1-1-2011

The LGBT Community and Public Space: A Mixed Methods Approach

Emily L. Sanschagrin
University of Denver

Follow this and additional works at: https://digitalcommons.du.edu/etd

Part of the Human Geography Commons

Recommended Citation
https://digitalcommons.du.edu/etd/573

This Thesis is brought to you for free and open access by the Graduate Studies at Digital Commons @ DU. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ DU. For more information, please contact jennifer.cox@du.edu,dig-commons@du.edu.
The LGBT Community and Public Space: A Mixed Methods Approach

Abstract
Public space researchers have created a body of literature describing how women feel in and access public spaces and have briefly explored men and race in public space, but have not explored other identities adequately including sexuality. Geographical queer theory provides a foundation for public space research, but literature is limited to the creation of and contest over space. The goal of this research is to explore LGBT feelings in public spaces in St. Louis, MO. There are three components including a survey, interviews, and hand mapping of emotional associations within the city. Overall, feelings in public space were found to be dependent on an individual’s life experiences but several other important themes emerged, such as LGBT spaces as comfortable; the city, parks and familiar spaces as safe; bars as important spaces; behavior modification in unsafe situations; the importance of alcohol to safety; “hick” areas as dangerous; race as a separating factor; and upscale areas as uncomfortable. This research informs public space and queer theory literatures, while also developing hand mapping techniques.

Document Type
Thesis

Degree Name
M.A.

Department
Geography

First Advisor
Eric Boschmann, Ph.D.

Second Advisor
Rebecca Powell

Third Advisor
Geoffrey Bateman

Keywords
LGBT, Community, Public space, Qualitative geographic information system

Subject Categories
Geography | Human Geography

Publication Statement
Copyright is held by the author. User is responsible for all copyright compliance.

This thesis is available at Digital Commons @ DU: https://digitalcommons.du.edu/etd/573
THE LGBT COMMUNITY AND PUBLIC SPACE: A MIXED METHODS APPROACH

__________

A Thesis
Presented to
the Faculty of Natural Sciences and Mathematics
University of Denver

__________

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

__________

by
Emily L. Sanschagrin

June 2011
Advisor: E. Eric Boschmann
Abstract

Public space researchers have created a body of literature describing how women feel in and access public spaces and have briefly explored men and race in public space, but have not explored other identities adequately including sexuality. Geographical queer theory provides a foundation for public space research, but literature is limited to the creation of and contest over space. The goal of this research is to explore LGBT feelings in public spaces in St. Louis, MO. There are three components including a survey, interviews, and hand mapping of emotional associations within the city. Overall, feelings in public space were found to be dependent on an individual’s life experiences but several other important themes emerged, such as LGBT spaces as comfortable; the city, parks and familiar spaces as safe; bars as important spaces; behavior modification in unsafe situations; the importance of alcohol to safety; “hick” areas as dangerous; race as a separating factor; and upscale areas as uncomfortable. This research informs public space and queer theory literatures, while also developing hand mapping techniques.
# Table of Contents

Introduction ................................................................................................................................. 1

Research Questions ........................................................................................................................... 5

Literature Review ............................................................................................................................... 6
    Women and Public Space ............................................................................................................... 8
        Early research on women in public spaces ........................................................................... 8
        Women and fear in public spaces ....................................................................................... 11
        Women and specific public spaces ..................................................................................... 14
        Men in public spaces: a contrast to women ........................................................................... 16
    Race/Ethnicity in Public Space ................................................................................................... 18
        Research on multiple races in public space ......................................................................... 18
        Research on a specific race in public space ........................................................................ 21
    Religion and Public Space ......................................................................................................... 22

Discussion of Public Space Literature .......................................................................................... 23

Geographical Queer Theory .......................................................................................................... 24

Literature Summarized .................................................................................................................. 33

Research Aims .................................................................................................................................. 35

Methods .......................................................................................................................................... 36
    Survey ....................................................................................................................................... 36
    Semi-structured Interviews ....................................................................................................... 42
    Hand Mapping .......................................................................................................................... 46

