study, yet there are comments from the participants that provide the deepest and richest description of the satisfaction outcomes of engagement in home brewing. These comments were difficult to categorize in one dimension as they code on multiple dimensions and overlap. Highlighting some of these below will add insight into the depth of both the intrinsic and extrinsic elements of participation in a serious leisure activity.

Home brewing encompasses many aspects of science and art- which appeal to me as an engineer. I am amazed by the microbiological miracle of yeast, the chemistry of wort and the thermodynamics of the process. It is also creative in that variation of ingredients and process can enhance or diminish the end result. It is always challenging and often surprising.

I soon discovered the possibilities were endless when it came to crafting and exploring new beers and ingredient possibilities. Soon thereafter, I began growing and experimenting with my own hops. I've learned a great deal of world history, economic factors and politics all from the glorious history of brewing. There is an intrinsic value/quality and satisfaction in home brewing and knowing that no one could ever take the experience of value away from me.

As well as getting a lot of satisfaction enjoying and sharing the finished product, I get a great sense of achievement mastering the chemistry, fluid dynamics, process

control and overall management of the process and making it consistent. It's a nice combo of science and creativity.

I believe there are certain trades that need to be passed on to the younger generations to maintain the culture and traditions of our country. Home brewing and self sustainment are huge to me. I grow all my own vegetables make all my own beer, distill all my own alcohol and herb extracts, make my own cheese, and fashion any and all equipment I have the knowledge to do so. Home brewing is one of my greatest passions. There is nothing more exciting than opening that bottle and pouring the bitter sweet malty goodness into a glass and saying wow that tastes great and I made it all by myself

Speaking directly to the dichotomy inherent in all human activity...

Though it seems contradictory, it is both relaxing and exciting. It is both invigorating and soothing. It is both social and solitary. It has been many different things to me at many different times. In short, I've gotten out of it what I needed because of what I've put in to it at the time.

“It's a journey that enriches the lives of those who embrace it. Brewing can be as creative or spiritual or scientific as you wish. That is the beauty of it and what comes out is entirely yours and unique.”

Home brewing it seems can fill a lifetime hole; mitigate lack of work satisfaction, and to help reach the profound life that Stebbins espouses...

Home brewing has finally let me be creative. I could never dance, sing, play sports, draw, and fix cars, etc. This is me finally being able to put myself into a finished product I created. It allows me to have 'a voice' as they say in the literary world. It helps me to feel accomplished and proud of my ability to be meticulous and precise, clean and orderly. On the other hand, it is also gives me the ability to relax.

I enjoy brewing mostly because it challenges me in ways that my everyday personal and work life do not. I get to use science and exercise the other parts of my brain. It allows me to be creative and yields tangible results i can share with friends. Beer and other foods are so much fun to explore with the people in my life, both friends, family, and coworkers. It also teaches me about the natural world,

Satisfaction

Though only moderate goodness of fit was obtained for the theoretical model the closeness of fit and the strong output of the exploratory factor analysis give good indication that the scale does indeed measure satisfaction for the participants. Therefore, it is deemed useful to measure the satisfaction of the participants with home brewing as a serious leisure activity. This will serve to offer validity to the study.

To assess the satisfaction with the activity a new variable, total satisfaction, was created using SPSS to total the satisfaction values from the entire scale. This total satisfaction score could then be correlated to the variable questions asking the participants how likely they were to continue as home brewers and how likely they were

to recommend home brewing to others. These questions were measured using the Likert Scale of 1 (very unlikely) to 5 (very likely). 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 7 show that the correlation between satisfaction and the two question variables reached statistical significance.

Table 7: Total satisfaction and future behavioral intention

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

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

Thus research question 3 can be answered.

Research question 3

RQ3: To what extent are home brewers satisfied with their participation in home brewing?

The data clearly indicates the very high satisfaction level of the participants as measured by their likelihood to both continue in the activity and recommend it to others.

Market niche

In terms of F&B consumption, the results indicate that home brewing does not decrease spending and more importantly number of visits to restaurants, taverns, or pubs, with approximately 72% of the respondents saying their F&B spending has actually increased or remained the same since they took up the activity. The breadth and variety of an operations beer list drives the location selection for approximately 80% of the respondents. The frequency of changing offerings and beer styles of the list received the highest mean score for location selection (see Table 8). Tangential offerings such as craft beer speakers and events such as competitions or demonstrations achieved high means scores as well in likelihood to frequent F&B operations. Most strikingly 55% of the respondents plan day trips around beer and approximately 37% of them plan their vacations around this activity, clearly indicating their willingness to travel to and spend in F&B operations featuring craft beers.

Home brewing/beer.....is peaceful, frustrating, anxiety ridden, creative, demanding, relaxing.....fun and tasty is something I do with my wife and has given us a common goal has increased my beer consumption of really good beer a reason to travel the world has increased our friends 10 fold has given us respect from others

The demographic information reported in table 2 shows that approximately 80% of the participants enjoy an annual income level above the national median indicating that

this group has the wherewithal that corresponds to its willingness to spend making this an attractive market niche for hospitality operators.

Table 8: Location selection

	Mean	SD
Frequency of menu change	4.38	.841
Breadth of beer list	4.35	.855
Craft beer events	4.22	.910
Craft beer speakers	4.17	.949

Reliability

Quantitatively 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 the scale and then for each of the components identified within the scale 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 (1951) 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 9 illustrates the results of the scale and each dimension created from the factor analysis outlined above. The table clearly indicates a robust coefficient for the LSS both in the total scores and within the identified dimensions of each scale.

Table 9: Coefficient alpha of scale

Leisure Satisfaction Scale	Alpha
Total Score	.875
Dimension 1	.851
Dimension 2	.805
Dimension 3	.824
Dimension 4	.822
Dimension 5	.787

Qualitatively reliability, sometimes referenced as dependability is exhibited through a complete and transparent description of the process of both data collection and analysis. The dependability of the information can be enhanced through the application of peer-review, member checks, and inter-rater reliability testing (Schwandt, 2007). The survey comments were exported from the survey site to Excel and then into ATLAS.ti for coding. The electronic transfer ensured that no human error occurred in the transfer of the data. The interview comments and comments obtained from the field observations were carefully checked with the participants throughout the process to ensure there was agreement in what was said and to confirm that the meaning and understanding attached to the comments was accurate, the qualitative validation technique proscribed by Lincoln, & Guba (1985). Peer-review was ongoing throughout the process both through the dissertation committee members and through consultation with other faculty who generously made themselves available. Inter-rater reliability testing was done with two graduate students who were trained in the coding dimensions and research strategy.

