Community Matters: The Exploration of Overweight and Obesity within the Lesbian Population

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ABSTRACT

Obesity in the United States has increased dramatically during the past 40 years. Women are more at risk than men to be obese; and, a lesbian sexual identity further increases a woman's likelihood of being overweight or obese. This dissertation includes the following components: 1) a review of factors influencing overweight and obesity in lesbians, 2) an ethnographic inquiry examining how lesbian culture and a lesbian sexual identity contribute to a woman's body weight, and 3) the development of a lesbian-specific tool based on factors identified during the ethnography that predicts eating, physical activity, and weight status.

The literature review, informed by the Social Ecological Model, investigated potentially contributing factors of overweight and obesity in lesbians. This review revealed a small body of literature dedicated to lesbians' physical activity and eating behaviors; additionally, weight-influencing social-cultural elements of lesbian communities were identified. This body of literature suggests that specific personal, social, and environmental factors negatively influence lesbians' weight, although there is not much known about this community's PA and eating behaviors, as overall behavior-specific findings, were equivocal. However, the following gaps in the literature were identified: lesbians' self-efficacy in PA and healthy eating, and effects on these behaviors as determined by their membership in lesbian subcultures.

An ethnographic inquiry examined how a lesbian sexual identity contributes to body weight, attempted to fill a need in the current literature, and was driven by the following questions: 1) How does this lesbian social community serve as a context for its lesbian members to understand body weight? 2) What is the relationship between women's lesbian identities and

their body weight? 3) What sub-cultural customs exist that permit or prohibit healthy eating and physical activity by women in this lesbian community? Participant observation, the primary method of data collection, uncovered the following themes: 1) Valuing Weight, 2) Coping and Socializing Behavior, and 3) Living within an Inconsistent Environment. Social Cognitive Theory assisted in interpreting how and why lesbians create innovative ways to appreciate diverse body weights and provided directives for measurement domains when investigating overweight in this community.

Informed by the previous projects, the Lesbian Overweight and Obesity Questionnaire (The LOOQ) was developed as a tool to measure potential influences on PA, fat intake, and dietary consumption, which assist in predicting body mass index (BMI) within the lesbian community. Internal consistency, test-retest reliability, and predictive validity demonstrated encouraging results; all but two (i.e., 2/27) subscales demonstrated adequate to high internal consistency (Cronbach's Alphas= 0.61-0.97) and reliable test-retest scores (r=0.61-0.92). The LOOQ displayed predictive validity with subscale scores predicting outcome behaviors, which predicted BMI scores.

DEDICATION

Reese Nash McKernan, Grace Lillian Smyth, and Emma Presley McKernan

May each of you know a beautiful life filled with outrageous dreams, true love, and uncompromised health.

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Quite a journey this endeavor has proven to be. And, as with the pursuit of any dream there have been risks and securities, gains and losses, triumphs and disappointments. Along the way I have grown more than I knew possible and in ways I could never have fathomed. What I have learned, considerably exceeds that which is contained within the confines of textbooks, classrooms, or this research study. . . and I am better for it all. Although a bumpy and winding path this has been, through it all I have known I was supported and never alone; and, more importantly, I continue to know I am loved.

Before I begin thanking those people most dear to me, I would be remiss if I didn't, first, pay homage to four spirited souls, each of whom accompanied me at critical stages throughout this endeavor; and, although **Bailey's**, **Loki's**, and **Tigger's** journeys each ended before this particular one was complete, they along with **Barkley**, offered me the comfort and companionship I needed to be able to achieve this goal. So, thank you, sweet little monkeys!

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for offering me emotional stability so that I could feel safe and secure when life was askew, or the very practical tasks sending out gift cards so I could eat, or buying lunches and dinners so we could share in each other's company, or preparing vegetarian meals for me to eat, or helping me unpack and pack up my things[4], you have been here for me. You have seen the best in me, even when it was the worst being displayed. That is love. For allowing me to be a part of your family, I am thankful. But, more than anything, I'm grateful for the time we could all spend together, sharing our lives. . . that has absolutely been one of the greatest unforeseen gifts that this process has bestowed on me. I love you guys!

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TABLE OF CONTENTS

ABSTRACT ii

DEDICATION iv

ACKNOWLEDGEMENTS v

TABLE OF CONTENTS xi

LIST OF FIGURES xiv

LIST OF TABLES xv

LIST OF APPENDICES xvi

PROLOGUE 1

INTRODUCTION: Community Matters: The Exploration of Overweight and Obesity within the Lesbian Population 8

Overview 9

Study Rationale 12

Statement of Purpose and Research Questions for Manuscript 2 13

Delimitations 14

Operationalization of Terms 15

References 17

MANUSCRIPT 1: Factors Influencing Overweight and Obesity in Lesbians Organized Within the Social Ecological Model: A Review 22

Background 23

Review of the Literature 24

Intrapersonal Factors 26

Education/Employment/SES/Race 27

Lesbians and physical activity 28

Lesbians and healthy eating 29

Lesbian identities 30

Interpersonal Factors 32

Social support/Social networks 33

Social norms 36

Community Factors/Public Policy Factors 40
Geographic location 41
Public policy 44
Institutional Factors 48
Sexism 51
Homophobia/Heterosexism/
Internalized heterosexism 53
Lesbians and alcohol use/abuse 54
Lesbians and food consumption 56
Lesbians and physical activity behavior 57
Discussion/Implications 60
Conclusions 63
References 65

MANUSCRIPT 2: The exploration of overweight and obesity within a sample of lesbians: An ethnographic inquiry 83
Introduction 84
Background 86
Lesbian Identities 87
Lesbians and Physical Activity 88
Lesbians and Healthy Eating 90
Methods 91
Selecting the Site 92
Data Collections Procedures 93
Data Transformation 95
Findings 96
Accepting Weight is a Heavy Issue- Attitudes about Body Weight 97
Dealing with Being Seen- Behaviors that Weigh Them Down 104
The Social Scene- An Inconsistent Environment 114

Discussion 122
References 132

MANUSCRIPT 3: The Development of the Lesbian Overweight and Obesity Questionnaire (The LOOQ) 143
Introduction 144
Methods 151
Item Generation 151
Content Clarity and Validity 152
Participants 153
Measures 155
Procedures 157
Results 158
Item Trimming, Internal Consistency, and Reliability 158
Relationships Among Variables 159
Predictive Validity 161
Discussion 164
References 171

EPILOGUE/OVERALL CONCLUSIONS 190

LIST OF FIGURES

MANUSCRIPT 1:

Figure 1. Conceptual Model of the Social-ecological Model when Investigating Factors Contributing to Lesbian Overweight and Obesity 82

MANUSCRIPT 2:

Figure 2. The Environmental Research framework for weight Gain prevention (EnRG) 141

Figure 3. Conceptual Model of Lesbian Overweight and Obesity Modified from Kremers et al. (2006) The Environmental Research framework for weight Gain prevention (EnRG). 142

LIST OF TABLES

MANUSCRIPT 3:

Table 1. Initial LOOQ Scales, Subscales, and Individual Items 178

MANUSCRIPT 3:

Table 2. Participant Demographics 184

MANUSCRIPT 3:

Table 3. LOOQ Subscale Items, Internal Consistency, and Test Retest Reliability Scores 186

MANUSCRIPT 3:

Table 4. LOOQ Regression Models 187

LIST OF APPENDICES

Appendix A- Institutional Review Board Expedited Approval (Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians) 198

Appendix B- Institutional Review Board Expedited Continuation 1 (Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians) 200

Appendix C- Institutional Review Board Amendment I (Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians) 202

Appendix D- Institutional Review Board Amendment II (Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians) 204

Appendix E- Participant Informed Consent 207

Appendix F- Semi-Structured Interview Questionnaire 212

Appendix G- The Lesbian Overweight and Obesity Questionnaire 215

Appendix H- Leisure-time Activity Questionnaire 268

Appendix I- Healthy Eating Assessment 270

Appendix J- Dietary Fat Screener 272

Appendix K- Alcohol Consumption Questionnaire 274

Appendix L- Centers for Disease Control and Prevention's Healthy Days Measure 278

Appendix M- Self-reported Neighborhood Characteristics 280

PROLOGUE

CONSTRUCTING UNDERSTANDINGS: SITUATING MY RESEARCHER SELF

"We are never more true to ourselves than when we are inconsistent."
- Oscar Wilde

To commence this investigation and so that you will understand the importance I place on this research, I must first have, and then share, an understanding of myself- my feelings; my beliefs; my values; my interests; my realities; and my thoughts; and, I must not only clarify those issues for myself, I must too, share them with you, the reader. Undeniably, the use of the interpretive paradigm and its flexibility, in and of itself, not only facilitates, but also supports, the constant changing and shifting of viewpoints; more specifically, the interpretive paradigm assumes that reality is subjective and dependent on perspective, and that there is not one reality, but multiple realities, as well as contexts focused on meanings (Henderson, 2006). And, so while I struggle with my own ambiguity regarding how I understand and know myself, this is the lens through which this inquiry will be viewed; it is my own subjective reality that will influence the ways in which I will comprehend the contexts and meanings contained within this community, and therefore influence the way in which I interpret findings. And so appropriately, I should begin this investigation by revealing the bias (subjectivity) I bring to this investigation, by merely being me . . . comprised of my "self" and my identity.

Within the context of declaring subjectivity, both my "self" and my identity are of interest because they encompass what I know about me from my own perception, as well as how I would label and present my "self;" and, these insights are the impetuses for creating and understanding my realities, in the ways in which I do. Owens (2003, 206) defined the self as "a process and organization born of self-reflection . . . .an organized and interactive system of thoughts, feelings, identities, and motives that 1) is born of self-reflexivity and language, 2)

people attribute to themselves, and 3) characterize specific human beings." He describes identity as, "a tool (or in some cases perhaps a stratagem) by which individuals or groups categorize themselves or present themselves to the world." Although I pride myself on my heightened sense of self-awareness, and the honesty with which I present myself to the world, I'm still unsure I can definitively declare who I am.

I, like all people, am complex, multi-faceted, and intricate in my makeup, and as such, it seems ridiculous to merely list traits comprising my internal being. Instead, I'd rather present the following interrogates that more effectively demonstrate the essence (that is those thoughts, feelings, identities, and motives that are created from such personal questioning) of what lies below my surface; they illustrate the reiterative process I encounter each time I attempt to know and understand my distinctive self: What is it about me that demands my thoughts, feelings, and behaviors be authentic, genuine, and sincere, even when rendering me at disadvantage? What within me compels me to *live*. . . passionately, rather than just *exist*. . . indifferently? How do I go about achieving the beautiful life? What do I need to do to ensure the life I live is meaningful? What gifts do I have to offer the world and those in it? What aspects of me limit the experiences I am to enjoy? Interestingly, I truly know not, definitive answers to any of these questions; however, what I do know, is that *posing* them and therefore the *reflection* each of them commands, is what I believe, in part, creates my true and intimate self. I believe my true self to be anchored in impulse, a concept described by Turner (1976, 991-992) as:

> the outburst or desire is recognized- fearfully or enthusiastically- as an indication that the real self is breaking through a deceptive crust of institutional behavior . . . The true self consists of deep, unsocialized, inner impulses. Mad desire and errant fancy are exquisite expressions of the self . . . the true self is something to be discovered.

While the elements of my self are deep and personal pieces of me, and therefore a bit more difficult to articulate, my identity, conversely, seems much easier to define perhaps because it is subsumed within my "self," and acts as an illustration or categorization of my "self." Personal identities are person's traits, personality characteristics, and unique identifiers that are both attached to and internalized by her/him (Owens 2003). Social identities embody the groups, categories, and statuses to which society recognizes individuals as belonging (Owens 2003). I'd like to discuss my personal and social identities and the influence these have had on my initiation of this project, and the effect they will continue to have after this study commences.

I am certain individual agency has allowed me to create and express much of my personal and social identities. Undoubtedly, the wider world around me has impacted the ways in which I've both constructed and communicated these identities, by setting standards for what is valued and not valued, as well as who/what has power and who/what does not. . . and, although I like to believe I am a strong individual, one not easily intimidated into capitulating to meet some universal expectation, I cannot loosen the grip of social influence. For example, my personal identity (educated, sensitive, kind, funny, stubborn, social, deliberate, verbal, impatient, emotional, opinionated, spirited) and my social identity (woman; graduate student; low SES; sister; daughter; aunt; friend; a lover of animals, music, cooking; beer and wine enthusiast; athlete; and lesbian) might appear insignificant and somewhat incongruent, but when expressed, within the greater social sphere, they are what allow me to design my authentic self; someone who is genuine and unique. . . and somewhat of a paradox, really.

In disclosing the divergent parts of me, I have attempted to establish from where my own subjectivity is born, and how my personal inconsistencies will affect my bias that will be present throughout the course of this study. Because I am very social and somewhat dichotomous in my

being, my perspective often resides in that gray area of life that exposes me to a multiplicity of experiences that both reconstruct and enhance the way in which I behave and understand phenomena, and in what categories I might be classified. For example, my social circle is comprised of as many lesbian couples as it is heterosexual couples. I find I have recreational and physical activity interests more similar to the lesbian cohort; although, my expectations, values, and life goals seem to be more acquiescent to those held by my heterosexual friends. As a result, my social circle and experiences are very diverse. Another important gray area to consider, in regards to this study, is my relationship with physical activity and food/beverage. Physical activity holds a place of prominence in my life; it is a non-negotiable element; one that has become intertwined with my being. I live in a geographic area that supports, encourages even, such pursuits. I love being kinetic. I run because it makes me feel good and fit and strong and healthy. . . and, I will confess it also allows me to maintain a healthy body weight, through the efficient expenditure of calories. . . also of interest to me so I can feel and look more attractive- a purely aesthetic and social-conforming reason. Likewise, the reality of my food and beverage consumption is equally non sequitur. Unhealthy eating has never really been an issue for me; I maintain a healthy diet. When I began this study I was a pescatarian (and now that's turned into vegetarian- nearly vegan), and I very much liked baked or broiled fish, sushi; now, raw, uncooked fruits and vegetables, soy, grains, and beans fill my plate. I neither appreciate nor consume fried foods, sweets, or regular soda. I never use salad dressing or syrups, and rarely apply margarine substitutes. However, my Achilles heel is alcohol. I love red wine and beer (and not the light ones), coupled with or without a meal. Like most of my friends, homosexual and heterosexual, drinking alcohol is a social experience. . . and, it is present at most gatherings. It's

part of our cultural norms: we work hard and we play hard- again, that beautiful spectrum that allows for inconsistency . . .that allows for individualism, openness, evolution, and growth.

My dichotomies continue in deeper ways that form the interesting ways I view my life and the world around it; I am privileged in so many ways, yet I am also disadvantaged within the higher social order. For example, I am White and I am educated; and, I am also a woman who is a member of the sexual minority. I have had money, but I am currently struggling financially as a student who is living on a single income, a student stipend, and therefore, I am technically, a member of the lower class (albeit a transitory one); I am laid-back and easy-going about most things, but there are certain topics/times/people about which/whom I am passionate and intense; I am thoughtful, yet sometimes to the point of residing inside my head; I have a keen sense of humor, and that comedic relief is important to my very being, but in my heart I'm quite serious and sensitive; I harbor an insatiable curiosity about life and about people, though I'm also content in being alone. These contradictions provide me with a unique perspective when considering how I think, feel, and react to situations, behaviors, and people. Perhaps the structure within which I'm exerting individual agency or regulation over my "self" is, as Callero (2003) suggested, multidimensional and diverse, like the social relationships surrounding it, so that my "self" and/or identity may need to be recreated or refined. And, it is the dynamic nature of my being that I believe may be my greatest gift in managing my own subjectivities while engaging in this project.

In my opinion, dynamism facilitates change, and change is inevitable. Within the short time frame of this project, I will change; I have already changed. The person I was when the idea for this project was born is certainly not the same person I am today, as I prepare to embark on immersion within this culture. Accordingly, I must disclose a very important way that my "self"

and my identity have been altered, indisputably influencing my subjectivities throughout this study. At the time this project was being developed, I was in a nearly seven year partnership, which during the initial stages of preparing my proposal, ended. That reality inevitably changed the way I viewed and understood myself as well as the ways in which I viewed this community. Being newly "single" as I begin this study has me feeling a bit out of sorts and somewhat confused as to how I will immerse myself into this community, from which I feel more than a bit disconnected. Not only do I have to resolve my feelings about myself and what "not being with my partner" means to me, but I will also have to navigate my way through the feelings and emotions that are spurred by attending lesbian-specific events. . . alone; and when the participants begin talking about their intimate relationships. . . together, with their significant other; or even how and when I confront my own reflexivity, that is "the ability to view oneself as an object capable of being not just apprehended, but also labeled, categorized, evaluated, and manipulated" (Owens 2003, 207). This investigation will be emotional, as I am accustomed to participating in the community as a coupled lesbian, and as this project begins, I am single, and will certainly remain so, throughout the duration of this dissertation. I have somewhat detached myself from the community as I begin to relearn myself, and there is much to consider. How do I reconcile being lesbian but not "feeling" lesbian as I observe lesbians? Again, more variability in my being that will influence my bias; I am different now, and undoubtedly, at the conclusion of this project, I will forever be changed.

I have done my best to try and situate myself as the researcher- to describe all that is me and what I understand about me. It is from the way I know and express myself and my own lived experiences, in addition to the interactions I've had with others, that I draw my perspective. This viewpoint is ever-changing and is not stagnant; it is ultimately what colors my lens of

observation, as well as my understanding of those observations. I cannot change my experiences; they are mine. . . all wrapped up in the inconsistencies and contradictions; but, still I must claim them as my own. And, just as my experiences are complex and influential, so too are the qualities that constitute my "self" and my identity. I am a mix of thought and emotion (It is emotion that drives this study and thought that will ensure its construction.), which creates my own subjectivity. And, although I am fully aware that I am absolutely prisoner of my own bias, I find neither me, nor my understandings explicitly confined to one category or another. As a result, I am able to challenge my own biases, because I am aware that they exist. . . and, I also know they are not the truth, but that "color," which makes up my truth.

INTRODUCTION

Community Matters: The Exploration of Overweight and Obesity within the Lesbian Population

Overview

The prevalence of obesity in the United States during the past 40 years has increased from 13% to 36% (National Center for Health Statistics 2008), and overweight adults now account for 66% of the American population (Christakis and Fowler 2007). Serious health concerns, overweight and obesity have been identified as antecedents to other chronic diseases, such as diabetes, stroke, heart disease, osteoarthritis, as well as breast and colon cancer (U.S. Department of Health and Human Services, 2001a,b). Furthermore, it is estimated that obese persons have one-and-a-half to two times the risk of premature death than individuals who maintain a healthy body weight. In fact, research has estimated that obesity is correlated with approximately 112,000 excess deaths in the U.S. (Flegal et al. 2002).

Risk of overweight and obesity has been found to be more pervasive within specific populations, based on race/ethnicity, age, socioeconomic status, and sex (U.S. Department of Health and Human Services 2007). Women are more likely than men to be at risk for obesity (Flegal et al. 2002; U.S. Department of Health and Human Services, 2001b) and within the female segmentation, several studies have found a lesbian sexual orientation further increases a woman’s likelihood of being overweight or obese (Aaron et al. 2001; Boehmer, Bowen, and Bauer 2007; Mays et al. 2002; Mravcak 2006; Yancey et al. 2003; Yancey, Leslie, and Abel 2006), and thus, more susceptible to the development of many chronic diseases (Yancey, Leslie, and Abel 2006). These findings are particularly concerning as the lesbian population is estimated to be less than four percent (4%) of the overall population (Mravcak 2006), and research has indicated approximately 33% are believed to be obese, compared to 25% of heterosexual women (Boehmer 2007). Although there are a myriad of data indicating sexual minority women are at greater risk for being overweight and obese than heterosexual women, there is a paucity of

research dedicated to identifying population-specific factors that might contribute to and assist in preventing this phenomena.

The etiology of obesity is largely believed to be the result of a host of behavioral elements including sedentary habits, low levels of physical activity, energy dense diets, and poor eating habits that operate either as independent risk factors (Astrup 2001; McCrory, Suen, and Roberts 2002) or as a cluster of risk factors that interact collectively (Bish et al. 2005; Sanchez et al. 2008). Undoubtedly, these behaviors threaten an individual's weight status; unfortunately, overweight women, as Sanchez et al. (2008) reported, appear to be a group engaging in multiple risk factors consisting of participation in lower than the recommended amounts of physical activity (PA), and a majority are neither meeting the guidelines for fruit and vegetable consumption nor for dietary fat intake. However, further augmenting women's predisposition towards overweight and obesity is a lesbian sexual identity (Boehmer and Bowen 2009).

While lesbians on average have been found to achieve higher education levels and to earn higher incomes than their heterosexual female counterparts (Black et al. 2000), they also have higher instances of overweight and obesity (Carpenter 2003; Valanis et al. 2000; Wagenbach 2003). Although the inverse relationship between obesity and women's socioeconomic status is well established (Carr, Friedman, and Jaffee 2007; Cook and Daponte 2008, Paeratakul et al. 2002), and higher socio-economic status has been identified as a protective factor that reduces women's vulnerability to becoming overweight and/or obese, this finding does not seem to apply to the lesbian population. These discrepancies infer the differentiation in weight status between heterosexual women and lesbians may lie in the distinctive social-cultural attributes that are present in lesbian communities and influencing their physical activity behaviors and dietary habits.

Despite the importance lesbians place on maintaining bodies capable of adept physical performance (Bergeron and Senn 1998; Bowen et al. 2006; Cohen and Tannenbaum 2001; Heffernan 1999), there continues to be a noticeable absence of research dedicated to the examination of their physical activity behavior. To date there have been no PA intervention studies that have targeted lesbians (Yancey, Ory, and Davis 2006). Further investigation may suggest why; evidence of PA prevalence in lesbians has been largely equivocal (Aaron et al. 2001; Boehmer, Bowen, and Bauer 2007; Mays et al. 2002; O'Hanlan et al. 2004) revealing there is still much to learn about the physical activity behaviors of women within this community. For example, some research has concluded that lesbians participate in more moderate to vigorous physical activity than heterosexual women (Aaron et al. 2001; Carpenter 2003; Valanis et al. 2000); other research (Boehmer and Bowen 2009; Yancey et al. 2003) asserted women's exercise behaviors did not differ on the basis of their sexual identity, while others found lesbians to encounter more socially-constructed barriers to being physically active (Brittain et al. 2003), perhaps impeding their physical activity and therefore perpetuating lesbian's levels of inactivity.

Although energy intake is an important element to consider when evaluating issues related to overweight and obesity, there is a paucity of research dedicated to the areas of lesbian eating/nutrition habits. Past investigations have highlighted that despite the higher propensity of being overweight and obese lesbians report lower consumption of fruits and vegetables than heterosexual women (Valanis et al. 2000), are less likely to reduce energy intake (food) in comparison to their heterosexual counterparts (Carpenter 2003; Lakkis, Ricciardelli, and Robert 1999), and score lower on attitude measures of healthy eating related to weight reduction (Grogan, Connor, and Smithson 2006; Owens, Hughes, and Owens-Nicholson 2003; Wagenbach

2003). Further, Wagenbach (2003) found that lesbians may be at an increased risk for binge eating, while other research (Aaron et al. 2001; Case et al. 2004; Valanis et al. 2000) revealed lesbians' alcohol consumption is elevated, both consequences of psychological (dis)stress precipitated from societal homophobia. Clearly, understanding issues of lesbian nutritional habits are complex and difficult to fully address because they may be symptomatic of a greater, more systemic problem that might be dictating decisions regarding food and beverage consumption with less importance placed on the physical health consequences of those choices.

Study Rationale

While attempts have been made to identify the determinants of physical activity and healthful eating/consumption behaviors in samples of lesbians, the theoretical constructs and standardized measures used to elucidate women's behaviors have historically been developed within the broader context of the female majority (heterosexual women). Therefore, the unique social-cultural normative behaviors and influences that are constructed and fostered within the lesbian community, and that influence health behaviors affecting overweight and obesity have been categorically and continuously ignored. As such, the problem still remains.

Clearly, the problem to be addressed is not whether lesbians are at an increased risk for overweight and obesity, and therefore other serious chronic diseases, but *why* they are at an increased risk, especially when the standard protective factors do not seem to be relevant. Given the differences in the relationships between correlates of unhealthy weight and demographic characteristics for lesbians, compared to heterosexual women, it is likely that other contextual factors, distinct from those experienced by heterosexual women, influence lesbian weight status. However, there is a paucity of literature dedicated to deep qualitative examination of the social, behavioral, and cultural perspectives that may provide insight into the underlying and

measureable mechanisms causing increased prevalence of obesity in lesbian women. Once this mixed-methodological research is conducted, appropriate interventions can be constructed in an effort to prevent and treat overweight and obesity in this population.

Purpose Statement and Research Questions for Manuscript 2

The purpose of this three-phased, sequential, mixed methodological study was to investigate and measure participant perceptions and realities regarding body weight and its meaning(s) within a lesbian community. The first of the three projects was a systematic review of literature dedicated to uncovering the social and environmental influences that could potentially promote or prohibit healthy behaviors that affect lesbians' body weight. This review was situated within the social-ecological model, and was employed to both identify areas of influence, and to indicate where there were gaps in the literature. The second project utilized ethnographic inquiry to explore how lesbians understand body weight within the context of lesbian communities and sexual identities, and was driven by the following research questions. a) How does this lesbian social community serve as a context for its lesbian members to understand body weight? b) What is the relationship between women's lesbian identities and their body weight? c) What sub-cultural customs exist that permit or prohibit healthy eating and physical activity by women in this lesbian community? Subsequently, this qualitative inquiry was used to develop a heuristic of potentially predictive factors associated with lesbian overweight and obesity. The final project was created to develop and test a culturally salient and valid questionnaire that could reliably predict lesbian overweight and/or obesity. Ultimately, the culmination of these three projects will provide the foundation necessary to develop practical and culturally sensitive interventions for overweight and obese lesbians through validated and reliable measures that determine the mechanisms of intervention effectiveness. It is no longer

enough to be satisfied with correlation studies using variables and theories primarily developed and tested in heterosexual populations that provide generalized data, and no action. We need to take the next step in preventing and reducing overweight and obesity in the lesbian community through a thorough understanding of the cultural influences on physical activity, dietary consumption, and weight status.

Delimitations

These projects were specific to adult lesbians. To ensure a consistent sample, delimitations were identified. First, women included in data collection activities (personal interviews and survey completion) were English-speaking, self-identified lesbians and bisexual women, whose average age as a sample would be between 30-65 years old. This delimitation was based on research asserting that chronic diseases, such as heart disease, diabetes, and cancer (e.g. diseases also associated with overweight and obesity) manifest during mid-life (Kennedy, Taylor, and Lee 2005), and at an accelerated rate as women reach menopausal age (Godfrey and Naftolin 2008). Therefore, collecting data from women approaching mid-life, as well as women experiencing mid-life, provided valuable information to inform future intervention design for lesbians.

Additionally, the ethnographic study within this research project was dedicated to lesbians who resided in a western U.S. state. Including these distinct individuals ensured that comprehensive data were collected in an attempt to understand social-behavioral aspects of overweight and obesity within a specific lesbian population and then, these predictors were tested within a characteristically-similar national lesbian population.

Operationalization of Terms

Androgynous Lesbian- a female homosexual who represents neither a feminine nor a masculine gender identity.

Body Mass Index (BMI)- A measure that determines a person's body weight status by dividing her/his weight in kilograms (kg) by her/his height in meters (m) squared.

Butch Lesbian- A female homosexual who represents a masculine gender identity.

"Coming Out"- The revelation and acknowledgement that one is homosexual.

Discrimination- A consideration based on class, status, or category, instead of individual merit.

Exercise- A type of physical activity that is planned and/or structured and is performed to improve physical fitness in one or more of the following areas: endurance, strength, and flexibility.

Femme- A female homosexual who represents a feminine gender identity.

Healthful Eating- A low-fat diet that is also rich in fresh fruits and vegetables, lean meats, and whole grains.

Healthy-Weighted Adult- Label of weight for an individual having a BMI of 18.5-24.9.

Internal Consistency- A measure that is based on correlations between items on the same scale of smaller tests and the same subscale of larger tests; measured with Cronbach's alpha it is used to measure whether several items that propose to measure the same general construct produce similar scores.

Leisure-Time Activities- Activity that provides individuals recreational experiences that are freely chosen and unrelated to work.

Lesbian- A woman who 1) engages in sexual behavior with another woman, 2) is sexually attracted to women, and/or 3) has self-identified to oneself and to others as lesbian

Obese Adult- Label of weight for an individual having a BMI of 30 or higher.

Overweight Adult- Label of weight for an individual having a BMI of 25-29.9.

Physical Activity- Activity that is (already) a part of your daily living and includes components of endurance, strength, and flexibility.

Physical Environment- Includes both the natural environment (inherent living and non-living things) as well as the built environment (components strongly influenced by human beings).

Predictive Validity- The extent to which a score on a scale or test predicts scores on some criterion measure; it evaluates the association of theoretically related variables to the construct/criterion of interest.

Prejudice- The irrational suspicion or hatred of a group based on preconceived or unfavorable beliefs.

Social Environment- The culture within which an individual lives, as well as the people with whom and institutions with which s/he interacts.

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MANUSCRIPT 1

Factors Influencing Overweight and Obesity in Lesbians Organized Within the Social Ecological Model: A Review

Background

Obesity has been identified as a serious public health concern, due to its causal influence on other chronic diseases, such as diabetes, stroke, heart disease, osteoarthritis, as well as breast and colon cancer (U.S. Department of Health and Human Services 2001a,b). Risk of overweight and obesity has been found to be segmented within specific populations, based on race/ethnicity, age, socioeconomic status, and sex (Weight-control Information Network 2007). Women, specifically, are more likely than men to be at risk for obesity (Centers for Disease Control and Prevention 2009; Flegal et al. 2002; U.S. Department of Health and Human Services 2001b) and within the female segmentation, several studies have found a lesbian sexual orientation further increases a woman's likelihood of being overweight or obese (Aaron et al. 2001; Boehmer, Bowen, and Bauer 2007; Mays et al. 2002; Mravcak 2006; Yancey et al. 2003; Yancey, Leslie, and Abel 2006), and thus, more susceptible to the development of many chronic diseases (Yancey, Leslie, and Abel 2006). While 11% of women aged 15-44 have reported ever having a sexual experience with another women (Mosher, Chandra, and Jones 2005), it has generally been posited that lesbians only comprise approximately one to four percent of the overall population (Mravcak 2006).Research has indicated approximately 33% of lesbians are believed to be obese, compared to 25% of heterosexual women (Boehmer, Bowen, and Bauer 2007). Lesbians are also more likely to have a higher Body Mass Index (BMI) and a higher prevalence of overweight and obesity than heterosexual women (Aaron et al. 2001; Boehmer, Bowen, and Bauer 2007; Carpenter 2003; Case et al. 2004; Mays et al. 2002; Mravcak 2006; Owens, Hughes, and Owens-Nicholson 2003; Valanis et al. 2000; Yancey et al. 2003; Yancey, Leslie, and Abel 2006). Although there are a myriad of data indicating overweight and obesity is more prevalent in sexual minority women than in heterosexual women, there appears to be a lack of consensus as

to which factors, and how those factors, actually contribute to this phenomena, and even then, one should be cautioned that findings have only shown correlation and not causation. Therefore, the purpose of this review paper is to provide an overview of potential factors, specific to lesbians and framed within social ecological theory (Stokols 1996), that may be contributing to the state of overweight and obesity within the United States' lesbian population.

Review of Literature

Social-ecological theory emphasizes the need to understand the reciprocal relationship between an individual and her environment; that is, more specifically, the intrapersonal, interpersonal, institutional, community, and public policy factors influencing health and illness (Stokols 1996). Used as a theoretical guide in the consideration of body weight issues within a socially marginalized population, social ecological models are useful in understanding the multi-levels of influence on lesbian's health behaviors, as well as identifying the potential barriers to this population's achievement of a healthy weight status (McLeroy et al. 1988; Stokols 1996). Social ecological models also allow for better understanding of the social contextual effects of internal personal and external environmental factors as they influence health behaviors (Stokols 1996). However, when investigating the unique experiences of a minority population, such as lesbians, we've presented the organization of these factors differently than traditionally done with social-ecological models. More specifically, as illustrated in Figure 1, institutional factors appeared to be the overarching influences that encompass the overlapping community and public policy factors, as well as the interpersonal and intrapersonal elements. Importantly, it is the interaction of all levels and factors that assist in better understanding the complex issue of lesbian overweight and obesity.

Applying what is known about the social-contextual experiences of women broadly to the population of sexual minority women, is problematic for two primary reasons. First, heterosexual women and lesbians might share similar intrapersonal factors unique to women; however, the external environmental influences are experienced very differently, and will undoubtedly affect the way in which lesbians adopt healthy and unhealthy habits that may influence their weight (Yancey et al. 2003). Second, while factors, such as low educational levels, low employment statuses, and low SES are associated with unhealthy weight status, and decreased PA levels are evident in both heterosexual and sexual minority women (Ainsworth et al. 2003; Flegal et al. 2002; Mays et al. 2002), the social support, social networks, and social norms are very different for heterosexual and sexual minority women populations. Since individuals' sexual orientation is thought to be evolutionary and not entirely fixed, the terms sexual minority women and/or lesbian, throughout this paper, encompass women who: 1) have engaged in same-sex sexual behavior, 2) are sexually attracted to members of the same sex, and/or 3) have self-identified to oneself and to others as lesbian or gay (Michael et al. 1995).

To date, little attention has been paid to the interpersonal level factors that influence this segment of women, with a specific focus on social support, social networks, and social norms. Institutional factors, while a distinct level of influence, also affect issues of public policy and community, which in concert, may create significant barriers when dealing with issues of lesbian health, and should be considered when examining the prevalence of overweight and obesity within this population. For example, institutionalized homophobia and heterosexism (and therefore stigmatized identities) in the United States is evident, and works to exacerbate the health disparity between the sexual majority and minority, as evidenced by same-sex partners not being able to marry; therefore, they are prevented from receiving lawful health assistance, such

as health insurance (Boehmer, Bowen, and Bauer 2007; Debold 2007), that is often offered to heterosexual individuals and their spouses. Discrimination is also illustrated by physicians and other medical staff not being aware of, or open to, female patients who partner with women (Brittain et al. 2003; Debold 2007; Mays et al. 2002), thereby further perpetuating health disparities between lesbian and heterosexual women. And, although more simplistic, yet equally discriminatory, is the lack of fitness facility "family" memberships being extended to lesbian partners (Brittain et al. 2003). Lastly, Aaron et al. (2001) identified the following as pertinent community level factors to consider when investigating the weight status of sexual minority women: social gatherings located in bars, diverse female roles, as well as greater acceptance of diverse body shapes and sizes. Clearly, the importance of understanding the interplay between a lesbian's environment and/or community and her personal attributes cannot be understated when attempting to address the higher prevalence of overweight and obesity within this population and when striving to create interventions aimed at targeting specific risk factors, with the objective of reducing their threat to becoming overweight and/or obese. What follows is a detailed review of the literature segmented by the levels identified in Stokols' social ecological model (1996).

Intrapersonal Factors

Within the social ecological model, the most internal layer of the framework contains intrapersonal factors, or those individual characteristics that are able to be modified as well as personal traits that are unable to be altered. This level of the model includes attitudes, knowledge, behaviors, self-concept, skills, developmental history, intention to conform with behavioral norms in addition to other sociodemographic and personal characteristics, including SES, education levels, chronological age, gender, and sexual orientation (Brittain et al. 2003; McLeroy et al. 1988; Stokols 1996). Self-efficacy, or one's belief in her capability in performing

a task/behavior, and outcome expectations, or the anticipatory outcomes resulting from a behavior (Baranowski, Perry, and Parcel 2002) has been found to be related to women's PA behavior, not surprisingly revealing that if she is active at any level, the higher her confidence in performing PA behaviors (Ainsworth et al. 2003) and seemingly, her increased participation in such behaviors. Furthermore, self-efficacy is an important factor to measure when investigating health and wellness, especially those habits practiced by lesbians, who, as a stigmatized population, already experience significant societal obstacles and barriers in accessing health-related resources. Moreover, exploring the variation in efficacy is crucial, as Bandura (2004, 145) explained, "The stronger the perceived self-efficacy, the higher the goals people set for themselves and the firmer their commitment to them. Self-efficacy beliefs shape the outcomes people expect their efforts to produce." Health research scholars have long known women's vulnerability to health risks and disease (Yancey et al. 2003). Consequently, specific characteristics have been identified as protective factors against overweight and obesity; however, these findings may not generalize to lesbian women (Yancey et al. 2003).

Education/Employment/SES/Race.

Research in this area has been based on the assumption that the determinants of obesity for lesbian women are the same as the determinants for heterosexual women. However, while research has established that obesity is inversely related to a woman's socioeconomic status (Carr, Friedman, and Jaffee 2007; Cook and Daponte 2008, Paeratakul et al. 2002), the finding doesn't seem to generalize to lesbian women as a group. Research has suggested that lesbians, in comparison to heterosexual women, are more likely to be more educated (Black et al. 2000; Carpenter 2003; Valanis et al. 2000; Wagenbach 2003) and to earn more money (Black et al. 2000; Valanis et al. 2000). In regards to race, during 2006-2008, 39.2% of non-Hispanic Black

women, 29.4% of Hispanic woman, and 26.6% of non-Hispanic White women were obese (Pan et al. 2009); however, it would be difficult to extract any data specific to sexual minority women because questions about sexuality were neither asked, nor were racial/ethnic sexual minority women significantly represented in such surveys. For example, the *2001 Gay/Lesbian Consumer Online Census* indicated participants were 88% White, 8% Hispanic, 3% Asian/Pacific Islander, and 1% Native American/Alaskan Native (A Syracuse University, OpusComm Group Research Partnership 2001). Perhaps identifying intrapersonal influences on lesbian's weight status would be better understood by examining components of physical activity (PA) behaviors, as well as eating habits, and a lesbian identity.