Results ............................................................................................................................................ 52
    Survey Demographics .............................................................................................................. 52
    Descriptive Results of Survey .................................................................................................. 53
    Factor Analysis of Survey Results ............................................................................................ 55
    Semi-structured Interviews Summaries ..................................................................................... 60
    Semi-structured Interview Coding Results ............................................................................... 64
    Hand Mapping .......................................................................................................................... 72

Discussion ....................................................................................................................................... 80
    Discussion of Descriptive Survey Results ................................................................................. 80
    Discussion of Factor Analysis ..................................................................................................... 82
    Discussion of Survey Context ..................................................................................................... 88
    Semi-structured Interviews ........................................................................................................ 89
    Hand Mapping .......................................................................................................................... 95
    Discussion of Overall Results .................................................................................................... 101

Conclusion ....................................................................................................................................... 104

References ....................................................................................................................................... 109
Introduction

Public space research began by exploring a male/female binary, examining how men and women experience and access public space differently. Research has since expanded, examining how race ties into perceptions of public space as well. Some researchers have explored other identities, such as age, but more research is needed on how public space experiences and access are affected by identities besides gender and race, such as sexuality (Pain, 2001). Geographical queer theory research often focuses on the contention of heterosexual space. Much like public space research has focused on a male/female binary, much of queer theory has focused on a heterosexual/homosexual binary, viewing spaces as either one or the other (Puar, 2002, Rushbrook, 2002).

Research often explores how heterosexual space is challenged by Lesbian, Gay, Bisexual, and Transgendered (LGBT) presence or how LGBT spaces are built in opposition to heterosexual spaces (Oswin, 2008). Experiences in general public space have not been directly examined by this research. There is a need in both public space and queer theory research to investigate how the LGBT community experiences and accesses public spaces. Both public space and queer theory have emphasized the need to explore various forms of identity (Oswin, 2008; Puar, 2002; Rushbrook, 2002; Pain, 2001; Binnie & Valentine, 1999). Research into LGBT perceptions of public space therefore should not isolate sexual identity, but should take into account other identities, such as gender, race, age, and class, and examine experiences through the intersection of these identities.
Geographic public space and queer theory research focus on urban areas. A study on LGBT experiences of public space should build on past research and therefore be conducted in an urban area. The city of St. Louis, Missouri provides a good study area for such research. The St. Louis MSA (Figure 1.) had a 2008 estimated total population of 2,803,854 (American Community Survey, 2008). There were an estimated 1,099,375 households in the area in 2008, .55% of which were identified as same-sex partner households. Though St. Louis is a large metropolitan area, this measurable gay presence is fairly low. St. Louis ranks 45 out of 50 top U.S. cities on Florida's gay index, which uses this measurement of number of same sex couples in a city (Florida & Gates, 2001). Despite lower measurable levels of gay people, St. Louis has seen some of the trends associated with the LGBT community in urban areas, such as the gentrification of the city's downtown (Désert, 1997). The lower LGBT presence in St. Louis will make for an interesting study of the LGBT community and public space. The St. Louis LGBT community may experience more alienation, or they may blend in more than in a city with a stronger gay population, though their gentrification efforts suggest that they do not blend in entirely. St. Louis was chosen as the study area for these reasons.
Figure 1. The St. Louis, MO Metropolitan Statistical Area

The LGBT community and public space will be examined through three sources of data in this research. The first is a larger, simple survey that will reveal general trends in the community. The second is a small set of more in-depth interviews that provide more context to the survey and allow for more extensive questions to be asked. The third set of data consists of hand maps drawn by interviewees that provide spatial context to the interviews and allow for GIS techniques with hand maps to be explored. Exploring hand mapping allows this research to contribute to qualitative GIS literatures as well as public space and queer theory literatures. It also brings a new dimension to public space research which has not previously used mapping techniques.