These raters were then given a sheet with 31 quotes chosen on the arbitrary basis of every twelfth quote selected for testing. The principle investigator coded the comments establishing the baseline for comparison and identifying 77 coding points in the 31 comments. The two selected raters were then separately given the sheets to code. The first rater scored 84% in agreement and the second rater reached 87% in agreement. These scores surpassed the benchmark of 80% established by Miles and Huberman (1994) which is the generally accepted benchmark for inter-rater reliability. Appendix F contains the three sets of scored coded data.

Validity

Quantitatively 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 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 a 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, Riley, Wilkie, & Wood, 2005). 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 scale and the factors revealed through the Varimax rotated PCA scores identified in an earlier section of this chapter. Convergent validity is supported for the scale and identified components measuring; satisfaction. The scale totals obtained from the Varimax rotated PCA demonstrated correlation with the satisfaction scale $r = .677, p < 0.001$. 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 measure. In spite of this delimitation however, the ability of the variables to factor with such strong loadings in the factor analysis speaks to the discriminant validity of the scales.

Quality of craftsmanship is the determiner of validity in qualitative inquiry. The researcher offers validity through descriptive words; trustworthy, believability of the findings – fitness – transferability – soundness – strength - power – authority (Kvale & Brinkmann, 2009). In place of generalizability the qualitative researchers uses transferability for external validity and validation of methods to determine internal validity. In qualitative research there is the added concept that validity resides with the reader who must determine whether the case has been made.

The primary advantage of mixed methods investigation is the opportunity for triangulation; the use of multiple methods to take advantage of the inherent strengths of each method to make for a stronger end result. Mixed methods take maximum advantage of the concept of triangulation, which offers both convergence of the data from multiple points and corroboration, which is inherent in the approach of multiplicity. The advantages of triangulation through mixed methods research are:

- Triangulation – convergence/corroboration
- Complementarily – elaboration/enhancement/clarification of one method to the other
- Development – one method informing the other
- Initiation – uncovering inconsistencies

- Expansion – increased breadth
- Increases representation and legitimization

The examination of both the quantitative statistical output and the qualitative support for the *a priori* dimension of the LSS show clear collaboration and convergence of the data. The data strongly informs and reinforces the other with little in the way of inconsistency revealed. The combination of the data harvested expands the study results thus increasing representation and legitimacy. Overall, the measures obtained from the satisfaction scale and the qualitative data are accepted as reliable and valid.

Non-response bias

As reported earlier 4,207 useable responses were obtained from the AHA's 25,000 members and the snowball sample; this represents an approximate 17% response rate. 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 rationale 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 both the statistical and qualitative results compiled from the research instrument, the key informant interviews, and the field observations. 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 scale that most accurately revealed the relevant subscales and variables for the participant's satisfaction were determined and presented. These results were triangulated and corroborated through the examination of

the participant's own words. The theoretical model was subjected to Confirmatory Factor Analysis and though the goodness of fit was substantially supported the qualitative data revealed dimensions that should prove to add significantly to the accuracy of the model. Home brewers as a market for tourism and restaurant operators were discussed as well. Lastly, the overall reliability and validity of the study was addressed as well as non- response bias. The following chapter will review the findings 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, the research question results will be synthesized. 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 primarily to determine if this adaptation of the Leisure Satisfaction Scale would provide a confirmable quantitative serious leisure satisfaction scale applied to home brewing. The secondary aim was, through the use of mixed methods, to reveal what dimensions, if any, were necessary to add to the scale to reach goodness of fit for the theoretical model. This was accomplished by means of exploratory factor analysis of half the data set to provide the empirical basis from which to design the theoretical model. The model was then subjected to confirmatory factor analysis using the second half of the data set to measure the fit to the model. Moderate goodness of fit for the model was achieved, but it was felt

that additional dimensions could be found that would improve the model and the measurement scale.

The qualitative data was collected through the interdisciplinary approach of survey comments, key informant interviews, and field observation of a local brewing club's monthly meetings and annual *big brew* event. This approach provided data which was rich in terms of both saturation and depth. The data revealed four dimensions that will allow for improvement of the model in future research.

The advantage of using mixed methods research for this study is supported through both the examination of the data and the results and findings obtained. Through triangulation of the data, the convergence of the *a priori* dimensions to the quotes obtained from the survey, interviews, and brewing club members is strongly supported. An examination of Table 4 results and the quotes obtained show the same convergence of the data for the revealed dimensions both qualitatively and quantitatively. It was posited at the beginning of the study that the strength of mixed methods in research was the ability of each method to provide corroboration for the other. The examination of the data for this study clearly indicates that this criterion has been achieved with each method of data analysis serving to confirm the results of the other.

The satisfaction derived from participation in a serious leisure activity lies at the very heart of the individual's likelihood to remain engaged. In the case of home brewers the convergence of the data indicates that participants in this activity are highly satisfied and each method again served to corroborate the other in terms of results. Overall, the results obtained in this study give the clear indication that the instrument under

development is on track and through the addition of the revealed dimensions it is likely that the model will be confirmed in future research.

The development of a quantitative scale to be applied to a serious leisure activity has been the primary specific purpose of this study. Adding this methodological element represents an original contribution to and an extension of the knowledge base and literature. The development of an instrument that expands the understanding of serious leisure serves both a micro and macro function. As noted in the first chapter participation in a serious leisure activity is important in a transformative sense for the individual with tangential benefits derived by society as a whole. The ties of serious leisure to overall life satisfaction, health, successful aging, and the maximization of human potential are so compelling, especially in light of the rapidly changing socio-economic environment, as to warrant close examination. The opportunity to advance the knowledge base in an area that speaks so deeply to human fulfillment both on the individual and the societal level supports the significance of the study in both specificity and overall.