Lesbians and physical activity.

Despite the importance lesbians have been thought to place on maintaining bodies capable of adept physical performance (Bergeron and Senn 1998; Bowen et al. 2006; Cohen and Tannenbaum 2001; Heffernan 1999), there continues to be a noticeable absence of research dedicated to the examination of their physical activity behavior. To date, there have been no PA intervention studies that have targeted lesbians (Yancey, Ory, and Davis 2006). Further investigation may suggest why; evidence of PA in lesbians has been largely equivocal (Aaron et al. 2001; Boehmer, Bowen, and Bauer 2007; Mays et al. 2002; O'Hanlan et al. 2004) revealing there is still much to learn about the behaviors of this community. For example, some research has concluded that lesbians participate in more moderate to vigorous physical activity than heterosexual women (Aaron et al. 2001; Carpenter 2003; Valanis et al. 2000); other research (Boehmer and Bowen 2009; Yancey et al. 2003) has asserted women's exercise behaviors did not differ on the basis of their sexual identity, while others have found lesbians to encounter

more socially-constructed barriers to being physically active (Brittain et al. 2003), perhaps impeding physical activity and therefore perpetuating lesbian's levels of inactivity.

Intensifying the ambiguity of this debate is research that has posited more lesbians were overweight than heterosexual women due to their increased participation in PA, which renders them more physically fit, sporting a muscular body that is denser, and therefore heavier (Aaron et al. 2001; O'Hanlan et al. 2004); however, other research has disputed that notion (Boehmer, Bowen, and Bauer 2007; Yancey et al. 2003). Past research has also focused on lesbians exercising for fitness, not weight loss (Cogan 1999), and has also contended that older lesbians' PA behaviors are more devoted to improving athletic prowess or physical fitness, adding speculation that advanced age diminishes the use of PA to achieve weight loss (Wagenbach 2003). While some researchers have attempted to identify the determinants of physical activity in a sample of lesbians (Brittain et al. 2003), theoretical constructs and standardized measures used to elucidate women's PA behavior have historically been developed within the broader context of the female majority (heterosexual women), and categorically ignored the unique influence of the social-cultural and normative behaviors that are constructed and fostered within the lesbian community, and that influence the meaning of PA.

Lesbians and healthy eating.

Although energy intake is an important element to consider when evaluating issues related to overweight and obesity, there is a paucity of research dedicated to the areas of lesbian eating/nutrition habits. Past investigations have highlighted that lesbians report lower consumption of fruits and vegetables than heterosexual women (Valanis et al. 2000) and others have speculated that lesbians may be unaware of what constitutes "healthy eating" (Bowen et al. 2006). Despite the higher propensity of being overweight and obese, lesbians have also been

reported as being less likely to reduce energy intake when compared to their heterosexual counterparts (Carpenter 2003; Lakkis, Ricciardelli, and Robert 1999) and scored lower on attitude measures of healthy eating related to weight reduction (Grogan, Connor, and Smithson 2006; Owens, Hughes, and Owens-Nicholson 2003; Wagenbach 2003). These findings would seem to indicate that lesbians may neither fully recognize what constitutes a healthy diet, nor do they attempt to employ healthy eating strategies to assist with achieving and/or maintaining a healthy body weight.

Further exacerbating this situation, Wagenbach (2003) found that lesbians may be at an increased risk for binge eating, while other research found that lesbians' alcohol consumption is elevated (Aaron et al. 2001; Case et al. 2004; Valanis et al. 2000); both are believed to be coping strategies used to deal with societal homophobia. Clearly, understanding issues of lesbian nutritional habits are complex and difficult to completely address because they have not been fully investigated, and may be symptomatic of a greater, more systemic problem (discrimination) that might be dictating decisions regarding food and beverage consumption with less importance placed on the physical health consequences of those choices. Yet, still, a recent inquiry conducted by Boehmer and Bowen (2009) revealed that women who ate less than three servings of fruits and vegetables a day were more likely to be obese, and women who did not adhere to the recommended physical activity (PA) guidelines were more often overweight and obese; however, they found no evidence to support their hypothesis that a woman's dietary habits and PA behaviors mediate the relationship between a woman's BMI and her sexual identity.

Lesbian identities.

When does a woman decide she is a lesbian? *How* does a woman determine she is a lesbian? Moreover, once the affirmation of a sexual minority identity has been uncovered, (how)

will it be embraced and/or expressed? Lesbian identities are as unique as the women who claim them; and, in a culture that only recognizes one acceptable form of sexuality and sexual expression, it is not surprising that a lesbian identity is a complicated and challenging concept to either adequately depict or explicate. Nevertheless, Owens (2003) contended each identity is comprised of ascribed "personal" (traits, identifiers, and personality characteristics), and "social" (group status and categorization to which the individual is recognized as belonging). Both components of lesbians' identities are believed to proliferate the prevalence of overweight and obesity in lesbians, both as individuals and a collective group (Owens 2003).

Past research has suggested that lesbians regard their weight status differently depending on where they reside in their own "coming out process." Krakauer and Rose (2002) contended that women's concerns about their body weight decreased after they "came out," or disclosed their lesbian identity. However, the extent of that liberation may be dependent on the duration of that revelation. Wagenbach (2003) described women in the initial stages of lesbian identity formation to be more anxious about dieting and maintaining a slender physique, whereas lesbians who had been "out" longer were less concerned with either dieting or thinness (Heffernan 1999). This observation intimates that earlier-staged lesbians may still be influenced by the dominant ideologies of heterosexual femininity and beauty, while later-staged lesbians may be either passively unaware of or actively contesting such confining standards of femininity. While it is appropriate to applaud such an evolution to where lesbians confidently accept their heavier body weight as a socially empowering event, it is also appropriate to consider how these perceptions could be used when defining interventions to promote *health* through weight loss in this population.

Interpersonal Factors

Health research scholars would agree that the etiology of obesity is largely the result of a host of behavioral dynamics including sedentary routines, low levels of physical activity, energy dense diets, and poor eating habits that operate either as independent risk factors (Astrup 2001; McCrory, Suen, and Roberts 2002) or as a cohort of risk factors often exhibited in concert with each other (Bish et al. 2005; Sanchez et al. 2008). In specifically addressing overweight and obesity in women, scholars have called for the development of interventions that increase PA and improve healthy eating habits by reducing fat intake and increasing fruit and vegetable consumption (Sanchez et al. 2008). Yet, in regards to building such interventions for sexual minority women, evidence on how to accomplish this monumental task is lacking (Boehmer and Bowen 2009). Perhaps the explanation for inducing change in regards to sexual minority women and the prevalence of overweight and obesity cannot be determined by merely identifying the intrapersonal characteristics/behaviors in need of modification; therefore, warranted is the examination of the unique social, behavioral, and cultural norms of this sexual minority group (Boehmer, Bowen, and Bauer 2007), as well as the unique relationships among lesbians, and between the members of this community and overall community at large.

The interpersonal level of the social ecological model includes focus on the primary persons and groups of people, family and friends, for example, with whom individuals associate Kok et al. 2008; McLeroy et al. 1988), and therefore includes elements of both social support and social norms (Fleury and Lee 2006). The interpersonal processes that occur via interactions between and among members of these formal and informal social networks and social support systems serve as significant sources of influence on individuals' health behaviors (McLeroy et al. 1988; Sallis and Owen 2002). Likewise, the company individuals keep is perhaps one of the

most important elements within the social environment influencing their health (Heaney and Israel 2002); that is to say, the assistance or support in sharing and practicing obtained information, in addition to the construction, performance, and institutionalization of social norms within these networks, can seriously affect and potentially perpetuate (un)healthy behaviors. Therefore, to effectively investigate interpersonal factors that impact the weight status of lesbians, a comprehensive understanding of the social support systems, social networks, and social norms associated with this population is justified.

Social Support/Social Networks.

House (1981) identified and measured social support as the functional content of relationships that is categorized into four types of supportive behaviors or acts, which include the following: *Emotional Support*- love, empathy, trust, and caring; *Instrumental Support*- tangible aid and services that directly assist a person in need; *Informational Support*- advice, suggestion, and information that an individual can use to address problems; and *Appraisal Support*- information that is useful for self-evaluation purposes- constructive feedback, affirmation, and social comparison. Although these four types of support can be conceptually separated, they are often constructurally intertwined. Moreover, although social support, in whatever form, may exert influence over the thoughts and behaviors of the intended receiver, it is accomplished in a caring, respectful, and trusting manner that allows the receiver to ultimately make her/his own decisions; likewise, it is always intended to be helpful and is consciously extended from the sender to other members of the social network (Heaney and Israel 2002).

The second essential component in understanding the interpersonal factors of lesbian weight status is social networks, a concept that has been defined as the web of relationships surrounding the individual, or the linkages between individuals that may (or may not) provide

social support (Heaney and Israel 2002; Israel 1982). Social networks can be further characterized by the following: *Reciprocity*- degree to which resources and support are mutually given and received in a relationship; *Intensity*- degree to which social relationships offer emotional closeness; *Complexity*- degree to which social relationships serve many functions; *Density*- degree to which network members know and interact with each other; *Homogeneity*- degree to which network members are demographically similar; *Geographic Dispersion*- degree to which network members live in close proximity to focal person (Israel 1982). Social networks include relationships and ties to other individuals observable as friendships, kinship, work ties, as well as means of communication, chains of command, or a host of other social linkages that provide both opportunities and barriers to individual behavior performance (Felmlee 2003).

Social ties are imperative to individuals' integration into many social relationships, which influence their health. More specifically, an individual is socially integrated if s/he is actively engaged in a variety of social relationships, experiences, or activities (Cohen 2004). Social integration has been found to mitigate stress that can cause poor health by providing access to, and/or information about, resources to which the individual may not have been otherwise privy, and that potentially exerts influence in a person's performance of healthy activities (Cohen 2004; Heaney and Israel 2002). Moreover, research has posited the more socially integrated an individual is, the better her health (Cohen 2004). Perhaps people who are highly integrated socially, interact equally with family, friends, and acquaintances and thus increase both the breadth and depth of resources (Cohen and Lemay 2007). Finally, although it is widely accepted that social integration has a positive effect on individuals' health (Cohen 2004; Cohen and Lemay 2007; Ellis 2006; Erickson 2003; Granovetter 1973; Heaney and Israel 2002; Mittelmark 1999; Seeman 1996; Surken et al. 2006), other research has indicated social integration might

negatively influence specific aspects of one's health, such as overweight and obesity (Christakis and Fowler 2007).

When investigating the increased prevalence of overweight and obesity within the lesbian community, an important consideration is indeed, the composition of their social networks, which differ in significant ways from those of heterosexual women. For example, Gabbay and Wahler (2002) maintained lesbians commonly create and utilize the support of a lesbian community in times of interpersonal strain, and prefer close circles of similarly aged lesbian friends (over non-gay relationships) for socialization as well as emotional support; moreover, single lesbians revealed keeping the company of more close lesbian friends than did coupled lesbians. Therefore, not surprisingly, when examining issues known to affect the maintenance of a healthy weight, Mravcak (2006) indicated lesbians who successfully increased their physical activity behavior relied on support from the individuals in their social networks, primarily consisting of other lesbian friends, and very rarely family members.

Although intrapersonal characteristics such as higher income levels (Sarkisian and Gerstel 2004) and higher education levels (Kalmijn 2003; Moore 1990; Peek and O'Neill 2001), both of which are more likely to be applied to lesbians than heterosexual women, have been found to initiate diverse social networks principally comprised of friends and not family members, homophily within lesbian social networks is not entirely unexpected, since one of the most powerful barriers to the expansion of network ties are differences in race/ethnicity, age, religion, education, and gender (Felmlee 2003). Accordingly, a lesbian identity profoundly influences friendships, kinship relationships, and support systems, in a manner that is more significant than race, class, education level, and income (Gabbay and Wahler 2002). Furthermore, research (Valanis et al. 2000) dedicated to understanding how women's sexual

orientations influence their health, discovered that sexual minority women, regardless of age, socioeconomic status, and access to health care, demonstrate many of the same health behaviors and psychosocial risk factors; however, in an attempt to fully understand how beliefs and behavior affect issues of lesbian overweight and obesity, an investigation of the myriad of lesbian subcultures would prove both prudent and necessary. Therefore, when attempting to explore the interpersonal factors that perpetuate the pervasiveness of lesbian overweight and obesity, an assessment of the social-cultural norms specific to lesbian social networks is merited.

Social norms.

Social norms have been defined as “rules and standards that are understood by members of a group, and that guide and/or constrain social behavior without the force of law” (Cialdini and Trost 1998, 152). They are developed through social interaction between and among individuals of the group for which they are maintained and sanctioned, either explicitly or implicitly by other members of the group. Cialdini and Trost (1998) purported social norms serve to influence members of a group to behave in desired ways, build and maintain relationships with others in the group, and maintain a self-image. These group norms can be manifested in two distinct ways: descriptively, which indicate how most other people behave in a particular situation, and injunctively, which explicate whether specific behaviors will be approved or disapproved of by others within the group, and whether such behaviors are permissible or prohibited situationally (Cialdini and Trost 1998; Lewis, DeVellis, and Sleath 2002). Within the lesbian community, both types of social norms emerge as salient interpersonal forces in establishing and maintaining behaviors that may explain issues of overweight and obesity in this population.

Interactions occurring within the lesbian population facilitate both the development and perpetuation of social norms, which ultimately impacts their body weight in direct and indirect ways. A paramount social normative element in lesbian communities is the physical ways in which lesbians present themselves (Krakauer and Rose 2002). In an attempt to gain and sustain group membership sexual minority women often adopt styles of dress and other physical characteristics that are demonstrated by other lesbians. Although Podmore (2001) discovered lesbians' gendered performances, identities, and dress are expanding and becoming more varied, a more commonly held notion is that there are more uniform standards of lesbian appearances. Research has shown as a collective group, lesbians' physical appearance often includes less typically feminine (Bowen et al. 2006; Heffernan 1999; Smith and Stillman 2002; Wagenbach 2003) and more essentially androgynous or masculine traits such as shorter hair, less feminine clothing and behaviors such as no longer wearing make-up or shaving legs and underarms (Krakauer and Rose 2002; Milillo 2008), as well as carrying heavier body weight or having greater acceptance of a larger body (Bergeron and Senn 1998; Bowen et al. 2006; Cohen and Tannenbaum 2001; Hefferman 1999; Krakauer and Rose, 2002; Milillo 2008). Another argument conjugating lesbian identity and appearance indicated that women who have adopted a lesbian social identity, and as a result, participated in increased lesbian-specific (group) events/activities, were also less concerned with conventional aspects of appearance and weight (Bergeron and Senn 1998; Bowen et al. 2006; Cohen and Tannenbaum 2001; Heffernan 1999; Krakauer and Rose 2002; Milillo 2008; Smith and Stillman 2002; Wagenbach 2003), and perhaps more accepting and forgiving of larger sizes and a variety of shapes (Bowen et al. 2006). Accordingly, women who embraced a lesbian social identity also revealed more positive body image (Connor, Johnson, and Grogan 2004; Grogan, Connor, and Smithson 2006; Owens, Hughes, and Owens-

Nicholson 2003) and did not consider themselves overweight (Cochran et al. 2001), irrespective of the reality. Physical appearance serves a very distinctive role within the lesbian community, and as such, is a powerful descriptive norm that dictates the appropriateness of a heavier, and therefore often unhealthy, body weight.

Lesbians' acceptance of a larger, less feminine body may also indirectly influence the approval of other social norms concerning PA, dietary habits, and alcohol consumption that, in turn, negatively influence as well as further perpetuate and contribute to overweight and obesity. For example, past research (Fleury and Lee 2006) asserted social norms positively influence women's participation in PA; however, lesbian-specific social norms regarding physical appearance, and their rejection of the stereotypical, mainstream ideal of suitable appearance and weight, have been found to negatively impact their participation in PA (Yancey et al. 2003). Therefore, not surprisingly, if PA is not a valued behavior within the community, it is unlikely that lesbians will witness other lesbians being physically active, which has been found to assist in women's engagement of PA (Henderson and Ainsworth 2003). Consequently, the appropriate messages concerning the important role of PA in weight reduction will neither be shared nor reinforced via interpersonal processes of socialization, which is crucial to behavioral influence or change (Vrazel, Saunders, and Wilcox 2008). The same principals could be applied to research conducted in the area of lesbian eating habits, which have established that lower consumption of fruits and vegetables (Valanis et al. 2000) also decreased women's likeliness of reducing their caloric intake (Carpenter 2003; Lakkis, Ricciardelli, and Robert 1999) and that non/misunderstanding of the components of a healthy diet led to poor eating habits, as Bowen et al. (2006) suggested. Likewise, lesbians are a minority group known to consume significantly high amounts of alcohol (Cochran et al. 2000; Wilsnack et al. 2008), and scholars have shown

that both descriptive and injunctive norms present within a group predict alcohol use and abuse within specific populations (Larimer et al. 2004; Sher, Bartholo, and Nanda 2001). Accordingly, a recent study (Hatzenbuehler, Corbin, and Fromme 2008) found that lesbians had higher levels of alcohol consumption resulting from descriptive norms (perception of the amount of alcohol consumption) and injunctive norms (beliefs about the acceptability of alcohol consumption) held by the lesbian community. The oblique, yet reciprocal, relationship among prominent and less prominent lesbian social norms appear to be positively related to the propagation of overweight and obesity in this population.

The connection between individuals' social networks and their health is dependent upon the variety of interactions they have with other people. That is, these relationships may modify their views of themselves and their place within their social world, therefore empowering them to effectively manage social pressure to perform positive health behaviors or to reject negative health behaviors (Cohen and Lemay 2007). This community seems to have adopted unhealthy behaviors that serve as powerful influences in both building and maintaining individual relationships, as well as the community in which these bonds are formed and supported; therefore, one can surmise that lesbian social networks may neither provide the member diversity nor the appropriate sanctions necessary to facilitate habits that assist in healthy weight maintenance. The importance of broad and integrated networks has also been placed on the accessibility and availability of multiple sources of information that could be used to influence the use of health services and health-related behaviors (Cohen 2004; Mittelmark 1999). Consequently, the homogeneity within sexual minority women's social networks at best, de-emphasizes the importance of appearing and behaving differently from each other, and at worst, interferes with their attempts to become healthier through healthy weight maintenance. Social

normative elements of appearance, physical activity, nutrition, and alcohol not only denote group membership, but also serve to dictate, predict, enforce, and reinforce lesbians' behavior. Therefore, the combination of non-diverse social networks, which are not robust in breadth or depth, and the perpetuation of unhealthy social norms, render lesbians as a somewhat self-limiting group; however, their networks and social norms are obviously influenced by the overall social climate, within which we all live, and through which social mandates and regulations are organized and instituted, based on geographic location and the public policies implemented.

Community Factors/Public Policy Factors

Community issues and public policy often coexist due to the complex power structures that are created, influenced, and often reinforced by community and public health entities. Whereas community is a broad term characterized by collectives of people sharing common values and concerns regarding the welfare of their group, it is defined by three distinctive meanings: 1) primary, face-to-face groups to which individuals belong and that work as mediating structures; 2) relationships among groups and/or organizations within a specified locale; and, 3) a population identified by geographic boundaries and political ideologies, public policy includes regulatory laws, procedures, and guidelines at the local, state, and national level (Kok et al. 2008; McLeroy et al. 1988). The reflexive relationship between community and public policy levels of the social ecological model are apparent when attempting to determine whether public policy is driven by community need or if community need is dictated by public policy. Moreover, emphasis has been placed on the importance of being informed of gay and lesbian inhabitation due to the epidemiological and public health implications (Cooke and Rapino 2007) as well as the cultural and political organizing potential (Cooke and Rapino 2007; Herek 2000a; Valentine 2000). Therefore, for the purposes of this review paper, community and

public policy factors will be investigated in tandem with regards to issues associated with lesbians' higher prevalence of overweight and obesity.

Geographic location.

The component of geographic space is important when examining both lesbians and issues of overweight and obesity. Historically, patterns of lesbian migration were believed to be from rural, less tolerant, and small or non-existent lesbian populations, to urban, tolerant cities with existing lesbian populations, or to semi-rural small towns offering many amenities, where all women communes were formed; however, more recent findings (A Syracuse University, OpusComm Group Research Partnership 2005; Cooke and Rapino 2007) have suggested coupled lesbians are less interested in heterosexual tolerance of sexual minority women and natural amenities when choosing a community. They are opting to reside in less densely populated, non-urban locales with an already established partnered lesbian population, due to perhaps, as Podmore (2001) discovered, the importance of lesbian visibility to other lesbians. U.S. Census data have indicated Santa Rosa, CA; Santa Cruz, CA; Santa Fe, NM; San Francisco, CA, Oakland, CA; Burlington, VT; Decatur, GA, are primary centers for coupled lesbians, although their tendencies toward living in and migration to large metropolitan areas are changing (Gates and Ost 2004). Important to note, however, is the research dedicated to lesbian habitation and migration is derived from the patterns of coupled lesbians, and omits the experiences of single lesbians because only two-fifths of lesbians are in relationship at any given time (Urban Institute 2009).

While same sex couples are still found in the major metropolitan areas such as San Francisco, New York, and Los Angeles, research has indicated lesbians are less likely to live in urban areas than are gay men; in fact, the geographic distribution of partnered lesbians does not

seem to be segregated from the general population (Gates and Ost 2004). Conversely, partnered lesbian migration trends are strikingly different than the migration patterns of the general population and gay males, both of which are taking up residence in moderate-sized, urban regions, rich in amenities. Cooke and Rapino (2007) reported recent lesbian migration patterns more frequently placed them in states such as Minnesota, Wisconsin, Georgia, Alabama, Washington, and Arizona, although parts of Oklahoma, Texas, Louisiana, Mississippi, North Carolina, South Carolina, Virginia, and Tennessee also indicated significant increases in lesbian communities. More specifically, lesbian migration to these states has been increasingly to the less populous areas, with large partnered lesbian populations, regardless of amenities, including higher education; locales included St. Cloud, WI; Sandy Springs, GA; Gainesville, AL; Tacoma, WA; Olympia, WA; Mesa, AZ; and Scottsdale, AZ (Cooke and Rapino 2007). Interestingly, when reviewing geographic trends for overweight and obesity, rural areas, in comparison to urban metropolitan areas, have higher rates of overweight and obesity (Rural Assistance Center 2005); additionally, many of the states, with the exceptions of Washington and Arizona, to which lesbians are migrating, have also been among the states with the highest prevalence of obesity from 1985-2008 (Centers for Disease Control and Prevention 2008). These findings suggest the plausibility of migrating to and/or living in a region and community already identified as overweight or obese presents an inherent barrier to achieving and/or maintaining a healthy weight; furthermore, the residual consequences of living in such areas are also manifest through the lack of resources and often discriminatory public policy, each of which negatively influences healthy eating patterns and PA behaviors, further exacerbating the overall problem of lesbian overweight and obesity.

Geography frequently presents challenges in lesbians' attempts to eat healthfully and to participate in PA. For example, lesbians adhering to recent migratory patterns are opting for residence in less populated, non-urban, and often more rural communities. Research has revealed individuals within these environments participate less in PA and eat diets higher in fat and calories, and they also have decreased access to settings that facilitate PA and food that promotes healthy eating (Rural Assistance Center 2005). Similarly, sexual minority women living in urban areas, although having access to many more resources, also have community deterrents that regularly prohibit either the adoption or maintenance of healthy living behaviors. When considering PA, lesbians are confronted with personal safety concerns (traffic, poorly lit areas, potential encounters with unsavory characters, poorly constructed sidewalks or trails) within their urban communities not only because they are women (Henderson and Ainsworth 2000), but also because they are sexual minority members, who are stigmatized (Brittain et al. 2003), therefore reducing their participation in PA. Seemingly, each setting presents distinct obstacles for lesbians to implement healthy eating and PA habits; however, the intersection of these geographies with public policy provides further potential explanations why sexual minority women are more prone to overweight and obesity.

Public policy creation and implementation is directly impacted by geography, and often dictates who is served and what resources are offered. For example, Herek (2000b) reported the highest levels of sexual prejudice were exerted from older and less-educated individuals, as well as persons living in the Southern or Midwestern United States; these are the same areas, that, coincidently, are housing many of the most overweight and/or obese communities and the areas to which lesbians are migrating. Consequently, these attitudes enforce power structures where minorities (lesbians), who often have the most severe health problems (higher prevalence of

overweight and obesity), also have the least power within the community (McLeroy et al. 1988). As such, constrained by the lack of choice and control over their surroundings, groups residing in communities offering inadequate opportunities for them to modify their setting frequently experience a "misfit" between what they need and what their environment supplies for them to achieve and maintain a healthy lifestyle (Stokols 1996). Unfortunately, the lack of control and perpetual constraints is often facilitated by public policy, which has been created by members of the (sexual) majority, and without regard to how these rules and regulations may hinder the health of the (sexual) minority.

Public policy.

A quick glance at United States legislation illustrates a grim visage for lesbians seeking equitable opportunities. At the time this review was written, only eight states (Wisconsin, Massachusetts, Connecticut, New Hampshire, Nevada, Maryland, New York, Delaware) have laws that ban discrimination based on sexual orientation, and 13 other states (Minnesota, Rhode Island, New Mexico, California, District of Columbia, Illinois, Maine, Hawaii, New Jersey, Washington, Iowa, Oregon, Vermont, Colorado) have outlawed discrimination established on sexual orientation and/or gender identity/expression (National Gay and Lesbian Task Force 2009b). Basic rights, often taken for granted by heterosexuals, are perceived as luxuries for sexual minority members, as evidenced by the lack of national policy dedicated to non-discriminatory legislation, but that which is predicated on individual state law. In this way, it is not difficult to understand the intimate relationship between geography and public policy, an association that not only affects lesbian's inherent rights, but also the privileges associated with employment and marriage, both of which have been found to have a role in the higher prevalence of overweight and obesity within the lesbian community.

Although the social climate is slowly becoming more equitable for many different factions of people, rights and protections extended to members of the sexual minority are lacking in two important areas; employment and marriage laws continue to be, in most cases, exclusive to heterosexuals. The Employment Non-Discrimination Act (ENDA) does not yet proscribe workplace discrimination based on sexual orientation or gender identity. Consequently, some research (National Gay and Lesbian Task Force 2009c) has found up to 68% of LGBT employees revealed they had experienced work place discrimination, and approximately 17% reported being fired or denied employment as a result of their sexual orientation or gender identity. Moreover, legal marriage in the United States affords 1,138 federal laws and protections, including social security benefits (survivor and spousal), jointly filed tax returns, immigration rights, and Family and Medical Leave Act coverage (National Gay and Lesbian Task Force 2008). Full marriage equality for homosexuals is currently only available in five states (Massachusetts, Connecticut, Iowa, Vermont, New Hampshire), while several states have broad relationship recognition laws; three states allow civil unions (Vermont, New Jersey, New Hampshire) and four states (California, Oregon, Washington, Nevada) and the District of Columbia allow for domestic partnerships. Additionally, three states offer laws of limited recognition (designated beneficiaries, Colorado; domestic partnerships, Maryland & Wisconsin; reciprocal beneficiaries, Hawai'i) and one state (New York) and the District of Columbia, although not granting same-sex marriage laws themselves, recognize same-sex marriages performed in other states (Human Rights Campaign 2008; National Gay and Lesbian Task Force 2009a). The lack of federal regulations banning both employment and marriage discrimination is far deeper-reaching for lesbians than just the palpable social and financial inequities; in

combination, these discriminatory practices, compound health disparities, including the higher prevalence overweight and obesity, within the lesbian population.

Lesbian heath, overall, is greatly impacted by the lack of legal recognition of not only their individual rights but also of their relationships; and, when addressing overweight and obesity there is no exception. Although research has purported married persons have a higher prevalence of overweight and obesity, this phenomenon is more predominant in men, and marriage is an overall positive predictor of individuals' health (Schoenborn 2004). This finding would seem to intimate that persons' health status may not be as influenced by whether s/he has a significant other, but perhaps by the resources that are extended, legislatively, to married couples and not to unmarried, long-term, committed couples. For example, because employers are not mandated to offer healthcare insurance benefits to an employee's unmarried domestic partner, a mere 36% of lesbians reported working for companies that offered such benefits (A Syracuse University, OpusComm Group Research Partnership 2005). Even then, the state and/or federal taxes a company pays on those benefits are extended to the employee, whose incurred cost is much more than that of a heterosexual who covers her/his spouse on the same policy. As a result, many coupled lesbians, who each may earn a higher income than their heterosexual female counterpart, yet still less than a heterosexual man (and in many cases, a two-income heterosexual couple), may therefore, not be afforded similar access to healthcare resources that could assist in the education, prevention, and treatment of overweight and obesity either because the coverage is not offered or because it is offered at an exorbitant price. This reality renders lesbians at a further disadvantage and widens the health disparity.

When discussing the institution of marriage and its association with the issue of lesbian overweight and obesity, it is important to note the impasse is neither the debate over (in)equality,

nor the insinuation that a woman must be married to a man to be more healthy; rather, its focus is on the negative health consequences resulting from the substantial reduction of legal benefits offered to lesbians and therefore, the considerable impediments in achieving and maintaining a healthy weight, simply because their significant relationships are not legally recognized throughout our country. Additionally, there are more subtle barriers, spawned from public policy, that block lesbians' access to healthy habits that could reduce obesity. Since same-sex, long-term, committed relationships are not recognized as marriages, many community fitness facilities will not offer lesbians "family memberships," thereby prompting them to discontinue physical activity, find alternative spaces to be physically active, or absorb the increased cost of two individual memberships (Brittain et al. 2003). Clearly, lesbians are not always afforded the same privileges as heterosexual women, as dictated by public policy of the state in which they reside, therefore affecting their access to health-related resources that are traditionally available through employment and marriage.

Despite the lack of uniformity in anti-discrimination, employment, and marriage policies from state to state, as well as the prejudice and barriers associated with them, research (Herek 2000b) has revealed most Americans believe basic civil liberties and employment should not be denied to sexual minority members; however, they also are hesitant to acquiesce in a way that values same-sex domestic partners as much as heterosexual relationships. Americans favor giving homosexual relationships limited recognition, such as employee health care benefits, but not all the rights offered through marriage (Herek 2000b). Unfortunately, this semi-liberal attitude is neither universal in all geographic regions of the United States, nor is it reflected in the myriad of legislative public policies instituted in a society that has been constructed on sexist and heterosexist values.

Institutional Factors

Institutions in society encompass systems with prescribed multi-level decision procedures that are in place to pursue and maintain specific objectives (Kok et al. 2008). Therefore, the institutional level of the social ecological model includes, "social institutions with organizational characteristics, and formal (and informal) rules and regulations for operation" (McLeroy et al. 1988). Within this level of influence, individuals enjoy different experiences predicated by their affiliation with both common, and perhaps lower level institutions within society, such as places of employment, churches, and schools, in addition to higher order institutions such as race, class, and sex. Specific to the lesbian population, homophobia and heterosexism serve to keep institutions organized and in support of the ideals held by the majority.

Much research, as cited below, has been dedicated to the ways in which the lower-level, more easily identified institutions serve as valuable sites to affect women's health. However, structural amplication, which "exists when conditions undermine the personal attributes that otherwise would moderate their undesirable consequences" (Ross and Mirowsky 2003, 438) assists in explaining why lesbians are prevented from thriving in such environments. For example, often socially unaccepted at best, and vehemently discriminated against at worst, lesbians, who are perhaps uncomfortable in disclosing their stigmatized sexual identity, might be less likely to become educated about and/or participate in interventions at sites such as churches, schools, and/or doctor's offices where they have traditionally been found to be delivered (Brittain et al. 2003; Debold 2007; Fleury and Lee 2006; Mays et al. 2002; Whittemore, D'Eramo Melkus, and Grey 2004) because as McLeod and Lively (2003) asserted, their active participation in society is reduced and not as highly evaluated due to their devalued status. Moreover, as O'Brien (2008) contended, organizations and establishments (employers, churches,

and medical staff) that *are* willing to welcome and/or serve sexual minority members, often determine which individuals are deserving of such attention, based on how well they conform to societal norms which have been determined by those people holding power and privilege. This assertion further explicates the important role that overarching and more subtle social institutions such as sexism and homophobia/ heterosexism play when studying issues of overweight and obesity in lesbians; they must not be ignored as they are more far-reaching and more deeply imbedded in society, and therefore present serious social regulations with which to contend when investigating matters of lesbian health.

Although race and class have been found to be correlated to an individual's body weight status (Carr, Friedman, and Jaffe 2007; Cook and Daponte 2008; Paeratakul et al. 2002; Weight-control Information Network 2007), a full review of these factors is beyond the scope of this review paper that is specifically dedicated to uncovering why lesbians, as a broad social group, are more susceptible to being overweight and obese. Moreover, while race and class are interwoven, 58% of lesbians participating in the *2004 Gay/Lesbian Consumer Online Census* indicated they identified more strongly with their sexual minority status than with their race or ethnicity (A Syracuse University, OpusComm Group Research Partnership 2005); as such, a more detailed focus has been placed on sexism and homophobia/ heterosexism as powerful social institutions that affect lesbians irrespective of their race and class. The stigmatized identity of being a woman, who is also a sexual minority member, and the distress it initiates, has a profound influence on a lesbian's weight status, both directly and indirectly (through unhealthy physical activity and dietary habits) that may not have been previously considered, and therefore necessitate deliberate reflection.

Due to the way in which group identities have been institutionalized within our American culture, individuals are assigned status characteristics, or "attributes on which people differ and for which there are widely held beliefs in the culture associating greater social worthiness and competence with one category of the attribute than another" (Correll and Ridgeway 2003, 32). Race, gender and sex, and sexual identity all have cultural beliefs attached to them, and as such, members of society apply somewhat standardized expectations and assumptions for individual behaviors based those principles. As a result, it is not difficult to understand how social evaluations of these categorizations create and legitimize hierarchies that are stratified from the most privileged to the most disadvantaged (Della Fave 1980). For example, in the United States, individuals who are White, male, and heterosexual enjoy far more advantage, opportunity, and power than any other social group, and are therefore able to exert power and maintain their ideals over non-White, female, sexual minority women (Sartore and Cunningham 2009b). This hierarchy has not only organized our society in a way that minimizes and even excludes the lives and experiences of many minority groups, including lesbians, but it has also rendered them stigmatized merely because they do not meet the demographic requirements of the majority; the effects of this stigma are extensive, and damaging to lesbians living a healthy life.

The term stigma, has been ever-evolving within the field of sociology, however, Link and Phelan (2001, 367) offer an inclusive and appropriate characterization:

> Stigma exists when the following interrelated components converge. In the first component, people distinguish and label human differences. In the second, dominant cultural beliefs link labeled persons to undesirable characteristics—to negative stereotypes. In the third, labeled persons are placed in distinct categories so as to accomplish some degree of separation of "us" from "them." In the fourth, labeled persons

> experience status loss and discrimination that lead to unequal outcomes. Finally, stigmatization is entirely contingent on access to social, economic, and political power that allows the identification of differentness, the construction of stereotypes, the separation of labeled persons into distinct categories, and the full execution of disapproval, rejection, exclusion, and discrimination. Thus, we apply the term stigma when elements of labeling, stereotyping, separation, status loss, and discrimination co-occur in a power situation that allows the components of stigma to unfold.

Stigma, a residing cultural phenomenon, has historically been applied to sexual minority members (Herek 2000b, 2007) in the form of "sexual stigma," which has been surmised to be "one of the most powerful and pervasive stigmas in society (Sartore and Cunningham 2009b, 289). Sexual stigma, as Herek (2000b, 2007) explained, is a shared belief regarding homosexuals' devalued social status that deems their behaviors, desires, and relationships as negative, compared to those of heterosexuals. The result of this stigma is that sexual minority members have less power, less access to valuable resources, less influence over others, and less jurisdiction over their own fate (Herek 2007; Link and Phelan 2001). Moreover, research (Barefoot et al 2000; Sartore and Cunningham 2009b) has also suggested stigmatized individuals, knowing their identity is devalued, may harbor an excessive amount of distress trying to anticipate prejudice and discrimination, which Boehmer and Bowen (2009) infered could be a cause of obesity in sexual minority women.

Sexism.

Living in an androcentric culture, it is not difficult to understand how women and their experiences have historically been neglected, devalued, and/or deemed insignificant in a society that places more importance on the lives and experiences of men (Blinde, Taub, and Han 1993;

Burke 1996; Hoeber 2008). One tool used in reinforcing patriarchy in our society is sexism. Sexism has been commonly understood as behaviors or thoughts that cultivate social role stereotypes based on sex; this prejudicial and discriminatory behavior or attitudes, based on sex, can be expressed blatantly, covertly, and/or subtly. Swim, Mallett, and Stangor (2004, 117) explained sexism as ". . . unfair and unequal treatment of women relative to men. . ." that may be "obvious," "recognized purposefully hidden from view," or "not recognized by many people because it is perceived to be normative, and therefore does not appear unusual." Explicit in the notion of sexism is that women are subjugated in a culture that places more value on men; implicit, however, is the unmistakable role gender plays in the perpetuation of sexism towards women.