Research focused on identities can be affected by the researcher’s identity. I am a young, white, heterosexual female which might affect my ability to obtain research subjects or affect the relationship between the researched and researcher in interviews because I am an outsider to the LGBT community. My position from outside the
community however may lead to fewer biases as I have no prior assumptions as to how members of the LGBT community may perceive and act in public spaces. It is important to keep my position as an outsider in mind in framing this research within a broader framework of LGBT or queer theory research.
Research Questions

The goal of this research is to explore the LGBT community and everyday public spaces in St. Louis, MO, specifically asking the questions: What types of public spaces and situations does the St. Louis LGBT community fear and feel safe in? Do they avoid certain spaces and seek out others? Do they change their behavior in certain public spaces? How do these feelings manifest spatially? While attempting to answer these questions, it is important to examine how participants' other identities besides sexuality affect their experiences of public spaces.
Literature Review

Research on public space takes many forms. Much research focuses on theory of public spaces, ranging from how they are built to who should be allowed to use them and for what purposes. Lefebvre's (1991) *The Production of Space* is an example of a defining work that examines different theoretical aspects of public space, such as its social constructions. Other researchers choose to focus on the ways in which public spaces are actually used. Some examine public space use for political purposes (for example Mitchell, 1995), while other studies look at public space and everyday life. This research will focus on the latter. It is important to note, however, that theories and political aspects of public space cannot be separated completely from the discussion of everyday uses. Theory and politics often explain uses of public space. As Tonkiss (2005) explains in her book *Space, the City and Social Theory: Social Relations and Urban Forms*, “Urban spaces, that is, provide sites for political action and are themselves politicized in contests over access, control, and representation,” (p. 59). These last three aspects influence how people can and choose to use everyday public spaces and, thus, examinations of these uses cannot deviate entirely from the politics behind them.

Discussions in this literature review will therefore include theoretical and political aspects, but only research that actually studies use of spaces through qualitative methods, such as individual interviews, or quantitative surveys is detailed. This review therefore only explores a small subset of research on public spaces because it excludes work
centered on theory of spaces or use for political purposes. Furthermore, this literature review only discusses studies of Western public space, specifically research in the United States, the United Kingdom, and Scandinavia.

Most research on public space and everyday life focuses on a specific group. This literature review will therefore examine relevant literature in topical form. Many researchers have examined use of public space by women, but others have conducted significant studies on different groups as well. This review also explores public space from the perspective of men, race or ethnicity, and religion. Often studies will overlap and discuss multiple groups, such as a study on women that also looks at race. One piece of work may therefore fit into multiple sections of this review. The term 'public space' in this review indicates any space outside the home, another person's home, or a workspace, including privately owned but publicly available spaces like a bookstore.

Public spaces are not equally accessible. Tonkiss (2005) discusses how some public spaces are available for certain groups, such as spaces exclusively for women or upper class men, and others are used by all, such as the street or public transportation. Hypothetically, these two spaces should allow all groups to navigate them equally, but Tonkiss asserts that this is not the case, they are often controlled, and result in the removal of certain groups, which is how “some people remain more equal than others,” (2005, p. 72). This review focuses on literature about how this control, among other things, manifests among various groups of people and how they ultimately use or do not use public spaces. These studies are important research because, as Mitchell (2003) upholds in his book The Right to the City: Social Justice and the Fight for Public Space.
a right to the city “must be at the heart of any vision of a progressive, democratic, and just world,” (p. 6). Examining the various uses and identifying ways in which groups are excluded can contribute to moving towards an equal right, such as through policy suggestions (for example Koskela & Pain, 2000).

**Women and Public Space**

Researchers in urban settings tied their field to feminist geography by demonstrating the importance of examining gender in urban areas (Bondi & Rose, 2003). Feminist urban geographic studies have taken many different forms. Some researchers have explored the activity spaces of women, generally finding that women's are smaller than men's due to higher domestic burdens (Hanson, 1998). Many others have chosen to explore women's use of public spaces in everyday life, often through “feminist containment narratives,” or in other words qualitative research in which women describe their often limited habits in public space (Hanson & Pratt, 1995, p. 17).