The sample population is both large ($N=4207$) and geographically diverse (all 50 states). The participants represent the broad spectrum of participation found on the leisure continuum; beginner/sporadic thru passionate amateur/often to professionally engaged. This wide spectrum of participants, the statistical output, and the shared experience so deeply described qualitatively certainly support the claim of generalizability and trustworthiness called for by both qualitative and quantitative methodologists. Considering the broad similarity in the findings among serious leisure researchers it is at least a reasonable proposition that the scale, once finalized, could be applied to other activities.

Implications

The implications to be derived from this research are widespread. The implications for academia, government and NGOs in planning and development are manifest. Understanding the affect of serious leisure activity can be useful in developing 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, might otherwise be an unrewarding career, adding benefit to both the employer and employee. Physical rehabilitation practitioners will also benefit from understanding the potential 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 from trauma. The broad scope of the leisure and recreation industry can all benefit from the empirical understanding offered in this research.

For business, this research has broad implications for both the travel and tourism, and food and beverage segments of the hospitality industry as well as the retail beer industry. The literature is clear that this group has already changed the landscape of retail beer sales and is making important inroads into the restaurant arena both directly through microbrew pubs and indirectly in beer menus, merchandising, and add on sales. The participants themselves have directly indicated that they select restaurants based on beers offered and would further direct selection towards operators that offered peripheral craft brew inducements such as tastings, speakers, etc. Additionally, they indicated a strong

preference towards making travel plans, both short and long stay, based on craft beer.

This serves to give strong support to the literature which posits that operators who display commitment and knowledge to a niche base can gain competitive advantage due to the commitment and demonstration of expertise. This seems especially true of craft brew enthusiasts who, if marketed to properly, can offer a discriminating, knowledgeable, and potentially influential entry into this proven market niche.

For academics, who are interested in both the applied and theoretical aspects of research inquiry, the addition of a scale to determine satisfaction with a serious leisure pursuit has multiple implications transcending numerous disciplines. Gerontologists, through the application of this study, can determine an activities potential impact on both health and quality of life for aging populations. Researchers studying recovery from physical and/or emotional trauma can use this study to determine an activities efficacy in restoring well-being. Business academics and human resource specialists can determine better employee fit and long-term success through application of the serious leisure construct and application of the study, which can positively impact productivity while reducing the costs associated with employee retention, recruiting, and training. Psychologists and counselors can make use of this study to positively impact therapeutic practices and contribute to the successful implementation of coping strategies for stress, depression, and overall quality of life. Put simply, while not a magic elixir, serious leisure and the satisfaction derived from it can play an important role and make an significant contribution to the well-being of the individual and ultimately serve society as a whole in reaching the profound life of which Stebbins wrote so eloquently.

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. This sample was limited to the population encompassed within the American Homebrewers Association (AHA) and a snowball sample of enthusiasts connected to AHA members. This research does not directly address all home brewers engaged in the activity of home brewing outside of this organization. The act of joining, indeed participation in the survey at all, may indicate that the participants 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 satisfaction scale, 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.

Qualitatively the same limitations apply. The key informants and the brewing club participants are all AHA members and the same issue of homogeneity applies. Additionally, the direct participation of the researcher in the collection of the qualitative data obtained from the interviews and brew club observations raises the specter of bias and influence. Though I made every effort to maintain distance and neutrality throughout the data collection process my presence alone coupled with my desire to collect meaningful information to enhance the study may have influenced the results. Bias is also a threat in terms of the sample groups as membership in the AHA and the extraordinary enthusiasm exhibited for home brewing may predispose the participants to exclude any potential negative or adverse comments to what they knew to be a study with the express intent of ultimate publication of the findings.

Future research

The obvious first step in future research should be a re-administration of the satisfaction scale with the addition of the revealed dimensions to the sampling group. Then the newly modified scale can be tested for potential improved goodness of fit of the theoretical model. Once confirmation is achieved then the next logical step for future

researchers would be to replicate the study by applying it to other serious leisure pursuits. The development of a confirmed quantitative scale that could be applied across serious leisure activities would represent a significant achievement for research in this area. Understanding the underlying drivers of satisfaction within a serious leisure activity will provide a multiplicity of benefits to; career advisors, mental and physical health care professionals, sociologists, gerontologists, as well as the leisure, recreation, travel, and food and beverage industries.

Long-term, research that replicates this study applied in the future would add the longitudinal dimension necessary for analysis of this research and the sample group over time. This would benefit the knowledge base by tracking any changes within the group of home brewing participants and their relationship to the larger retail and wholesale food and beverage market. The extent of the group's continued influence within the market could then be assessed.

Identifying those engaged in the activity and replicating this research internationally is another area for future researchers to consider. This would allow understanding of both the specific activity of home brewing as well as the larger groupings of serious leisure adherents. It would be interesting to see if the individual and societal impacts and benefits seen to be derived from serious leisure participation in the U.S. would translate across borders and cultures.

Conclusion

This study has presented substantive analysis of home brewing and serious leisure. 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's quality of life, by way of the development of positive concepts of the self: actualization, identification, and gratification, is its most significant contribution. This study advanced the incremental understanding to be found the serious leisure literature and set the pathway for the continued development of a serious leisure satisfaction scale.

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Appendix A: Survey Informed Consent Letter

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.



COLLEGE OF HUMAN SCIENCES
NUTRITION & FOOD SCIENCE

(NOTE: DO NOT SIGN THIS DOCUMENT UNLESS AN IRB APPROVAL STAMP WITH CURRENT DATES HAS BEEN APPLIED TO THIS DOCUMENT.)

INFORMED CONSENT

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 this Activity"

You are invited to participate in a research study to examine the satisfaction and needs fulfillment obtained through your participation in home-brewing. The study is being conducted by Douglas W. Murray PhD student, under the direction of Dr. Martin A. O'Neill, Professor in the Auburn University Department of Nutrition and Food Science. You were selected as a possible participant because you are a home-brewer and are age 19 or older.