Gender refers to an individual's display of femininity or masculinity, as it has been socially and culturally constructed and defined, and communicates group membership, power and status (Butler 1990; Hargreaves 1994; Lenskyj 1994, Lorber 1995; Ridgeway and Smith-Lovin 1999; Sartore and Cunningham 2009b). Masculine characteristics are frequently viewed as socially superior to feminine characteristics because in the United States, masculinity has been characterized by strength, independence, and competitiveness, while femininity has been described using characteristics such as passivity, frailty, and complacency (Duncan 1997; Griffin 1993; Golombok and Fivush 1994; Scully 1998). When women deviate from the prescribed gender expectations and challenge these prevailing norms, they may experience disapproval (Herek 2000b, 2007; Sartore and Cunningham 2009b), in the form of discrimination, prejudice, and stigmatized identity (Herek 2007; Link and Phelan 2001). In fact, society's predilection for masculinity over femininity is intertwined with its assessment of heterosexuality over homosexuality (Herek 2004). Therefore, the value placed on men, masculinity, and

heterosexuality, regards lesbians as vulnerable and devalued on multiple levels; Rich (1980) purported this is because the sanctioned behaviors and relationships between men and women, as well as the manifestations of sexuality and gender have been regulated and established by heterosexuality, which has served as an organizing social institution.

Homophobia/Heterosexism/Internalized heterosexism.

Sexuality norms in the United States provide heterosexuals with a privileged and advantageous status, and have been formed and perpetuated through the constructs of homophobia and heterosexism (Simoni and Walters 2001; Weber 2008). Homophobia is the culturally learned and irrational fear, discomfort, disgust, and hatred of; anger and prejudice towards; aversion to; and discrimination against non-heterosexuals, therefore including lesbians and/or lesbian behaviors (Center for Substance Abuse Treatment [CSAT] 2001; Herek 2004; Hudson and Ricketts 1980; Simoni and Walters 2001). Heterosexism, a societal accoutrement to homophobia, is a values system that assumes heterosexuality and that denies, disregards, disparages, and stigmatizes non-heterosexual forms of emotional and sexual expressions, community, and relationships because heterosexuality has been endorsed as the normative and accepted sexuality (CSAT 2001; England 1999; Herek 2004; Herek and Garnets 2007; Simoni and Walters 2001; Smith and Ingram 2004). Similarly, Herek et al. (1991, 957) used the term "heterosexist bias," described as "conceptualizing human experience in strictly heterosexual terms and consequently ignoring, invalidating, or derogating homosexual behaviors and sexual orientation, and lesbian, gay male, and bisexual relationships and lifestyles." Therefore, there is little value placed on women who are romantically or sexually attracted to/involved with other women, and as a result many lesbians have experienced bias, prejudice, harassment, and physical and sexual violence as a result of their sexual identity; in many cases these incidents facilitate

internalized homophobia/heterosexism, which Amadio (2006, 1154) defined as “a set of negative attitudes and affects towards homosexuality in other persons and oneself.” Moreover, these experiences have also been shown to negatively affect lesbians’ health (Mays and Cochran 2001), specifically in the areas of alcohol and food consumption, as well as PA behavior.

Lesbians and alcohol use/abuse.

Social oppression, shame, and anxiety, such as that manifested through homophobia, heterosexism, and internalized heterosexism, has been found to, with few exceptions (Amadio and Chung 2004), influence lesbians’ use/abuse of alcohol (Amadio 2006; Bobbe 2002; CSAT 2001; DiPlacido 1998; Mays and Cochran 2001; Weber 2008; Wilsnack et al. 2008), which has been found to be much higher than heterosexual women’s use/abuse (Case et al. 2004; Cochran et al. 2000; Scheer et al. 2003; Wilsnack et al. 2008). For example, Cochran et al. (2000) found lesbians, when compared to heterosexual women, used alcohol twice as often during a month, were more than twice as likely to get intoxicated, were four times more likely to get intoxicated weekly, and were five times more likely to use alcohol every day.

Hughes and Wilsnack (1997) also identified the following patterns with lesbians’ alcohol consumption when compared to heterosexual women: 1) fewer lesbians refrain from alcohol use, 2) rates of reported alcohol problems are higher, and 3) drinking, heavy drinking, and problem drinking among lesbians indicate less decline with age. Moreover, Amadio (2006) found the number of days lesbians consumed five or more drinks during a month’s time was significantly related to their internalized heterosexism, as was the number of days being very drunk over the past year. Other risk factors, resulting from homophobia, heterosexism, and internalized heterosexism, and influencing lesbians’ increased use of alcohol include: 1) reliance on women’s bars for socialization and peer support, 2) emotional dissonance of “passing” as heterosexual and

using alcohol to reduce anxiety related to these conflicts, and 3) interaction between discriminatory experiences (because of being lesbian) and substance use (CSAT 2001).

Although, Foster and Marriott (2006) found that alcohol consumption did result in weight gain and an increased BMI, most studies have not been able to uncover a clear association between alcohol use and the risk of weight gain because this relationship is often dependent on the population being examined (Suter 2005). Consequently, in a review investigating research dedicated to the relationship between alcohol intake and body weight increase, Suter (2005) further concluded the following characteristics should be considered of consumers: health status, amount and frequency of alcohol consumed, body weight status, and drinking patterns as an accoutrement of food. Since alcohol contains empty calories, that is calories offering little or no nutritional benefit, one would surmise that alcohol intake would likely result in additional pounds, and therefore increased body weight; however, the amount of alcohol consumed and the weight-related consequences appear to be mediated by food consumption (Foster and Marriott 2006; Nelson et al. 2009; Suter 2005). Specifically, that same research indicated low to moderate alcohol ingestion resulted in more weight gain because it, many times, accompanied other energy intake (food), whereas heavy consumers tended to replace food with alcohol. Nonetheless, other research purported alcohol intake, irrespective of amount ingested, was frequently coupled with high fat-food consumption, resulting in weight gain (Nelson et al. 2009; Suter 2005), and consumers of high-fat foods and overweight and obese individuals were also presumed to experience more pronounced negative effects of alcohol's influence on their body weight (Suter 2005). These findings, while indicative of the connection between lesbians' prevalence of overweight and obesity and their consumption of alcohol, suggest a more in-depth look at the typology of lesbian food consumption may be useful.

Lesbians and food consumption.

The dearth of literature available regarding lesbian dietary habits serves, in and of itself, as a powerful social commentary on the marginalization of this community; in a review of 94 articles (spanning 13 years), dedicated to lesbian overweight and obesity issues, Bowen, Balsam, and Ender (2008) identified only two of them as devoted to lesbian eating patterns. Findings were equivocal; a secondary analysis of data collected via the *Women's Health Initiative* indicated lesbians did not meet daily serving recommendations for fruits and vegetable consumption (Valanis et al. 2000) and another study that surveyed over 300 lesbians and their heterosexual sisters, found lesbians were less likely than their sisters to eat red meat but did not differ on low-fat food or vegetable consumption (Roberts et al. 2003). Clearly, additional research needs to be devoted to lesbians and specific tenets of their eating patterns; however, such habits may be consequences of the stress lesbians harbor as members of a socially discriminated group (Barefoot et al. 2000), and therefore should be investigated within such social contexts.

Elevated levels of psychological distress have been correlated with binge eating, in that it serves as a coping mechanism (Yacono, Freeman, and Gil 2004), and in some instances tends to increase when a woman is presented with a greater amount of stress (Harrington et al. 2006). Lesbians living within a heterosexist and discriminatory society experience such stress, and as such, have been found to participate in binge eating. For example, Heffernan (1996) asserted strong predictors of binge eating for lesbians were when negative thoughts or feelings weighed heavily on their mind and when they needed to console themselves; she specifically indicated that the discrimination and denigration that accompanies a lesbian identity could contribute to negative self-awareness and stress, which leads to food serving as a coping mechanism. Other

research, similarly, concluded stressed eaters ingest more energy dense meals as well as more sweets and high-fat foods than unstressed eaters (Oliver, Wardle, and Gibson 2000). Moreover, Boehmer and Bowen (2009), perhaps in recognition of this relationship, proposed measuring fat consumption instead of fruit and vegetable servings, when investigating the link between lesbians' caloric intake and BMI. While implicitly, these findings suggest lesbians' eating habits to be unhealthy, they explicitly demonstrate the role social hierarchy and institution play in the perpetuation of discrimination and stress, which negatively affects lesbians' eating patterns and therefore, could assist in the increasing prevalence of overweight and obesity within this population. As acknowledged previously, body weight is the result of the difference between energy intake and energy expenditure; therefore, it would be prudent to investigate the ways in which access to or participation in physical activity (PA) is also constrained within the imbedded social hierarchy of society.

Lesbians and physical activity behavior.

Identifying the PA habits of lesbians has been found to be confusing at best, and it's been suggested that more detailed research be conducted to conclude if there are differences in PA levels between lesbians and heterosexual women (Bowen, Balsam, and Ender 2008). Although it is unclear if patterns of participation and behaviors are different between heterosexual and homosexual women, when considered within a larger social context, it is clear that all women participating in PA are presented with a gender dilemma, due to the heteronormative environment found within this context (Sartore and Cunningham 2009a). As women, they are expected to display feminine characteristics but as participants in physical activity, they often find themselves in a traditionally male and masculine activity. The predicament presents itself when women must choose between a gender expression that represents their own distinct sense

of gender and the socially expected and/or accepted gender expression.

Although PA has been seen as a male domain where men develop and express masculinity through physical exercise (Cahn 1994), physical activity has become positively associated with identity development of females (Shaw, Kleiber, and Caldwell, 1995). Historically (Shaw et al. 1995), higher levels of sports and PA participation for women were positively associated with identity development because of the physical and mental challenges with which physical activity provided women. These challenges were believed to make women more secure in developing a positive identity that was comfortable for them. However, in a culture where masculinity and femininity are defined dichotomously, women are critically scrutinized if they exhibit a gender identity that includes more masculine than feminine characteristics.

Women who participate in some forms of PA are particularly at odds with the importance society places on traditional gender norms (Brace-Govan 2004). As females, they are already devalued by a patriarchal society that places more importance on male experiences, and as participants in PA, particularly sports, they are ridiculed if they display too much masculinity, even though PA often demands those very characteristics. Research has further suggested that women can neither be too feminine nor too masculine because displaying either one is devalued in our society (Kolnes 1995; Sartore and Cunningham 2009b). Although, today, many more girls and women are participating in PA, it still remains largely a male, masculine, and heterosexual domain (Fink and Pastore 2001) that often ascribes negative characteristics to female participants, serving to further separate, reduce status, and facilitate discrimination towards women (Sartore and Cunningham 2009b). Moreover, as a result, sexual stigma and fears of being questioned as lesbian, are still present within many opportunities for PA, serving as a powerful

means in marginalizing all women- lesbian and heterosexual (Sartore and Cunningham 2009a,b).

These beliefs seem to indicate that women who enjoy PA may be challenged to find a way to create an identity that can be personally, as well as socially, valued in a society that has definite boundaries and restrictions on how women and men should behave and in what activities they should participate, as dictated by sexism and heterosexism. These powerful social institutions exert influence both directly, as witnessed by the correlations made between depression, which is often associated with stigma and distress (Ross and Mirowsky 2003) and sedentary behavior in women (Sanchez et al. 2008), as well as more subtly via the lower-level social institutions, which are affected by the higher social order. For example, Brittain et al. (2003) found that lesbians were not as physically active due to recreational facilities not offering same-sex partner family memberships and worksite dress codes that discouraged women from bringing athletic clothes into which they could change during the work day. Further, lesbians' uncomfortable feelings either about being physically active around other people who were fit and/or concerned with cosmetically appealing bodies or about making other (heterosexual) women uncomfortable when changing in front of them in fitness centers and parks, were categorized as interpersonal elements (Brittain et al. 2003); however, arguably, they could be included as institutional level factors because they are dictated by both sexist and heterosexist principles used to organize society, and therefore discriminate against sexual minority women.

Although issues of alcohol use/abuse, unhealthy eating patterns, and physical inactivity, undoubtedly present obstacles in lesbians' achievement and maintenance of a healthy body weight, conceivably the problem is interpolated by far more profound social constraints. Being female and homosexual in a culture that values heterosexual males poses an environment that not only undervalues the lives of sexual minority women, but also creates a climate of discrimination

and (dis)stress, through sexual stigma, which unfortunately fosters the development of unhealthy behaviors that promote the prevalence of overweight and obesity within the lesbian community. For example, health disparities, such as overweight and obesity, between homosexual and heterosexual women are further perpetuated due to discrimination by physicians and other medical staff not being aware of, or open to, female patients who partner with women (Brittain et al. 2003; Debold 2007; Mays et al. 2002). Sadly, an unhealthy weight status has also been shown to decrease a person's worth (Merril and Grassey 2008; Puhl and Brownell 2001), thereby rendering overweight and/or obese lesbians, to a lower level in the social hierarchy.

Discussion/Implications

The dearth of research dedicated to lesbian overweight and obesity, specifically, necessitated this cross-disciplinary review of literature investigating the personal, social, and environmental factors that serve as potentially negative influences on lesbians' body weight status. In an attempt to garner understanding about this serious health issue to which little attention has been given, we also examined past research devoted to lesbian behaviors, experiences, and culture. In doing so, we were able to derive informed hypotheses as to why this phenomenon is occurring; however, we would be remiss if we did not acknowledge there is still much to learn about the complex relationship between a lesbian identity and body weight, and if we did not stress that advances in this area of research are desperately needed. Therefore, importantly, albeit not customary for a literature review, we have included the following discussion of pertinent implications for future research in this area.

Reviewing the literature exclusive to lesbian overweight/obesity as well as their PA and eating habits revealed the legitimacy of this very serious health problem, although included very little conclusive evidence as to why it might be more prevalent in this particular community. One

noticeable omission is the element of individualism and subculture membership within the larger community. Many previous studies present lesbians as a uniform and monolithic group, when the only characteristic the participants may have had in common was their sexual orientation. This assumption facilitates findings that are presumptive and not entirely accurate when applied to individual members of this population. This technique is also problematic in two other ways.

First, self-efficacy, or the confidence in performing a task/behavior, is not addressed in the literature dedicated to lesbian PA or healthful eating behaviors. Self-efficacy is an important factor when investigating health and wellness, especially those habits practiced by lesbians, who, as a stigmatized population, already experience significant societal obstacles and barriers in accessing health-related resources. So, if, as a group they are disadvantaged, understanding how individual lesbian's level of self-efficacy either further empowers or hinders her ability to perform healthy behaviors, such as PA or healthful eating, is necessary. Clearly, to fully understand the complex issue of lesbian overweight/obesity, increased attention to the effects of self-efficacy cannot any longer be ignored.

Secondly, lesbian sub-cultures and the associated demographics of each member within that group also requires further investigation when trying to extrapolate the relationship between lesbian identity and group behaviors and beliefs that affect body weight. Undoubtedly, this is a monumental, albeit essential, undertaking for a couple of reasons. First, merely defining the term "lesbian" presents considerable methodological and sampling concerns. Issues of sexuality are loosening in our culture, and individuals' sexual experiences are becoming more fluid than in the past, as specifically referenced by Mosher et al.'s (2005) finding that 11% of women reported having sexual contact with another woman. Notably, not all of these women identified as lesbian. However, when conducting sociological, behavioral, and health research, these patterns are

important when determining whom to include and exclude in a study sample, and when attempting to identify meaningful and accurate hypotheses about the intersection of these behaviors and their health.

Subsequently, once parameters have been established for identifying a lesbian sample, care should be taken to detail the characteristics of the sampled group. Itemized demographic data (e.g. SES, occupation, educational level, age, race/ethnicity, relationship status, region in which residing, etc.) along with information about their PA participation and dietary habits would be useful. Moreover, particulars about social group affiliation and related norms should be documented and examined in detail, perhaps qualitatively. In the past, reliable conclusions regarding differences in sexual minority women's PA and dietary habits, and therefore their body weight status, have been unable to be made, because data about group membership have been lacking (Bowen, Balsam, and Ender 2008). We strongly suggest collecting and integrating participant data that are inclusive in breadth and depth of both the individual women as well as their shared sub-cultures. These data are important in not only uncovering a detailed account of the lives and experiences of lesbians, but also in making clear and precise recommendations about how to effectively intervene, treat, and/or prevent the multifaceted issue of overweight and obesity within the lesbian population.

When considering why lesbians, as an overall group, have higher rates of overweight and obesity, it appears the two most striking impediments to developing behavior modification interventions are the lack of research specific to this issue, and the use of inconsistent sampling methodologies when research has been conducted. For example, a review of the 19 studies dedicated to sexual minority women and body weight/obesity-related issues, revealed that none of the studies contained representative samples and nearly all were dependent on cross-sectional

data (Bowen, Balsam, and Ender 2008). In order to have a truly representative sample, we will need to know more about the overall population of lesbians, which demands the inclusion of the many subcultures within the population. Ideally, future studies dedicated to lesbian overweight and obesity would be both longitudinal when examining women's behaviors (e.g. PA and healthy eating) and representative when sampling individuals from all subcultures within the community. In concert, these strategies would provide the most comprehensive, and conceivably, the most accurate data possible. The rigor of such research, coupled with data gathered from other disciplines, such as pertinent census data like those included in this review, would allow for clear and concise inferences to be drawn. These conclusions would not only direct the creation of culturally appropriate interventions, germane to members of this population, that address barriers to achieving and maintaining a healthy weight, but would also inform as to what the most appropriate mechanisms are in delivering these interventions.

Conclusions

Although there is a dearth of literature specifically dedicated to explicating the issue of sexual minority women and their increased risk for and prevalence of overweight and obesity, a detailed examination of personal, environmental, and social factors, via the social ecological model, has revealed possible influences. Reviewing the literature revealed factors that suggest the issue of lesbian overweight and obesity may be more a symptom of a much larger social problem than that of personal/individual responsibility. Lesbians' diminished social status (stigmatized identity) in the United States profoundly affects not only the manner in which they view themselves, the ways in which others regard them, and lesbians' reactions/ responses to such opinions, but it also facilitates a reduction in their access to valuable resources that are powerful tools in the battle against overweight and obesity. Discrimination, both overt and

subtle, which is precipitated by a society organized by sexism and heterosexism, appears to have the greatest influence on lesbian overweight and obesity; these social institutions not only drive the nation's non-uniform and geographically dependent public policy, but also seem to determine in what areas lesbians reside and create community. Additionally, lesbian communities often impact sexual minority women's behaviors as well as their beliefs related to appearance and body presentation through informal and formal networks of sharing. Lastly, compounded, these factors appear to subjugate the personal characteristics, lesbians as a group possess, that historically, have been found to combat overweight and obesity.

Clearly, consideration should be given to the investigation of the intense social-cultural norms that exist within the lesbian population to determine whether these factors can be addressed in a way that will empower sexual minority women to achieve and maintain a healthy body weight by adopting more healthful eating and PA habits, irrespective of the often negative, discriminatory, and inequitable social climate in which they live.

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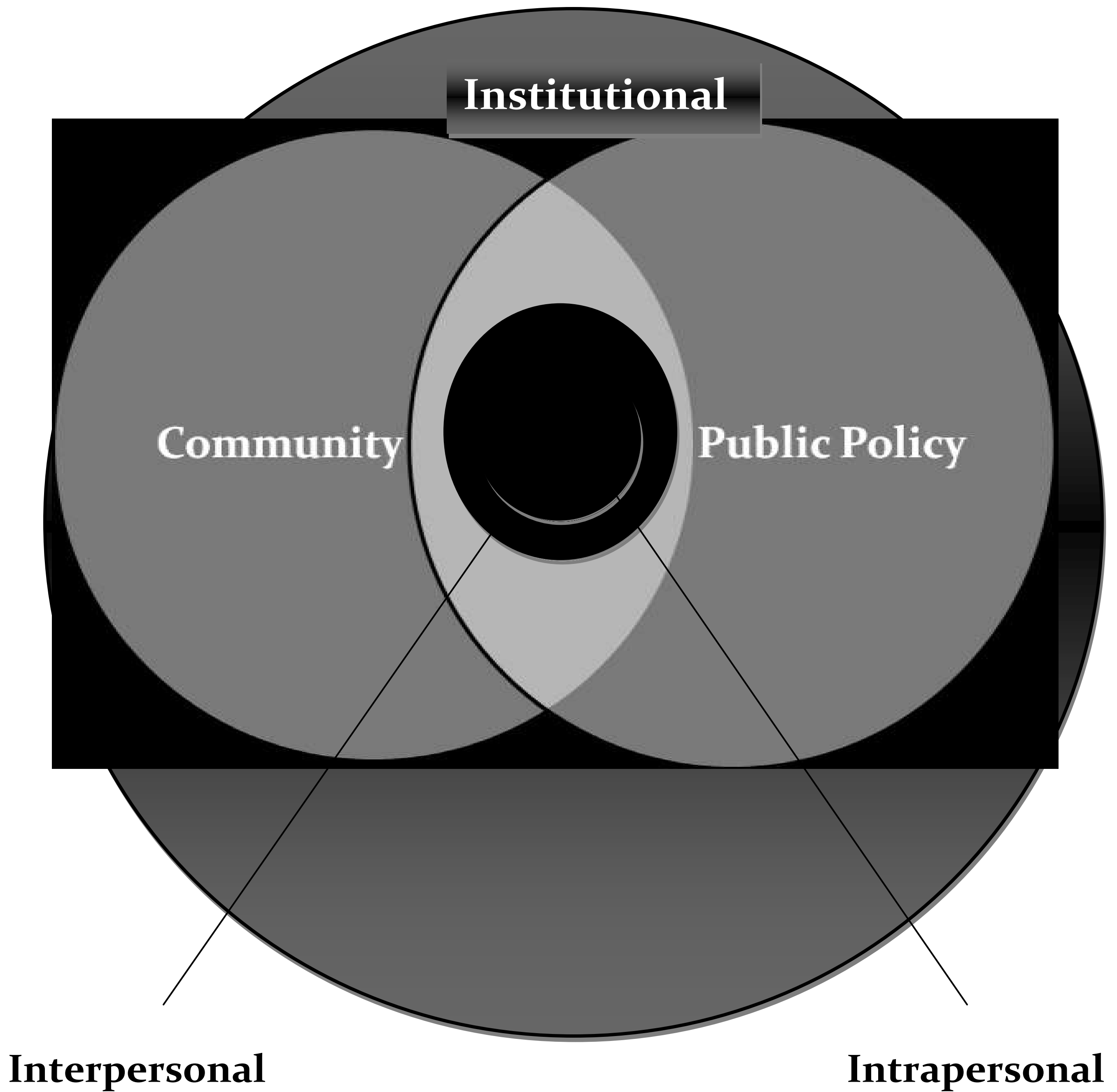
Figure 1. Conceptual Model of the Social-ecological Model when Investigating Factors Contributing to Lesbian Overweight and Obesity



MANUSCRIPT 2

The Exploration of Overweight and Obesity Within a Sample of Lesbians: An Ethnographic Inquiry

Introduction

As I began to exit my Jeep, I stopped, pulled down the visor, opened the mirror, took one last look at my hair and make-up, grabbed my cell phone and then out I jumped, armed the alarm, threw my keys and cell phone into my bag and I was on my way[1]*. It was a gorgeous night, and Thursday evenings, the new beginning to the weekend, were always hopping downtown. As I entered the restaurant, I realized the clock on the wall indicated it was 5:50 p.m.; I was 10 minutes early for the "VIP Meet and Greet," featuring six internationally known lesbian fiction writers . . . I thought 'might as well grab a beer at the bar while I wait.' I surveyed the well-known, gay-friendly restaurant. There were a few women gathered around a table on the patio facing the bustling thoroughfare, who were engaged in a lively conversation and enjoying happy hour; another group of men were inside, at a table just adjacent to the bar. It was still pretty early for a Thursday night, and it showed; the place was relatively empty. The large open floor plan was enclosed by walls that were cluttered with eclectic memorabilia that included cut outs and framed renderings of the establishment's voluptuous blonde mascot, framed Andy Warhol-like images of celebrities, souvenirs that were for sale, and of course, the obligatory large flat-screened televisions. I noticed two women, probably in their late thirties talking quietly at the other end of the well-stocked bar.*

I was drawing beer to my lips when I heard, "Hi, are you here for the author event?"The voice behind me startled me. Turning around, I saw a well put-together woman in her early

[1] This ethnography is written as an impressionistic tale; that is a dramatic account of the fieldwork data presented as both a portrayal of the culture studied and through the experiences of the researcher (Creswell 2007). These vignettes, while they do not characterize actual events, they are not fiction; instead they have been constructed using concrete and authentic data as experienced by me or as disclosed by the participants. However, in communicating the narratives, I have often modified the participants' identifiable characteristics to insure confidentiality.

sixties. Her attire was formal, consisting of a red pant suit, complemented by a low hanging blue camisole, which revealed a necklace of pearls with a cross pendant dangling just below her collarbone. She opened her intentionally weathered leather clutch, extracting a few dollar bills and ordered club soda with a lime. I indicated I was, indeed, there to hear the lesbian authors' talks, and as we waited, she began sharing "her story."

Health research has identified the risk of overweight and obesity is more prevalent within specific populations, based on demographics such race/ethnicity, age, socioeconomic status, and sex (U.S. Department of Health and Human Services 2007); women are more likely than men to be at risk for obesity (Centers for Disease Control and Prevention 2009; Flegal et al. 2002; U.S. Department of Health and Human Services 2001b), and women with a lesbian sexual identity have an increased likelihood of having a higher Body Mass Index (BMI) and being overweight or obese (Aaron et al. 2001; Boehmer, Bowen, and Bauer 2007; Mays et al. 2002; Mravcak 2006; Yancey et al. 2003; Yancey, Leslie, and Abel 2006) and therefore, are more susceptible to the development of many chronic diseases and/or death (Yancey, Leslie, and Abel 2006). When investigating weight related issues of lesbians, scholars have intimated that further attention should be paid to the unique social, behavioral, and cultural norms within this sexual minority group (Boehmer, Bowen, and Bauer 2007) because although lesbians only comprise approximately one to four percent of the overall population (Mravcak 2006), nearly 33% are believed to be obese, compared to 25% of heterosexual women (Boehmer, Bowen, and Bauer 2007). Therefore, the purpose of this ethnography was to examine how a lesbian sexual identity contributes to body weight.

Background

Already of epidemic proportions, the prevalence of obesity in the United States during the past 40 years has increased from 13% to 36% (National Center for Health Statistics 2008), and overweight adults now account for 66% of the American population (Christakis and Fowler 2007). The health consequences for obese individuals are grave; the U.S. Department of Health and Human Services (2001a,b) declared obesity a serious public health concern due to its causal influence on other chronic diseases including diabetes, stroke, heart disease, osteoarthritis, as well as breast and colon cancer. Moreover, it has been estimated that obese persons have one-and-a-half to two times the risk of premature death than individuals who maintain their weight within the healthy range. As a result, obesity has been correlated with approximately 112,000 excess deaths in the U.S., comparative to healthy weight individuals (Flegal et al. 2002).

Most researchers would agree that the etiology of obesity is largely the result of a host of behavioral dynamics including sedentary habits, low levels of physical activity, energy dense diets, and poor eating habits that operate either as independent risk factors (Astrup 2001; McCrory, Suen, and Roberts 2002) or as a cohort of risk factors often exhibited in concert with each other (Bish et al. 2005; Sanchez et al. 2008). Indisputably, these behaviors pose a hazard to an individual's weight status, and unfortunately, overweight women, as Sanchez et al. (2008) reported, appear to be a group engaging in multiple risk factors consisting of participation in lower than the recommended amounts of physical activity (PA), with a majority of them neither meeting the guidelines for fruit and vegetable consumption nor for dietary fat intake. However, further augmenting women's predisposition towards overweight and obesity is a lesbian sexual identity (Boehmer and Bowen 2009). Conversely, there are specific demographic characteristics identified as protective factors that reduce women's vulnerability to becoming overweight and/or

obese; for example, the inverse relationship between obesity and women's socioeconomic status is well established (Carr, Friedman, and Jaffee 2007; Cook and Daponte 2008, Paeratakul et al. 2002). However, lesbians on average, have a higher education level, higher income, *and* higher obesity levels than their heterosexual female counterparts (Black et al. 2000; Carpenter 2003; Valanis et al. 2000; Wagenbach 2003). These discrepancies infer the differentiation in weight status between heterosexual women and lesbians may lie in the distinctive social-cultural attributes that are present in lesbian communities and influence their physical activity behaviors and dietary habits. The general purpose of this study was to examine the potential influence of different social-cultural and individual level attributes that contribute to overweight, obesity, and obesity-related behaviors in lesbians.

Lesbian Identities

When does a woman know she is a lesbian? *How* does a woman determine she is a lesbian? Moreover, once the affirmation of a sexual minority identity has been uncovered, will it be embraced and/or expressed? Lesbian identities are as unique as the women who claim them; and, in a culture that primarily recognizes one acceptable form of sexuality and sexual expression, it is not surprising that lesbian identity is a complicated and challenging concept to either adequately depict or explicate. Nevertheless, each identity is comprised of ascribed "personal" traits, identifiers, and personality characteristics, and "social" group status and categorization to which the individual is recognized as belonging (Owens 2003). Both components of lesbians' identities are believed to proliferate the prevalence of overweight and obesity in lesbians, both as individuals and a collective group.

Past research has suggested that lesbians regard their weight status differently depending on where they are in their own "coming out process." Krakauer and Rose (2002) contended that

women's concerns about their body weight decreased after they "came out," or disclosed their lesbian identity. However, the extent of that liberation may be dependent on the timing of the coming out process. Wagenbach (2003) described women in the initial stages of lesbian identity formation to be more anxious about dieting and maintaining a slender physique, whereas lesbians who had been "out" longer were less concerned with either dieting or thinness (Heffernan 1999). This observation suggests that lesbians just recognizing their sexual identity may still be influenced by and consequently, reinforcing the dominant ideologies of heterosexual femininity and beauty, while later staged lesbians may be either passively unaware of or actively contesting such confining standards of femininity. Another argument conjugating lesbian identity and appearance indicated women who have adopted a lesbian social identity, and as a result, participated in increased lesbian-specific (group) events/activities, are also less concerned with conventional aspects of appearance and weight (Bowen et al. 2006; Heffernan 1999; Smith and Stillman 2002; Wagenbach 2003), and perhaps more accepting and forgiving of larger sizes and a variety of shapes (Bowen et al. 2006). Accordingly, women who embraced a lesbian social identity also revealed more positive body image (Connor, Johnson, and Grogan 2004; Grogan, Connor, and Smithson 2006; Owens, Hughes, and Owens-Nicholson 2003) and did not consider themselves overweight (Cochran et al. 2001), irrespective of the reality. While it may be tempting to applaud such an evolution to where lesbians confidently accept their heavier body weight, perhaps as a strategy in opposing the predominant heterosexual ideologies that appropriate *real* women as thin, such philosophies, albeit socially empowering, may also be hazardous to their health.

Lesbians and Physical Activity

Despite the importance lesbians place on maintaining bodies capable of adept physical performance (Bergeron and Senn 1998; Bowen et al. 2006; Cohen and Tannenbaum 2001; Heffernan 1999), there continues to be a noticeable absence of research dedicated to the examination of their physical activity behavior. To date there have been no PA intervention studies that have targeted lesbians (Yancey, Ory, and Davis 2006). Further investigation may suggest why; evidence of PA prevalence in lesbians has been largely equivocal (Aaron et al. 2001; Boehmer, Bowen, and Bauer 2007; Mays et al. 2002; O'Hanlan et al. 2004) revealing there is still much to learn about the behaviors of this community. For example, some research has concluded that lesbians participate in more moderate to vigorous physical activity than heterosexual women (Aaron et al. 2001; Carpenter 2003; Valanis et al. 2000); other research (Boehmer and Bowen 2009; Yancey et al. 2003) asserted women's exercise behaviors did not differ on the basis of their sexual identity, while others found lesbians to encounter more socially-constructed barriers to being physically active (Brittain et al. 2003), perhaps impeding and perpetuating lesbian's levels of inactivity. Intensifying the ambiguity of this debate is research that has posited that more lesbians were overweight than heterosexual women due to their increased participation in PA, which renders them more physically fit, sporting a muscular body that is denser, and therefore heavier (Aaron et al. 2001; O'Hanlan et al. 2004); however, other research has disputed that notion (Boehmer, Bowen, and Bauer 2007; Yancey et al. 2003). Past research has also focused on lesbians exercising for fitness, not weight loss (Cogan 1999), and has also contended that older lesbians' PA behaviors are more devoted to improving athletic prowess or physical fitness, adding speculation that advanced age diminishes the use of PA to achieve weight loss (Wagenbach 2003). While some researchers have attempted to identify the determinants of physical activity in a sample of lesbians (Brittain et al. 2003), the theoretical

constructs and standardized measures used to elucidate women's PA behavior have historically been developed within the broader context of the female majority (heterosexual women), and categorically ignored the unique influence of the social-cultural normative behaviors that are constructed and fostered within the lesbian community, and that influence the meaning of PA.

Lesbians and Healthy Eating

Although energy intake is an important element to consider when evaluating issues related to overweight and obesity, there is a paucity of research dedicated to the areas of lesbian eating/nutrition habits. Past investigations have highlighted that lesbians report lower consumption of fruits and vegetables than heterosexual women (Valanis et al. 2000), speculation being because they are unaware of what constitutes "healthy eating" (Bowen et al. 2006). Despite the higher propensity of being overweight and obese, lesbians have also been reported as being less likely to reduce energy intake (food) in comparison to their heterosexual counterparts (Carpenter 2003; Lakkis, Ricciardelli, and Robert 1999) and scored lower on attitude measures of healthy eating related to weight reduction (Grogan, Connor, and Smithson 2006; Owens, Hughes, and Owens-Nicholson 2003; Wagenbach 2003). These findings would seem to indicate that lesbians neither fully recognize what constitutes a healthy diet, nor do they employ healthy eating strategies to assist with achieving and/or maintaining a healthy body weight. Further, Wagenbach (2003) found that lesbians may be at an increased risk for binge eating, while other research (Aaron et al. 2001; Case et al. 2004; Valanis et al. 2000) revealed lesbians alcohol consumption is elevated, both consequences of psychological (dis)stress precipitated from societal homophobia. Clearly, understanding issues of lesbian nutritional habits are complex and difficult to fully address because they may be symptomatic of a greater, more systemic problem

that might be dictating decisions regarding food and beverage consumption with less importance placed on the physical health consequences of those choices.

In spite of the identified correlates among lesbian identities, PA behavior, and issues of energy intake with a higher prevalence of overweight and obesity, there is a dearth of research that attempts to examine the underlying mechanisms of these relationships. Moreover, while weight differences between sexual minority women and heterosexual women are evident, little attention has been paid to the cultural experiences and/or philosophical ideologies of lesbians that may influence how they regard their body weight. Consequently, it is not enough to have merely identified personal characteristics and behaviors of lesbians that render them overweight and obese; a detailed investigation within the context of lesbian communities is warranted and will assist in the explication of social cultural norms that are germane to this population and that have been created and influenced by the larger community, as well as being inextricably linked to higher incidence of lesbian overweight and obesity. Thus, the specific purpose of this paper is to examine the role of the Lesbian subculture in overweight, obesity, and obesity-related behaviors using a qualitative approach with the intent of developing grounded theory.

Methods

Having been to this bar before, I knew the ramifications of being overdressed; not wanting to be ignored, again, I was deliberate in choosing my attire. Tonight, someone would talk to me. Nearing dusk, I approached the bar, which was housed in the Hispanic part of town and tucked inconspicuously between an adjacent school bus graveyard and the hollowed-out skeletons of old factories. Immediately, my senses were filled with the distinct smell of fried food. I confidently walked to the bar's entrance, opened the door, and was instantly met with 14 eyes peering up from their playing cards.

The poker game was put on hold, while the middle-aged dealer, who consequently, was also the bartender and waitress, padded over behind the bar. I sat down, facing the stalled poker game. The women, nearly all of them drinking Miller Lite, from the bottle, talked amongst themselves, that is in between sizing me up and catching glimpses of the WNBA game that was playing on the large screen television in the corner of the small bar. Already feeling like an intruder, I didn't indicate the bartender didn't bring me the type of beer for which I had asked. Before I could say thank you, she was back to the poker table with "the regulars."

Selecting the Site

An ethnographic approach, inspired by a feminist perspective, provided the opportunity for both the analytic discovery and description of shared patterns within a lesbian culture by not only observing, but illuminating "the meaning, the behavior, the language, and the interaction among members of the culture-sharing group" (Creswell 2007, 68-69). Culture, the hallmark tenet investigated through ethnographic examination, has been more specifically described as depictions of the shared values and beliefs as well as the behaviors and understanding of those behaviors by a particular group (Rossman and Rallis 2003). Moreover, when investigating gendered social relations within a culture, the ethnographic approach requires, as McNamara (2009) suggested, attention be paid to both continuity and reflexivity. Therefore, when conducting participant observation, both emic (insider's perspective) and etic (outsider's view) approaches are necessary for an intimate investigation of both these women's lives and the settings in which they occurred (Patton 2002).