**Early research on women in public spaces**

Some of the earliest studies of women in urban public spaces were by Gardner, a sociologist, in the late eighties. Gardner (1989) based her work off Goffman's research on public spaces, observing that his ideas did not include minorities such as women. She emphasized the importance of examining women in public spaces, not just to understand women but the places themselves. Through participant observation and 35 interviews of women and men in Santa Fe, NM, Gardner drew out three main aspects of women's use of public space: normalized distaste, street remarks, and access information. Normalized distaste is women's general dislike of public places due to fear of crime. Women
circumvented this fear through clothing choices, developing relationships with others who may reduce risk, such as a neighbor, or choosing to use places they perceived as safer. Suggestions for women to remain safe include acting as if a man is with them, acting like men themselves, or bringing men with them when otherwise they might not. Street remarks contribute to normalized distaste. Harassing comments by men may cause women to avoid responding to anyone on the street. Women must either respond to or ignore comments. When they do enter into discussion, Gardner found that women are more careful than men not to disclose access information for fear of criminal activity or harassment later. Her research indicates that women have developed ways to deal with these situations. For one, they may try to appear as if they do not want company or they may only give out their first name or a false name. Gardner asserts navigating public space in these ways can affect women's identities because they are not themselves, and may feel frail or the need to act as if there is a male with them. Through such examples, Gardner frames public space as masculine.

These ideas may seem commonplace today, but in 1989, they had newly emerged. Gardner takes them further in a 1990 article, discussing how women's need to remain vigilant may spoil their experiences in public spaces. For example, in her 1989 article Gardner discusses how avoidance of divulging access information could lead to a woman missing an opportunity to meet a man. She directly links this behavior to suggestions women receive on crime prevention in her 1990 article. Gardner (1990) asserts that these suggestions and women's experiences can work to keep them in the private spaces of the home and provide for men to control women. Some men may circumvent these feelings
in women by intentionally being non-threatening, while other men may use these fears against women. Gardner is careful to point out that she does not mean to suggest fear in women is unwarranted.

In “Women and Downtown Open Spaces,” Mozingo provides some of the earliest research, published in 1989, on a different topic - how women navigate a particular type of place. A small amount of prior research did exist, establishing simply that “people stand closer to women”, “women find crowded situations less stressful than men do”, and “groups of women have smaller territories than do groups of men,” (Mozingo, 1989, p. 40). In this study, she looks at a plaza and a park in San Francisco. Through observation, she found that women appeared most often in groups and when alone stayed close to other women. Mozingo also conducted behavioral mapping (recording who was there) and handed out surveys to both those in the spaces and those who worked downtown. She found low numbers of women in the plaza and high numbers in the park. In the plaza, men and women occupied distinctly separate areas, but in the park, they did not. Women and men also used them for different purposes, with men observing others and women socializing and eating. Both sexes had few dislikes of the park, but more of the plaza, with women indicating dislike for aesthetic aspects and men the existence of homeless persons in the space. Mozingo also found that what each sex would like to see in a downtown open space varies. Women may wish to have an experience that is more isolated, less urban, and safer. The plaza, however, is more social and urban, and had more men.
These early works set the stage for research on women in public spaces. Gardner's work largely focuses on women's fear in public spaces; much of the later research uses fear as its base. Mozingo's research establishes how women's use of space differs from men and how a space can exclude women. Later research examines similar aspects of women and space, while moving the subject in new directions.

Women and fear in public spaces

In “Gender, Race, Age and Fear in the City,” Pain (2001) discusses how women are often framed as being afraid in public spaces and that their fear often relates to sexual crime. She asserts that this type of fear is socially constructed, varies by space, and ultimately affects one's life experiences. Koskela (1997; 1999) uses quantitative surveys, qualitative interviews, and narratives to conduct research on women in Scandinavia that corroborates Pain's claims. Koskela asserts that women's fear in public spaces links directly to their equality. She says that Scandinavian women are more equal and independent than in other Western countries, but despite this, they remain unequal in public spaces, raising the question of whether Scandinavian equality is all that it seems (Koskela 1999; Koskela 1997). Koskela (1999) found that women opt to confine their use of space but do not consider this to be limiting; instead, they view it as a part of everyday life. Women in her study refrained from using spaces in which they felt scared, reinforcing male control of space.