What will be involved if you participate? If you decide to participate in this research study, you will be asked to be interviewed and/or participate in a focus group. Your total time commitment will be approximately 1-3 hours. The interviews and/or focus group exchanges will, for the sake of accuracy, be audio taped, then transcribed without names or identification, and the tapes then destroyed.

Are there any risks or discomforts? There are no foreseen risks or discomforts associated with participating in this study.

Are there any benefits to yourself or others? Understanding the depth of satisfaction derived from home-brewing will add to the knowledge base of leisure studies and human needs fulfillment.

Will you receive compensation for participating? There is no compensation for participation.

Are there any costs? There are no costs to you for participating.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. 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 School of Human Sciences.

Participant's initials _____

Page 1 of 2

The Auburn University Institutional Review Board has approved this document for use from 2/14/10 to 2/12/11 Protocol # 08-055 EX 0802

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Appendix C: Survey Instrument

Home Brewing Survey

Demographic information:

I am a

Female

Male

My age is:

Under 21

21-25

26-34

35-49

50-65

Over 65

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

I am currently:

Single

Married/significant other

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

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

The choice that best describes my work is:

- Student
- Educator
- Construction/trades
- Office/clerical
- Office sales
- Management
- Consultant
- Professional
- Craft beer retailer
- Retired

The following best describes where I work:

- K-12 education
- College/university education
- Military
- Government
- Service Industry
- IT
- Not for profit
- Manufacturing
- Brewing related

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

I most often work from:

- Home
- Fixed employment site
- Travel to customers

The following best describes my work schedule:

- Flexible
- Set

I have been interested in home brewing for:

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

I primarily brew from:

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

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

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

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

The number of batches I brew annually is:

- 1-5
- 6-10
- 11-15
- 16-20
- 21-25
- Over 25

My average batch size is closest to:

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

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

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

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

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

	Most Important	Important	Neither important or unimportant	Not important	Least Important
Save money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creative outlet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scientific Interest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drink Better beer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Friendship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advance the craft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commercial ambition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall brewing experience

	Very dissatisfied	Dissatisfied	Neither dissatisfied or satisfied	Satisfied	Very satisfied
My overall satisfaction is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Very unlikely	Unlikely	Neither Unlikely or Likely	Likely	Very likely
Likelihood to recommend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Likelihood to continue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

75-98 : My satisfaction level is:

	Almost never true	Seldom true	Sometimes true	Often true	Almost always true
Interesting to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provides self confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provides sense of accomplishment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilize many skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increases my knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Try new things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learn about myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix D: Interview Protocol

How long have you been involved in HB?

What one word would describe your level of involvement in HB?

Given a choice of the following words, which most closely matches your feeling for HB:

Passionate

Enthusiast

Casual

What constraints, if any, limit your participation in HB?

The literature indicates that there are three primary motivational components that influence the initial engagement in a leisure activity. How much, if any, of these components explain your participation in HB?

Relaxation

Social exchange

Intellectual stimulation

Are there any motivating factors that influence your participation in the HB that were not mentioned?

The literature indicates that there are five primary satisfaction outcome components that influence continued engagement in a leisure activity. How much, if any, of these components explain your continued participation in HB?

Relaxation

Self-identification

Aesthetic

Social exchange

Physiological

Are there any satisfaction factors that influence your continued participation in HB that were not mentioned?

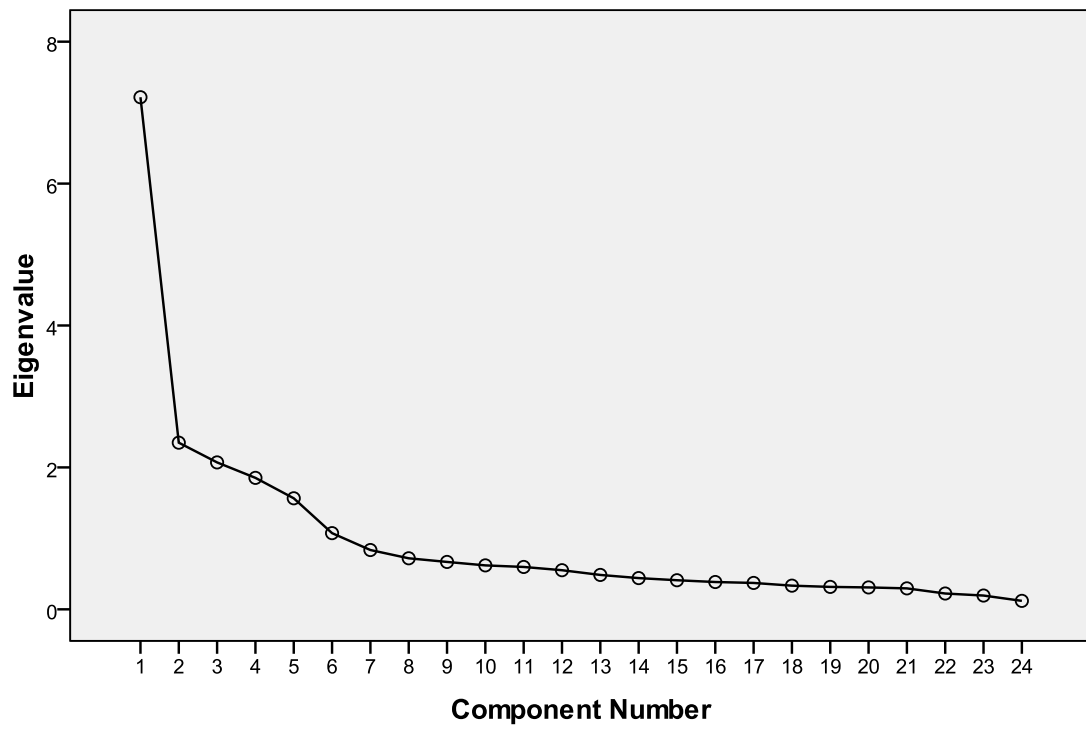
Please tell me about any feelings/emotions are generated for you through participation in HB.

What question should I have asked?

Do you feel any historical connection to brewers and brewing processes of the past?