The specific setting for this ethnography was within a lesbian social organization, *GAL*, (a pseudonym) located in a major western metropolitan city and serving over 3,000 participants within a variety of SES, race/ethnicity, and ages groups. Providing members with social,

recreational, political, and business-related activities, *GAL's* signature event, "First Friday," is promoted as the largest monthly women's party in the United States. Events such as "First Friday," a monthly dance/get-together, Texas hold 'em poker nights, an intimate meet-n-greet with prominent lesbian fiction authors, in addition to a host of organic settings such as bars, coffee houses, social gatherings/parties, etc. that were not formally sponsored activities, were all included in the setting of this ethnography. A paramount purpose in conducting ethnographies, inspired by a feminist perspective, is to engage and empower the women being researched in a manner that renders them proficient in sharing and appreciating their realities and experiences. Therefore, in an attempt to build trust and ensure safety for the participants, the settings in which these women were observed and in which the researcher actively participated, were germane to this lesbian population. As a member of this community, I was able to establish credible rapport that served to inform participants of my own sexual minority status as well as to facilitate greater understanding as to my interest in this issue (McNamara 2009). Interestingly, participant observations within these settings, and my own narrative disclosures allowed for intensive and valuable reflexivity, just as McNamara (2009, 165) contended:

> As investigators of subjective sociocultural realities, the researcher must acknowledge her own gender orientations and belief systems and the part these play in the research process. The power of the research relationship to effect change in the researcher as well as the researched is strongly acknowledged.

These acknowledgements allowed me to be attuned to and to continuously refine and/or expand my understanding of the interactions occurring between the participants and me, and among the women within these settings.

Data Collection Procedures

Participant observation was used as the principal data collection method in this ethnographic inquiry, and as such, entering the community with the specific purpose of examining lesbians' perceptions and realities regarding body weight and its meaning(s) within a lesbian community commenced in April, 2009; I'd been a member of this community for nearly 10 years, during which time I'd become intimately familiar with the social-cultural norms within this community. During the six month period of this ethnography, however, I paid particular attention to the ways in which the women behaved and interacted with each other, and what was said between them and to me, as well as my own sensory impressions, feelings, and renderings of the settings, events, and attendees. To detail these occurrences, I attended organized and informal events with paper and pen to capture key happenings, conversations, and ideas regarding the observations I made. Following each encounter (i.e., within 12 hours) I created a more thorough, comprehensive, and intricate account of the event, which included thick description of I what I heard, saw, thought, experienced, and even smelled in some instances. These expanded field notes, therefore, served as my detailed account of what I had witnessed.

While participant observation was the primary method of data collection for this ethnographic study, qualitative research methodology often encourages multi-technique approach (Patton 2002; Rossman and Rallis 2003). Therefore, informal, semi-structured interviews, and artifact data collection were employed to collect additional data and as a means to refine or elaborate on observational data. Informal interviews were often conducted serendipitously, and although they were not digitally-recorded, these discussions became entries in my field notes. Additionally, seven semi-structured interviews, lasting from one to two and half hours each, were conducted with women identified as being able to provide valuable insight regarding the culture of this community. More specifically, the women selected to participate in

the semi-structured interviews were, in many cases, referred to me from other women in the community, because of the diverse perspectives they could offer. Finally, artifact collection from a variety of sources germane to the community was used to supplement the primary data collection methods and to corroborate themes.

Data Transformation

Transforming the collected data involved simultaneously describing this community, conducting data analysis, and interpreting analyzed data as directed by the research questions (Creswell 2007, Patton 2002, Wolcott 1994). Identifying patterns of cultural beliefs, behaviors, and experiences was achieved by reviewing artifact data and by conducting line by line readings of the ethnographic diary, expanded fieldnotes, and formal interview transcripts. This open coding was performed in multiple cycles and allowed for the generation of categories that were then compared, contrasted, refined, reduced, and eliminated as consistent patterns in data were recognized and connected. After the overarching themes were identified, data collection continued, while more concentrated coding was dedicated to these specific themes.

Subsequently, the narrative sketches were constructed to depict plots with characters, while also portraying details from each theme's description and analysis, from different perspectives (Creswell 2007). These vignettes were created from details contained within and extracted from the formal interview transcript data as well as from the fieldnotes. The narrative tales have been carefully crafted to connect distinct data that assist in explicating relevant themes. Often times, the data have been re-sequenced and/or the time-frame suspended, permitting me to combine pertinent data in a way that is not only compelling to the reader, but that also presents distinct community perceptions while suggesting analytic explanation (Emerson, Fretz, and Shaw 1995). The narrative vignettes illustrate the data in a story-like

fashion that include multiple participant perspectives that reveal significant connotations about body weight and associated behaviors and beliefs in a way that is culturally accurate. Additionally, in an attempt to "increase participants sense of being in control of, deliberative about, and reflective on their own lives and situations" (Patton 2002), I employed several approaches to ensure data trustworthiness, both in collection and representation. In addition to data triangulation, I used member-checks with interview participants by allowing them to read their transcribed interviews and clarify and expand descriptions where necessary, and with key informants who assisted in validating my perceptions and understanding of the collected data. Additionally, peer examination was provided by other lesbian scholars, who offered insight into the plausibility of conclusions based on data provided, as well as how those data were interpreted. Finally, I conducted repeated observations in the same settings (Creswell 2003). The following section presents these revelations.

Findings

Uma has come to this city looking to escape the drama of her long-term partner's recent infidelity. Physically, she is unfit and unhealthy. She is overweight by at least 50 pounds, and has a host of chronic health problems, including lupus, diabetes, loss of vision in one eye, and two significantly blocked arteries. Dressed casually in her professional baseball jersey and jeans, she strokes her left hand back and forth over her silver-colored buzzed head, gripping tightly to her Budweiser with her right hand; with a warm smile she offers a friendly salutation to another one of the" regulars." Yvonne, just coming from work, is dressed in a cream-colored, silk button-up shirt and dark trouser pants; looking around, she pushes her ebony hair, graying only at the temples, across her forehead and leans into the wooden bar while requesting another Miller Lite. Yvonne, once a school teacher back East, has also moved here to flee her own

personal trauma of drug addiction and failed suicide attempts. Physically, she is a bit rounder in the middle, though proportionally shaped. She struggles with eating healthfully, and she readily admits her alcohol consumption is too high. When asked why, her big brown eyes slowly diminish into murky black slits. With tears streaming down her face, she candidly reveals, "I am so ashamed of being gay. I don't like being gay; I don't want to be gay; if I could change it, I would." Although an otherwise unlikely combination of women in any other environment perhaps, both Uma and Yvonne have come to this bar to just "be". . . exactly the way they are. . .

Accepting Weight is a Heavy Issue- Attitudes about Body Weight

The woman was attractive in a rugged sort of way. . . more so now, Louise admitted. She didn't mind a woman with extra weight- Rhonda had put on quite a few pounds as she got older, eventually wearing a size 18 in most clothes. In fact, Louise preferred the older, stockier version of Marty Beck to this one of several years ago. The present-day Marty appeared happier and more comfortable with herself."

-K.G. MacGregor, Mulligan

Initially, I was interested in observing the different ways in which weight was embodied by the women in this community. As I considered the research (Bergeron and Senn 1998; Bowen et al. 2006; Cohen and Tannenbaum 2001; Heffernan 1999; Krakauer and Rose 2002; Milillo 2008) indicating lesbians, as a group, carried heavier body weight and had greater acceptance of a larger body, I became increasingly fascinated by their physical characteristics; in my descriptions I detailed and categorized how these women's bodies were shaped, their style of dress, how they moved and presented themselves, and whether the weight they carried rendered

them healthy, overweight, or obese. Repeatedly, I documented the prevalence of heavier women, usually noting excess weight being carried in the abdominal region. While these classifications and descriptions were useful data, they were nothing but stagnant details until I considered how the women, themselves, interpreted these representations of weight. I acknowledged they appeared accustomed to, and in many cases, accepting of a heavier body weight, as I commonly wrote about their attitudes and values about appearance and the factors influencing those cognitions.

Although it was the NFL's season opener, the bar in the suburban bowling alley is aflutter with nearly 75 women crammed around tables, anxiously waiting to participate in the inaugural GAL bowling league. The excitement is palpable as evidenced by the erupting laugher and the affable smiles plastered across the wrinkling chubby faces filling the room. Sue, a woman in her mid 40s, wearing the NFL jersey with a hometown hero's name on the back, is slowly snaking her way through the crowd, her eyes ever-fixated on the final destination. Confidently, she twists her body sideways so she is better able to slip between the tables of other, equally as large women, smiling and saying hello as she passes. On her trek, she stops only once, proffering a big bear hug to an ultra-petite woman, also wearing NFL attire. After releasing from the almost inappropriately long embrace, they kiss on the cheek, and she resumes her journey. As she continues to maneuver the crowd, the fabric on the front of her jersey spreads thinly across her midsection and begins to creep up ever so slightly, leaving the top of her khaki colored cargo shorts exposed, and revealing a round and protruding jelly-like midsection. Unconcerned, she continues to bound to the bar, pushes one hand through the short side hairs of her graying mullet, smiles, and quietly asks the bartender, "Can I get another pitcher of Bud Light?" . . . the second, of what would be many, throughout the afternoon. . .

"And, how about an order of cheese sticks and chicken tenders, with ranch dressing on the side?"

Cultural depictions of heavier women feeling comfortable among a group of peers were common throughout this investigation, underscoring the notion that perhaps my participants and I value a woman's character content irrespective of her body composition. This revelation is neither to say that the familiar presence of overweight women within the community is overlooked, nor are the health implications of a heavier weight unknown; however, I discovered their assessments of healthy and unhealthy weight were inventive, relaxed, and frequently included distinctions about not being too thin. Olivia's statement reveals the belief that lesbians as a group may have more overweight members than heterosexual women, but she also shares how she attributes more positive attributes to a woman carrying a heavier body weight:

> I think in the lesbian community, maybe [being overweight] is more accepted because there are more people that are heavy. Even when you think of dykes, you know, dykes are big. There are times when I see women that are heavier and I think they look so much softer and nicer, and they're funnier. And women that are really thin and bony, I think, 'God, they're hard asses.' I think women that are really thin tend to not look well and they're hard to approach. . . I think heavier and even some more obese women tend to just enjoy life more.

Waiverly, asserted a similar opinion about thin women in her description of a healthy weight. She said, "I personally don't really like the skinny-Minnies. I think that's unhealthy and unattractive, you know?"

Nikkos, like many of the women with whom I spoke, also recognized lesbians as being more overweight than straight women, revealing that her group of friends very closely mirrored

the overall lesbian community, “As far as physical appearance, the minority are probably the fit group; the majority is not as fit, probably a little overweight to varying degrees.” She continued by connoting the qualities of a healthy weight:

> You can look at someone’s face and see if they’re healthy. I can usually tell if they’re gaunt. To me, if you look happy and healthy, then you could be ten pounds overweight or you could be ten pounds underweight, but I think it has to do, not with a number or body size.

I also took notice of the abstract way in which women distinguished between women of healthy and unhealthy weights, very often lacking concrete physical descriptors, except when describing obesity. For example, several women to whom I spoke used emotional terms to define weight. Nikkos continued her description of a healthy weight by saying:

> I have two friends that I can think about who probably are similar in weight, maybe one a little heavier than the other one. Yet, one is just bubbly and fun and the other one who sometimes is just sad and mopey. And, to me, put them in one room, and I can see that one looks to be healthy.

In discerning whether a woman was carrying a healthy weight or not, Zandra employs the following interrogates, “I think, ‘Are they happy? Mentally, are they sharp? Do they have their shit together?’” And, although Vale did not echo Olivia’s reverence of heavier women, she did speak in terms of emotion to describe overweight, “Sad. I think that people who are overweight just don’t look happy. It’s hard for me to believe that people say, “Well, I’m happy at this weight.” I don’t think you are. I don’t think you feel good.” Ophelia summed up all three categories of weight by stating:

> Normal weight, overweight and obesity—I mean I don't know if I really know what it looks like. I think normal weight [is] being able to shop in certain stores; overweight [is] kind of struggling, figuring out a place because they really can't fit into any. And obesity, I think—I don't know where they fit in.

Other women, although not able to offer tangible descriptions of healthy weight and overweight, are able to apply concrete portrayals of obesity. More specifically, these women frequently identified a large abdomen as an identifier. For example, Olivia believes, "I think women that are obese, I usually see that as a big stomach." Nikkos echoes that sentiment with, "I just think being obese is more of a big gut. . . someone that has, like, this big gut that stands out." Some women present acute, albeit physically distinct depictions of obesity. Waiverly shares, "I think probably physically you are maybe hundreds of pounds overweight and maybe you just physically can't move sometimes or get off the couch at all, or, you know, just really big, really round." Similarly, Vale asserts, "You know, just like they are carrying an extra body."

Beyond these considerations of weight, there appears to be resounding agreement that "coming out" is an integral ingredient to understanding overweight within this lesbian community. The participants indicated that both this community's higher prevalence of overweight, as well as its acquiescence of overweight women, are derivatives of the coming out process. Vale described its importance to discovering a lesbian identity:

> I think the coming out process is difficult because you really have to look in the mirror and figure out who you are. I think the coming out process makes you really challenge what you want and how far you will go after it and if you can deal with the decision, you know, whether that's family, religious or social norms but it would make you think twice about doing it, coming out. I think it's a self-reflection period and it's difficult.

Even Ophelia, a performance artist who is admittedly overweight, recognized the social statement lesbians make about their identity by carrying heavier weight. She said:

> I think that part of the reason that the lesbians tend to be bigger is almost like a "fuck you," a little bit of I'm attracted to women; therefore, I'm not supposed to look like a woman. . . filling out into something that doesn't look feminine, I think that it is a big one, if I reject femininity.

With claiming their identity came freedom, openness, and empowerment to make personal choices despite popular social sanctions, as Zandra further explicated:

> I think it's a special kind of person who allows [herself] to go there. . . I mean, if you go there in coming out and coming to terms with your sexuality, that means you are free and, for the most part, you're more in tune with yourself and could care less about what other people think or perceive about you.

However, the implications of not caring what others think about them may initiate habits that do not assist with maintaining a healthy body weight, as she continued her explanation:

> Also, I think, with lesbians, we're more comfortable with who we are so probably not as prone to eating like a bird for the sake of looking good. They're going to eat if they're hungry and they could give a rat's ass as to whether the people think they look good or not.

While coming out implicitly denotes self-worth, that value is not always shared by society, and can be trepidatious. Moreover, I found these concerns of societal discrimination, from which lesbians are not immune, also had serious health implications for the women in this community. More specifically, I noted that although coming out seemed to strengthen the way in which these women viewed and appreciated their (often overweight) bodies, dealing with social

prejudice also appeared to be the impetus to behaviors counterproductive to achieving and maintaining a healthy body weight, and therefore, potentially perpetuating the prevalence of overweight and/or obesity.

Nikkos has her wide-eyes glued to the flat screen hanging across from the table she's sharing with her girlfriend and me. As is typical for a summer Saturday evening, the trendy downtown microbrewery is hopping; the month is August, in an odd-numbered year, and I've met them for happy hour and to watch the Solheim Cup. Nikkos and her girlfriend are golf fanatics; they live, breathe, talk, and play golf every chance they get. Tonight their discussion revolves around Christina Kim, and how although she's been heavily criticized for her spirited behavior, they just love her energy. Not nearly as astute to the game or the players on the tour, I am happy to let them drone on and on about how they adore her while I drink my IPA and watch every move of the team captain, with whom I've recently become quite enamored. I ask if she is "family," and emphatically, although in a hushed tone, Nikkos replies, "No, I don't think so." I quip, "Are you sure? Watch the way she carries herself."

Just then, we are interrupted by the waitress, who interrogates, "Who had the Ahi appetizer?" I raise my hand, indicating the four thin slices of tuna, neatly arranged over shredded lettuce were mine. She continues, "Who had the three-cheese Mac and Cheese?" Nikkos stops her diatribe only long enough to say that was her order, while tapping her index and middle fingers, simultaneously, on the top of her pint glass, indicating she'd also like another beer. "And, so that leaves the pesto pasta plate for you," the waitress says placing the steaming plate in front of Nikkos' girlfriend, who replies, "Thank you. Could we all get another round?" About two hours and three pints later, we are all pretty relaxed and winding down, when Nikkos' companion leans over whispers something in her ear, and then plants a kiss on her

cheek. Nikkos quickly pulls away, looks around, and shoots an ugly glance that needs no words. "Oh, honey. Relax." Clearly uncomfortable with the exchange, Nikkos takes a long gulp of her light craft beer, stares straight ahead at nothing at all, but sure not to make eye contact with her girlfriend; feeling fat, albeit not happy, she asks the waitress for the check.

Dealing with Being Seen- Behaviors that Weigh Them Down

"In one of my monologues, it's this mother who is trying to figure out how her daughters became the way they are. So she questions how could they have become lesbian. And she says, 'The lesbian brain is divided into three sections, as opposed to the sub-division into two sections of the normal brain. Those three sections are "memory, lust, and hammering doubt."

-Ophelia, Study Participant

The issue of (over)weight is complex and deeply imbedded within this lesbian community. More explicitly, feelings of uncertainty and doubt, related to how society views and disapproves of their sexual orientation, are manifest through specific social behaviors. According to Bobbe (2002) it is not unreasonable to believe that lesbians rely on alcohol as a coping mechanism for stress incurred as a result of their sexual minority status (heterosexism and internalized heterosexism), nor, as reported by Feldman and Meyer (2007), is it prudent to conclude that lesbians are at any less risk for eating disorders because they are not members of the female majority. Indeed, both these weight-influencing behaviors were present within this specific lesbian community; however, I also found that often, these eating and drinking habits were accoutrements to, or the actual activities themselves, of the women's leisure pursuits.

Many of the women to whom I spoke were emphatic about alcohol being an ever-present element in this community, and unapologetic about the high quantities that they or people they

know consume. And from my own experiences and in my observations, I found that assessment to be accurate. In one of my research journal entries, I wrote, “They are good little beer drinkers.” In another entry, after several observations at the same venue, I remarked, “They have always been pretty heavy drinkers.” The social aspect of alcohol consumption was explicit. Zandra, a two to three drink per night consumer, said this to me, “Alcohol is all over the place. [We] drink. You know, it’s a social, acceptable thing. . . I think a lot of lesbians are probably alcoholics.” And, Olivia, a recovering alcoholic who has been sober over three years now, disclosed:

> There was always alcohol. . . I think that a lot of the stuff in the GLBT community is focused around alcohol. There’s alcohol always present. . . to do social events, you know, if you go to house parties, especially gay house parties, there’s alcohol all over the place. So, I think it is very much. . . it’s still one of those things that gay people do, you know?

Other women, who were not heavy users or recovering alcoholics, also detailed the critical social role alcohol plays, as Vale divulged:

> I am a social drinker. I will drink more when going out than I will at home or if people come over I will drink more, but it’s pretty rare that I would have something by myself. It just doesn’t taste as good unless I have an audience.

Although alcohol in the above descriptions serves as an enjoyable social element, bringing the community together, it became painfully obvious that is also fulfills another purpose. So many women with whom I talked admitted that their alcohol consumption provides a comfortability that is not inherent for sexual minority members due to known prejudices against them. Zandra, who laughed while professing that she uses alcohol to “self-medicate,”

was very serious when explaining why, “The discrimination or pressure that society puts on gays and lesbians…to be completely comfortable and relaxed in the environment, puts an additional stress factor on people that maybe lends itself to drinking.” Other times, alcohol’s function was to alleviate dis-ease with performing behaviors counter to what society says is acceptable for women. For example, Ophelia shared how alcohol assists in initiating romantic lesbian relationships:

> For lesbians, I think it’s like the alcohol is kind of like that lubricant that makes it easier to be free to do to build up the courage to actually be the aggressor that people have always been told they are not supposed to do because you are a woman, you can’t be aggressive.

Nikkos, further explicating Zandra’s and Ophelia’s explanations about discordant gender roles and lack of acceptance said, “You’re not the norm; you’re not the prom queen with the prom king, and you always have that.” She continued:

> I think lesbians, in general, drink a lot. . . drink more so because there probably are struggles throughout life, acceptance, or. . . either drinking because of their own insecurities or their own denials. . . or acceptance by family, friends- I mean, out of all of my friends, most of them drink.

Often times, these women knew they were misunderstood, unappreciated, and in many circumstances hated, resulting in internalized shame, which was also revealed to be a source of increased alcohol consumption. Ophelia talked about trying to escape from social stigma, “I think a lot of people who are gay drink to forget they are gay or drink to actually forget the shame, so they can feel comfortable.”Although alcohol use was one of the most apparent and

widespread behaviors common to this community, food and leisure habits were also important sources to exercising personal control and in socializing.

After enjoying a few beers, while sitting out on her back patio discussing the details of our weeks, Nikkos asks me if I'd like to stay for dinner. As a vegetarian, I am admiring her garden full of fresh vegetables, including beans, zucchini, tomatoes, and butternut squash, and I ask her if she has made good use out of the produce. Laughing, she quips, "I'm bad. Anything green or a bright color, I stay away from. . ." as she finishes, she presents me with the most beautiful squash specimen I've seen in a home garden, and continues, " that's going to be butternut squash, like a cream soup, with spice. If I eat vegetables, I like them on the grill, seasoned. . .potatoes and corn are the best. We'll do zucchini and lots of onions." Jokingly, I shoot back, "Well, what are you having tonight?" She answers, "Putting cedar plank salmon on the grill, making a nice orzo salad on the side, and grill some corn." Without hesitation, I say, "I'm in!"

While Nikkos' dinner on this particular evening is healthy and well-balanced, she later disclosed that this is all for naught if she experienced a stressful day, when she said:

> Okay, let's go to the sports bar over here where there might be shared pizza; order in a pizza; throw burgers on the grill and let's have a couple of beers and lay down and watch a movie. You know, that's where the poor habits come in.

Descriptions related to food are included throughout this manuscript, exposing the significance of eating behaviors within this community. Although I paid close attention to the food options made available at events and at women's homes, as well as the choices women made regarding their food, it is perhaps the function of eating that proved most useful in this investigation.

Many of the lesbians I talked to indicated they are not only knowledgeable about the constituents of healthy eating, but that they also have clear reasoning for instituting these healthful practices. Zandra, for example, believes each decade her metabolism continues to slow, and accordingly, she has adjusted her behaviors:

> So, now I'm much more conscious of what I eat, whereas before I wouldn't look at the ingredients to see what kind of calories I'm consuming or what kind of…or what the fat or sugar composition was. I do now.

However, further analysis indicated that many women in this community, although understanding the elements of healthy eating, also performed behaviors detrimental to these healthful practices. Unhealthy eating behaviors including binging, purging, and restricting food intake is not uncommon in lesbian communities (Wagenbach 2003), and were a way in which some of these women were able to re-establish control when their emotions became too intensive. For example, Ophelia explained how these practices recently became exacerbated, detailing the pain of a break-up with her girlfriend, followed by her involvement in a car accident:

> Ever since we broke up, I have been purging more. Then when I had that car accident, it was like everything became too much, so there were days where I was eating very little or throwing up everything; every time I ate, I would throw up.

Some lesbians employed multiple strategies to assert and reassert control over emotions like fear. Olivia, for example, an underweight, recovering alcoholic, approaching 50 years old, details how she binges, restricts, and exercises, "I like the fact that I'm underweight a little bit so I can eat as much as I want." Not unlike many of the women with whom I spoke, conceptually,

she understands healthful eating, but then details how her binge and restrictive behaviors make it difficult to maintain a healthy diet by saying:

> Well, when I eat healthy, I hardly ever eat things like donuts and stuff. . .it tends to be lower fat; I try to eat from like all of the food groups. . . people will tell me, "God, you eat so healthy." But, what they don't see is me binging; and, I binge on sweets and starches, like bread and sweets. . . my eating disorder was restricting and exercise so I think that that is why I haven't tended to gain weight.

Although Olivia presents her individual reality, undoubtedly, her insight provides a valuable perspective into the lives of other lesbians. Her experiences, once again, affirm the interrelated aspects of food, alcohol, and physical activity within this lesbian community. While exercise for her, within this context, was a means to establish control, for many women, including Olivia, physical activity was also a means to initiate social interaction with other women.

As expected, leisure activities within this community were as diverse as the women enjoying them; however, there were key components and universal ways in which these experiences were practiced that may lend understanding to this specific population's weight. I purposefully use the word leisure in place of recreation, exercise, or physical activity because it is more expansive in what it includes, and is more appropriate in detailing behavioral patterns within this community. Generally characterized as freedom, enjoyment, and self-expression (Bammel and Bammel 1992; Henderson 1991; Henderson and Rannells 1988; Kelly 1987; Samdahl 1988), leisure has also been described as an activity specific term (Edginton et al. 1995; Kraus 1997) that provides individuals recreational experiences that are freely chosen and unrelated to work.

My observations at *GAL* sponsored events and interviews with women in this community indicated that being among friends is paramount to any leisure experience. Leisure is a social event for these women; the activities in that they participated, whether sedentary like listening to authors speak, hanging out at a bar, cooking, playing poker, watching sports or active such as playing volleyball, golfing, playing soccer, served as the context for socializing. That is not to say that these women only participated in these leisure experiences to be social, although it was a critical piece to their participation. Interestingly, in my time observing and participating in this community's activities, there were far fewer active leisure opportunities offered than inactive events; however, it was evident in talking to many of the women that they had other means for participating in physical activity if they were so inclined. For example, Olivia, who is 49 years old, and an avid triathlete, spending much of her time running, cycling, and swimming said, "I love doing triathlons. I joined *[State] Wild Women*, which is all women and many of them are lesbian, because I like that social support kind of thing." Quinn, who also enjoys cardiovascular exercise, but has been challenged in finding time away from work, expressed the importance of socializing, ". . . most of my exercising was actually sports with friends, team sports. . . you'd see all of your friends. . . like [to] run by yourself or bike by yourself is boring." And, as a result she confessed she isn't too physically active, currently spending more time watching sports and drinking beer.

The frequent presence of food and alcohol was repeatedly noted when socializing occurred through both physically active and sedentary activity. Moreover, playing sports recreationally and watching televised sporting events at home with friends or at a bar with friends, was common. Vale illustrated this finding succinctly when she indicated the time she spends with friends is almost exclusively activity-based, saying they play "sports, or soccer and

we like to walk and drink beers and chat. And a lot of people like watching football." Although in some cases, food and/or alcohol were the leisure activity. In talking with Quinn, I learned that she and girlfriend, both self-described "foodies," enjoyed trying new recipes and preparing meals at home, together. This activity was not only social, but offered opportunities for them to strengthen their relationship, "I think that honestly our relationship, [girlfriend's name] and I improved when we clicked on [cooking]. She wanted something interactive and I think our relationship. . . we became closer when that happened."

However, other lesbians, who also enjoyed the social bonding offered through non-active experiences, did not always enjoy such healthy options. For example, Waiverly illustrated this point when talking about going out to watch a game with friends, and how food brought them together, "We like to go out to eat. We go out to eat probably three times per week. The social part is a lot of fun, going out with your friends. . . that's what we are really good at." However, continuing on about their alcohol consumption, she conceded that she and her girlfriend are trying, albeit with modest success, to relegate their alcohol intake to only venues outside the home, saying:

> Our new rule that we have, although we violate this rule twice per week—we try not to bring beer or wine into the house. We try not to have a bunch of stuff in the house because then we will just drink it. . . we are trying to lose weight and be healthier. All that beer is contradictory to that goal.

Likewise, both *Gal* sponsored events and other community sedentary activities, such as poker nights and sports game days, included offerings of free food and alcohol, apparently catering to their lesbian clientele; for example, there was "Chili Night Wednesday;" Burgers, Brats, and BBQ offered on Sunday afternoons; a Hot Dog Bar and "touchdown shots" during

NFL games; an “All You Can Eat Spaghetti Night;” and a Taco Bar on sponsored poker nights. Interestingly, while these were non-physically active events, I repeatedly noted the women in attendance appeared to be “ex-jocks” or “ex-athletes.” Several of my research journal entries contained descriptions of women’s bodies that included phrases indicating many women in the community look like they used to be active; following that depiction, was usually the denotation of a larger stomach or more specifically, a “beer belly.” For example, on my first visit to one of the lesbian bars, before recording the detailed descriptions, I jotted down, “The patio crowd appeared to be in their 40s and sportier (like, out of shape sporty- softball-looking crowd) than the inside women. However, even the patio folks were overweight.”

Nikkos, who is in her early 40s, lent insight to these observations when she spoke about the consequences of her advancing age, changing priorities in being physically active, and a deteriorating body not as able to provide the level of prowess once achieved:

> Even just playing in recreational soccer leagues. . . I was playing with friends who probably were my age, a couple of years older and some younger; I took it as exercise, staying fit, seeing friends, having a good time. . . My thought was, ‘Okay, now you’re forty years old, it’s more about camaraderie and staying fit – not about winning.’ And that’s where…and my body, my knees and my body just kind of [ended her participation in that activity].

All leisure contexts considered, the need for socializing between and among other women in this community cannot be overstated. Vale, who highly values physical activity, recognized that need, and proffered suggestions for promoting a more active leisure lifestyle for all women in this community:

Be consistent and find something that you like and hopefully find somebody that likes doing it with you. It doesn't have to be running; it doesn't have to be hard. It could be meeting somebody at a gym and riding on a bike and talking. You know, it just has to be, for women, so much more social.

However, as we will see in the next section, the women in this lesbian community recognize the many paradoxes and dichotomies regarding patterns of socialization and media messages within their environment.

Ellie approaches the familiar neighborhood coffee shop, which is known to be owned by two lesbians. Walking in she quickly scans the small room and although not spotting another lesbian in the place, she does notice a plush, albeit somewhat tattered, oversized chair near the front window. She rushes over drops her laptop bag, and is off again, making her way to the counter to order the usual.

She plugs in her laptop, and plops sideways into the chair, a tree trunk shaped leg hanging over one arm. From her bag she retrieves the lesbian romance novel she purchased from a group of visiting lesbian fiction writers who were at the bar last night. She laughs to herself as she thinks, 'They had lesbian authors there. So, what audience were they targeting? Probably, the intellectual, older?' Although after thoroughly inspecting the slender nude torso on the front, the answer becomes clear- any lesbian! She slowly opens the front cover, careful not to damage the spine; first, she rereads the author's inscription, and then haphazardly flipping through the pages she reads, "You never mentioned she looked like a model."- "I told you she was beautiful." Wondering what she missed by choosing this romantic tale instead of that adventure-mystery she passed up, she pries open her laptop, and types the other author's name in the search engine. Before she even reads anything about the book's plot, she notices this

author has t-shirts for sale. . . and they are only offered in sizes L, XL, and XXL. Looking back to the naked photo on her book and thinking about that character's description, there seems to be some disconnect. It's just one more example of the irony within this community.

The Social Scene- An Inconsistent Environment

"'What kind of lesbian would want a woman who's pretty?' She wasn't suggesting that pretty is a bad thing, only that we, as lesbians, should know that a woman's true beauty often has nothing at all to do with the popular and superficial standards of what's considered pretty."

- Quote from artifact data

Every community, culture, group, subculture, etc., has social norms, which as Cialdini and Trost (1998) purported serve to influence members of a group to behave in desired ways, build and maintain relationships with others in the group, and maintain a self-image. This lesbian community was no exception; however, very early in my observations I became intrigued by the inconsistencies of their social norms. While I observed many common social elements of this group, and the participants shared collective beliefs about how they understood their community, I began to note specific demarcations. These boundaries further illustrated the complex and often dichotomous and/or paradoxical environment these lesbians have created, and within which they live. Moreover, many of the norming contradictions seemed to have specific implications to the way in which these women understood the issue of overweight.

As established earlier in this manuscript, this community appears to be accepting of members with heavier weight; they also indicated they believed lesbians to have a higher prevalence of overweight than heterosexual women. Further, several women disclosed that they

perceived this lesbian community's acquiescence to women's overweight being perpetuated because there is no obligation to change. That is, lesbians do not influence other lesbians to maintain a healthy body weight. For example, Quinn says, "I think it's peer pressure. There is no peer pressure to be skinnier. It's A-ok to be overweight. . . I know that girl is going to love me even. . . [if] I'm obese." Olivia believes:

> I don't know if the pressure in a lesbian community to be thin is the same as the pressure in the straight female community to be thin; because, I don't know if women looking at other women put as much…like, I don't know if I would say "Wow, I need to be thin so lesbians will like me."

She further explains, ". . . because I think it's a male thing that's put onto us and, if I don't have to deal with males, I don't have to worry about it." While these assessments were echoed often by other lesbians in the community, I was struck by significant paradoxes to this belief.

Frequently, I noted in my fieldnotes and in my ethnographic diary how the media within this community was filled with images of slender, feminine women who were often depicted, either through linguistic or visual expression, as active or fit. For example, the following is an excerpt I wrote after attending a First Friday event:

> *In the front techno/hip-hop dance floor, there were two women in thigh high tights and black bikini bottoms and gold bikini tops, with high-heeled leather boots. They were ultra thin and feminine (tan, long hair, make-up) and dancing on top of black boxes, in an area above the dance floor. They were dancing seductively, alone, and with each other. And, projected up on the wall, adjacent to where they were dancing, were seemingly naked, thin female silhouettes again, dancing alone and with each other. Interestingly, the women gathered around tables underneath/beside them looked NOTHING like these*

> *women. TOTAL DISCONNECT! One woman at a table was overweight, had a gray curly mullet, wore glasses, and was dressed in a button-up print shirt and jeans.*

Likewise, at another community event, a lesbian travel company was present distributing materials. Their brochure featured five women on the front cover. They were feminine women with trendy haircuts, whose slender, gently muscled bodies were modestly covered with swim attire. Again, I was intrigued that this publication neither matched the diversity present within this community, nor did it represent the participant descriptions of overweight predominance and acceptance within this population. Moreover, I also spent time reading several lesbian fiction books, whose authors (lesbians) attended and spoke at one of the *GAL*-sponsored events. In one book (MacGregor 2000a) the two main lesbian characters were described as tall, thin, fashionable, and active. The first woman was wearing:

> . . . fashionably wide-legged, worsted wool trousers in the darkest of greens. Underneath a jacket that matched the slacks was a sleek-looking metallic silver turtleneck that complemented [her] lightly tanned complexion and glossy black hair. She had the body of a track star, long and lean, with endless legs.

The other woman was described as "5'6", 124 pounds, blonde; and, wearing a linen suit with a fitted skirt that stopped a few inches above her knees. . . tanned arms peeked out from beneath a sleeveless, pale blue silk blouse." Although examples of one book, these descriptions are somewhat universal to the genre. Again, when comparing this passage to the quote at the commencement of this chapter, we can see the incongruities that exist between the expressed norms held by members of this community and how the community is portrayed through popular, internal media; that is, media produced for lesbians, by lesbians.

There were several justifications provided to explain these inconsistencies. A key informant, with whom I consulted to ensure data trustworthiness, assisted in explaining the paradoxical lifestyle depictions between what I observed in reality and what was presented in the literature. She wrote:

> . . . Italian food, wine, walking on a treadmill. Young and fit is the norm. . . but keep in mind that most people want to escape from real life when they read these books... fantasize about a life they wished they could lead.

The women themselves also provided explanations for the way in which weight was represented in their community, through their descriptions of how this population was dichotomously situated. Quinn, in describing this lesbian community, says, "The thing is – is that there are extremes. You either have the really fit and then the people who are not. I see people who don't seem to care about it. They seem to be in the more masculine realm." When I probe further to ask her about this description, she shares:

> It just seems to be the accepted stereotype that butch women are overweight. . . the stereotype is that butch women should be overweight.' I mean. . . a lipstick lesbian is not supposed to be overweight at all.

Waiverly reveals, "I feel like half the lesbians are skinny and fit, and half the lesbians are really overweight or kind of, you know, let themselves go a little more, I think." She also attributed the separation in weight to distinctive gender roles:

> You definitely have the kind of skinnier, shieker kind of lesbians here that are a little more upscale. And then you have more of the regular, you know the more butchy, a little more obese. . . kind of like the bull-dyke lesbians.

Olivia, equating physical activity to being an attractive and thin lesbian, says, "I think, if you're a good-looking lesbian, you know, if you look like an athlete…If you're a "pretty person lesbian," then generally you tend to be thinner. . ." She explains how this divide is present within her own group of friends, "I mean I know some women that are, like, really thin and active, or overweight. . . there's like either the lazy lesbians or the ultrathin athletic lesbians. And, when they get older, they're not as athletic anymore." Zandra's description of this lesbian community acknowledged similar demarcations, summarizing it in this way:

> Here, you have different groups. I would say you pretty much have the professional lipstick lesbians that are fit, very squared up. Squared around. What I mean by that is everything's buttoned up, they're crisp, they're clean, they look good, plenty of lipstick on, their hair is perfect, very fashionable, you know clothing, very trendy, very full of themselves, probably. Then, on the opposite side of the spectrum you have lesbians who obviously don't give a shit about how they look. They're not necessarily fit. They are a little overweight, not particularly attractive, but you know, genuine and probably happy, you know. I think the latter of the two probably outweighs the professional lesbians.

Through the participant's descriptions, we can see the ways in which these lesbians believe their environment to be divided, as well as the implications these divisions have for their understanding of weight. Group segmentation, however, was not merely relegated to the broad community; it was also present in their intimate friendship circles. The social networks within this community appeared to be complex, albeit not always fluid.