Through interviews of women of various ethnicities in Orange County, California, Day (1999) also found that women were not often afraid in public spaces because they generally refrained from entering situations in which they would experience fear, which
Koskela (1999) also found in Scandinavia. Day (1999) observed that the postmodern layout of the county, which lacks a downtown to draw people together, contributed to women's ability to avoid certain spaces, because they could stay in their familiar area without having to enter other areas of the county. They did still express general fear, however, of poorer people, such as the homeless, in public space.

Koskela and Pain (2000) combined studies from Helsinki and Edinburgh respectively to examine fear and its relationship to the urban environment in public spaces. Both studies consisted of interviews, while Koskela's also included a quantitative survey. Women in both cities expressed a primary fear of attack in public spaces. This fear, however, was expressed less in Helsinki, where crimes are less likely to occur and the urban environment is friendlier. Places they perceived as either dangerous or safe linked to the social constructions of those spaces, such as low income areas that carry a stigma of danger. They asked women about 'designing out fear' and found that Edinburgh women were skeptical of its ability to help. This combined with links to class rather than surroundings, suggest their fear was not inherently associated with the environment of a public space.

Day (2001) later conducted interviews of men in Irvine, California which established that men also view women as vulnerable in public spaces. The college aged men she spoke with believed that women were fearful in Irvine, despite the men's own feelings of safety. Some men thought women were too fearful, but others thought their fear was justified or even not extensive enough. Beyond recognizing women as fearful,
these men thought that women were unsafe in public spaces as well. They identified certain circumstances specifically as unsafe, such as a woman on her own at night.

Day (2001) also showed how many of these young men held one of two identities, either the “youthful 'badass'” or the “chivalrous man”, which rely on the exclusion of women (p. 109). The former identity consists of acting tough while in public spaces and is associated with young men. These men associated women's fear with their physical inferiority to men, which Day sees as an over exaggeration of the true physical status of women. They saw women they knew who went against these stereotypes as abnormal. These men most often associated rape with the primary fear of women and were able to recognize social constructions as attributing to women's fear. The latter identity consists of protective and helpful men. These men take it upon themselves to assist women in remaining safe by escorting or checking on them. Men had various reasons for behaving this way, from cultural norms to a desire to combat racial stereotypes. Women often requested this protection and thus solidified the idea of their own weakness. Day asserts that these two identities can work to maintain women's fear in public.

Koskela (1997) also looked at women's courage in public spaces in Scandinavia. Despite many women's fear, Koskela wants to move away from the idea of women as inherently fearful. In Scandinavia's more gender equal setting, women go out at night alone and leave the private sphere more often. Many of the women she interviewed were brave. Koskela identified four types of boldness women employ, often which mix together. First, women use reasoning to keep themselves from being afraid and to stay bold. Second, they feel confident in areas of cultures they know. Third, women become
confident through the frequent use of space or knowledge of a space. Fourth, they use skills such as self defense to retain their confidence. Koskela found that women may also venture into a risky area with knowledge of those risks, but will keep in mind their situation, both for escape and defense of themselves and others. One of her main reasons for examining boldness instead of fear is to demonstrate how women actually produce space and do not just passively react to it as studies on fear may make it seem. As much public space research does focus on fear, the subject could benefit from more studies like Koskela's that recognize other aspects of how people navigate space or maintain a more positive tone than that of most fear literature.

**Women and specific public spaces**

Bondi and Domosh (1998) examined women in public spaces over three different periods using diaries, poetry, and interviews. Their research indicates that although women have come far in their use of public spaces, there are still connections to the past. For example, in the 19th century, women could only leave the house for feminine activities. It was not appropriate to be out of the house and in public space otherwise (Bondi & Domosh, 1998). Space revolved around social rules like these, especially along busy streets. These streets did provide women some ability for expression however (Domosh, 1998). Social constructions still limit women's use of public space today, but women are also more included.