Appendix E: Satisfaction Scree Plot

Scree Plot



Appendix F: Inter-rater Reliability Tests

Inter-rater Reliability Control

Thank you for helping establish the coding reliability of my dissertation. Please review the statements below and code them according to the dimensions listed below and explained in the orientation. These statements may encompass one, two, or more of the dimensions. Conversely, they may not apply at all.

The dimensions under consideration are:

Social

Intellectual

Self-confidence

Restoration

Self-accomplishment

Authenticity

History

Creativity/art

Science

None of the above

1. Home brewing is a low intensity, low cost hobby that work helps to relieve stress and tension and can be either a solitary of a communal experience that stimulate the mind and body.

Restoration – social-intellectual

2. Brewing is an art, and a state of mind like many other crafts. The enjoyment for me comes from trying to find balance in flavor and interesting combination's in natural ingredients. Creating beer from grain and hop flowers is as good as fresh baked bread from grain and rosemary.

Creativity - authenticity

3. I enjoy the process of brewing as much as the finished products. I also enjoy the history behind beer styles and how they were organically developed. I read about beers from around the world and through this I have learned about other cultures. I enjoy the tasting and beer judging part of brewing again as much as the brewing processes itself. It is a great community of like-minded people for the most part.

Science – history - social

4. Home brewing is a perfect mix of history, heritage, science, art, knowledge, and continued learning.

History – science – creativity - learning

5. The act of home brewing is something I enjoy from a creative development to a finished product that I am proud to share with my friends. Plus, as a home brewer I am helping to break down the stigmata towards alcohol. Everything in moderation. In fact, I look forward to the day that I can show my children. It will aid in responsibility and hopefully stir in them a sense of empowerment through creativity and scientific processes.

Social – creative – science

6. Home brewing provides me with a creative outlet where I can see and taste the results of my efforts

Creativity

7. It's fun, relaxing and lets you be imaginative, just as in cooking food.

Restoration - creativity

8. I brew because it is honest physical work that provides me with a sense of accomplishment, is a creative outlet for my interest in science, and I enjoy the fruits of my labor. In a world full of instant gratifications, it satisfies a basic primal need for me to invest my time and energies into something that will pay a dividend later. It also helps me to develop more patience that benefits my family and friends.

Self-accomplishment – creativity – science – authenticity – social

9. Home Brewing is an outlet of my interest in science and engineering. I am officially neither in my profession, but I enjoy employing those skills in this hobby. The bonus is making friends and enjoying good beer.

Science - social

10. Most of the questions asked , I HAVE TO SAY WERE STUPID. I brew beer because I love to drink my own fresh home brew which is far superior to most beer on the market that I can buy. The bottom line is you have to love GOOD beer. PS I love to drink beer more than I LIKE TO MAKE IT. I hope this helps.

None

11. I began to brew because I was curious about how beer was made. I have learned a lot and continue to learn new things all the time. It's a journey that enriches the lives of those who embrace it. Brewing can be as creative or spiritual or scientific as you wish. That is the beauty of it and what comes out is entirely yours and unique

Intellectual – restoration – science – creativity

12. For me there is a spiritual component to brewing and a connection with people and cultures that have brewed and fermented grains, honey, and fruit for thousands of years. It is an historical and cultural connection to traditions and peoples long before the rise of post-modern industrial brewing.

History – authenticity

13. The beer style question is rather poor. For example, you list ales as a style. Stout is an ale. Belgians are ales. "Ale" is not a style, but a large class of beers. "Pale ale" is a style. Similarly, you list "Irish style" and "stout" again. What, if anything, is Irish style, if not stout? I suggest you look at the BJCP style listing and refine the question.

None

14. Home brewing is a mixture of chemistry, biology, engineering, fluid dynamics, and if you're lucky, socially rewarding.

Science - social

15. Home brewing has finally let me be creative. I could never dance, sing, play sports, draw, and fix cars, etc. This is me finally being able to put myself into a finished product I created. It allows me to have 'a voice' as they say in the literary world. It helps me to feel accomplished and proud of my ability to be meticulous and precise, clean and orderly. On the other hand, it is also gives me the ability to relax. Its 6-8 hours of being devoted only to watching a mash drain or wort boil.

Creative – self-accomplishment – self-confidence – science - restoration

16. I brew to make things not available on the market, such as discontinued / on haitus / seasonal brews like New Belgium's Biere de Mars and SpringBoard; or to be able to try a beer with uncommon ingredients.

None

17. My ancestors owned and operated a brewery for decades prior to prohibition. (Great-great grandfather and family). I've always enjoyed beer and really enjoy the growth of the craft beer industry.

History

18. I primarily make wine and mead. Brewing is an outgrowth of my primary hobby. I would generally have more positive replies if the questions dealt with wine and mead making. Home brewing is very educational especially in the sciences. Beer judging and AHA sponsored classes make for a knowledgeable brewer. Club activities i.e. QUAFF, my home brew club add a greatly to one's social life. We do Padre baseball game activities, picnics and parties especially Christmas. We also camp twice a year.

None

19. 1. I felt that some questions reflected a liberal bias; eg. how one feels about oneself is on the liberal agenda. Those questions seemed silly, after all who would homebrew unless they enjoyed it? 2. I usually don't complete surveys that try to be "politically correct" (again, expressing the liberal agenda) by using ethnic references to "African American" instead of perfectly acceptable "black" but at the same time use "Caucasian" or "White" instead of "European American." 3. I NEVER divulge my income expect to the income tax collectors.

None

20. Some of the questions were poorly worded. I.e. nothing about brewing Lagers, or other types of beers. The person who designed the questionnaire had limit knowledge of beer and brewing, or underestimated the target samples knowledge.

None

21. I brew exclusively using organic products, to eliminate the amount of pesticides entering my body.

Authenticity

22. Home brewing gives makes me happy and being able to brew beer and have my friends tell me that they like my beer over the beer that they drink makes me feel proud that I'm brewing my own beer. Our founding fathers brewed beer and I feel that I'm keeping up a tradition that they started. Home brewing makes me feel happy and I feel that I can make beer that I love to drink and that I can brew like the big guy's and be happy.