I repeatedly recorded the splintered socializing patterns among these women. Within these lesbian-specific, community spaces, their individual friendship circles appeared to be tight-knit and frequently comprised of a small group of women; however, interestingly, I commonly

denoted the lack of socializing between the distinctive groups, indicating perhaps the importance of group norms. For example, during my first observation I recorded, "Seemed very cliquey- many triads scattered throughout bar- and not any "mingling" among groups." Subsequently, at a meet-n-greet event for women interested in cycling, I wrote, "It was interesting. . . again, the women seemed to hang in packs- 3s, 4s, or more. . ." I was surprised by how splintered this community seemed to be, especially since many of the women to whom I spoke described this community using terms such as "loyalty to each other," "protectiveness of each other," and "compassionate towards each other." Although those characteristics may be described community values, many of the women detailed the separation that was also present.

Many of the participants described their community the way Zandra did, "Very cliquish." She explained further:

> I didn't go to school here, I'm not from [State], and so not only did I come out late in life, right, but not growing up with people in the area, it makes it kinda hard for me to find a new circle of friends in the gay and lesbian community. I even tried participating in sports activities as a way of meeting other gals who I could befriend, but even within that venue I found them to be rather cliquish. . . quite honestly, I have found the men to be a lot more open and embracing than the ladies.

Ophelia, who more recently moved to this city indicated many of the same feelings:

> . . .seems like they are very isolated groups, you know, of women. Like there is a group that I always see these same certain women together at, you know, on the first Friday, and if I've ever seen them anywhere else, they are together. I don't know a lot of lesbians here yet but it does seem like women that I have met they all kind of hang out with the same friends, you know?

Vale, a long-time, resident of this community, explained:

> I think you have to be a part of a social group to feel like you are part of the community. You know, whether that is playing pool or playing soccer, or reading club, you have to find your niche; otherwise, I think people can be very cliquey and it's hard to break into any type of circle unless there is a reason why you need to be in that particular group. It seems cliquey to me.

She continues and explains, in her experience, why connections to other lesbians in the community has been important, ". . . unless you had a reason to be there, people didn't feel threatened by you and you needed to understand your connection of why you were there it seemed like, before they would really open up."

Although I am still unclear whether these "cliques" served to include women who share similar interests and values or to exclude women who do not, they do have a significant impact on the ways in which these women establish themselves within the broader setting. For example, Nikkos described where she and her group of friends fit in the community:

> I have to say that I believe that the group of friends, that I hang out with, I would probably have to say that 75 or 80% of them are attractive. . . I truly believe that the main group of friends that I hang out with are educated and they're successful.

From her description, it is not difficult understand how her social group spends their time, "Friends get together and we do weekends, golf weekends. We go up to the mountains and do a golf weekend." Zandra asserts, "My group of friends. . . they're professionals, you know, meaning they have college degrees. And, they're athletic, very much into their well being. They make a conscious effort to stay fit." Her membership in this group has affected her habits, as she

tells me, “So much so that it’s influenced me and you know. . . I am more into working out than I have been in the past…pretty religiously, and I’ve got a routine, and I’m taking vitamins.”

While some women shared the benefits of being members of groups who have norms supporting healthful living, other women indicated how group norms might facilitate unhealthy lifestyles. Although Quinn agrees with many of the other women about the norming dynamics of a close friendship group, she presented an interesting view on how some women might rationalize their overweight status, based on the composition of their group of friends. She alleged:

> I mean even the internal society like your groups of friends etc… they play a huge part on your health. If you want to feel thinner hang out with fatter friends; and, that’s what I think that philosophy of, unfortunately, a lot of the lesbian society is – is that I’m ok… look at all my friends who are fat.”

Ophelia later, she told me why she believes making friends in this community has been an arduous task:

> I think that they value close friends, small groups—I don’t want to say---I don’t know how to phrase it, but like inclusiveness of their friends, like—I’m trying to phrase a way to say like I think that’s a criticism, it’s not really a value that they have. I think definitely small intimacies, small groups.

While observations and participant interviews indicated that lesbian group membership, both at the macro and micro level, influence how they understand body weight in many important ways, the question still remains: Does a lesbian sexual identity promote or prohibit women, like the ones within this community, from achieving and/or maintaining a healthy body weight? By claiming their lesbian identity, women become empowered to assert resistance to

hetero-normative values and to increase self-acceptance; however, still members of the non-dominant sexual culture, their experience with discrimination and shame also seems to facilitate unhealthy coping strategies often manifested through unhealthy eating and alcohol consumption. Although there are many social contextual properties of the lesbian community permitting the presence of overweight members, there are also enforced norms sanctioning the parameters of that authorization.

Discussion

Despite advances in social and public policy that encourage equality for and acceptance of sexual minority members, lesbians continue to be a group not only stigmatized but also marginalized (Herek 2000). Consequently, seeking support and acceptance as well as constructing and maintaining community with other lesbians has been an important element to lesbian socialization and identity development. Moreover, adopting a lesbian identity allows us, as Stein (2010, 31) affirmed, "to differentiate ourselves from the dominant culture, emphasize what we have in common and minimize the differences that divide us." As a result, many lesbians use appearance to demarcate themselves while creating collectives through established social behaviors.

Subversive gender identities are assumed to be fundamental to lesbian communities, and are often characterized by physical appearances that are in some way defiant of or challenging to hetero-normative standards of femininity. This is neither to say that all lesbian communities or their members subscribe to uniform expressions of lesbian identity, nor is it to imply there is a monolithic lesbian culture. However, in an attempt to demonstrate community, there are common social-cultural norms that have been adopted by the broader lesbian culture that permeate each individual community. Overweight and the acquiescence of heavier-weighted

women appear to be pervasive within lesbian populations. Accordingly, I examined the ways in which women participating in *GAL* activities used pertinent social-contextual factors to understand weight.

Past research (Kelly 2007) indicated the lesbian community to which a woman belongs has influential bearing on how a woman ruminates body image; and, very commonly, lesbians have been found to be accepting of larger female forms (Bowen et al. 2006). In fact, historically, approbation for overweight within lesbian communities derived from the belief that as a woman became increasingly comfortable with her lesbian sexual identity, she also became empowered to disengage from the confines of patriarchal standards of beauty, which included being thin (Brown 1987). While I cannot entirely refute these notions, an expansive view of lesbian culture, including individual and community identities, as well as behaviors, is warranted to advance the understanding of weight within this population.

Predicated by my ethnography of the lesbian social group, *GAL*, I propose the lesbian community permits women to simultaneously accept and reject overweight as an acceptable standard of appearance. This is not to say they assert ambivalence towards the issue, it is more that the lesbian community allows for the negotiation of conventional standards of weight. This bargaining was primarily demonstrated through the abstract ways in which they articulated the difference between healthy and unhealthy weight. They were unable, unwilling perhaps, to offer distinct parameters that would definitively differentiate healthy weight and overweight. Instead, they detailed emotional manifests, in most examples permitting an overweight woman to be classified as healthy if she was likeable. This boundary blurring appears to be a negotiation strategy that allows women to transgress hegemonic standards of weight, while continuing with their unhealthy eating and drinking behaviors, and maintaining esteem for their own body

weight, which is in many cases overweight. Conversely, they offered very specific and unflattering physical descriptions of obesity. Therefore, unlike the early findings of Brown (1987), I postulate that lesbians are not making a conscious effort to rebuke the hegemonic principles of feminine appearance; they are merely more tolerant of heavier women, albeit not entirely benevolent in the ways in which they appropriate the issue.

Similar to the research of Kelly (2007) and Striegel-Moore, Tucker, and Hsu (1990) my investigation of *GAL* demonstrates that although the lesbian community does not embrace the dominant culture's ideals of feminine appearance, perhaps being female in a patriarchal society does not necessarily allow them to remain immune to its influence either. Lesbians in my study were familiar with internal media depicting lesbians as thin, fit, and feminine, often mirroring, perhaps, the hetero-normative ideals of beauty and weight. As a result, overweight and/or obese were categories relegated to the antithesis of that ultra-feminine form, the butch lesbian. Although I am unclear whether this binary has been consciously or unconsciously created, it is nonetheless apparent that identity categories have been constructed to represent each end of the weight spectrum. However, as evidenced in recent literature, even these classifications appear to be unstable and malleable as lesbians negotiate acceptable standards of weight within their community. This flexibility may further indicate the incidence of overweight and obesity is becoming more common in this population, and therefore, women are beginning to adjust the parameters of these identities to accommodate this prevalence. Maltry and Tucker (2002, 101) wrote about how larger lesbians are also assuming feminine identities:

> A conscious performance of femininity on a "super size" body disrupts the "cult of slenderness" so historically pervasive in middle-class, white American perceptions of

attractiveness. Not only do women of size work to broaden the ideas of desirability, but they also work to literally transgress the idea that feminine persons cannot take up space.

This assertion, coupled with previous findings, including those within my study, would seem to indicate that heavier weight has been, and continues to be, present within this community; lesbians, therefore, are making reparations to their identities to accommodate these distortions. Irrespective of gender identities, the boundaries between healthy weight and overweight have become obscured and indistinct.

Moreover, regardless of the women's individual identity, there are incisive social practices within this community that contribute to and perhaps reinforce lesbian weight status. While coming out and affirming a lesbian identity empowers these women to assert independence, autonomy, and confidence when interacting with the dominant culture, there are internal social cultural norms that exert powerful influence over the ways in which lesbians behave. Similar to the findings of Iwasaki et al. (2006, 173) my study indicates lesbians highly value socially active leisure due to the "solid support circle of friends" between and among other lesbians; however, the contexts within which these interactions occur is highly dependent on the interests of their friend group. Some women placed more value on being active and accordingly, their group of friends also valued physical activity and fitness, which facilitated healthy habits, positively affecting their weight. While this finding is consistent with that of Henderson and Ainsworth (2003), who discovered women witnessing other women being physically active were more likely to engage in similar activity, other groups socialized via sedentary experiences, which were also influential of the perpetuation of inactive forms of leisure for these women. Furthermore, drawing from Valanis et al. (2000) we should also consider, that despite the impact of peer group norms, there are universal health behaviors and psychosocial risk factors found

within this community that may supersede the effects of cohort influence. Excessive alcohol consumption and unhealthy eating practices were commonly noted behaviors that allowed these women to cope with discrimination and prejudice resulting from a lesbian sexual minority. Although the impact of these practices on women's weight is not clear, they are habits that should be considered when addressing the issue of overweight and obesity within this community.

Although my study uncovered many directives for the ways in which overweight and obesity might be mitigated, there is still much that remains unclear within this community. The lesbian population continues to reinvent and establish itself through shared attitudes and behaviors of the community as well as in the assertion of diverse identities that provide empowerment for minority members within a dominant culture. While these constructions allow for mental and emotional health, they may be counterproductive, threatening even, to achieving physical health. Interestingly, many of the behaviors practiced and identities created to relieve the (dis)stress of being a member of the sexual minority are also potentially permitting the application of weight bias. Sadly, discrimination based on an individual's weight, has been identified as an "acceptable" form of social prejudice (Puhl and Brownell 2001), which is disturbing for a minority culture whose members already have a higher incidence of overweight and obesity. If we do not address this issue, lesbians might seemingly be trading one stigmatized identity for another; and worse yet, literally killing ourselves in the process. The goal, therefore, should be to address and eradicate these unhealthy behaviors while introducing and promoting healthy alternatives to assert empowerment within a context that also allows for and celebrates the unique customs of lesbian culture.

In addressing issues of overweight and obesity within the lesbian community, recognizing the profound intersection of personal factors/cognitions, behaviors, and the environment cannot be overstated. For example, the first step in preparing to address this issue was to conduct an in-depth literature review. However, due to the dearth of research dedicated to lesbian overweight and obesity, a multidisciplinary examination of lesbian culture was required; this approach was informed and organized by tenets of the social-ecological model (SEM). Social-ecological theory emphasizes the need to understand the reciprocal relationship between an individual and her environment, that is, more specifically, the intrapersonal, interpersonal, institutional, community, and public policy factors influencing health and illness (Stokols 1996). Used as a theoretical guide in the consideration of body weight issues within a socially marginalized population, the SEM was useful in understanding the multi-levels of influence on lesbian's health behaviors, as well as identifying the potential barriers to this population's achievement of a healthy weight status (McLeroy et al. 1988; Stokols 1996).

The second step in attending to the prevalence of overweight and obesity within the lesbian population was to perform an exploratory investigation focused on the directives derived from the literature review. More specifically, it was evident that attention should be paid to the unique social-cultural aspects of lesbians' experiences. For example, social norms and behaviors within lesbian communities were of particular interest, as revealed from the review of literature. Subsequently, in an attempt to understand how these highly influential pervasive factors affected individual health, this ethnographic inquiry was performed; and, the findings from this study exposed elements that were best situated within the Social Cognitive Theory (SCT).

SCT is a reciprocal model in which behavior, personal factors (including cognitions), and environmental influences all interact (Baranowski Perry and Parcel 2002, 165); as such, it

provided a useful framework in understanding how the psychosocial dynamics of being lesbian influenced women's body weight. For example, a powerful representation of these mutually influential relationships, conceded from the findings of this study, was the way in which these women appeared to positively appraise overweight (cognition), eat unhealthfully (behavior), and reside within a diverse and paradoxical community comprised of intimate friendship groups and social networks (environment). Applying the SCT model to these factors illustrates how a lesbian's belief that overweight is acceptable may perpetuate her consumption of unhealthy foods, and those poor eating habits may dictate with whom and where a lesbian spends her time; likewise, the model also may simultaneously demonstrate the relationship among the people with whom a lesbian spends time, and their impact on the her unhealthy eating, which may in turn influence her to believe that being overweight is acceptable. These relationships are important elements in determining influences of lesbians' weight status. However, when attempting to intervene and modify the behaviors that are contributing to the prevalence of overweight and obesity within the lesbian population, there appear to be unique environmental factors affecting their behavior, to which significant attention should be paid. Therefore, while the SCT recognizes the role of an individual's environment in attempting to *explain* her behavior, a modification of an additional model, one that pays greater attention to environmental elements within this population, may be more useful in informing the creation of weight loss interventions for lesbians.

Some research (Jeffery 2004) has postulated the function of cognitive determinants contained within health behavior theories may be overstated, and models that address the interactions between behavior and environment are needed to promote action rather than sheer motivation. The Environmental Research framework for weight Gain prevention (EnRG) is one

such model. EnRG is a dual-process model that has been used to better understand the causal mechanisms that undergird the relationships between environmental factors and behavior, and how they positively and negatively influence individuals' energy balance (Kremers 2006). Kremers' and colleagues' (2006) model necessitates the consideration of cognitive mediators as well as possible moderators, while elucidating the causes of the interventions outcomes. More specifically, EnRG emphasizes that energy balance behavior (dietary consumption and physical activity behaviors) can be automatically or habitually performed as a result of one's environmental factors. Automatic processes may include automatic evaluation and emotion, automatic trait and stereotype activation, attitude activation, non-conscious behavioral mimicry, and non-conscious goal pursuit (Chartrand 2005). Additionally, those behaviors may also be a result of cognitive mediators, such as attitude, norms, perceived behavioral control, and intention. The model also accounts for other relevant elements affecting an individual's behavior, which operate as moderators, including a person's demographic characteristics and personality, as well as her/his awareness, involvement, habit strength, and clustering of other behaviors. Ultimately, as shown in Figure 1, EnRG highlights two assertions. First, it recognizes environmental elements as the most significant determinants of behavior affecting individuals' energy balance. Second, it identifies causal mechanisms that govern such behaviors. In tandem, these characteristics provide a model appropriate for informing the creation of weight loss interventions for lesbians; however, to accurately represent the findings from this ethnography, and to address the unique experiences of lesbians and elements of lesbian culture as they influence weight status, we've modified Kremers (2006) model, to include cognitive components of the SCT, rather than the Theory of Planned Behavior. However, the model's emphasis is still

applied to the influence of lesbians' environment on their behavior, which in turn affects weight status.

The EnRG model, as applied to the findings of this study (Figure 2), is useful in establishing ways to intervene between lesbians and overweight and obesity because as mentioned previously, the environment was revealed to be a dominant influence, both directly and indirectly, on lesbians' body weight. For example, living within the macro heterosexist environment where lesbians are the minority, they might engage in excessive alcohol use, providing a means to establish control in their lives, and potentially causing weight gain. However, this relationship could be moderated by the individual's awareness of this unhealthy behavior, and she might, instead, choose a healthy behavior like socializing with friends via participation in physical activity. This repeated choice in behavior could result in a achieving and/or maintaining a healthy body weight. Conversely, an indirect route to the potential consumption of unhealthy foods, via cognitive mediators, might begin in a lesbian's physical environment. If lesbians do not have access to healthy food options (environment), then conceivably, their healthy eating self-efficacy would be low (cognition) and they would choose to consume the unhealthy food (behaviors), which might ultimately produce an unhealthy weight. Important to note is that this pathway could also be moderated by individual attributes. Subsequently, and perhaps a more significant concern, this unhealthy behavior might also likely influence her healthy eating self-efficacy, as illustrated by the reciprocal relationship between behaviors and cognitions. Overall, the EnRG model not only allows for the disentangling of complex relationships contributing to lesbian overweight and obesity, but it also assists in establishing a plan for effective interventions by illuminating the most powerful cultural influences as well as the causal paths to unhealthy behaviors.

Perhaps the future will prove more inclusive of individual and communal minorities, and a lesbian sexual identity will be an innocuous descriptor, as Stein (2010, 28) purported:

> What I am predicting is that while the lesbian world will not fade away, it will probably look fairly different in the future. The vast majority of gays and lesbians will become more integrated into mainstream American life. Their homosexuality will cease to define their choices: where they can live, what kind of job one can have, whether they can have a conventional family, and so forth. . . As homosexuality becomes more normalized, and as gays and lesbians become integrated into nuclear families, the notion that it is our sexuality that marks us as different will fade. Being gay or lesbian will probably become more like being Italian-American, or being Jewish-American- it will be like an ethnic status, with particular customs, rites and rituals- like Birkenstocks and softball- rather than a category that inevitably carries the weight of stigma or the promise of transgression.

Although it is encouraging to believe that bias based on women's sexual orientation may decrease, discrimination based on their higher prevalence of overweight and obesity will only persist. Therefore, attention should be paid to the unique social-cultural norms of lesbian communities due to both the challenges and opportunities they present when addressing the complex issue of body weight.

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Fig. 2. The Environmental Research framework for weight Gain prevention (EnRG).

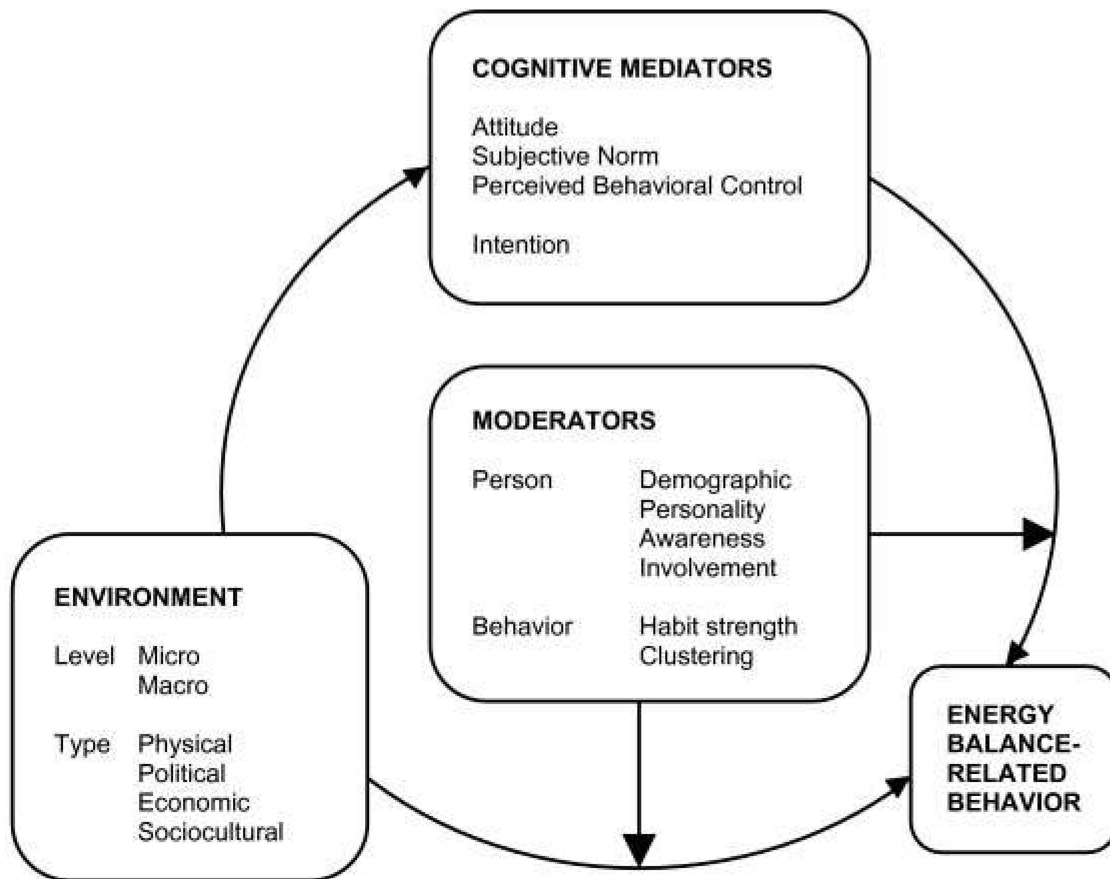
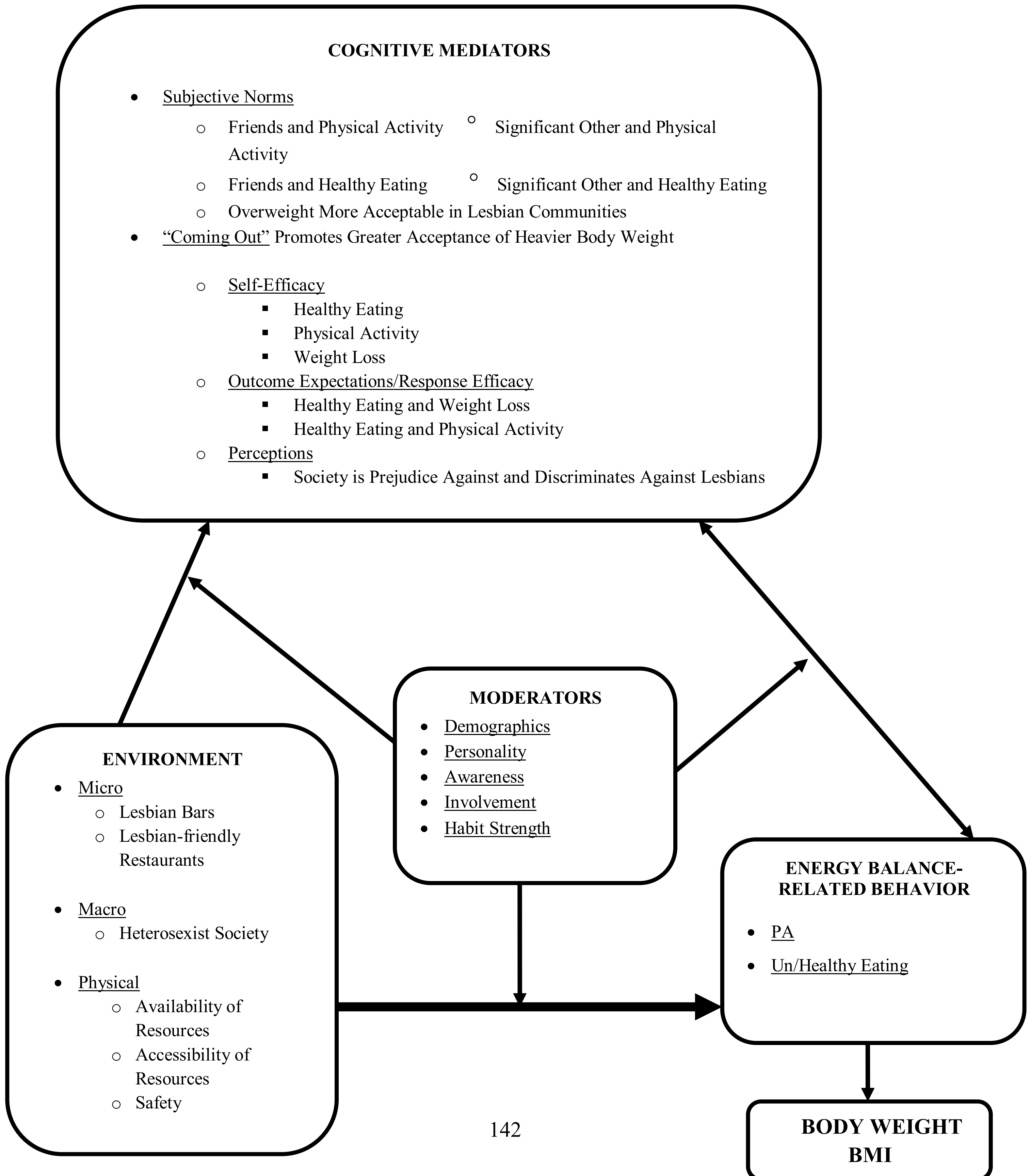


Fig. 3. Conceptual Model of Lesbian Overweight and Obesity Modified from Kremers et al. (2006) The Environmental Research framework for weight Gain prevention (EnRG).



MANUSCRIPT 3

The Development of the Lesbian Overweight and Obesity Questionnaire (The LOOQ)

Introduction

Obesity has been identified as a serious public health concern, due to its causal influence on other chronic diseases such as diabetes, stroke, heart disease, osteoarthritis, as well as breast and colon cancer (U.S. Department of Health and Human Services 2001a,b). Women are more likely than men to be at risk for obesity (Flegal et al. 2002; U.S. Department of Health and Human Services 2001b) and within the female segmentation, several studies have found a lesbian sexual orientation further increases a woman's likelihood of being overweight or obese (Aaron et al. 2001; Boehmer, Bowen, and Bauer 2007; Mays et al. 2002; Mravcak 2006; Yancey et al. 2003; Yancey, Leslie, and Abel 2006), and thus, more susceptible to the development of many chronic diseases (Yancey, Leslie, and Abel 2006).

While 11% of women aged 15-44 have reported ever having a sexual experience with another women (Mosher, Chandra, and Jones 2005), it has generally been posited that lesbians comprise approximately one to four percent of the overall population (Mravcak 2006). Research has indicated approximately 33% of lesbians are believed to be obese, compared to 25% of heterosexual women (Boehmer, Bowen, and Bauer 2007). Lesbians are also more likely to have a higher Body Mass Index (BMI) and a higher prevalence of overweight and obesity than heterosexual women (Aaron et al. 2001; Boehmer, Bowen, and Bauer 2007; Carpenter 2003; Case et al. 2004; Mays et al. 2002; Mravcak 2006; Owens, Hughes, and Owens-Nicholson 2003; Valanis et al. 2000; Yancey et al. 2003; Yancey, Leslie, and Abel 2006). Although there are a myriad of data indicating overweight and obesity is more prevalent in sexual minority women than in heterosexual women, there appears to be a lack of consensus as to which factors, and how those factors contribute to this phenomena.

In an attempt to understand why overweight and obesity is more prevalent in sexual minority women, previous studies have been dedicated to investigating elements of physical activity (PA), sedentary lifestyles, and dietary habits. Typically, the findings from these studies were equivocal (Bowen, Balsam, and Ender 2008), and provided little insight into why, as a social group, lesbians have higher incidences of overweight and obesity. It has been suggested that the difficulty in understanding and studying weight-related issues in this specific population is a result of the unique social, behavioral, and cultural norms of this sexual minority group (Boehmer, Bowen, and Bauer 2007). Moreover, the lack of research in this area may be based on the assumption that the determinants of obesity for lesbian women are the same as the determinants for heterosexual women; as a result, theoretical constructs and standardized measures used to elucidate women's PA and dietary habits have historically been developed within the broader context of the female majority (heterosexual women), and categorically overlooked the unique influence of the social-cultural environment and normative behaviors that are constructed and fostered within the lesbian community.

Similar to many other minority groups, lesbians have created a group culture that represents common activities, philosophies, and behaviors (Burgh-Woodman and Brace-Govan 2007). In respect to overweight and obesity, for example, lesbians have revealed acceptance of a larger, less feminine body (Bergeron and Senn 1998; Bowen et al. 2006; Cohen and Tannenbaum 2001). This attitude, accordingly, may also indirectly influence the approval of other social norms concerning PA, dietary habits, and alcohol consumption that, in turn, negatively influence as well as further perpetuate and contribute to overweight and obesity. Based upon a recent

ethnographic investigation, there is potential that lesbian specific grounded theory and validated measures to assess theoretical constructs may be needed.[2]

Specifically, our research team recently completed a qualitative analysis of the relationship among a lesbian sexual orientation and healthful eating, physical activity, alcohol consumption, and weight status. We found that lesbians in this community believed their sexual identity was a negative influence on their weight status, due to beliefs about the community's positive appraisals of overweight, as well as unhealthy habits in food and alcohol consumption, which they attributed to elements of their social environment. Likewise, findings revealed physical activity to be highly social, which played an important role in determining their participation.

Hence, the general purpose of this examination was to initiate the development of a conceptually and culturally sound tool to measure the influential factors of overweight and obesity germane to the lesbian community- The Lesbian Overweight and Obesity Questionnaire (LOOQ). The aim was to provide a measure with distinct domains/subscales that could be utilized in the assessment of personal attributes and behaviors, as well as environmental features that affect sexual minority women's beliefs and behaviors about physical activity and dietary consumption, and how those items influence body weight. Ultimately, it was hypothesized that participants' BMI scores would be predicted by their responses to subscale items associated with PA and eating behaviors. Procedures for developing the LOOQ were informed by the recommendations of Clark and Watson (1995) and the methods used by Estabrooks and Carron (2000). Therefore, for this investigation, four independent projects were initiated. The first project consisted of identifying appropriate items (item generation) to be included in the LOOQ,

[2] Thayer, A.N. and Estabrooks, P.A., 2010. The Exploration of Overweight and Obesity within a Sample of Lesbians: An Ethnographic Inquiry. Virginia Polytechnic Institute and State University.

as informed by a comprehensive review of the literature as well as the results of our ethnographic inquiry. Project 2 established content validity using contributions from behavioral science experts. In Project 3, item trimming (i.e., refining the pool of potential survey items) occurred using traditional psychometric analysis as the foundation that included testing for internal consistency, intra-item subscale versus inter-item subscale correlations. Lastly, in the fourth project, the LOOQ's internal consistency, test-retest reliability, and predictive validity were assessed.

As Pedhazur and Pedhazur Schmelkin (1991) explained, predictive validity consists of the association of theoretically related variables to construct/criterion of interest (lesbian overweight/obesity). For example, the etiology of overweight and obesity has been related to unhealthy eating/drinking habits and inadequate physical activity (Astrup 2001; McCrory, Suen, and Roberts 2002); however, previous research has been unable to present non-equivocal conclusions regarding the relationship between lesbians' eating habits (e.g., Bowen, Balsam, and Ender 2008), alcohol use (e.g., Suter 2005), and physical activity behavior (e.g., Boehmer, Bowen, and Bauer 2007) and the community's increased incidence of overweight and obesity. Attitudinal factors including self-efficacy, or one's belief in her capability in performing a task/behavior, and outcome expectations, or the anticipatory outcomes resulting from a behavior (Baranowski, Perry, and Parcel 2002), have not been adequately addressed in the literature dedicated to lesbian PA or healthful eating behaviors. Self-efficacy is an important factor to measure when investigating health and wellness, especially those habits practiced by lesbians, who, as a stigmatized population, already experience significant societal obstacles and barriers in accessing health-related resources. Moreover, exploring the variation in efficacy is crucial, as Bandura (2004, 145) explained, "The stronger the perceived self-efficacy, the higher the goals

people set for themselves and the firmer their commitment to them. Self-efficacy beliefs shape the outcomes people expect their efforts to produce." Therefore, although neither self-efficacy, nor outcome expectations/response efficacy were referenced specifically in the ethnography, they both will be measured as a part of the LOOQ.

Other variables that should be related to lesbian overweight and obesity are social-cultural and subjective norms of the community. Social norms have been defined as "rules and standards that are understood by members of a group, and that guide and/or constrain social behavior without the force of law" (Cialdini and Trost 1998, 152). They are developed through social interaction between and among individuals of the group for which they are maintained and sanctioned, either explicitly or implicitly by other members of the group. Thus, lesbian social norms regarding food and alcohol consumption, physical activity, and body weight, as well as the way in which the women understand them, appear to be derived from distinctive intrapersonal, interpersonal, community, and institutional influences.

Ethnographic data suggested coming out promotes greater acceptance of heavier body weight. Likewise, previous research (Krakauer and Rose 2002) contended that women's concerns about their body weight decreased after they "came out," or disclosed their lesbian identity. Further, Wagenbach (2003) described women in the initial stages of lesbian identity formation to be more anxious about dieting and maintaining a slender physique, whereas lesbians who had been "out" longer were less concerned with either dieting or thinness (Heffernan 1999). Additionally, other research has shown as a collective group, lesbians' physical appearance often includes less typically feminine (Bowen et al. 2006; Heffernan 1999; Smith and Stillman 2002; Wagenbach 2003) and more essentially androgynous or masculine traits (Krakauer and Rose 2002; Milillo 2008), as well as carrying heavier body weight or having

greater acceptance of a larger body (Bergeron and Senn 1998; Bowen et al. 2006; Cohen and Tannenbaum 2001); however, ethnographic data informing the LOOQ, also indicated lesbians perceive butch lesbians to be more overweight than femme lesbians.

The interpersonal processes that occur within and among individuals' social networks significantly influence their health behaviors (McLeroy et al. 1988; Sallis and Owen 2002); further, the company individuals keep is perhaps one of the most important elements within the social environment influencing their health (Heaney and Israel 2002). These assertions were also prominent results of the ethnography preceding this project, where findings more specifically supported the notion that identifying as lesbian profoundly influences a woman's friendships, support systems, and behaviors in a manner that is more significant than race, class, education level, and income (Gabbay and Wahler 2002). Participant observations and interviews with lesbians within the community studied indicated the following normative beliefs about health behaviors affecting overweight/obesity within this population: a) dining out/the consumption of food with friends is a significant component of lesbian socializing, b) excessive alcohol consumption is acceptable in the lesbian population and contributes to overweight, c) socializing is a key component to lesbians' participation in physical activities, d) lesbians would have increased participation in physical activity if they participated in non-individual/non-solitary activities, and e) friends (social networks) highly influence the activity choices of individual lesbians.

Community is a broad term characterized by collectives of people sharing common values and concerns regarding the welfare of their group, and is defined by three distinctive meanings: 1) primary, face-to-face groups to which individuals belong and that work as mediating structures; 2) relationships among groups and/or organizations within a specified

locale; and, 3) a population identified by geographic boundaries and political ideologies. Moreover, ethnographic data indicated, for example, that collectives of lesbians or lesbian communities might negatively impact a woman's body weight, by revealing that food offerings in lesbian spaces are unhealthy, and that alcohol is a primary element in the lesbian culture; it is ever-present, whether the event is active or sedentary. The LOOQ will assist in determining if these beliefs regarding the social and physical environment might be able to be manipulated to facilitate healthier habits in the future.

The institutional level of the social ecological model includes, "social institutions with organizational characteristics, and formal (and informal) rules and regulations for operation" (McLeroy et al. 1988). For lesbians, perhaps the foremost institution affecting their lives is heterosexism, or a values system that assumes heterosexuality and that denies, disregards, disparages, and stigmatizes non-heterosexual forms of emotional and sexual expressions, community, and relationships (Herek 2004). However, lesbians are also women, and as a result can be victims of sexism and therefore endure a dual minority status within the prevalent majority culture. As a result, disordered eating (Barefoot et al. 2000; Heffernan 1999) and alcohol consumption habits (Amadio 2006; Mays and Cochran 2001) have been identified as coping behaviors within this community. These findings were corroborated by ethnographic data that asserted the following beliefs about their environment: a) the perceived discrimination and prejudice sexual minority women experience from society might influence excessive and restrictive eating as a means to establish control, and b) the perceived discrimination and prejudice sexual minority women experience from society promotes alcohol use and abuse as a means of coping.

Methods

Item Generation

Items were generated for the LOOQ in two ways. First, social-cultural norms that were germane to lesbian communities and that were attributed to lesbians' higher prevalence of overweight/obesity were identified based upon our ethnographic data and a review of the literature. Ethnographic results were used to ensure lesbians were active agents in the development of items and that the items embodied the universal realities of lesbians, rather than that of only the researchers (Patton 2002). Secondly, tenets of the social-ecological model and social cognitive theory were employed, in tandem, as theoretical contexts through which this survey was constructed.

The justification for this conceptual model has been encouraged previously (Boehmer, Bowen, and Bauer 2007); that is, specific social-cultural norms were uncovered via a comprehensive literature review and ethnographic inquiry, then interpreted through social cognitive theory and organized via a social-ecological perspective. More explicitly, expectancies (self-efficacy and outcome expectations/response efficacy) and normative beliefs about lesbians' food and alcohol consumption, physical activity, and body weight were discovered to reside within and to be influenced by intrapersonal, interpersonal, community, and institutional factors, and manifested through the triadic relationships between cognitions, behaviors, and the environment. This process corroborated the generation of 89 items, reflecting cognitive, behavioral, and environmental influences that are situated within the intrapersonal, interpersonal, community, and institutional realms of the SEM.