Researchers have explored women in specific, contemporary public spaces as well. Scraton and Watson (1998) examine leisure spaces in Leeds, UK of young South Asian mothers and older, white, working class women through interviews and
observation. Their research indicates that leisure space in Leeds is limiting by gender and race, but especially by finances. Areas these women avoided included areas in which they felt excluded. These particular women did not experience all the city had to offer, particular in the central city, but they did still use leisure public spaces. Other aspects of self beyond gender, however, factored into their use. They found, for example, that mothers' use of public leisure space revolved around their being a mother. They often used public spaces for both leisure and for obligatory purposes, such as taking their child to the park or shopping. Many of these women felt less vulnerable to approach by men because they were mothers. Women from South Asia, however, expressed fear in public spaces due to harassment about their race. Most of the women still did not feel safe in other situations, such as alone at night, which limited their ability to enter leisure spaces after dark. Despite any constraints, these women circumvented them through social outreach or other means, for example, taking a cab at night. This is a good example of how fear also affects use of a specific type of space, but that women often avoid and reduce this fear with other aspects of identity, corroborating ideas by Koskela (1997) that women will find ways to remain confident in public spaces.

Day (1999) has examined women outside the context of fear, focusing on their use of private public spaces (privately owned but publicly accessible spaces). Day used 43 interviews of women of various ethnicities alongside behavioral mapping of five spaces in Orange County, CA. Day says the critique of private public spaces often states that privately owned spaces are less accessible than publicly owned spaces, but the women she interviewed actually used private public spaces most regularly. The spaces
they used the least were purely recreational. Instead, they often used other spaces, like grocery stores, for 'women's work.' This finding aligns directly with Scraton and Watson's (1998) conclusion that women use leisure spaces for their obligations rather than leisure, such as shopping.

Day's (1999) results suggest that making privatized public spaces more consumer oriented, such as adding more ATMs and in-store restaurants, can even make women's lives easier, undermining the idea that these spaces are limiting for women. She found that time, finances, child and household responsibilities will rise above the character of the space in their choice of accessing it, which Scraton and Watson (1997) found as well. Day’s interviews further revealed that security of privatized public spaces might promote women feeling threatened by minorities, but that not all women felt this way. Women also used these spaces to resist cultural norms, for example, a lower income woman shopping in a middle income space. Overall, she finds that the general critique of private but public spaces ignores gender manifestations. Further studies like these on women in specific public spaces would be useful in understanding women's use of public spaces. These studies can shed more light on the topic than general studies.

**Men in public spaces: a contrast to women**

Many studies on public space examine men's use, but often they discuss race or ethnicity and so are more appropriate in the race section of this review. Day, Stump, and Carreon (2003), however, conducted a study on men in general in Irvine, California, although most of these men were young. Their study focused on men's fear in public spaces. Fear expressed by men in this study was very different from fear expressed by
women. For women, their identity as a woman often leads to fear. Day, Stump, and Carreon found that for men, conditions that counter their masculine identity of “control, competition, aggression and physical strength” are fearful (Day, et al., 2003, p. 311). Conversely, they felt safe in situations that contributed to their masculine identities, such as being in a group of men, which can make them feel stronger, more masculine, and less fearful of confrontation.

Fear of unfamiliar places, those they had no knowledge of or were different from the area in which they lived, was common. Being lost was particularly fearful for them. These circumstances serve to counter their masculinity, for example, by forcing a loss of control. Areas they felt the need to remain especially vigilant in included minority and low income areas, often because they believed conflict arose due to one group viewing the other as out of place. They were also fearful of social settings where conflicts were possible, such as a bar. To maintain their masculinity, men would try to circumvent these situations, for example, by remaining aware to stay in control. Day et al. suggest that men may be unable to take pleasure in public spaces and may have limited encounters with those different from themselves due to these fears, which can negatively affect their life experiences. Women are not alone in being afraid in public, nor in negotiating public space to minimize that fear. This study clearly shows that men are similar in these two ways, though the source of their fear is very different. Most studies on public space focus on women; more studies similar to Day et al.’s on men would be beneficial.
Race/Ethnicity in Public Space