Restoration – social – self-confidence – history – self-accomplishment

23. I'm very new to home brewing so have a lot to learn but the pursuit of that knowledge, the pleasure of enjoying something I've made (that actually tastes good), and sharing that pleasure with friends and family has been wonderful. I do hope to improve my skill as I do this more and learn more about the brewing process, ingredients, innovations, and much more as I progress.

Intellectual – social

24. Home brewing is a joyous, hands-on hobby that allows me to explore my creative side and enjoy a wonderfully tasty product home brewing is a family legacy that I am bringing back to my heritage !!!...

Creativity -self-accomplishment – history

25. The answers for some of the questions do not fit me very well. I am an engineer working for a consulting firm. This answer was not possible. I make almost all of

my own equipment. I find making my own equipment for home brewing as satisfying as brewing.

Science-authenticity

26. home brewing is more than just brewing beer to drink. there's a science to it that is fun. always learning. a sense of accomplishment from self and friends when a beer is well received. doing something for yourself is always more enjoyable. it is relaxing to immerse oneself in the process. good modern jazz always goes good while brewing. Relax plan and think about the different affects from different ingredients. and the reward when a job well done!!!

Science-self-accomplishment-restoration-intellectual-social

27. I especially like home brewing because it is so multifaceted involving chemistry, cooking, creativity, and skill to name a few.

Science-creativity

28. Sometimes I enjoy constructing my homebrew equipment as much as making beer. I also enjoy growing hops. This isn't my only hobby but it is the one that is on my mind all of the time. I am constantly thinking of how I can brew better by maybe modifying my setup or changing a recipe. I may be a little obsessed.

Authenticity-intellectual

29. You should have asked about History! Home brewing has given many of us the opportunity to do historical research on formulas, techniques, tools and the times in

which they were used. Many of us try to recreate beers of old and adapt them to modern home brewing techniques.

History-science

30. War eagle!

None

31. I use an 8 gallon crock that my great grandmother used for fermenting beer. For her it was just like baking bread. For me it is connecting history and the present. Brewing is as old as civilization and will cease when civilization does.

History-authenticity

Inter-rater Reliability Test 2 (84% agreement)

Thank you for helping establish the coding reliability of my dissertation. Please review the statements below and code them according to the dimensions listed below and explained in the orientation. These statements may encompass one, two, or more of the dimensions. Conversely, they may not apply at all.

The dimensions under consideration are:

Social

Intellectual

Self-confidence

Restoration

Self-accomplishment

Authenticity

History

Creativity/art

Science

None of the above

1.) Home brewing is a low intensity, low cost hobby that work helps to relieve stress and tension and can be either a solitary of a communal experience that stimulate the mind and body.

Social

Restoration

2.) Brewing is an art, and a state of mind like many other crafts. The enjoyment for me comes from trying to find balance in flavor and interesting combination's in natural ingredients. Creating beer from grain and hop flowers is as good as fresh baked bread from grain and rosemary.

Creativity/art

Intellectual

Authenticity -1

3.) I enjoy the process of brewing as much as the finished products. I also enjoy the history behind beer styles and how they were organically developed. I read about beers from around the world and through this I have learned about other cultures. I enjoy the tasting and beer judging part of brewing again as much as the brewing processes itself. It is a great community of like-minded people for the most part.

Social

Science

Authenticity

History -1

4.) Home brewing is a perfect mix of history, heritage, science, art, knowledge, and continued learning.

Intellectual

History

Creativity/art

Science

5.) The act of home brewing is something I enjoy from a creative development to a finished product that I am proud to share with my friends. Plus, as a home brewer I am helping to break down the stigmata towards alcohol. Everything in moderation. In fact, I look forward to the day that I can show my children. It will aid in responsibility and hopefully stir in them a sense of empowerment through creativity and scientific processes.

Social

Authenticity

Creativity/art

Science -1

6.) Home brewing provides me with a creative outlet where I can see and taste the results of my efforts

Creativity/art

7.) It's fun, relaxing and lets you be imaginative, just as in cooking food.

Restoration

Creativity

8.) I brew because it is honest physical work that provides me with a sense of accomplishment, is a creative outlet for my interest in science, and I enjoy the fruits of my labor. In a world full of instant gratifications, it satisfies a basic primal need for me to invest my time and energies into something that will pay a dividend later. It also helps me to develop more patience that benefits my family and friends.

Social

Self-confidence

Self-accomplishment

Authenticity

Creativity/art

Science -1

9.) Home Brewing is an outlet of my interest in science and engineering. I am officially neither in my profession, but I enjoy employing those skills in this hobby. The bonus is making friends and enjoying good beer.

Social

Science

10.) Most of the questions asked , I HAVE TO SAY WERE STUPID. I brew beer because I love to drink my own fresh home brew which is far superior to most beer on the market that I can buy. The bottom line is you have to love GOOD beer. PS I love to drink beer more than I LIKE TO MAKE IT. I hope this helps.

None

11.) I began to brew because I was curious about how beer was made. I have learned a lot and continue to learn new things all the time. It's a journey that enriches the lives of those who embrace it. Brewing can be as creative or spiritual or scientific as you wish. That is the beauty of it and what comes out is entirely yours and unique.

Intellectual

Self-accomplishment

Creativity/art

Science -1

12.) For me there is a spiritual component to brewing and a connection with people and cultures that have brewed and fermented grains, honey, and fruit for thousands of years. It is an historical and cultural connection to traditions and peoples long before the rise of post-modern industrial brewing.

History

Authenticity

13.) The beer style question is rather poor. For example, you list ales as a style. Stout is an ale. Belgians are ales. "Ale" is not a style, but a large class of beers. "Pale ale" is a style. Similarly, you list "Irish style" and "stout" again. What, if anything, is Irish style, if not stout? I suggest you look at the BJCP style listing and refine the question.

None

14.) Home brewing is a mixture of chemistry, biology, engineering, fluid dynamics, and if you're lucky, socially rewarding.

Social

Science

15.) Home brewing has finally let me be creative. I could never dance, sing, play sports, draw, and fix cars, etc. This is me finally being able to put myself into a finished product I created. It allows me to have 'a voice' as they say in the literary world. It helps me to feel accomplished and proud of my ability to be meticulous and precise,

clean and orderly. On the other hand, it is also gives me the ability to relax. Its 6-8 hours of being devoted only to watching a mash drain or wort boil.