Content Clarity and Validity

To ensure the items cultivated by the literature review and the ethnography were evocative of the lesbian social-cultural environment as well as normative beliefs that might influence overweight and obesity, the list of 89 items was submitted first, to a behavioral science expert, whose scholarship is concentrated in physical activity (PA) and healthy eating, as well as overweight and obesity. Subsequently, two additional experts, with a focus on women's leisure, and women's health and wellness, reviewed and provided feedback on the items. The process commenced with items being reassessed if they did not coalesce with the specific area of lesbian overweight/obesity being explored. Items that were inaccurately assigned to inappropriate levels of the social-ecological model were repositioned into more appropriate target areas. Then, if an item was ambiguous, it was reworded and/or removed where applicable. Third, any item that was poorly constructed or that used jargon, was corrected to facilitate increased understanding. Finally, redundant ideas among items were clarified and/or items were removed. In addition to reducing items, the experts also provided additional items to ensure that each content area identified included 3 to 5 items to allow for appropriate validity and reliability testing of potential subscales.

Readability was assessed by 10 members of the target population who ranged in age from 38 to 53 years old, and were identified through the initial ethnographic study; each woman provided comments on items that were unclear or difficult to understand. The final instrument read at a grade 7 level.

The method for determining content validity of the generated lesbian-specific measures of the LOOQ yielded the removal of 18 items, from the original pool of 89, while adding 63 items. The final questionnaire included 129 items that were categorized into the following

scales/subscales: Interpersonal Behavior (n=13 items): Socializing through PA and Socializing with Food; Interpersonal Cognition (n=12 items): Friend Norms with PA, Significant Other Norms with PA, Friend Norms with Healthy Eating, and Significant Other Norms with Healthy Eating; Intrapersonal Behavior (n=5 items): Behavior as a Means of Control; Intrapersonal Cognition (n=37 items): Perceived Discrimination and Prejudice, Perceptions of a Healthy Weight, Perceptions of Overweight, Healthy Eating Self-Efficacy, Physical Activity Self-Efficacy, Weight Loss Self-Efficacy, Healthy Eating and Weight Loss Response-Efficacy, Physical Activity and Weight Loss Response-Efficacy, and Coming Out Promotes Acceptance of Heavier Body Weight; Physical Environment (n=42 items): Aesthetic Environment, Walking/Exercise Environment, Safety from Crime, Access to Healthy Foods, Social Cohesion, Violence in Past Six Months, Eating Environment; and Social Environment (n=20 items): Socializing through Drinking, Perception of Lesbian Overweight, Acceptance of Overweight, Lesbian Gender Identity and Weight. Additionally, 21 demographic questions, in addition to the following items from validated behavioral measures were also included in the survey: PA (n=4 items), Healthy Eating (n=7 items), Dietary Fat Intake (n=17 items), Alcohol Use Questions (n=6 items), and a self-rated overall health measure (n=1 item). The final questionnaire was 190 items.

Participants

A purposive sample of lesbians (n= 200) served as participants in this project. Initially, lesbian and bisexual women were recruited in a systematic manner from associations the researcher made during the ethnographic inquiry, including the following three communities: 1) an online lesbian fiction authors' forum; 2) an online lesbian social forum, and 3) the community of women with whom the researcher had contact as a part of the ethnography. Participants

recruited from the online forums accessed a posting that contained a brief study description and link to the online questionnaire, which provided informed consent in addition to the full survey. Social networking sites and social forums tailored to lesbians and bisexual women were deemed an appropriate site for recruiting participants, as the homosexual community has been found to regularly use these modes of communication, and in higher frequency than their heterosexual counterparts (Burns 2007). The chosen sites were generally non-descript sites serving sexual minority women; that is, these forums were selected because they were not subject specific and were sites where sexual minority women could discuss a wide variety of diverse topics germane to their community. The key informants from the ethnographic community were contacted in person, by phone, or by email, and asked to participate in completing the survey. Each group recruited was also encouraged to forward the survey link to other known lesbian and bisexual women (snowball technique). In a few weeks' time, these techniques produced 106 surveys, at which time, additional approaches to recruit participants were employed. Six other online lesbian social forums were identified and accessed to post the survey, and a key informant with links to several diverse lesbian communities was utilized to recruit participants. This systematic approach generated an additional 94 survey-takers, yielding a total of 200 participants completing the survey.

When initially designing and subsequently pre-testing a questionnaire, purposive sampling has been deemed appropriate as a means to uncovering any defects, and has also been identified as a suitable technique when surveying difficult to reach populations because it allows the researcher to select a sample based on her knowledge of the population (Babbie 1998). Although it is not possible to estimate sampling error with non-probability sampling, it is a

technique that is based on the considerations of feasibility (Pedhazur and Pedhazur Schmelkin 1991), and therefore appropriate for the purposes of this preliminary stage of survey validation.

As a part of the questionnaire, participants were asked to provide contact information if they would be willing to complete the LOOQ for a second time; as a result, 70 participants retook the survey two weeks later as the means to establish test-retest reliability. The mean age of the participants was 36 years (12.3); however 63% of participants were between 30-65 years old. Eighty-eight (88%) percent of participants were White. The mean BMI was 28.1 (8.3), with 39% having BMIs lower than 25 (healthy weight), 25% having BMIs between 25 and 29 (overweight), and 36% having BMIs of 30 or higher (obese). Fifty percent (50%) of women aged 30 and older were obese. The mean household income fell between the range of $50,000-$74,999 (Please see Table 2 for complete reporting of participant demographics).

Measures

The 129 item Lesbian Overweight and Obesity Questionnaire (LOOQ) was administered via the internet on a secured site. Each section of the survey was preceded by a description of the items, brief instructions, and definitions, if necessary (e.g., moderate physical activity). Participants were asked to indicate their level of agreement with each statement. A five-point Likert scale was used with "very strongly agree," "neither agree nor disagree," and "very strongly disagree" anchored in values of 5, 3, and 1, and reversed scored where necessary. Additionally, the complete 190 item survey concluded with participant demographic questions, and also included the following validated measures:

Physical Activity- To assess participation in physical activity, participants completed the well validated (i.e., moderate relationships with objective measures of physical activity and fitness indicators) and reliable (r=0.74; test-retest) Godin's Leisure-time Activity Questionnaire (Godin

and Shephard 1985), 4-item measure that rapidly appraises mild, moderate, and strenuous physical activity (See Appendix H).

Dietary Consumption- Participants completed two screeners to evaluate dietary intake. Starting the Conversation: Diet (Ammerman et al. 1991), is a 7-item measure that assesses daily servings of fruits and vegetables; daily consumption of sugar-sweetened beverages; weekly consumption of fast food, protein, and desserts/sweet treats; as well as general use of fatty seasonings. This brief screener has been used to assess food patterns in a host of adult populations, and although measurement properties are still being evaluated, research has shown (Paxton et al. 2007) it to be a valid measure in classifying people by chronic disease risk. (See Appendix I).

Fat Intake- The Dietary Fat Screener (Block et al. 2000) is a 17-item assessment and has been effective (r= 0.60-0.72) in identifying adults with a high percentage of calories from fat, total fat, and saturated fat or cholesterol. Sensitivity, specificity, and positive predictive value were r=0.52, r=0.93, and r=0.57 respectively, indicating adequate reliability and validity. (See Appendix J).

Alcohol Consumption: Participants completed a 6-item alcohol use questionnaire created by the Task Force on Recommended Alcohol Questions (2003). This measure evaluates individuals' level of alcohol consumption as well as alcohol drinking patterns during the past 12 months, including number of drinks consumed within a 24 hour period. Past use of these questions (Rehm, Greenfield, and Rogers 2001) has focused on both men's and women's alcohol consumption and have reported moderate relationships with chronic disease, reflecting the measure's validity. (See Appendix K).

Physical Environment- To assess their physical environment and its relationship with lesbian's PA and eating behaviors, participants completed the 36-item Self-Reported Neighborhood

Characteristic Questionnaire (Echeverria, Diez-Roux, and Link 2004). Lower scores reveal a less disadvantaged/more beneficial environment. This measure has demonstrated good to excellent internal consistency (r= 0.77-0.94) as well as test-retest reliability (r= 0.78-0.91) has been used to evaluate other adult minority members' health outcomes as related to specific characteristics present in their neighborhood environment (See Appendix M).

Norms Related to Physical Activity and Healthy Eating- Informed by the work of Linnan and colleagues (2005), the three following scenarios were posed to participants, in regards to how their friends and significant others (if applicable) responded to their interest in being physically active and eating more healthfully: 1) My friends/significant other tease me when I say I want to eat healthfully/be more physically active, 2) My friends/significant other say nothing to me when I say I want to eat more healthfully/be more physically active, and 3) my friends/significant other are encouraging to me when I say I want to eat more healthfully/be more physically active. There were a total of 12 scenarios provided (four items for each of three scenarios). Response categories ranged from strongly agree to strongly disagree. Determining the scenario most approved by a participant's intimate friend circle yields the norm. For each behavior, the intimate friend norm was scored as a "1" if the participant indicated that her friends and significant other were most interested in teasing her about her health behavior, a "2" if her friends and significant other were most interested in saying nothing to her about her health behaviors, and a "3" if her friends and significant other were most interested in encouraging her to perform these health behaviors.

Procedures

Participants completed the questionnaire online, with the average time for completion being 26 minutes. To determine the internal consistency of the LOOQ, Cronbach's alphas were

computed for each subscale; an alpha of 0.60-0.70 indicated acceptable reliability and 0.80 or higher revealed good reliability (Nunnaly 1978). Descriptive statistics were computed, and exploratory analysis included calculating Pearson Correlations (r) to determine if participants' personal attributes as well as subscale scores of the LOOQ were significantly related to PA scores, dietary consumption, and fat intake scores, in addition to BMI. Multiple linear regression models were used to develop prediction equations, which modeled pertinent influences on sexual minority women's PA behaviors and eating habits, which ultimately were used to predict their BMI scores. Because of the large number of variables and modest sample size, subscales were included in the regression analyses if they were significantly correlated to the following outcomes: a measure of whether or not they were meeting overall PA recommendations, a measure of moderate and vigorous PA (the Godin Leisure Time Activity Index), dietary fat intake (the Block Fat Screener), and dietary consumption (Starting the Conversation Questionnaire). These predictive models were ultimately created to predict participants' BMI.

Results

Item Trimming, Internal Consistency, and Reliability

The final LOOQ retained 124 items (subscales and number of items measuring each construct are illustrated in Table 3. Standardized averages were calculated for each subscale. There were 27 subscales included in the total LOOQ score (See Appendix G for the survey that was administered; retained items are bolded, while items not included in subscale calculation are grayed.). All but two of the subscales indicated acceptable to excellent Cronbach's Alpha ranging from 0.61-0.97. The Acceptance of Overweight, and Lesbian Gender Identity and Weight, subscales did not yield strong Cronbach's Alpha. For the 70 participants who completed the measure again, two weeks after the initial administration, there were adequate to excellent

correlations with values ranging from $r=0.50-0.92$, which indicates overall good test-retest reliability (Please see Table 3 for all Pearson Correlations). All test-retest correlations were significant at the 0.001 level.

Relationships Among Variables

Lesbians' gender identities were related to dietary consumption, revealing butch lesbians to have more unhealthy dietary consumption ($r=0.15$, $p<.05$). Coupled sexual minority women were less likely to meet all PA recommendations ($r=-0.23$, $p<.01$) and less likely to meet the suggested amount of moderate to vigorous PA ($r=-0.26$, $p<.001$); they also had higher dietary fat consumption ($r=0.18$, $p<.05$), and higher BMIs ($r=0.14$, $p<.05$) than single sexual minority women. As participants' ages increased, so did their BMI ($r=0.41$, $p<.001$).

Women who had higher socializing through PA were more likely to be achieving the recommended amounts of overall PA ($r=0.18$, $p<.05$) as well as the suggested amount of moderate and vigorous PA ($r=0.15$, $p<.05$). Greater use of PA behavior to return balance to life was related to the increased achievement of the suggested amount of moderate to vigorous PA ($r=0.17$, $p<.05$). Sexual minority women's belief that coming out promotes acceptance of a heavier body weight was related to a decrease in the achievement of the suggested amount of moderate to vigorous PA ($r=-0.20$, $p<.05$). Increased disadvantage based on the aesthetics of the neighborhood was associated with decreased achievement of overall PA recommendations ($r=0.17$, $p<.05$), increased unhealthy dietary consumption ($r=0.23$, $p<.01$) and higher BMI ($r=0.14$, $p<.05$). Increased disadvantage based on the (lack of) walk-ability of the neighborhood was related to decreased achievement of the suggested amount of moderate to vigorous PA ($r=-0.18$, $p<.05$), decreased achievement of overall PA recommendations ($r=-0.21$, $p<.01$) and the increase in unhealthy dietary consumptions ($r=0.17$, $p<.05$), fat intake ($r=0.15$, $p<.05$), and BMI

($r=0.22$, $p<.01$). Women's increased disadvantage due to the (lack of) access to healthy foods in her neighborhood was associated to higher BMI ($r=0.15$, $p<.05$). Women who reported greater disadvantage due to lack of social cohesion in their neighborhood also reported decreased achievement of overall PA recommendations ($r=-0.21$, $p<.05$). Higher socializing through drinking was related to greater unhealthy dietary consumption ($r=0.15$, $p<.05$) and increased fat intake ($r=0.19$, $p<.01$). The higher the perception of lesbians being overweight, the higher the BMI ($r=0.15$, $p<.05$). Higher levels of encouragement from significant others to be physically active was associated with greater levels of achievement of the suggested amount of moderate to vigorous PA ($r=0.19$, $p<.05$) and lower BMI ($r=-0.20$, $p<.05$).

The higher participants' healthy eating self efficacy the higher their achievement of the suggested amount of moderate to vigorous PA ($r=0.22$, $p<.01$) and their increased achievement of overall PA recommendations ($r=-0.39$, $p<.001$). Higher self-efficacy for healthy eating was also associated with decreased unhealthy dietary intake ($r=-0.49$, $p<.001$), decreased fat intake ($r=-0.31$, $p<.01$) and decreased BMI ($r=-0.28$, $p<.001$). Participants who had higher self-efficacy for weight loss also demonstrated greater achievement of overall PA recommendations ($r=0.27$, $p<.001$) and greater levels of achievement of the suggested amount of moderate to vigorous PA ($r=0.18$, $p<.01$), as well as decreased unhealthy dietary consumption ($r=-0.21$, $p<.01$) and decreased BMI ($r=-0.20$, $p<.01$). Higher self-efficacy in PA was related to greater achievement of overall PA recommendations ($r=0.53$, $p<.001$), greater levels of achievement of the suggested amount of moderate to vigorous PA ($r=0.42$, $p<.001$), and decreased unhealthy dietary consumption ($r=-0.29$, $p<.001$), decreased fat intake ($r=-0.21$, $p<.01$), and lower BMI ($r=-0.31$, $p<.01$).

As BMI increased, the achievement of overall PA recommendations decreased ($r=-0.31$, $p<.001$), the achievement of the suggested amount of moderate to vigorous PA decreased ($r=-0.33$, $p<.001$), and unhealthy dietary consumption increased ($r=0.18$, $p<.05$).

Predictive Validity

Multiple linear regression were calculated to predict each of the following: dietary fat intake, dietary consumption, whether moderate to vigorous PA recommendations were met by single participants and by participants who have significant others, whether overall PA recommendations were met, and BMI score for single participants and by participants who have significant others. Additionally, because self-efficacy was repeatedly revealed to be a significant predictive variable in these energy balance behaviors affecting BMI scores, it was also included in the regressions (Please see Table 4 for individual item's predictive strength in each model).

Participants' relationship status, healthy eating self-efficacy scores, walk-ability of their neighborhood, and socializing through drinking were regressed on dietary fat intake score. A significant regression equation was found ($F(4,191)=8.68$, $p<.001$), with an adjusted R^2 of .14. Relationship status, healthy eating self-efficacy, and socializing through drinking were all significant predictors.

Women's gender identity, healthy eating self-efficacy scores, weight loss self-efficacy scores, neighborhood aesthetics, walk-ability of their neighborhood, and socializing through drinking were regressed on dietary consumption score. A significant linear equation was found ($F(6,189)=11.42$, $p<.001$), with an adjusted R^2 of .24. Only healthy eating self-efficacy was a significant predictor.

Participants' relationship status, socializing with PA scores, behavior as a means to re-establish balance scores, PA self-efficacy scores, weight loss self-efficacy scores, beliefs about

coming out promoting acceptance of heavier body weight, and walk-ability of their neighborhood were regressed against moderate to vigorous PA recommendation score. A significant linear equation was found (*F*(7,188)=9.81, p<.001), with an adjusted R^2 of .24. Relationship status, behavior as a means to re-establish balance, PA self-efficacy scores, and beliefs about coming out promoting acceptance of heavier body weight were all significant predictors.

For participants who reported having significant others, relationship status, socializing through PA scores, behavior as a means to re-establish balance scores, PA self-efficacy scores, weight loss self-efficacy scores, beliefs about coming out promoting acceptance of heavier body weight, walk-ability of their neighborhood, and encouragement from their significant other to be physically active were regressed against moderate to vigorous PA recommendation scores. A significant linear equation was found (*F*(8,112)=6.25, p<.001), with an adjusted R^2 of .26. Only PA self-efficacy and the encouragement from their significant other to be physically active were significant predictors.

Participants' relationship status, socializing with PA scores, PA self-efficacy scores, weight loss self-efficacy scores, neighborhood aesthetics, walk-ability of their neighborhood, and social cohesion present in their neighborhood were regressed against overall PA recommendation scores. A significant linear equation was found (*F*(7,188)=11.89, p<.001), with an adjusted R^2 of .28. Relationship status and PA self-efficacy were all significant predictors.

Participants' relationship status, age, moderate to vigorous PA recommendation scores, overall PA recommendation scores, dietary consumption scores, and dietary fat intake scores were regressed against BMI score in the first model, with the walk-ability of their neighborhood added in the second model. A significant linear equation was found for Model 1

($F(6,189)=11.65$, $p<.001$), with an adjusted R^2 of .25, and for model 2 ($F(7,188)=11.06$, $p<.001$), with an adjusted R^2 of .27 Age, overall PA recommendation scores, were significant predictors in the first model, and age, overall PA recommendation scores, and walk-ability of their neighborhood were all significant predictors in the second model.

For participants who reported having significant others, relationship status, age, moderate to vigorous PA recommendation scores, overall PA recommendation scores, dietary consumption scores, and dietary fat intake scores were regressed against BMI score in the first model, with access to healthy food added in the second model. A significant linear equation was found for Model 1 ($F(6,114)=9.01$, $p<.001$), with an adjusted R^2 of .29, and for model 2 ($F(7,113)=8.58$, $p<.001$), with an adjusted R^2 of .31 Age and moderate to vigorous PA recommendation scores, were significant predictors in the first model, and age, moderate to vigorous PA recommendation scores, and access to healthy foods were all significant predictors in the second model.

Healthy eating response efficacy, beliefs about coming out promoting acceptance of heavier body weight, neighborhood aesthetics, walk-ability of their neighborhood, social cohesion present in their neighborhood, and the encouragement from their friends to eat healthfully were regressed against healthy eating self-efficacy. A significant linear equation was found ($F(6,170)=4.17$, $p<.01$), with an adjusted R^2 of .10. Only beliefs about coming out promoting acceptance of heavier body weight was a significant predictor.

Beliefs about coming out promoting acceptance of heavier body weight, neighborhood aesthetics, walk-ability of their neighborhood, social cohesion, and safety from crime in their neighborhood were regressed against PA self-efficacy. A significant linear equation was found ($F(5,192)=7.57$, $p<.001$), with an adjusted R^2 of .14. Beliefs about coming out promoting

acceptance of heavier body weight, walk-ability of their neighborhood, and social cohesion were significant predictors

Beliefs about coming out promoting acceptance of heavier body weight, neighborhood aesthetics, walk-ability of their neighborhood, social cohesion, safety from crime, access to healthy foods, healthy eating response efficacy, PA response efficacy, and encouragement from their friends to eat healthfully, were regressed against weight loss self-efficacy. A significant linear equation was found ($F(9,167)=6.86$, $p<.001$), with an adjusted R^2 of .23. Beliefs about coming out promoting acceptance of heavier body weight, healthy eating response efficacy, PA response efficacy, and encouragement from their friends to eat healthfully were all significant predictors.

Discussion

The development of the Lesbian Overweight and Obesity Questionnaire (LOOQ) yielded a tool that evaluated elements germane to sexual minority women, their PA and eating behaviors, and in turn, their weight. The distinct subscales also measured the cognitions and attitudes lesbians held about their own efficacy in achieving recommended levels of PA, appropriate amounts of fat intake, the consumption of healthy foods, as well as successful weight loss. Additionally, these subscales were dedicated to assessing both the perceived impediments to and facilitators of a healthy lifestyle within and including, their micro and macro physical and social environments. This questionnaire was revealed to be a reliable tool for predicting sexual minority women’s PA and dietary habits as well as their BMI.

While a majority of the LOOQ’s subscales had adequate to high reliability, two subscales, “Acceptance of Overweight” and “Lesbian Gender Identity and Weight,” respectively, demonstrated lower than adequate reliability. When examining individual items within the

“Acceptance of Overweight” scale, they appeared to capture expected responses based on participants’ BMI scores; however, the overall subscale score did not indicate reliability because the distribution of responses by BMI score was not adequately varied, therefore not providing any clear directive. The items within the “Lesbian Gender Identity and Weight” subscale had nearly as many participants choosing the “neither agree nor disagree” option, as choosing either end of the anchors. For both scales, perhaps the way in which the questions were worded (the actual interrogatives as well as the terms contained within those questions) required more clarity and specificity to measure the complex concepts of social acceptability/desirability as well as identity, and their relationship to lesbian body weight.

Consistent with past research that indicates sexual minority women share many of the same health behaviors, resultant of their sexual identity, an influence that was found to supersede a majority of individual demographic characteristics (Valanis et al. 2000), the present investigation revealed very few demographic variables to have correlations with or to be predictors of either PA and eating behaviors, or weight status. Within this sample, however, a more advanced age was significantly correlated with and was a significant predictor of women’s higher BMI scores. This finding was similar to research conducted in samples of heterosexual women (Flegal, Carroll, Ogden, and Curtin 2010), and a trend that is perhaps more a result of female biology than female sexual identity.

Interestingly, a coupled relationship status was significantly correlated with and predictive of increased fat intake, and decreased PA. It is unclear if this finding should be attributed to a partnered relationship status or if it is the result of each partner being lesbian. For example, although encouragement from one’s significant other was found to be significantly correlated with and predictive of PA behavior in this project, it did not predict weight status;

additionally, these findings support what has previously been found in regards to the overall lesbian population, and would seem to suggest that these issues become exacerbated, and perhaps perpetuated, by the coupling of lesbians. Unfortunately, so little is known about lesbian health in general, and few, if any, previous studies have investigated the differences between single and coupled lesbians and health outcomes such as those related to weight; therefore, no definitive conclusions can be drawn.

Two other intriguing findings that did not imitate past studies with lesbian samples were that participants' reported alcohol consumption and fat intake neither significantly correlated with nor predicted BMI score. While women who indicated that alcohol was a primary feature of lesbian social events had higher BMI scores, their personal consumption habits were low, and did not influence their BMI score. One feasible explanation for this incongruence might be that alcohol measures used within this questionnaire were very specific. Perhaps previous studies that included the relationship between alcohol consumption and weight status did not include such precise measurement of alcohol intake, therefore not reflecting similar consumption. Furthermore, although the majority of women in this sample were currently consuming alcohol, they also reported light use (two or fewer alcoholic drinks per day) and nearly no binge drinking habits, each of which most likely preclude an increased BMI based on alcohol consumption (Suter 2005). Another plausible explanation for consistently low alcohol consumption could be past negative experiences with alcohol or past abuse of alcohol. The six question screener that was used in this investigation to gather alcohol consumption data, did include a question inquiring about the highest number of alcoholic drinks consumed in a 24-hour period. However, this question was not used as a part of the LOOQ's assessment of alcohol-use behavior because the utility was not useful for the purposes of this project. In an attempt to better understand this

behavior and how it affects issues of body weight in this community, perhaps the inclusion of probing questions in regards to past consumption levels and more detailed inquires about reasons for use should be posed along with questions of frequency and amount.

Likewise, most of women in this sample reported very low intake of fat, as measured by the Block Fat Screener, which has consistently shown reliability and validity in the measuring fat consumption within adult samples (Block et al. 2000). This finding is somewhat perplexing for two reasons: 1) scholars have indicated that fat intake might be a better measure of lesbian eating habits associated with weight status (Boehmer and Bowen 2009), and 2) the mean BMI of this sample was 28.1, with 36% being obese. Possible explanations, conceivably, would be the Block Fat Screener is not an appropriate fat intake measure to use with this community, as response choices might not accurately reflect their dietary habits. Or, perhaps the stigma associated with overweight and obesity produced socially desirable responses, which have previously been found to reduce women's self-reports of fat intake (Hebert et al. 2008). Moreover, the Starting the Conversation: Diet assessment appeared to be more effective in measuring lesbians eating habits, as there was greater variance in responses, it was better correlated with other items in the LOOQ, and it provided better predictive value for outcome behaviors associated with overweight and obesity. One reason the Starting the Conversation assessment could have been more useful than the Block Fat Screener is because it is a more diverse evaluation of food intake that addresses a variety of dietary components one consumes, instead of focusing on only one aspect of diet. Although quite brief, several of its questions also address sugar intake, instead of only fat, or fruits and vegetables, which is true of other dietary screeners. This could suggest that lesbians' dietary deficiencies might also lie in the area of sugar consumption instead of increased fat or decreased fruit and vegetable intake. For this project, the focus was on fat intake, instead of fruit

and vegetable consumption, due to data from a previous ethnographic inquiry and the past findings and directives of scholars familiar with the lesbian community (Boehmer and Bowen 2009). So little is known about lesbian eating habits that a future focus, when investigating overweight and obesity in this population, should be directed at the careful selection of comprehensive consumption screeners that assess fat, sugar, fruit and vegetable, and alcohol intake.

Lastly, many findings from this study either supported the literature dedicated to understanding factors which influence overweight and obesity, or appeared to logically explain what is known about cognitive, behavioral, and environmental influences on individuals' weight status. For example, being a coupled lesbian negatively impacted this samples' participation in PA, and their achievement of recommended minutes of moderate to vigorous PA as well as their attainment of overall PA recommendations (this includes the element of strength training); although, not surprisingly, when participants indicated their significant other offered encouragement for their desire to be more physically active, time spent participating in moderate to vigorous PA increased, seemingly suggesting the positive impact of social support.

However, there was one interesting exception that is specific to sexual minority women; the causal pathway to predicting BMI score, via PA behavior, seems to contain a few extremely important population-specific elements that should be considered when working with this community to promote healthier lifestyles. More specifically, while aspects of PA were revealed to be more relevant in directly and indirectly predicting BMI scores than were elements of eating, the predictions were not necessarily in the direction expected. In fact, results indicated the increased belief that coming out promoted greater acceptance of heavier bodies, significantly reduced PA self-efficacy, which was a significant predictor of PA behavior, which was a

significant predictor of BMI score. Essentially, this pathway would be illustrated in the following way:

Beliefs about Coming Out and its Effects on Body Weight →PA Self-Efficacy →Meeting Overall PA Recommendations →BMI Score.

This finding seems to suggest the importance of not only attention being paid to the ways in which increasing PA behavior can be achieved, but thorough consideration should also be given to the determinants of that behavior, and the identification of effective ways to influence and modify the influential and complex cognitive processes involved in performing (or not) this behavior. Likewise, these considerations should be applied to healthy eating self-efficacy and weight loss self-efficacy, as they too, predicted relevant energy balance behaviors, and were reduced by beliefs that coming out as lesbian increased acceptance of a heavier body. This conclusion was somewhat discouraging because it again denoted the negative impact such a positive attribute, coming out and adopting a lesbian social identity, has on lesbians' reduction of overweight (Bowen et al. 2006) and more importantly, their health. Conversely, encouraging is the fact this causal pathway to weight reduction has been identified and the implication is that both cognitive and behavioral interventions can be developed as a means to reduce, and ideally prevent, overweight and obesity within this population.

In sum the culmination of this project has identified important significant associations among lesbians' personal attributes, their physical and social environments, social and subjective norms, and energy balance behaviors (PA and eating). While the LOOQ was reliable and valid in identifying these significant relationships, future use will require refining the specificity of items in each domain so that potential population-specific influences can be more acutely measured, and so that conclusions can be more definitively drawn and applied towards creating the change

that is necessary. For example, future research in this area should be focused on more in-depth investigations of how coming out as lesbian influences women's dietary and health habits. More specifically, investigations should pay attention to the health effects related to the stress of continually revealing a homosexual identity, or deciding how, when, and in when situations to reveal that identity or not. Additionally, more thorough exploration should concentrate on identity stratification and centrality; that is, identifying how the many identity classifications a lesbian embodies (sex, race, class, profession, relationship status etc. . .) interact, and which one is the most prominent in her expression of identity. Understanding this process as well as the outcome would facilitate greater insight into how specific lesbian identities (butch, femme, androgynous, etc. .) might be adopted and cultivated, as a result of these overarching identities. Moreover, it would be interesting to identify the ways in which these identities affect lesbians' body image, if at all. Lastly, important to both behavior performance and identity development, especially in communities that are continuously established through new membership, is the acculturation process. Therefore, further examination should be paid to the ways in which lesbians assimilate to the eating, alcohol, and PA behaviors of other community members when establishing their social networks. Considerable attention to these areas would assist in closing important knowledge gaps.

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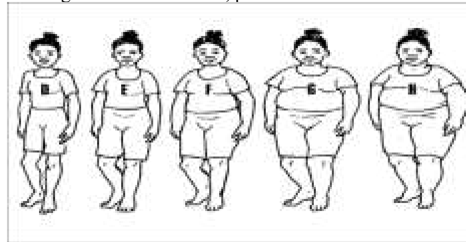
Table 1. Initial LOOQ Scales, Subscales, and Individual Items

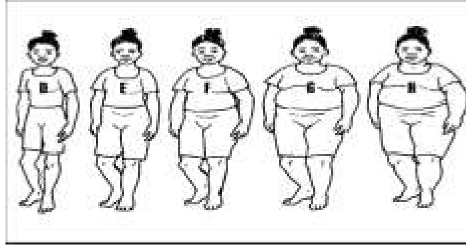
SCALE	SUBSCALE		INDIVIDUAL ITEMS
INTERPERSONAL BEHAVIOR			
	Socializing with Food		
		1	When I go out to eat with my lesbian friends we talk about how things are going in our lives.
		2	The main reason I go out to eat is to see and talk to my lesbian friends.
		3	When I think about the social activities that I do with my lesbian friends, it almost always includes eating out somewhere.
		4	My lesbian friends and I regularly go out to eat together.
	Socializing with PA		
		1	When I'm physically active it's usually with a group of friends.
		2	My partner and I regularly participate in physical activity together.
		3	I prefer to be physically active on my own.
		4	When I think of the types of physical activity that I like to do, I usually think about things that can be done with my friends.
		5	I like to be physically active so I can socialize with my friends.
		6	My friends and I like to do the same kinds of leisure-time activities (sedentary and/or active).
		7	I would probably participate in a type of physical activity if a group of my friends wanted me to even if I had never tried it before.
		8	I get good information from my friends on the types of physical activity that I do.
		9	I do not like to socialize when I am physically active.
INTERPERSONAL COGNITIONS			
	Social Norms: Friends and Physical Activity		
		1	Your friends tease you when you say you want to be physically active
		2	Your friends don't say anything to a you when you want to be physically active
		3	Your friends are encouraging when you say you want to be physically active
	Social Norms: Significant Other and Physical Activity		
		1	Your significant other teases you when you say you want to be physically active
		2	Your significant other doesn't say anything to a you when you want to be physically active
		3	Your significant other is encouraging when you say you want to be physically active
	Social Norms: Friends and Healthy Eating		
		1	Your friends tease you when you say you want to eat healthfully
		2	Your friends don't say anything to a you when you want to eat healthfully
		3	Your friends are encouraging when you say you want to eat healthfully
	Social Norms: Significant Other and Healthy Eating		
		1	Your significant other teases you when you say you want to eat healthfully
		2	Your significant other doesn't say anything to a you when you want to eat healthfully
		3	Your significant other is encouraging when you say you want to eat healthfully

INTRAPERSONAL BEHAVIOR		
Behaviors as Means to Establish Control		For each of the following few questions please indicate your level of dis/agreement with each behavior:
	1	I get comfort from eating.
	2	I eat a lot food at one time.
	3	I just stop eating.
	4	I drink a lot of alcohol just to forget about things.
	5	I exercise a lot.

INTRAPERSONAL COGNITIONS		
Perceived Discrimination and Prejudice		
	1	Society discriminates against lesbians.
	2	There are still many prejudices against lesbians.
	3	In most communities lesbians are considered second class citizens.
	4	I have felt discriminated against because I am a lesbian.
	5	My workplace isn't somewhere that I would openly share that I am a lesbian.
Perceptions of a Healthy Weight		Using the illustration below, please answer each of the following statements: 
	1	Woman D is a healthy weight.
	2	Woman E is a healthy weight.
	3	Woman F is a healthy weight.
	4	Woman G is a healthy weight.
	5	Woman H is a healthy weight.

Perceptions of Overweight

Using the illustration below, please answer each of the following statements:



1 Woman D is overweight.
2 Woman E is overweight.
3 Woman F is overweight.
4 Woman G is overweight.
5 Woman H is overweight.

Self-efficacy- Healthy Eating

Please answer the following questions using this scale:

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at All Confident										Completely Confident

How confident are you that you can stick with eating healthful foods…

1 …even if you need a long time to develop the necessary routines. ___%
2 …even if you have to try several times until it works. ___%
3 …even if you have to rethink your entire way of nutrition. ___%
4 …even if you have to make a detailed plan. ___%

Self-efficacy- Physical Activity

How confident are you that you can be physically active…

1 …even if you need a long time to develop the necessary routines. ___%
2 …even if you have to try several times until it works. ___%
3 …even if you have to rethink your entire way of physical activity. ___%
4 …even if you have to make a detailed plan. ___%

Self-efficacy- Weight Loss

How confident are you that you can lose weight…

1 …even if you need a long time to develop the necessary routines. ___%
2 …even if you have to try several times until it works. ___%
3 …even if you have to rethink your entire way of losing weight. ___%
4 …even if you have to make a detailed plan. ___%

Response Efficacy- Healthy Eating and Weight Loss

1 If I eat a healthy diet, I will be able to lose weight
2 If I eat a healthy diet, I will be able to achieve a healthy body weight
3 If I eat a healthy diet, I will be able to maintain a healthy body weight

Response Efficacy- Physical Activity and Weight Loss

1 If I participate in adequate physical activity, I will be able to lose weight
2 If I participate in adequate physical activity, I will be able to achieve a healthy body weight
3 If I participate in adequate physical activity, I will be able to maintain a healthy body weight

	Coming Out	
		1 Once a lesbian comes out she is less worried about her body weight.
		2 Lesbians are more likely to follow heterosexual norms regarding body weight before they come out.
		3 “Coming out” allows lesbians to be more comfortable with themselves.
		4 “Coming out” provides lesbians with more self-confidence.
*	**Response Efficacy- Types of Interventions**	
		How confident are you that…
		1 An internet-based program will help you lose weight? _%
		2 A program with regular emails will help you lose weight? __%
		3 A scale at work to monitor weight will help you lose weight? __%
		4 A program that pays you money to lose weight will help you lose weight? ___%
		5 Self-help materials given to you each quarter will help you lose weight? ___%
PHYSICAL ENVIRONMENT		
	Aesthetics of Neighborhood	
		1 My neighborhood is attractive.
		2 There is a lot of trash and litter on the street in my neighborhood.
		3 There are interesting things to do in my neighborhood.
		4 There is enjoyable scenery in my neighborhood.
		5 There is a lot of noise in my neighborhood.
		6 In my neighborhood the buildings and homes are well maintained.
		7 The buildings and houses in my neighborhood are interesting.
	Walking/Exercise Environment	1 My neighborhood offers many opportunities to be physically active.
		2 Local sports clubs and other providers in my neighborhood offer many opportunities to be physically active.
		3 It is pleasant to walk in my neighborhood.
		4 There are enough trees in my neighborhood to provide shade.
		5 My neighborhood has heavy traffic.
		6 There are busy roads to cross when out for walks in my neighborhood.
		7 In my neighborhood it is easy to walk to places.
		8 There are stores within walking distance of my home.
		9 In my neighborhood, the streets and sidewalks are in good condition.
		10 I often see other people walking in my neighborhood.
		11 I often see other people exercise (for example, jog, bicycle, play sports) in my neighborhood.
	Safety from Crime	
		1 I feel safe walking in my neighborhood during the evening.
		2 My neighborhood is safe from crime.
		3 Violence is a problem in my neighborhood.
	Access to Healthy Foods	
		1 It is easy to purchase fresh fruits and vegetables in my neighborhood.
		2 There is a large selection of fresh fruits and vegetables available in my neighborhood.
		3 The fresh produce in my neighborhood is of high quality.
		4 It is easy to purchase low-fat products (such as low-fat milk or lean meats) in my neighborhood.
		5 There is a large selection of low-fat products available in my neighborhood.
		6 The low-fat products in my neighborhood are of high quality.

	Social Cohesion		
		1	This is a close-knit or unified neighborhood.
		2	People around here are willing to help their neighbors.
		3	People in this neighborhood generally don't get along with each other.
		4	People in this neighborhood can be trusted.
		5	People in this neighborhood do not share the same values.
	Violence in Past 6 Months		
		1	During the past six months, how often was there a fight in this neighborhood in which a weapon as used?
		2	Any gang fights?
		3	A sexual assault or rape?
		4	A robbery or mugging?
	Eating Environment		
		1	In my community, restaurants and bars don't really offer healthy food choices.
		2	If I go to a community restaurant/bars, I can usually find a healthy option if I want it.
		3	It is pretty tough to eat healthfully at a community restaurant/bar.
		4	When I attend events in my community healthy food offerings are commonly available.
		5	Lesbian-friendly restaurants/bars don't really offer healthy food choices.
		6	If I go to a lesbian-friendly restaurant/bar, I can usually find a healthy option if I want it.
SOCIAL ENVIRONMENT		7	When I attend "community" (LGBT) events, healthy food offerings are commonly available.
	Socializing with Alcohol		
		1	It is okay to have more than one or two drinks at social events.
		2	When I am hanging out with my lesbian friends, it's not unusual for us to drink more than two alcoholic drinks.
		3	Alcohol is usually present at events lesbians attend.
		4	My friends and I like to drink alcohol when we get together to socialize.
		5	Alcohol is usually present when lesbians get together to watch sports, play cards, or to do any other non-physical active leisure activities.
		6	I tend to drink more alcohol when I socialize with my lesbian friends than with my heterosexual friends.
		7	Alcohol is usually present when lesbians are participating in physical activity (e.g. playing sports, cycling events, sponsored walks, etc.).
	Prevalence of Overweight		
		1	Lesbians tend to be more overweight than heterosexual women.
		2	Most of my lesbian friends are overweight.
		3	Most of my lesbian friends are a healthy weight.
		4	It is a myth that lesbians are more likely to be overweight than heterosexual women.

Subscale	#	Item
Acceptability of Overweight		
	1	I don't really worry that being overweight will influence whether or not other lesbians like me.
	2	It is not true that lesbians are more accepting of women who are overweight.
	3	Women with a little more meat on their bones are more attractive than skinny women.
	4	Lesbians who are overweight do not seem to mind that they are overweight.
	5	When I am attracted to another woman, I worry that she might not be interested if I am overweight.
Lesbian Gender Identity and Weight		
	1	"Femme" lesbians tend to be more overweight than "butch" lesbians.
	2	"Butch" lesbians tend to be more overweight than "femme" lesbians.
	3	Lesbians who don't really consider themselves to be completely butch or completely femme are more likely to be overweight than femme lesbians.
	4	Lesbians who don't really consider themselves to be completely butch or completely femme are less likely to be overweight than butch lesbians.

*= Not included in the Measurement Scale

Table 2. Participant Demographics

Variable	N	Mean or Percentage
Self-Identified Sexual Identity		
Lesbian	173	88%
Bisexual	24	12%
Number of Years Claimed that Identity		15.26
Appearance		
Feminine (Femme)	94	48%
Masculine (Butch)	36	18%
Androgynous	67	34%
Out		
Yes	163	83%
No	34	17%
Relationship Status		
Single	79	40%
Coupled	118	60%
Participant Age	197	36.3 (12.3)
Participant Race		
American Indian	2	1%
Asian	8	4%
Black or African American	6	3%
Native Hawaiian or Pacific Islander	1	1%
White	174	88%
Biracial, Non-Hispanic	6	3%
Hispanic/Latina		
Yes	6	3%
No	191	97%
Height	197	5 Foot 4 Inches
Weight	197	125
BMI Score		
Mean BMI Score		28.1
Below 25	78	39%
25-29	49	25%
30 and Higher	70	36%
Lost Significant Amount of Weight in Last Five Years		
Yes	81	42%
No	114	58%
Gained a Significant Amount of Weight in Last Five Years		
Yes	62	32%
No	133	68%

Lives in Which Region of Country		
New England	23	11%
Mid-Atlantic	25	12%
East-North Central	23	11%
West-North Central	10	5%
South Atlantic	13	6%
East-South Central	14	7%
West-South Central	20	10%
Mountain, Pacific	44	22%
N/A	31	16%
Type of Setting		
Rural	31	16%
Suburban	101	52%
Urban	63	32%
Highest Level of Education		
Less than High School	2	1%
High School	14	7%
Some College	54	28%
Bachelor's Degree	63	32%
Master's Degree	45	23%
PhD or Professional Degree	17	9%
Current Employment Status		
Employed Full-Time	129	66%
Employed Part-Time	29	15%
Unemployed	37	19%
Household Income		
Under $25,000	35	17%
$25,000-$49,900	40	21%
$50,000-$74,999	33	17%
$75,000-$99,999	39	20%
$100,000-$149,999	21	11%
$150,000 or Higher	27	14%
Played Organized Sports When Growing Up		
Yes	139	71%
Competitively	102	52%
Recreationally	93	48%
No	56	29%
Diet Classification		
Omnivore	156	80%
Vegetarian	39	20%

Table 3. LOOQ Subscale Items, Internal Consistency, and Test Retest Reliability Scores.

Subscale (Items)	**Internal Consistency (Cronbach's Alpha)**	**Test-Retest Reliability (Pearson's Correlation)**
Socializing with Physical Activity (9)	0.74	0.77***
Socializing with Food (4)	0.74	0.86***
Friend Norms with Physical Activity (3)	Not Computed	Not Computed
Significant Other Norms with Physical Activity (3)	Not Computed	Not Computed
Friend Norms with Healthy Eating (3)	Not Computed	Not Computed
Significant Other Norms with Healthy Eating (3)	Not Computed	Not Computed
Behavior as a Means of Control (3)	0.62	0.82***
Perceived Discrimination and Prejudice (5)	0.79	0.91***
Perceptions of a Healthy Weight (5)	0.65	0.73***
Perceptions of Overweight (5)	0.61	0.79***
Healthy Eating Self-Efficacy (4)	0.95	0.88***
Physical Activity Self-Efficacy (4)	0.96	0.87***
Weight Loss Self-Efficacy (4)	0.97	0.82***
Healthy Eating and Weight Loss Response Efficacy (3)	0.84	0.61***
Physical Activity and Weight Loss Response Efficacy (3)	0.86	0.50***
Coming out Promotes Acceptance of Heavier Body Weight (4)	0.62	0.59***
Aesthetic Environment (7)	0.84	0.92***
Walking/Exercise Environment (11)	0.83	0.85***
Safety from Crime (3)	0.84	0.83***
Access to Healthy Foods (6)	0.95	0.78***
Social Cohesion (5)	0.84	0.90***
Violence in Past Six Months (4)	0.89	0.83***
Eating Environment (6)	0.77	0.84***
Socializing with Drinking (7)	0.74	0.80***
Perception of Lesbian Overweight (4)	0.72	0.76***
Acceptance of Overweight (3)	0.47	0.70***
Lesbian Gender Identity and Weight (3)	0.57	0.61***

***p<.001

Table 4. LOOQ Regression Models.

Dependent Variable and Model	***B***	***SE B***	β
BMI			
Step 1			
Constant	1.61	0.43	
Relationship Status	-0.02	0.12	-0.01
Age	0.03	0.01	0.37***
Godin Leisure Time Activity Index	-0.00	0.00	-0.10
Meeting PA Recommendations	-0.27	0.10	-0.21**
Starting the Conversation: Diet	0.33	0.20	0.12
Block Dietary Fat Screener	-0.32	0.14	-0.02
Step 2			
Constant	1.07	0.48	
Relationship Status	0.01	0.12	0.01
Age	0.03	0.01	0.37***
Godin Leisure Time Activity Index	-0.00	0.00	-0.09
Meeting PA Recommendations	-0.24	0.10	-0.19**
Starting the Conversation: Diet	0.31	0.20	0.11
Block Dietary Fat Screener	-0.06	0.14	-0.03
Walking/Exercise Environment	0.20	0.09	0.15*
BMI for Participants who have Significant Others			
Step 1			
Constant	2.34	0.81	
Relationship Status	-0.34	0.29	-0.10
Age	0.03	0.01	0.37***
Godin Leisure Time Activity Index	-0.01	0.00	-0.24*
Meeting PA Recommendations	-0.23	0.14	-0.18
Starting the Conversation: Diet	0.39	0.26	0.14
Block Dietary Fat Screener	-0.08	0.19	-0.04
Step 2			
Constant	1.71	0.84	
Relationship Status	-0.26	0.28	-0.07
Age	0.03	0.01	0.37***
Godin Leisure Time Activity Index	-0.01	0.00	-0.25*
Meeting PA Recommendations	-0.20	0.14	-0.16
Starting the Conversation: Diet	0.38	0.25	0.14
Block Dietary Fat Screener	-0.59	0.19	-0.03
Access to Healthy Foods	0.16	0.08	0.16

Block Dietary Fat Screener			
Constant	1.62	0.27	
Relationship Status	0.14	0.06	0.15*
Healthy Eating Self-Efficacy	-0.01	0.00	-0.26***
Walking/Exercise Environment	0.07	0.05	0.10
Socializing with Drinking	0.12	0.05	0.17*
Starting the Conversation: Diet			
Constant	0.65	0.18	
Lesbian Gender Identity	0.04	0.03	0.09
Healthy Eating Self-Efficacy	-0.01	0.00	-0.47***
Weight Loss Self-Efficacy	0.00	0.00	0.08
Neighborhood Aesthetics	0.06	0.04	0.13
Walking/Exercise Environment	0.00	0.04	0.00
Socializing with Drinking	0.06	0.03	0.11
Godin Leisure Time Activity Index			
Constant	17.82	30.91	
Relationship Status	-15.64	5.07	-0.21**
Socializing with PA	2.97	4.62	0.04
Behavior as a Means to Re-establish Balance	9.87	3.63	0.17**
PA Self-Efficacy	0.61	0.14	0.35***
Weight Loss Self-Efficacy	-0.02	0.11	-0.01
Coming out Promotes Acceptance of Heavier Body Weight	-7.95	4.05	-0.13*
Walking Exercise Environment	-4.22	3.79	-0.07
Godin Leisure Time Activity Index for Participants who have Significant Others			
Constant	-2.66	34.37	
Relationship Status	-14.25	8.34	-0.14
Socializing with PA	0.89	4.19	-0.02
Behavior as a Means to Re-establish Balance	5.32	3.13	0.14
PA Self-Efficacy	0.61	0.12	0.48***
Weight Loss Self-Efficacy	-0.10	0.11	-0.09
Coming out Promotes Acceptance of Heavier Body Weight	-2.35	3.67	-0.06
Walking Exercise Environment	-1.71	3.44	-0.04
Significant Other PA Norms	5.10	2.59	0.16*
Meeting PA Recommendations			
Constant	1.25	0.45	
Relationship Status	-0.19	0.10	-0.14*

Socializing with PA	0.10	0.08	0.08
PA Self-Efficacy	0.02	0.00	0.46***
Weight Loss Self-Efficacy	0.00	0.00	0.01
Neighborhood Aesthetics	-0.06	0.08	-0.06
Walking/Exercise Environment	-0.02	0.09	-0.02
Neighborhood Social Cohesion	-0.02	0.08	-0.02
Healthy Eating Self-Efficacy			
Constant	108.61	15.82	
Healthy Eating Response Efficacy	1.45	2.06	0.05
Coming out Promotes Acceptance of Heavier Body Weight	-7.12	2.28	-0.23**
Neighborhood Aesthetics	-1.29	2.91	-0.05
Walking/Exercise Environment	-1.89	2.91	-0.06
Social Cohesion	-4.61	2.61	-0.16
Friend Healthy Eating Norms	1.32	1.29	0.08
PA Self-Efficacy			
Constant	132.71	10.34	
Coming out Promotes Acceptance of Heavier Body Weight	-6.59	2.39	-0.18**
Neighborhood Aesthetics	2.50	2.97	0.08
Walking/Exercise Environment	-6.03	3.01	-0.19*
Social Cohesion	-6.05	2.63	-0.19*
Safety from Crime	-3.39	2.16	-0.14
Weight Loss Self-Efficacy			
Constant	46.55	18.89	
Coming out Promotes Acceptance of Heavier Body Weight	-5.69	2.58	-0.15*
Neighborhood Aesthetics	0.57	3.41	0.02
Walking/Exercise Environment	-2.37	3.69	-0.06
Social Cohesion	-2.90	3.00	-0.09
Safety from Crime	-3.52	2.44	-0.13
Access to Healthy Foods	-1.57	2.26	-0.06
Healthy Eating Response Efficacy	6.64	2.79	0.19*
PA Response Efficacy	7.63	2.82	0.22**
Friend Healthy Eating Norms	2.82	1.45	0.13*

*p<.05
**p<.01
***p<.001

EPILOGUE

SHARING UNDERSTANDINGS: REFLECTING ON MY RESEARCHER SELF

The barrage of recent reports dedicated to the prejudice waged against gays and lesbians in our country, and the awful outcomes that have followed these events, has profoundly illustrated the overall importance of the energy that has been poured into this dissertation. The world is not always a friendly place for a woman who identifies as lesbian. Some of the discrimination is blatant and hateful, while much more of it is subtle and diabolical. The playing field is neither equal, nor is it equitable; and this affects our health. However, my personal experience has been uncomplicated, satisfying, and peaceful. I have many points of privilege, of which I quickly admit, I am no more deserving than anyone else; I got lucky. Accompanying that privilege, I also have a healthy self-esteem, and I have been blessed to have open-minded, informed, and supportive people surrounding me- encouraging me to be me. . . daring me to be the change I wish to see. I am fortunate. And so, I embarked on the real revolution. . .

To discuss the overall conclusions from the projects within this dissertation without combining my experience as the researcher would only provide simple explanations to a complex process and issue. The ways in which I've evolved throughout the duration of this investigation are intense. Being immersed in a topic about which I feel so passionate, and for which I feel so much responsibility has not only improved the process by which I think, but also has once again colored the lens through which I see the world. More specifically, this study commenced with a review of the literature that assisted in identifying multi-level influential factors contributing to the higher prevalence of lesbian overweight and obesity. I began with the behavioral influences- PA and eating habits. At that point, I uncovered not much was known in either of these areas, except that conclusions were largely equivocal, and that I might want to

consider examining lesbians' fat intake instead of fruit and vegetable consumption. Storing that data away, I moved on to the psycho-social areas of the lesbian experience that could be negatively impacting their weight.

My findings were fascinating, and they were accompanied with an onslaught of emotion. As a member of the community I was investigating, I often found I had deep personal reactions each time I discovered something unexpected. For example, I've always considered "coming out" a positive attribute- kind of an unapologetic assertion of lesbian sexual identity- a process by which homosexuals gain confidence and pride in who they are, while claiming their place in this world. Well, my bubble burst and discouragement set in when I became educated about the negative effects coming out presents to lesbian health. How was this possible? Minority status already embodies a myriad of factors that render us more disadvantaged than the majority, and then I discovered how a beneficial and empowering act might also be promoting unhealthy behaviors. Disappointed, I was determined to better understand this notion. After all, theorizing is one thing; field research could be quite another, right?

Being an ethnographer and doing ethnography was as exciting for me as it was scary. Curious by nature, I love to observe people. I love to talk to people, to ask them questions, to get "their stories." Although I'd been a member of this specific community for nearly 10 years, I still believed there was much to know about the mores of this lesbian social group. Initially, I was concerned I wouldn't observe the "right" things. I wouldn't collect meaningful data. I wouldn't be able to derive concrete conclusions based on my observations and interactions within this group. Half anxious and half intrigued, I set out to gather data regarding lesbians' relationships with and understanding of weight. And still, in the back of my mind, remained that pesky fatty

food intake issue, and the more disturbing concern that coming out was making us fat. Would I find it to be an issue with the women in this community, or was it an issue only true in theory?

The beginning was rough. In fact, after my first observational outing, where I sat by myself for nearly three hours and during which time I spoke to no other lesbians in the bar, I got into my Jeep and cried all the way home. 'What was I doing?' It wasn't really that I was ignorant about the task at hand; rather, during that one evening, I realized this endeavor was going to expose my vulnerabilities, force me not only to reach, but to reside outside my comfort zone, and really challenge what I believed about myself, my community, and our collective behaviors. I had to understand my own identity, biases, struggles, as well as the ways in which I was different from, as well as similar to, women in my community. So, I went back out into the community and I observed women; I talked to women; I recorded my interactions; I observed more women; I journaled about what I observed, being sure to detail both my feelings and possible explanations for what I had encountered; I interviewed women I met along the way; I observed more women. Sadly, after all this data collection, and the analyses that followed, I too, concluded unhealthy eating habits had components of higher fat. . . and, even more disheartening for me, were the details the women shared with me about coming out and its relationship to lesbian weight.

From here, I embarked on the final project- the development of the Lesbian Overweight and Obesity Questionnaire (the LOOQ). Armed with data from both the review of the literature and from the ethnography, I set out to adequately capture the domains that were increasing the prevalence of lesbian overweight and obesity. I was overwhelmed with writing interrogatives that would adequately capture all I had experienced and documented through the ethnographic process. . . and, this brought me back to theory. Ah, the value of theory cannot be overestimated. With the assistance of scholars smarter and more experienced than I, we developed a

questionnaire, a rather lengthy questionnaire, to measure the intricacies of this topic. Very quickly, I was able to recruit nearly 100 participants. . . and then. . . nothing. I waited a day or so, and then remembered, what resulted in a very valuable piece of information, online social forums were widely used by gays and lesbians. I began to research sites, and then I posted my call for participants along with the survey link. The response I received was astounding. Very rapidly, my survey numbers went up. Along with increased numbers of participants, I was bombarded with questions about my project. . . and about me. Was I legit? Was I really a lesbian? Over the next few weeks I spent a great deal of time explaining my self, my dissertation, and my interest in this topic; all of which not only improved this project, but also encouraged personal introspection that has assisted in my evolution as a researcher and as a person. Never had I felt more a part of my community, or as more of an outsider, but as I finally began the analysis of the collected data, I did garner better understanding. And, I believe that to be growth.

What my findings revealed was both encouraging and disappointing. Initially, I was excited to see that correlations were seemingly in the appropriate directions, and most of them were logical to what has been found in previous studies. Likewise, PA behavior and dietary consumption predicted BMI, which is "how it is supposed to be." But, then, I paused and looked again at the data. Where were alcohol consumption and fat intake? According to the literature and the ethnography, these were elements of lesbians overweight and obesity. In these data, however, they were neither associated with, nor were they predictors of BMI. So that is when the more in-depth analysis began. . . and so too, did the lamenting.

Even at the end of this project, I am still speculating why alcohol and fat-intake in this sample was so low. But, one other finding, in particular, has my full attention. The issue of coming out and its negative effects on lesbians' weight reared its ugly head once more. Although

it didn't directly affect BMI, it did have influence on how lesbians viewed weight and therefore served as a negative influence on their self-efficacy in performing behaviors related to decreasing weight. Seriously! I tried to remain detached and non-judgmental about this finding. But, this is personal. Coming out is a beautiful act of courage within an environment that does not value such truth. And, it truly is an evolution for homosexuals (or non-heterosexuals), that allows us to share who we are- fully. And, I so disliked finding that it has been denigrated to being associated with such a serious health issue in my community.

And, here I sit, at the end. . . the end of this project, but on the precipice of the rest of my research career. Where do I want to go from here? I really want to better understand why coming out as lesbian seems to relieve women from caring for their bodies. Please do not misunderstand; I am glad that much of the emotional and mental anguish from being in the closet is reduced by coming out. But, why, for some lesbians, does the pendulum have to shift to increased body weight? Why wouldn't everyone work to be mentally, emotionally, *and* physically healthy? I guess the one definitive finding of this entire project is that for each small bit of knowledge gained, there is still so much more left unanswered.

Specifically, this project yielded many recommendations to be considered for future research. First, the element of assimilation in many of my field experiences was significant. Who was I to think that just because I was a member of this community and because I shared the same sexual identity as these women, that they would freely and candidly share their experience with me? And, in the beginning, I did, very delusionally, think this. Well, some did share their experiences; however, many more did not. In many instances, if I didn't look like the women I was observing, I also wasn't going to be talking to the women I was observing. To rectify this predicament, I made return trips to the same locations, dressed more appropriately each time, and

repeatedly engaged in conversation with the same people. Understandably, the lesbian community is often difficult to reach due to member concerns of lack of safety, which lowers trust in interacting with “outsiders.” This reality is evidenced by the lack of color represented in my ethnographic inquiry and my measure-development project, as well as other scholars’ studies which were the impetus for this project. I am only one, and my project is a good start with what will be a long journey investigating this issue. My future with this topic would include a team of researchers that not only mirrored the diverse racial makeup of the lesbian community being examined, but that also characterized important sub groups of lesbians. These adjustments would assist in gathering data that would provide a more comprehensive depiction of how identifying as lesbian affects women’s weight.

Secondly, although most demographic characteristics didn’t affect the outcome behaviors or the participants’ BMI scores, it would be prudent to further investigate a host of those characteristics, which were outside the scope of this study, but that would be useful when conducting further research in this area. For example, there were differences between coupled lesbians and single lesbians, especially where PA was concerned. If interventions are going to be developed and targeted for this community, care should also be given to understanding the dynamics of a couple comprised of two women. Likewise, this project focused on sexual minority women’s environment, their perceptions of their community, their PA and eating behaviors, and the cognitions that influenced these items. Perhaps, adding a domain of self-concept, whether measured quantitatively or qualitatively, could be used to assess how participants’ PA behaviors, eating habits, and BMI scores, influence how they feel about themselves and their self-worth. This addition could provide needed data in better understanding the relationship between coming out and weight. Additionally, in time, it might be important to

sample both sexual minority women and heterosexual women with items from the LOOQ. In the past, lesbians have been participants in studies constructed with only the heterosexual woman's experience in mind; and, as a result, population-specific investigations, including this one, were constructed to better understand heath issues affecting lesbians. Comparing and contrasting heterosexual women's item responses to sexual minority women's responses could assist in refining the LOOQ to more accurately represent only the experiences relevant to lesbians. This step could help in deciphering what issues are truly lesbian-specific, and which items can be applied to all women.

The conclusion to which I've come is I still have much more work to do. As my education evolves, and my experiences change, so too will my foci. Nonetheless, I am appreciative for the ways in which this study has inspired my own growth- personally and professionally, for I looked inside myself, found peace, and gave thanks. Now, I will remain diligent, and take control of my own cipher, that is creating opportunities for lesbians to be healthier. Nothing will snipe my spirit!

Appendix A

Institutional Review Board Expedited Approval

Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians

VirginiaTech

Office of Research Compliance
Institutional Review Board
2000 Kraft Drive, Suite 2000 (0497)
Blacksburg, Virginia 24061
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e-mail moored@vt.edu
www.irb.vt.edu

FWA00000572(expires 1/20/2010)
IRB # is IRB00000667

DATE: November 4, 2008

MEMORANDUM

TO: Paul Estabrooks
Amy Thayer

Approval date: 11/4/2008
Continuing Review Due Date:10/20/2009
Expiration Date: 11/3/2009

FROM: David M. Moore

SUBJECT: **IRB Expedited Approval:** "Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbian" , IRB # 08-575

This memo is regarding the above-mentioned protocol. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. As Chair of the Virginia Tech Institutional Review Board, I have granted approval to the study for a period of 12 months, effective November 4, 2008.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

Important:
If you are conducting **federally funded non-exempt research**, please send the applicable OSP/grant proposal to the IRB office, once available. OSP funds may not be released until the IRB has compared and found consistent the proposal and related IRB applicaton.

cc: File

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Appendix B
Institutional Review Board Expedited Continuation 1

Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians

VirginiaTech

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www.irb.vt.edu
FWA00000572(expires 1/20/2010)
IRB # is IRB00000667

DATE: October 6, 2009

MEMORANDUM

TO: Paul Estabrooks
Amy Thayer

Approval date: 11/4/2009
Continuing Review Due Date:10/20/2010
Expiration Date: 11/3/2010

FROM: David M. Moore

SUBJECT: **IRB Expedited Continuation 1:** "Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbian", OSP #09-0647-09, IRB # 08-575

This memo is regarding the above referenced protocol which was previously granted expedited approval by the IRB. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. Pursuant to your request, as Chair of the Virginia Tech Institutional Review Board, I have granted approval for extension of the study for a period of 12 months, effective as of November 4, 2009.

Approval of your research by the IRB provides the appropriate review as required by federal and state laws regarding human subject research. As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

cc: File
OSP

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Appendix C

Institutional Review Board Expedited Amendment I

Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians

VirginiaTech

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MEMORANDUM

DATE: June 23, 2010

TO: Paul Estabrooks, Amy Thayer

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires June 13, 2011)

PROTOCOL TITLE: Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbian

IRB NUMBER: 08-575

Effective June 23, 2010, the Virginia Tech IRB Chair, Dr. David M. Moore, approved the amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at http://www.irb.vt.edu/pages/responsibilities.htm (please review before the commencement of your research).

PROTOCOL INFORMATION:
Approved as: **Expedited, under 45 CFR 46.110 category(ies) 6, 7**
Protocol Approval Date: **11/4/2009 (protocol's initial approval date: 11/4/2008)**
Protocol Expiration Date: **11/3/2010**
Continuing Review Due Date*: **10/20/2010**
*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:
Per federally regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals / work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

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Appendix D
Institutional Review Board Expedited Amendment II

Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians

VirginiaTech

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MEMORANDUM

DATE: August 19, 2010

TO: Paul Estabrooks, Amy Thayer

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires June 13, 2011)

PROTOCOL TITLE: Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbian

IRB NUMBER: 08-575

Effective August 19, 2010, the Virginia Tech IRB Chair, Dr. David M. Moore, approved the amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at http://www.irb.vt.edu/pages/responsibilities.htm (please review before the commencement of your research).

PROTOCOL INFORMATION:
Approved as: **Expedited, under 45 CFR 46.110 category(ies) 6, 7**
Protocol Approval Date: **11/4/2009 (protocol's initial approval date: 11/4/2008)**
Protocol Expiration Date: **11/3/2010**
Continuing Review Due Date*: **10/20/2010**
*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:
Per federally regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals / work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

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Date*	OSP Number	Sponsor	Grant Comparison Conducted?
12/21/2009	09064709	Lesbian Health Fund	Not Required (not federally funded)

*Date this proposal number was compared, assessed as not requiring comparison, or comparison information was revised.

If this IRB protocol is to cover any other grant proposals, please contact the IRB office (irbadmin@vt.edu) immediately.

cc: File
OSP

Appendix E
Participant Informed Consent

Community Matters: An Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed Consent for Participants In Research Projects Involving Human Subjects

Title of Project Community Matters: The Exploration and Measurement of Overweight and Obesity within a Representative Sample of Lesbians

Investigator(s) Paul A. Estabrooks, PhD, Associate Professor, Department of Human Nutrition, Foods and Exercise; Amy N. Thayer Doctoral Student, Department of Human Nutrition, Foods and Exercise

I. Purpose of this Research/Project
The purpose of this research is to investigate and measure participant perceptions and realities regarding body weight and its meaning(s) within a lesbian community.

Past research has confirmed lesbians, as a population, have a higher prevalence of overweight and obesity, which also renders them more susceptible for other chronic diseases, such as diabetes, stroke, heart disease, osteoarthritis, as well as breast and colon cancer; however, there have been few (if any) in-depth investigations into the cultural influences of why this occurs. In this study we will deeply examine lesbians' social, behavioral, and cultural perspectives in an attempt to effectively provide accurate explanations that will inform the measurement of this phenomena and work to prevent and treat this dangerous health risk.

The initial portion of this study will be conducted via investigator observation(s) within a lesbian social organization. Approximately 10-15 women will participate in semi-structured personal interviews, focus groups, and artifact collection activities, such as providing photographs and videos that reprsent aspects of their social environment. Subsequent portions of this study will include surveying approximately 300 self-identified lesbians, from a nationally representative sample, about measures of overweight and obesity within the lesbian population.

II. Procedures
The initial portion of this study is an ethnography, which involves the investigator conducting participant observations in your natural setting, therefore necessitating minimal, if any, requirements from observed participants. However, there are three other data collection methods that will be used, if deemed necessary:

1- You may be verbally invited to participate in a personal interview.
2- You may be verbally invited to participate in a group interview.

Both of these methods will be used to assist the investigator in gathering further understanding of observations she has recorded. These interviews will be guided by semi-structured, open-ended questions, to which you will be asked to share your experiences, perspectives, and knowledge about issues of lesbian identity, body weight, physical activity and eating habits. These interviews will last approximately one to three hours, and will be held in a comfortable location determined by you and the group, respectively. If you are asked to participate in and complete an individual interview, you will be compensated $25.00 for your time.

3- You may also be invited to participate in autophotographic and autofilmatic activities.

These activities include the investigator(s) providing you a digital camera for a specified amount of time (approximately 7-14 days) to capture still and video images of the people and events in your daily life, things to which the investigator would not have access, but that would assist in describing your experiences. These images could include candid or posed shots/footage, and discretion is left up to you as to what you want to record and share with the investigator, in an attempt to capture a day(s) in your life. At the conclusion of your photographic/video detail, digital cameras will be returned to the investigator, and any/all video and images provided will be used as data in this study.

III. Risks

Participation in this research may include the risk of possible "outing" of you, as well as the loss of privacy and confidentiality of interview data, photos, films, and survey responses, and there is a potential risk to privacy associated with the use of email.

Based on ensured confidentiality of the information you provide, in addition to the security of internal computer hard and software, the likelihood of above risks is low. Additionally, the investigator will be using password protected computers, and only the principal investigator and co-investigator will have access to this information.

IV. Benefits

If you decide to take part in this study, you will learn what socio-cultural predictors exist within the lesbian community that may make you more susceptible to overweight and obesity. Additionally, you participation in this study will help to better assess and measure why lesbians have higher prevalence of overweight and obesity. The results could be used to educate health care service providers, in an attempt to reduce, and perhaps prevent the perpetuation of health disparities within the lesbian population.

V. Extent of Anonymity and Confidentiality

Only certified and trained study personnel (Principal Investigator and Co-Investigator) will have access to any and all information about you obtained from this study. This information will be kept confidential and will not be released without your written permission unless compelled by law.

If you participate in personal interviews or focus groups, your identity will be kept confidential by immediately assigning you and your data a pseudonym that will be used throughout the study. Interviews will be digitally recorded and transcribed by the investigator and/or professional transcriptionist. These interviews will be stored in a password protected file on the investigator's password protected computer.

If you participate in the collection of autophotographic/autofilmatic artifacts, these items will be immediately assigned a study ID that will be used throughout the study. Photos and videos will be downloaded and stored by the investigator. These artifacts will be stored in a password protected file on the investigator's password protected computer.

It is possible that the Institutional Review Board (IRB) may view this study's collected data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects

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Approved November 4, 2008 to November 3, 2009

involved in research. All identifiable information about you will be destroyed at the earliest opportunity following the completion of the study.

VI. Compensation
Participants who agree to and complete semi-structured personal interviews will receive $25.00 at the conclusion of their interview.

VII. Freedom to Withdraw
Participation in this study is completely voluntary. You are free to stop participating in the study at any time without penalty. You are also free not to answer any questions or to complete any portions of the study that you choose not to without penalty. You will only receive monetary compensation ($25.00) for the completion of your personal interview.

You may be withdrawn from the study, with or without your consent if you no longer meet study requirements.

It is also possible that the study sponsor or other regulatory agencies or boards may terminate the study at any time.

VIII. Participant's Responsibilities
I voluntarily agree to participate in this study. I have the following responsibilities:

1- Participate in a personal interview that will last between one and three hours, at a location that is agreed upon by the investigator and me, **and/or**
2- Participate in a group interview that will last between one and three hours, at a location that is agreed upon by the investigator, the group, and me, **and/or**
3- Provide 7-14 days of autophotographic and autofilmatic artifacts, via digital camera.
4- Agree to allow the investigator to may also contact me during the course of the study to clarify certain issues or to request additional interviews.

IX. Participant's Permission
I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

____ Date__________
Subject signature

Should I have any pertinent questions about this research or its conduct, and research subjects' rights, and whom
to contact in the event of a research-related injury to the subject, I may contact:

Amy N. Thayer (303) 917-1668/athayer5@vt.edu
Investigator
Doctoral Student
Department of Human Nutrition, Foods and Exercise

Paul A. Estabrooks (540) 857-6664/estabrkp@vt.edu
Principal Investigator/Faculty Advisor
Associate Professor
Department of Human Nutrition, Foods and Exercise

David M. Moore (540) 231-4991/moored@vt.edu
Chair, Virginia Tech Institutional Review
Board for the Protection of Human Subjects
Office of Research Compliance
2000 Kraft Drive, Suite 2000 (0497)
Blacksburg, VA 24060

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Appendix F
Ethnographic Inquiry Interview Guide

Manuscript 2

Interview Guide

RESEARCH QUESTIONS

1) How do these women perceive this lesbian social community as a context for its lesbian members to understand body weight?
2) What is the relationship between women's lesbian identities and their body weight?
3) What lesbian sub-cultural customs exist that permit or prohibit healthy eating and physical activity by women in this lesbian community?

INTERVIEW GUIDE QUESTIONS

- Tell me a little about yourself. How would you describe yourself to someone whom you've never met? Describe the different "identities" that are a part of you.

Participant's Relationship to/with this Western US Lesbian Community

- What is the culture like here in town? What kinds of things are popular here? Why do you think people live here? How would you describe people here? What do they look like?
- Tell me about the lesbian community/scene here in town? How would you describe it to someone who had never experienced it? What kinds of events/activities are offered? What do lesbians here look like?
- Describe your group of friends? What kinds of things do you do together? How are the activities you do with different groups of friends similar or different than the activities you do with others? Physically, what do your friends look like?
- What things do you think this lesbian community values? Why?

Participant's Lesbian Identity

- What does being a lesbian mean to you? Can you describe the relationship "path" you've taken to get here, today? How would you describe the term "coming out?" Where are you in the "coming out" process? What was this process like for you? In what ways is being a lesbian different and/or the same as being a heterosexual woman? How would you describe/define your relationship status?
    - IF COUPLED: What kinds of activities do you do together? What do you not do together, that you wish you would do?
    - IF NOT COUPLED: How does being single affect things you enjoying doing?
- Describe what it's like to be a lesbian in 2009. What characteristics do you think are universal to the lesbian population? How do you think society views lesbians?
- How would you describe your body? In what ways are you satisfied/dissatisfied with your body shape, size, composition, etc? How has your body changed over the years? How has the way in which you view your body changed or stayed the same throughout the years? Why?

(Un)Healthy Habits

- In what kinds of activities do lesbians here participate? Who sponsors these events and where do they occur? Do you participate in any of these events? If yes, why? And, if no, why not? And, who do you think does attend these events?
- What does a healthy weight look like to you? How would you describe someone who has a healthy body weight? How would you define your weight?
- What does overweight look like to you? What behaviors, if any, would you say contribute to someone being overweight? Do you think lesbians, as a group, are overweight? Why? Why not?
- How would you describe physical activity? In what kinds of physical activity do you participate? How important is being physically active to you? Why are you physically inactive/active?
- How would you describe/characterize what you eat? How would you describe your relationship with food? Describe what kinds of food you might prepare for yourself; what role does food play in your life? Why do you eat the things you do?
- Do you drink alcohol? How would you describe your drinking habits? Why do you drink?
- What does obesity look like to you? How would you describe it? Do you think lesbians, as a group, are obese? Why? Why not?
- From where (what sources) do you get your health information? What do you think would be important/what characteristics would you include when trying to assist lesbians in weight loss?
- What comments or other things regarding lesbians and their weight, do you think I should know that we have not addressed in this interview?

Appendix G
The Lesbian Overweight and Obesity Questionnaire
(The LOOQ)

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent for Participants
In Research Projects Involving Human Subjects

Title of Project Community Matters: The Exploration and Measurement of Overweight and Obesity within the Lesbian Population

Investigator(s) Paul A. Estabrooks, PhD, Associate Professor, Department of Human Nutrition, Foods and Exercise; Amy N. Thayer Doctoral Candidate, Department of Human Nutrition, Foods and Exercise

I. Purpose of this Research/Project
The purpose of this research is to investigate and measure participant perceptions and realities regarding body weight and its meaning(s) within a lesbian community.

Past research has confirmed lesbians, as a population, have a higher (than heterosexual women) prevalence of overweight and obesity, which also renders them more susceptible to other chronic diseases, such as diabetes, stroke, heart disease, osteoarthritis, as well as breast and colon cancer; however, there have been few (if any) in-depth investigations into the cultural influences of why this occurs. In this study we will deeply examine lesbians' social, behavioral, and cultural perspectives in an attempt to effectively provide accurate explanations that will inform the measurement of this phenomena and work to prevent and treat this dangerous health risk.

II. Conditions and Stipulations

• This survey should not take you more than 30-40 minutes to complete.

• You understand all information is confidential. You will not be personally identified any reports, and that data derived from this confidential and/or anonymous survey may be made available to the general public in the form of presentations, journals, and/or books.

• You understand that you may decline to answer any question(s) that you are uncomfortable answering.