Self-confidence

Self-accomplishment

Restoration

Creativity/art -1

16.) I brew to make things not available on the market, such as discontinued / on hiatus / seasonal brews like New Belgium's Biere de Mars and SpringBoard; or to be able to try a beer with uncommon ingredients.

None

17.) My ancestors owned and operated a brewery for decades prior to prohibition. (Great-great grandfather and family). I've always enjoyed beer and really enjoy the growth of the craft beer industry.

Self-confidence

History -1

18.) I primarily make wine and mead. Brewing is an outgrowth of my primary hobby. I would generally have more positive replies if the questions dealt with wine and mead making. Home brewing is very educational especially in the sciences. Beer judging and AHA sponsored classes make for a knowledgeable brewer. Club activities i.e.

QUAFF, my home brew club add a greatly to one's social life. We do Padre baseball game activities, picnics and parties especially Christmas. We also camp twice a year.

None

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None

20.) Some of the questions were poorly worded. I.e. nothing about brewing Lagers, or other types of beers. The person who designed the questionnaire had limit knowledge of beer and brewing, or underestimated the target samples knowledge.

None

21.) I brew exclusively using organic products, to eliminate the amount of pesticides entering my body.

Authenticity

22.) I'm very new to home brewing so have a lot to learn but the pursuit of that knowledge, the pleasure of enjoying something I've made (that actually tastes good), and sharing that pleasure with friends and family has been wonderful. I do hope to

improve my skill as I do this more and learn more about the brewing process, ingredients, innovations, and much more as I progress.

Social

Intellectual

23.) Home brewing is a joyous, hands-on hobby that allows me to explore my creative side and enjoy a wonderfully tasty product. home brewing is a family legacy that I am bringing back to my heritage !!!...

History

Creativity/art -1

24.) The answers for some of the questions do not fit me very well. I am an engineer working for a consulting firm. This answer was not possible. I make almost all of my own equipment. I find making my own equipment for home brewing as satisfying as brewing.

Intellectual

Authenticity -1

25.) home brewing is more than just brewing beer to drink. there's a science to it that is fun. always learning. a sense of accomplishment from self and friends when a beer is well received. doing something for yourself is always more enjoyable. it is relaxing to immerse oneself in the process. good modern jazz always goes good while brewing.

Relax plan and think about the different affects from different ingredients. and the reward when a job well done!!!

Social

Self-confidence

Self-accomplishment

Science

Restoration -1

26.) I especially like home brewing because it is so multifaceted involving chemistry, cooking, creativity, and skill to name a few.

Creativity/art

Science

27.) Sometimes I enjoy constructing my homebrew equipment as much as making beer. I also enjoy growing hops. This isn't my only hobby but it is the one that is on my mind all of the time. I am constantly thinking of how I can brew better by maybe modifying my setup or changing a recipe. I may be a little obsessed.

Authenticity

Intellectual

29.) You should have asked about History! Home brewing has given many of us the opportunity to do historical research on formulas, techniques, tools and the times in

which they were used. Many of us try to recreate beers of old and adapt them to modern home brewing techniques.

Science

History

28.) War eagle!

None

29.) I use an 8 gallon crock that my great grandmother used for fermenting beer. For her it was just like baking bread. For me it is connecting history and the present.

Brewing is as old as civilization and will cease when civilization does.

Social

History -1

Inter-rater Reliability Test 1 (87% agreement)

Thank you for helping establish the coding reliability of my dissertation. Please review the statements below and code them according to the dimensions listed below and explained in the orientation. These statements may encompass one, two, or more of the dimensions. Conversely, they may not apply at all.

The dimensions under consideration are:

Social –relationships/exchange

Intellectual – learning education

Self-confidence - pride

Restoration – relaxation/renewal

Self-accomplishment - accomplishment

Authenticity – Meaning self-sufficient/Do it yourself/control over things

History – generational, cultural, connection with past

Creativity/art

Science – Engineering

None of the above

1.) Home brewing is a low intensity, low cost hobby that work helps to relieve stress and tension and can be either a solitary of a communal experience that stimulate the mind and body.

Social/ Intellectual/ Restoration-1

2.) Brewing is an art, and a state of mind like many other crafts. The enjoyment for me comes from trying to find balance in flavor and interesting combination's in natural ingredients. Creating beer from grain and hop flowers is as good as fresh baked bread from grain and rosemary.

Creativity/art/ Authenticity

3.) I enjoy the process of brewing as much as the finished products. I also enjoy the history behind beer styles and how they were organically developed. I read about beers from around the world and through this I have learned about other cultures. I enjoy the tasting and beer judging part of brewing again as much as the brewing processes itself. It is a great community of like-minded people for the most part.

History/ Science/ Social

4.) Home brewing is a perfect mix of history, heritage, science, art, knowledge, and continued learning.

History/ Science/ Creativity/art/Intellectual

5.) The act of home brewing is something I enjoy from a creative development to a finished product that I am proud to share with my friends. Plus, as a home brewer I am helping to break down the stigmata towards alcohol. Everything in moderation. In fact, I look forward to the day that I can show my children. It will aid in responsibility and hopefully stir in them a sense of empowerment through creativity and scientific processes.

Social/ Science/ Creativity/art

6.) Home brewing provides me with a creative outlet where I can see and taste the results of my efforts

Creativity/art

7.) It's fun, relaxing and lets you be imaginative, just as in cooking food.

Creativity/art/ Intellectual -1

8.) I brew because it is honest physical work that provides me with a sense of accomplishment, is a creative outlet for my interest in science, and I enjoy the fruits of my labor. In a world full of instant gratifications, it satisfies a basic primal need for me to invest my time and energies into something that will pay a dividend later. It also helps me to develop more patience that benefits my family and friends.

Self-accomplishment/ Authenticity/ Science/Creativity/Art-1

9.) Home Brewing is an outlet of my interest in science and engineering. I am officially neither in my profession, but I enjoy employing those skills in this hobby. The bonus is making friends and enjoying good beer.

Science/ Social

10.) Most of the questions asked , I HAVE TO SAY WERE STUPID. I brew beer because I love to drink my own fresh home brew which is far superior to most beer on the market that I can buy. The bottom line is you have to love GOOD beer. PS I love to drink beer more than I LIKE TO MAKE IT. I hope this helps.

None of the above

11.) I began to brew because I was curious about how beer was made. I have learned a lot and continue to learn new things all the time. It's a journey that enriches the lives of those who embrace it. Brewing can be as creative or spiritual or scientific as you wish. That is the beauty of it and what comes out is entirely yours and unique.

Self-accomplishment/ Intellectual/ Science/ Creativity/art-1

12.) For me there is a spiritual component to brewing and a connection with people and cultures that have brewed and fermented grains, honey, and fruit for thousands of years. It is an historical and cultural connection to traditions and peoples long before the rise of post-modern industrial brewing.

History/ Authenticity

13.) The beer style question is rather poor. For example, you list ales as a style. Stout is an ale. Belgians are ales. "Ale" is not a style, but a large class of beers. "Pale ale" is a style. Similarly, you list "Irish style" and "stout" again. What, if anything, is Irish style, if not stout? I suggest you look at the BJCP style listing and refine the question.

None of the above

14.) Home brewing is a mixture of chemistry, biology, engineering, fluid dynamics, and if you're lucky, socially rewarding.

Science/Social

15.) Home brewing has finally let me be creative. I could never dance, sing, play sports, draw, and fix cars, etc. This is me finally being able to put myself into a finished product I created. It allows me to have 'a voice' as they say in the literary world. It helps me to feel accomplished and proud of my ability to be meticulous and precise, clean and orderly. On the other hand, it is also gives me the ability to relax. Its 6-8 hours of being devoted only to watching a mash drain or wort boil.

Creativity/art/ Self-confidence/ Restoration/ Authenticity/ Self-accomplishment-1

16.) I brew to make things not available on the market, such as discontinued / on haitus / seasonal brews like New Belgium's Biere de Mars and SpringBoard; or to be able to try a beer with uncommon ingredients.

None of the above

17.) My ancestors owned and operated a brewery for decades prior to prohibition. (Great-great grandfather and family). I've always enjoyed beer and really enjoy the growth of the craft beer industry.

History

18.) I primarily make wine and mead. Brewing is an outgrowth of my primary hobby. I would generally have more positive replies if the questions dealt with wine and mead making. Home brewing is very educational especially in the sciences. Beer judging and

AHA sponsored classes make for a knowledgeable brewer. Club activities i.e. QUAFF, my home brew club add a greatly to one's social life. We do Padre baseball game activities, picnics and parties especially Christmas. We also camp twice a year.

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19.) 1. I felt that some questions reflected a liberal bias; eg. how one feels about oneself is on the liberal agenda. Those questions seemed silly, after all who would homebrew unless they enjoyed it? 2. I usually don't complete surveys that try to be "politically correct" (again, expressing the liberal agenda) by using ethnic references to "African American" instead of perfectly acceptable "black" but at the same time use "Caucasian" or "White" instead of "European American." 3. I NEVER divulge my income expect to the income tax collectors.

None of the above

20.) Some of the questions were poorly worded. I.e. nothing about brewing Lagers, or other types of beers. The person who designed the questionnaire had limit knowledge of beer and brewing, or underestimated the target samples knowledge.

None of the above

21.) I brew exclusively using organic products, to eliminate the amount of pesticides entering my body.

Authenticity

22.) Home brewing gives makes me happy and being able to brew beer and have my friends tell me that they like my beer over the beer that they drink makes me feel proud that I'm brewing my own beer. Our founding fathers brewed beer and I feel that I'm keeping up a tradition that they started. Home brewing makes me feel happy and I feel that I can make beer that I love to drink and that I can brew like the big guy's and be happy.

Self-confidence/ Self-accomplishment/ Creativity/art -1

23.) I'm very new to home brewing so have a lot to learn but the pursuit of that knowledge, the pleasure of enjoying something I've made (that actually tastes good), and sharing that pleasure with friends and family has been wonderful. I do hope to improve my skill as I do this more and learn more about the brewing process, ingredients, innovations, and much more as I progress.

Social/ Authenticity/ Intellectual -1

24.) Home brewing is a joyous, hands-on hobby that allows me to explore my creative side and enjoy a wonderfully tasty product. home brewing is a family legacy that I am bringing back to my heritage !!!...

History/ Authenticity/Creativity/art -1

25.) The answers for some of the questions do not fit me very well. I am an engineer working for a consulting firm. This answer was not possible. I make almost all of my own equipment. I find making my own equipment for home brewing as satisfying as brewing.

Science/ Authenticity/ Self-accomplishment -1

26.) home brewing is more than just brewing beer to drink. there's a science to it that is fun. always learning. a sense of accomplishment from self and friends when a beer is well received. doing something for yourself is always more enjoyable. it is relaxing to immerse oneself in the process. good modern jazz always goes good while brewing. Relax plan and think about the different affects from different ingredients. and the reward when a job well done!!!

Science/ Intellectual/ Self-accomplishment/ Restoration/Social

27.) I especially like home brewing because it is so multifaceted involving chemistry, cooking, creativity, and skill to name a few.

Science/ Creativity/art// Self-accomplishment -1

28.) Sometimes I enjoy constructing my homebrew equipment as much as making beer. I also enjoy growing hops. This isn't my only hobby but it is the one that is on my mind all of the time. I am constantly thinking of how I can brew better by maybe modifying my setup or changing a recipe. I may be a little obsessed.

Science/ Creativity/art -2

29.) You should have asked about History! Home brewing has given many of us the opportunity to do historical research on formulas, techniques, tools and the times in which they were used. Many of us try to recreate beers of old and adapt them to modern home brewing techniques.

History/Science

30.) War eagle!

None of the above

31.) I use an 8 gallon crock that my great grandmother used for fermenting beer. For her it was just like baking bread. For me it is connecting history and the present. Brewing is as old as civilization and will cease when civilization does.

History/Authenticity