• By completing this survey, you acknowledge you have freely chosen to participate in this voluntary, confidential and/or anonymous research survey designed to provide information about measures of overweight and obesity within the lesbian population. Upon completion of this research study, results will be included in the researcher's doctoral dissertation.

In answering the following questions, please consider your personal habits and experiences, as well as what you've observed within the lesbian community.

For questions 1-4, please recall the exercise you have done in your free-time over the past month. We would like to know about your average weekly, free-time exercise, including mild, moderate, strenuous, and strength training types of exercise.

Please answer all of the questions. If you don't do a certain kind of exercise just write in '0'.

When answering these questions please:
• consider your weekly average over the past month.
• only count exercise sessions that lasted 10 minutes or longer in duration.
• only count exercise that was done during free-time (i.e., not at work or household chores).
• note that the main difference between the three categories is the intensity of the exercise.

***1.**

Thinking about MILD EXERCISE (MINIMAL EFFORT, NO PERSPIRATION)
(e.g., easy walking, yoga, archery, fishing, bowling, lawn bowling, shuffleboard, horseshoes, golf, snowmobiling)

How many times per week do you do MILD EXERCISE? [ ]

How many minutes each time? [ ]

***2.**

Thinking about MODERATE EXERCISE (NOT EXHAUSTING, LIGHT PERSPIRATION)
(e.g., fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing)

How many times per week do you do MODERATE EXERCISE? [ ]

How many minutes each time? [ ]

***3.**

Thinking about STRENUOUS EXERCISE (when your HEART BEATS RAPIDLY, SWEATING)
(e.g., running, jogging, hockey, soccer, squash, cross country skiing, judo, roller skating, vigorous swimming, vigorous long distance bicycling, vigorous aerobic dance classes, heavy weight training)

How many times per week do you do STRENUOUS EXERCISE? [ ]

How many minutes each time? [ ]

***4.**

Thinking about exercises to increase muscle strength, such as lifting weights or calisthenics.

How many times per week do you do exercises to increase muscle strength? [ ]

How many minutes each time? [ ]

***5.**

How many times a week do you eat fast food meals or snacks?

- ○ **>1**
- ○ **1-3**
- ○ **4 or more**

***6.**

How many servings of fruit or vegetables do you eat each day?

- ○ **5 or more**
- ○ **3-4**
- ○ **2 or less**

***7.**

How many regular sodas or glasses of sweet tea do you drink each day?

- ○ **<1**
- ○ **1-2**
- ○ **3 or more**

***8.**

How many times a week do you eat beans (like pinto or black beans), chicken or fish?

- **3 or more**
- **1-2**
- **<1**

***9.**

How many times a week do you eat regular snack chips or crackers (not the low-fat)?

- **1 or less**
- **2-3**
- **4 or more**

***10.**

How many times a week do you eat desserts and other sweets?

- **1 or less**
- **2-3**
- **4 or more**

***11.**

How much margarine, butter or meat fat do you use to season vegetables or put on potatoes, bread, or corn?

- **Very Little**
- **Some**
- **A lot**

Now, think about your eating habits over the past year or so. About how often do you eat each of the following foods? Remember breakfast, lunch, dinner, snacks and eating out. Check one radio button for each food.

***12.**
Hamburgers, ground beef, meat burritos, tacos

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ times a WEEK**

***13.**
Beef or pork, such as steaks, roasts, ribs, or in sandwiches

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***14.**
Fried chicken

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***15.**
Hot dogs, or Polish or Italian sausage

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**

- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***16.**

Cold cuts, lunch meats, ham (not low fat)

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***17.**

Bacon or breakfast sausage

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***18.**

Salad dressing (not low-fat)

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***19.**

Margarine, butter or mayo on bread or potatoes

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**

- 3-4 Times a WEEK
- 5+ Times a WEEK

***20.**
Margarine, butter or oil in cooking

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***21.**
Eggs (not Egg Beaters or just egg whites)

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***22.**
Pizza

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***23.**
Cheese, cheese spread (not low-fat)

- **1/MONTH or less**
- **2-3 Times a MONTH**

○ **1-2 Times a WEEK**

○ **3-4 Times a WEEK**

○ **5+ Times a WEEK**

***24.**

Whole milk

○ **1/MONTH or less**

○ **2-3 Times a MONTH**

○ **1-2 Times a WEEK**

○ **3-4 Times a WEEK**

○ **5+ Times a WEEK**

***25.**

French fries, fried potatoes

○ **1/MONTH or less**

○ **2-3 Times a MONTH**

○ **1-2 Times a WEEK**

○ **3-4 Times a WEEK**

○ **5+ Times a WEEK**

***26.**

Corn chips, potato chips, popcorn, crackers

○ **1/MONTH or less**

○ **2-3 Times a MONTH**

○ **1-2 Times a WEEK**

○ **3-4 Times a WEEK**

○ **5+ Times a WEEK**

***27.**

Doughnuts, pastries, cake, cookies (not low-fat)

○ **1/MONTH or less**

○ **2-3 Times a MONTH**

- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

***28.**

Ice cream (not sherbet or non-fat)

- **1/MONTH or less**
- **2-3 Times a MONTH**
- **1-2 Times a WEEK**
- **3-4 Times a WEEK**
- **5+ Times a WEEK**

PLEASE CHOOSE THE APPROPRIATE RESPONSE

***29.**

During the last 12 months, how often did you usually have any kind of drink containing alcohol? By a drink we mean half an ounce of absolute alcohol (e.g. a 12 ounce can or glass of beer or cooler, a 5 ounce glass of wine, or a drink containing 1 shot of liquor). Choose only one.

- **Every day**
- **5-6 times a WEEK**
- **3-4 times a WEEK**
- **twice a WEEK**
- **once a WEEK**
- **2-3 times a MONTH**
- **once a MONTH**
- **3-11 times in the past YEAR**
- **1 or 2 times in the past YEAR**
- **I did not drink any alcohol in the past year, but I did drink in the past**
- **I never drank any alcohol in my life**

***30.**

So you have never had a drink containing alcohol in your entire life?

- Yes
- No

***31.**

During the last 12 months, how often did you usually have any kind of drink containing alcohol? By a drink, we mean half an ounce of absolute alcohol (e.g. a 12 ounce can or glass of beer or cooler, a 5 ounce glass of wine, or a drink containing 1 shot of liquor). Choose only one.

- **Every day**
- **5-6 times a WEEK**
- **3-4 times a WEEK**
- **twice a WEEK**
- **once a WEEK**
- **2-3 times a MONTH**
- **once a MONTH**
- **3-11 times in the past YEAR**
- **1 or 2 times in the past YEAR**
- **I did not drink any alcohol in the past year, but I did drink in the past**

***32.**

During your lifetime, what is the maximum number of drinks containing alcohol that you drank within a 24-hour period?

- **36 drinks or more**
- **24 to 35 drinks**
- **18 to 23 drinks**
- **12 to 17 drinks**
- **8 to 11 drinks**
- **5 to 7 drinks**
- **4 drinks**
- **3 drinks**
- **2 drinks**
- **1 drink**

***33.**

During the last 12 months, how many alcoholic drinks did you have on a typical day when you drank alcohol?

- **25 or more drinks**
- **19-24 drinks**
- **16-18 drinks**
- **12-15 drinks**
- **9-11 drinks**
- **7-8 drinks**
- **5-6 drinks**
- **3-4 drinks**
- **2 drinks**
- **1 drink**

***34.**

During the last 12 months, what is the largest number of drinks containing alcohol that you drank within a 24-hour period?

- **36 drinks or more**
- **24-35 drinks**
- **18-23 drinks**
- **12-17 drinks**
- **8-11 drinks**
- **5-7 drinks**
- **4 drinks**
- **3 drinks**
- **2 drinks**
- **1 drink**

***35.**

During the last 12 months, how often did you drink this largest number of drinks? Choose only one.

- **Every day**

- **5-6 times**
- **3-4 times**
- **twice a WEEK**
- **once a WEEK**
- **2-3 times a MONTH**
- **once a MONTH**
- **3-11 times in the past YEAR**
- **1 or 2 times in the past YEAR**

***36.**

During the last 12 months, how often did you have 5 or more (males) or 4 or more (females) drinks containing any kind of alcohol in within a two-hour period? [That would be the equivalent of at least 5 (4) 12-ounce cans or bottles of beer, 5 (4) five ounce glasses of wine, 5 (4) drinks each containing one shot of liquor or spirits. Choose only one.

- **Every day**
- **5-6 days a WEEK**
- **3-4 days a WEEK**
- **2 days a WEEK**
- **1 day a WEEK**
- **2-3 days a MONTH**
- **1 day a MONTH**
- **3-11 days in the past YEAR**
- **1 or 2 days in the past YEAR**

***37.**

During your lifetime, what is the largest number of drinks containing alcohol that you drank within a 24-hour period?

- **36 drinks or more**
- **24-35 drinks**
- **18-23 drinks**

- **12-17 drinks**
- **8-11 drinks**
- **5-7 drinks**
- **4 drinks**
- **3 drinks**
- **2 drinks**

***38.**

How would you rate your overall health at the present time?

- **Poor**
- **Fair**
- **Good**
- **Excellent**

***39.**

When I go out to eat with my lesbian friends, we like to talk about how things are going in our lives.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***40.**

The main reason I go out to eat is to see and talk with my lesbian friends.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***41.**

When I think about the social activities that I do with my lesbian friends, it almost always includes dining out somewhere.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***42.**

My lesbian friends and I regularly go out to eat together.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***43.**

When I'm physically active, it's usually with a lesbian friend or a group of lesbian friends.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***44.**

My partner/significant other and I regularly participate in physical activity together.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**
- **Not Applicable**

***45.** I prefer to be physically active on my own.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***46.**

When I think of the types of physical activity I like to do, I usually think about things that can be done with my lesbian friends.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***47.**

I like to be physically active so I can socialize with my lesbian friends.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***48.**

My lesbian friends and I like to do the same kinds of leisure-time activities (sedentary and/or active).

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***49.**

I would probably participate in a type of physical activity if a group of my lesbian friends wanted me to, even if I had never tried it before.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***50.**

I get useful information from my lesbian friends about the types of physical activity that I do.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***51.**

I do not like to socialize when I am physically active.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***52.**

My friends tease me when I say I want to be physically active.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***53.**
My friends don’t say anything to me when I want to be physically active.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***54.**
My friends are encouraging when I say I want to be physically active.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***55.**
My significant other teases me when I say I want to be physically active.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**
- **Not Applicable**

***56.**
My significant other doesn’t say anything to me when I want to be physically active.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**

- Disagree
- Strongly Disagree

***57.**

My significant other is encouraging when I say I want to be physically active.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Agree**

For the next few questions, eating **"healthfully"** is defined as fruits, vegetables, low-fat foods, lean meats, whole grains, etc.

***58.**

My friends tease me when I say I want to eat healthfully.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***59.**

My friends don't say anything to me when I want to eat healthfully.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***60.**
My friends are encouraging when I say I want to eat healthfully.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***61.**
My significant other teases me when I say I want to eat healthfully.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**
- **Not Applicable**

***62.**
My significant other doesn't say anything to me when I want to eat healthfully.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***63.**
My significant other is encouraging when I say I want to eat healthfully.

- **Strongly Agree**
- **Strongly Disagree**
- **Neither Agree nor Disagree**

- Disagree
- Strongly Disagree

- For each of the following few questions please indicate your level of agreement or disagreement with each behavior

When my life is out of balance:

***64.**
I get comfort from eating.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***65.**
I eat a lot of food at one time.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***66.**
I just stop eating.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

*67.I drink a lot of alcohol just to forgot about things.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***68.**

I exercise a lot.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

For the next few questions:

- "**discrimination"** is defined as, "A judgment about you based on your status or categorization as lesbian, rather than your individual merit.
- **"prejudice"** is defined as, " the irrational suspicion or hatred of a group (lesbians) based on preconceived or unfavorable beliefs.

***69.**

Society discriminates against lesbians.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***70.**

There are still many prejudices against lesbians.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***71.**

In most communities lesbians are considered second class citizens.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

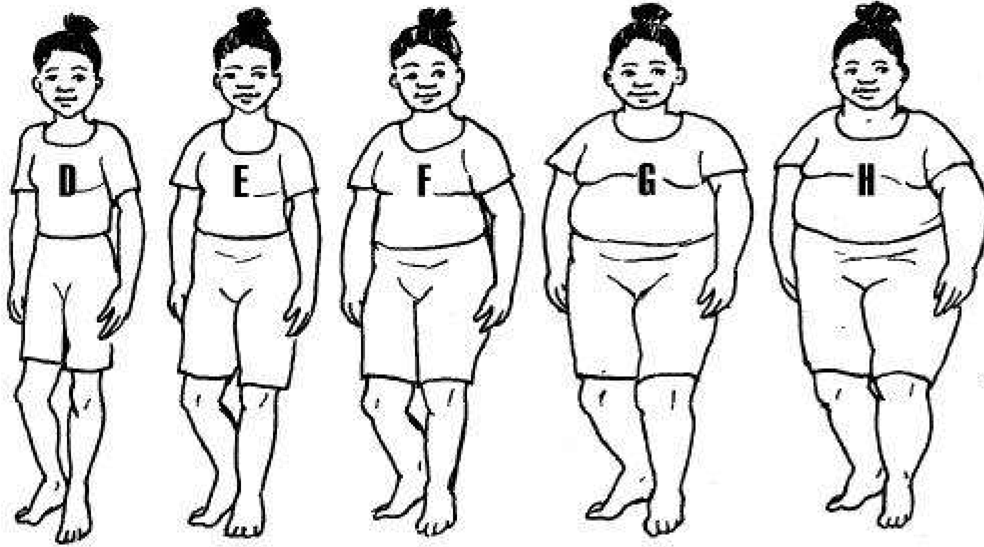
***72.**
I have felt discriminated against because I am a lesbian.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***73.**
My workplace isn't somewhere that I would openly share that I am a lesbian because I am afraid of being discriminated against.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

Please consider how you think about healthy weight, overweight, and obesity. Using the illustration below, please answer the following statements:



* Illustration modified from Mciza et al. (2005).

***74.**

I think **Woman D** is a healthy weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***75.**

I think **Woman E** is a healthy weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***76.**

I think **Woman F** is a healthy weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***77.**

I think **Woman G** is a healthy weight.

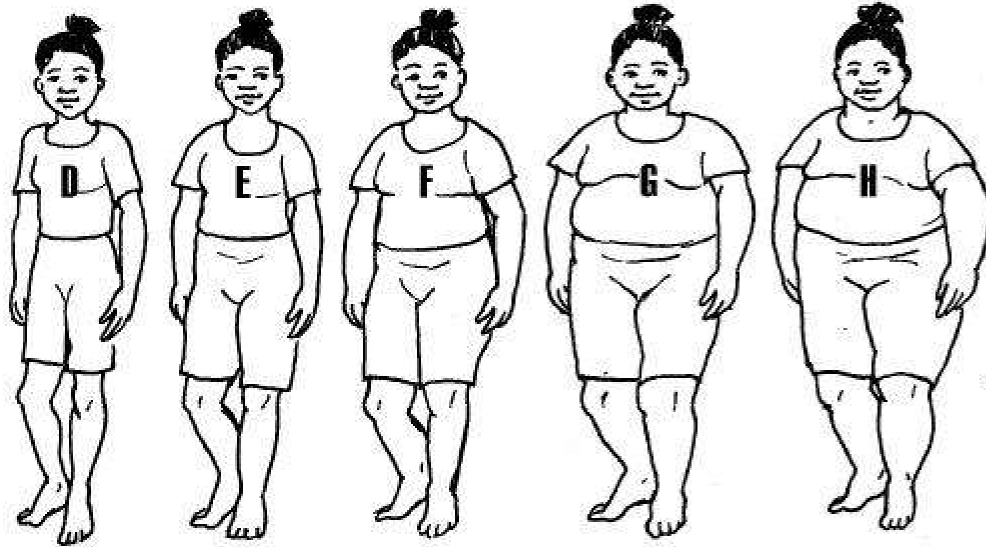
- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***78.**

I think **Woman H** is a healthy weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

Please consider how you think about healthy weight, overweight, and obesity. Using the illustration below, please answer each of the following statements.



* illustration modified from Mciza et al. (2005).

***79.**

I think **Woman D** is overweight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***80.**

I think **Woman E** is overweight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***81.**

I think **Woman F** is overweight.

○ **Strongly Agree**

○ **Agree**

○ **Neither Agree nor Disagree**

○ **Disagree**

○ **Strongly Disagree**

***82.**

I think **Woman G** is overweight.

○ **Strongly Agree**

○ **Agree**

○ **Neither Agree nor Disagree**

○ **Disagree**

○ **Strongly Disagree**

***83.**

I think **Woman H** is overweight.

○ **Strongly Agree**

○ **Agree**

○ **Neither Agree nor Disagree**

○ **Disagree**

○ **Strongly Disagree**

Please answer the following questions using the scale below.

For the next few questions, **"healthful foods"** is defined as fruits, vegetables, low-fat foods, lean meats, whole grains, etc.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
	Not at All									Completely Confident

***84.**

How confident are you that you can stick with eating healthful foods…
…even if you need a long time to develop the necessary routines.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
	Not at All									Completely

***85.**

How confident are you that you can stick with eating healthful foods…

…even if you have to try several times until it works.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

***86.**

How confident are you that you can stick with eating healthful foods…

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

…even if you have to rethink your entire way of nutrition.

***87.**

How confident are you that you can stick with eating healthful foods…

…even if you have to make a detailed plan.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

***88.**

How confident are you that you can be physically active. . .

…even if you need a long time to develop the necessary routines.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

***89.**

How confident are you that you can be physically active. . .

…even if you have to try several times until it works.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

***90.**

How confident are you that you can be physically active. . .

…even if you have to rethink your entire way of physical activity.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

***91.**

How confident are you that you can be physically active. . .

…even if you have to make a detailed plan.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

***92.**

How confident are you that you can lose weight. . .

…even if you need a long time to develop the necessary routines

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

***93.**

How confident are you that you can lose weight. . .

…even if you have to try several times until it works.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

***94.**

How confident are you that you can lose weight. . .

…even if you have to rethink your entire way of losing weight.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

***95.**

How confident are you that you can lose weight. . .

…even if you have to make a detailed plan.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at All Completely

For the next group of statements, please indicate your level of agreement.

For the next few questions, a **"healthy diet"** is defined as fruits, vegetables, low-fat foods, lean meats, whole grains, etc.

•

***96.**

If I eat a healthy diet, I will be able to lose weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***97.**

If I eat a healthy diet, I will be able to achieve a healthy body weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***98.**

If I eat a healthy diet, I will be able to maintain a healthy body weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***99.**

If I participate in adequate physical activity, I will be able lose weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***100.**

If I participate in adequate physical activity, I will be able to achieve a healthy body weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***101.**

If I participate in adequate physical activity, I will be able to maintain a healthy body weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

For the next few questions, please think about how the experiences of being an "out" lesbian might be different than those experiences of being a "closeted" lesbian.

***102.**

Once a lesbian comes out she is less worried about her body weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***103.**

Lesbians are more likely to follow heterosexual norms regarding body weight before they come out.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***104.**

Coming out allows lesbians to be more comfortable with themselves.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***105.**

Coming out provides lesbians with more self-confidence.

- **Strongly Agree**
- **Agree**

- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

***106.**
My neighborhood is attractive.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

***107.**
There is a lot of trash and litter on the street in my neighborhood.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

***108.**
There are interesting things to do in my neighborhood.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

109.
There is enjoyable scenery in my neighborhood.

- Strongly Agree
- Agree

- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

***110.**
There is a lot of noise in my neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***111.**
In my neighborhood the buildings and homes are well maintained.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***112.**
The buildings and houses in my neighborhood are interesting.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***113.**
My neighborhood offers many opportunities to be physically active.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**

Disagree

Strongly Disagree

***114.**

Local sports clubs and other providers in my neighborhood offer many opportunities to be physically active.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***115.**

It is pleasant to walk in my neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***116.**

There are enough trees in my neighborhood to provide shade.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***117.**

My neighborhood has heavy traffic.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**

◯ **Strongly Disagree**

***118.**
There are busy roads to cross when out for walks in my neighborhood.

◯ **Strongly Agree**
◯ **Agree**
◯ **Neither Agree nor Disagree**
◯ **Disagree**
◯ **Strongly Disagree**

***119.**
In my neighborhood it is easy to walk to places.

◯ **Strongly Agree**
◯ **Agree**
◯ **Neither Agree nor Disagree**
◯ **Disagree**
◯ **Strongly Disagree**

***120.**
There are stores within walking distance of my home.

◯ **Strongly Agree**
◯ **Agree**
◯ **Neither Agree nor Disagree**
◯ **Disagree**
◯ **Strongly Disagree**

***121.**
In my neighborhood, the streets and sidewalks are in good condition.

◯ **Strongly Agree**
◯ **Agree**
◯ **Neither Agree nor Disagree**
◯ **Disagree**
◯ **Strongly Disagree**

***122.**

I often see other people walking in my neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***123.**

I often see other people exercise (for example, jog, bicycle, play sports) in my neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***124.**

I feel safe walking in my neighborhood during the evening.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***125.**

My neighborhood is safe from crime.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***126.**
Violence is a problem in my neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***127.**
It is easy to purchase fresh fruits and vegetables in my neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***128.**
There is a large selection of fresh fruits and vegetables available in my neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***129.**
The fresh produce in my neighborhood is of high quality.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***130.**
It is easy to purchase low-fat products (such as low-fat milk or lean meats) in my neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***131.**
There is a large selection of low-fat products available in my neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***132.**
The low-fat products in my neighborhood are of high quality.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***133.**
This is a close-knit or unified neighborhood.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***134.**
People around here are willing to help their neighbors.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***135.**
People in this neighborhood generally don't get along with each other.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***136.**
People in this neighborhood can be trusted.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***137.**
People in this neighborhood do not share the same values.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

*138.
During the past six months, how often was there a fight in this neighborhood in which a weapon as used?

- **Often**
- **Sometimes**
- **Rarely**
- **Never**

*139.
Any gang fights?

- **Often**
- **Sometimes**
- **Rarely**
- **Never**

*140.
A sexual assault or rape?

- **Often**
- **Sometimes**
- **Rarely**
- **Never**

*141.
A robbery or mugging?

- **Often**
- **Sometimes**
- **Rarely**
- **Never**

***142.**
In my city/town, restaurants and bars don't really offer healthy food choices.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***143.**
If I go to the restaurants/bars in my city/town, I can usually find a healthy option if I want it.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***144.**
When I attend social events in my city/town, healthy food offerings are commonly available.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***145.**
Lesbian-friendly restaurants/bars don't really offer healthy food choices.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***146.**
If I go to a lesbian-friendly restaurant/bar, I can usually find a healthy option if I want it.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***147.**
When I attend "community" (LGBT) events, healthy food offerings are commonly available.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***148.**
It is okay to have more than one or two drinks at social events.

- **Strongly Agree**
- **Agree**
- **Neither Agree or Disagree**
- **Disagree**
- **Strongly Disagree**

***149.**
When I am hanging out with my lesbian friends, it's not unusual for us to drink more than two alcoholic drinks.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***150.**

Alcohol is usually present at events lesbians attend.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***151.**

My lesbian friends and I like to drink alcohol when we get together to socialize.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***152.**

I tend to drink more alcohol when I socialize with my lesbian friends than with my heterosexuals friends.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***153.**

Alcohol is usually present when lesbians get together to watch sports, play cards, or to do any other non-physically active leisure activities.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***154.**
Alcohol is usually present when lesbians are participating in physical activity (e.g. playing sports, cycling events, sponsored walks/runs, etc.).

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***155.**
Lesbians tend to be more overweight than heterosexual women.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***156.**
Most of my lesbian friends are overweight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***157.**
Most of my lesbian friends are a healthy weight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***158.**
It is a myth that lesbians are more likely to be overweight than heterosexual women.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***159.**
I don't really worry that being overweight will influence whether or not other lesbians like me.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***160.**
It is not true that lesbians are more accepting of women who are overweight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***161.**
Women with a little more meat on their bones are more attractive than skinny women.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

*162.

Lesbians who are overweight do not seem to mind that they are overweight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

*163.

When I am attracted to another woman, I worry that she might not be interested in me if I am overweight.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

*164.

"Femme" lesbians tend to be more overweight than "butch" lesbians.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

*165.

"Butch" lesbians tend to be more overweight than "femme" lesbians.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***166.**

Lesbians who don't really consider themselves to be completely butch or completely femme are more likely to be overweight than femme lesbians.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***167.**

Lesbians who don't really consider themselves to be completely butch or completely femme are less likely to be overweight than butch lesbians.

- **Strongly Agree**
- **Agree**
- **Neither Agree nor Disagree**
- **Disagree**
- **Strongly Disagree**

***168.**

How confident are you that. . .

An internet-based program will help you lose weight?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at All										Completely

***169.**

How confident are you that. . .
A program with regular emails will help you lose weight?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at All										Completely

***170.**

How confident are you that. . .
A scale at work to monitor weight will help you lose weight?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at All										Completely

***171.**

How confident are you that. . .
A program that pays you money to lose weight will help you lose weight?

0%	10% Not at All	20%	30%	40%	50%	60%	70%	80%	90%	100% Completely

***172.**

How confident are you that. . .
Self-help materials given to you each quarter will help you lose weight?

0%	10% Not at All	20%	30%	40%	50%	60%	70%	80%	90%	100% Completely

***173.**

How would you classify your sexual identity?

<u>LESBIAN</u> Identity includes: 1) having engaged in sexual behavior with another woman, 2) being sexually attracted to women, and/or 3) you have self-identified to oneself and to others as lesbian. A <u>BISEXUAL</u> identity includes: 1) having engaged in sexual behavior with men and women, 2) being sexually attracted to women and men, and/or 3) you have self-identified to oneself and to others as bisexual. A <u>HETEROSEXUAL</u> identity includes: 1) having engaged in sexual behavior with men, 2) being sexually attracted to men, and/or 3) you have self-identified to oneself and to others as heterosexual.

- ○ **Lesbian**
- ○ **Bisexual**
- ○ **Heterosexual**

***174.**

How many years have you claimed this identity?

***175.**

How would you classify your appearance?

- ○ **Feminine (Femme)**
- ○ **Masculine (Butch)**
- ○ **Androgynous**

***176.**
Are you "out?"

- **Yes**
- **No**

***177.**
What is your relationship status?

- **Single**
- **Coupled**

***178.**
For how long?

Months (if less than a year)

Years

***179.**
How old are you?

***180.**
What is your race?

- **American Indian or Alaska Native**
- **Asian**
- **Black or African American**
- **Native Hawaiian or Pacific Islander**
- **White**
- **Biracial, Non-Hispanic**

***181.**
Are you Hispanic/Latina

- **Yes**
- **No**

***182.**
How tall are you?

Feet

Inches

***183.**
How much do you weigh?

***184.**
Have you lost a significant amount of weight (25 pounds or more) in the last five years?

- **Yes**
- **No**

***185.**
Have you gained a significant amount of weight (25 pounds or more) in the last five years?

- **Yes**
- **No**

***186.**
In which region of the country do you reside?

- **New England**
- **Mid-Atlantic**
- **East-North Central**
- **West-North Central**
- **South Atlantic**
- **East-South Central**
- **West-South Central**
- **Mountain, Pacific**

***187.**

In what type of setting do you live?

- **Rural**
- **Suburban**
- **Urban**

***188.**

What is the highest level of education you've completed?

- **Less than high school**
- **High school**
- **Some college**
- **Bachelor's degree**
- **Master's degree**
- **PhD or professional degree**

***189.**

What is your current employment status?

- **Employed full-time**
- **Employed part-time**
- **unemployed**

***190.**

What is your HOUSEHOLD income?

- **Under $25,000**
- **$25,000-$49,999**
- **$50,000-$74,999**
- **$75,000-$99,999**
- **$100,000-$149,999**
- **$150,000 or higher**

***191.**

Did you play organized sports (competitively or recreationally) while growing up?

○ **Yes** ○ **No**

***192.**

I played

○ **Competitively**

○ **Recreationally**

***193.**

How would you classify your diet?

○ **Omnivore (Meats and Vegetables)**

○ **Vegetarian**

Appendix H
Leisure Time Activity Questionnaire
Godin & Shephard (1985)

Instructions: In this excerpt from the Godin Leisure-Time Exercise Questionnaire, the individual is asked to complete a self-explanatory, brief four-item query of usual leisure-time exercise habits.

1. During a typical **7-Day period** (a week), how many times on the average do you do the following kinds of exercise for **more than 10 minutes** during your free time (write on each line the appropriate number)

Times Per Week

A. STRENUOUS EXERCISE (HEART BEATS RAPIDLY)

(e.g., running, jogging, hockey, football, soccer, squash, basketball, cross country skiing, judo, roller skating, vigorous swimming, vigorous long distance bicycling) __________________

B. MODERATE EXERCISE (NOT EXHAUSTING)

(e.g., fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing) __________________

C. MILD EXERCISE (MINIMAL EFFORT)

(e.g., yoga, archery, fishing from river bank, bowling, horseshoes, golf, snow-mobiling, easy walking) __________________

2. Thinking about exercises to increase muscle strength, such as lifting weights or calisthenics.

a. How many times per week do you do exercises to increase muscle strength? _____

b. How many minutes each time? _____

Appendix I
Healthy Eating Assessment
Ammerman (1991)

Starting the Conversation: Diet

1. How many times a week do you eat fast food meals or snacks?

   ☐ <1 ☐ 1-3 ☐ 4 or more

2. How many servings of fruit or vegetables do you eat each day?

   ☐ 5 or more ☐ 3-4 ☐ 2 or less

3. How many regular sodas or glasses of sweet tea do you drink each day?

   ☐ <1 ☐ 1-2 ☐ 3 or more

4. How many times a week do you eat beans (like pinto or black beans), chicken or fish?

   ☐ 3 or more ☐ 1-2 ☐ <1

5. How many times a week do you eat regular snack chips or crackers (not the low-fat)?

   ☐ 1 or less ☐ 2-3 ☐ 4 or more

6. How many times a week do you eat desserts and other sweets?

   ☐ 1 or less ☐ 2-3 ☐ 4 or more

7. How much margarine, butter or meat fat do you use to season vegetables or put on potatoes, bread, or corn?

   ☐ Very little ☐ Some ☐ A lot

Appendix J
Dietary Fat Screener
Block et al. (2000)

Meat and Snacks	[0] Less than 1/MONTH	[1] 2-3 times a MONTH	[2] 1-2 times a WEEK	[3] 3-4 times a WEEK	[4] 5 + times a WEEK
Hamburgers, ground beef, meat burritos, tacos					
Beef or pork, such as steaks, roasts, ribs, or in Sandwiches					
Fried chicken					
Hot dogs, or Polish or Italian sausage					
Cold cuts, lunch meats, ham (not low-fat)					
Bacon or breakfast sausage					
Salad dressings (not low-fat)					
Margarine, butter or mayo on bread or Potatoes					
Margarine, butter or oil in cooking					
Eggs (not Egg Beaters or just egg whites)					
Pizza					
Cheese, cheese spread (not low-fat)					
Whole milk					
French fries, fried potatoes					
Corn chips, potato chips, popcorn, crackers					
Doughnuts, pastries, cake, cookies (not lowfat)					
Ice cream (not sherbet or non-fat)					

Appendix K
Alcohol Consumption Questions
National Council on Alcohol Abuse and Alcoholism Recommended Sets of Alcohol Consumption Questions (2003)

Six Question Set

Question 1 - (asks about frequency of past 12 month drinking)

During the last 12 months, how often did you usually have any kind of drink containing alcohol? **By a drink we mean half an ounce of absolute alcohol (e.g. a 12 ounce can or glass of beer or cooler, a 5 ounce glass of wine, or a drink containing 1 shot of liquor)**. Choose only one.

Every day
5 to 6 times a week
3 to 4 times a week
twice a week
once a week
2 to 3 times a month
once a month
3 to 11 times in the past year
1 or 2 times in the past year

(IF RESPONDENT GIVES ANY OF THE ABOVE RESPONSES, GO TO QUESTION 2)

I did not drink any alcohol in the past year, but I did drink in the past
(GO TO QUESTION 1A)

I never drank any alcohol in my life
(GO TO QUESTION 1B)

1A - During your lifetime, what is the maximum number of drinks containing alcohol that you drank within a 24-hour period? (asked here only of those who did not drink any alcohol during the past 12 months)

36 drinks or more
24 to 35 drinks
18 to 23 drinks
12 to 17 drinks
8 to 11 drinks
5 to 7 drinks
4 drinks
3 drinks
2 drinks
1 drink
(DONE WITH ALCOHOL QUESTIONS)

1B - So you have never had a drink containing alcohol in your entire life. (asked only of those who say they never drank alcohol in their lives)

Yes, I never drank.
(DONE WITH ALCOHOL QUESTIONS)

No, I did drink
(GO BACK TO QUESTION 1 AND REPEAT)

Question 2 - (asks about number of drinks on typical drinking day in past 12 months)

During the last 12 months, how many alcoholic drinks did you have on a typical day when you drank alcohol?

25 or more drinks
19 to 24 drinks
16 to 18 drinks
12 to 15 drinks
9 to 11 drinks
7 to 8 drinks
5 to 6 drinks
3 to 4 drinks
2 drinks
1 drink

Question 3 - (asks about maximum drinks in a 24 hour period in past 12 months)

During the last 12 months, what is the largest number of drinks containing alcohol that you drank within a 24-hour period?

36 drinks or more
24 to 35 drinks
18 to 23 drinks
12 to 17 drinks
8 to 11 drinks
5 to 7 drinks
4 drinks
3 drinks
2 drinks
1 drink

Question 4 - (NEW QUESTION FOR 6 ITEM SET - NOTE ORDER CHANGE - NEW QUESTION IS #4) (asks about frequency of maximum drinks in last 12 months)

During the last 12 months, how often did you drink this largest number of drinks? Choose only one.

Every day
5 to 6 times a week

3 to 4 times a week
twice a week
once a week
2 to 3 times a month
once a month
3 to 11 times in the past year
1 or 2 times in the past year

Question 5 - (asks about frequency of binge drinking in past 12 months)

During the last 12 months, how often did you have 5 or more (males) or 4 or more (females) drinks containing any kind of alcohol in within a two-hour period? [That would be the equivalent of at least 5 (4) 12-ounce cans or bottles of beer, 5 (4) five ounce glasses of wine, 5 (4) drinks each containing one shot of liquor or spirits - to be provided by interviewer if asked.] Choose only one.

Every day
5 to 6 days a week
3 to 4 days a week
two days a week
one day a week
2 to 3 days a month
one day a month
3 to 11 days in the past year
1 or 2 days in the past year

Question 6- (asks about maximum drinks in 24 hours in lifetime)

During your lifetime, what is the largest number of drinks containing alcohol that you drank within a 24-hour period?

36 drinks or more
24 to 35 drinks
18 to 23 drinks
12 to 17 drinks
8 to 11 drinks
5 to 7 drinks
4 drinks
3 drinks
2 drinks
1 drink

Appendix L
Centers for Disease Control and Prevention's Healthy Days Measure Scientific Advisory Committee (2002)

Would you say that in general your health is:

a. Excellent
b. Good
c. Fair
d. Poor

Appendix M
Self-reported Neighborhood Characteristics
Echeverria, Diez-Roux, & Link (2004)

Self-reported Neighborhood Characteristics

	Aesthetic environment		Walking/exercise environment		Safety from crime		Access to healthy foods		Social cohesion (Sampson scale)		Violence in past 6 months
1	My neighborhood is attractive.	1	My neighborhood offers many opportunities to be physically active.	1	I feel safe walking in my neighborhood during the evening.	1	It is easy to purchase fresh fruits and vegetables in my neighborhood.	1	This is a close-knit or unified neighborhood.	1	During the past six months, how often was there a fight in this neighborhood in which a weapon was used?
2	There is a lot of trash and litter on the street in my neighborhood.	2	Local sports clubs and other providers in my neighborhood offer many opportunities to be physically active.	2	My neighborhood is safe from crime.	2	There is a large selection of fresh fruits and vegetables available in my neighborhood.	2	People around here are willing to help their neighborhoods.	2	Any gang fights?
3	There are interesting things to do in my neighborhood.	3	It is pleasant to walk in my neighborhood.	3	Violence is a problem in my neighborhood.	3	The fresh produce in my neighborhood is of high quality.	3	People in this neighborhood generally don't get along with each other.	3	A sexual assault or rape?
4	There is enjoyable scenery in my neighborhood.	4	There are enough trees in my neighborhood to provide shade.			4	It is easy to purchase low-fat products (such as low-fat milk or lean meats) in my neighborhood.	4	People in this neighborhood can be trusted.	4	A robbery or mugging?
5	There is a lot of noise in my neighborhood.	5	My neighborhood has heavy traffic.			5	There is a large selection of low-fat products available in my neighborhood.	5	People in this neighborhood do not share the same values.		
6	In my neighborhood the buildings and homes are well-maintained.	6	There are busy roads to cross when out for walks in my neighborhood.			6	The low-fat products in my neighborhood are of high quality.				
7	The buildings and houses in my neighborhood are interesting.	7	In my neighborhood it is easy to walk to places.								
		8	There are stores within walking distance of my home.								
		9	In my neighborhood, the streets and sidewalks are in good condition.								
		10	I often see other people walking in my neighborhood.								
			I often see other people exercise (for example, jog, bicycle, play sports) in my neighborhood.								