Pain (2001) suggests that other identities beyond gender, such as race, must be considered to understand truly how fear affects people and their use of the city. According to McCann (1999), “Contemporary public spaces are designed to keep the frequency of uncomfortable encounters to a minimum and to maintain a rigid power relation between Whites and people of color when such encounters do take place,” (p. 179). Cattell, Dines, Geslar, and Curtis (2008) found this to be true in a study on social public spaces in London. They observed that multiple ethnic groups could exist in one location without encountering one another, but that if they did, their interactions were not without conflict. They also found, however, that certain places such as streets and the market brought about encounters between different groups. Discussed here is how this power structure manifests differently by race in the daily use of public space, in combination with gender and other identity aspects.

Research on multiple races in public space

Day (1999) has conducted studies on women and men in general, but she has also researched how their racial identities affect their use of public spaces. Day interviewed white, Hispanic, and black women in Orange County, CA and found that the race of the interviewee affected their feelings of fear in public spaces. Instead of viewing specific places as safe or not, they viewed separate cities in the county in this way based on their racial makeup. For example, a white woman would view a white city as safe and an Asian city as unsafe instead of the places within them. This was true for all races. Day believes that a lack of a downtown in this postmodern county may contribute to this way
of thinking, because they have no reason to all come together in one place. These women often emphasized convenience for whether they ventured to a place, emphasizing this segregation as they had no desire to venture to another, less convenient area of the county. She did find, however, that ethnic women were more likely than white women to enter a city with a different racial association.

There were, however, certain spaces in which white women came across other ethnicities. For example, they may go to a Mexican restaurant in their own area of the county; here, interactions may be mostly with someone providing a service and so are not threatening. Places that are generally for everyone, such as a stadium, were other spaces white women mixed with other ethnicities. Women may still have some fear in these spaces, but overall view them as safe spaces for everyone. Often times, however, when white women went into other ethnic spaces they felt out of place and possibly unsafe (Day, 1999).

Hispanic and Black women had different experiences of racial fear. Day found that they tied closely to class. They felt safe in spaces associated with their own race because they did not have to worry about their racial identity. They did not, however, use these spaces often but only occasionally. Day asserts this could be due to a wish to assimilate with white culture or issues of class, as these women are middle class and these spaces may be lower class. They also felt safe in ethnically varied places, provided that they were middle class spaces. Conversely, they did not feel safe in areas where they were the minority. These women often felt the need to remain aware of their situation in order to stay safe in such situations. Even though they were middle class, they did not
feel adequately protected by this status. Overall, white women were more likely to fear sexual assault, whereas women of other ethnicities were likely to fear discrimination based on race, often experienced in more private public spaces (Day, 1999).

Day (2006) conducted a similar study of men and racial identities in Irvine, California. Most of this research focuses on how they were feared by others in public spaces. Half the men thought others had feared them. Their perception of being feared varied by race or ethnic group. Many Hispanic and African American men expressed an awareness of having been feared, while White, Asian, and multi-racial men did not experience being feared to the same extent. Few men interviewed expressed being feared in terms that separated women's fear of them from that of others, such as the elderly. Specific spaces in which they felt feared included more upper class places and cities associated with a particular race. Many men believed their age or appearance were why people feared them; only some connected fear with race. Latino men, for example, felt feared by white and Asian populations, but they did not feel feared in more diverse places. Other non-Latino men felt feared for looking Latino. Most men, furthermore, excluded race as a factor in being feared in particularly scary situations, such as at night. Day asserts that being feared in public causes men to act differently in these spaces. They may try to eliminate fear, for example, by attempting to fit in more. Day's research is a good example of how fear can affect use of public space in a different way. Most studies focus on the individual's own fear, but Day has shown that being feared can also modify men's experiences of public space and that this is specific to certain racial and ethnic groups. Other research like Day's, both on the affects of being feared and on how men
and women of various races/ethnicities experience public space differently, would improve the overall literature on public space.

**Research on a specific race in public space**

Looking at different races in one study pulls out how they are different and can shed light on the overall literature on public spaces. Some studies, however, look at only one race. Brownlow (2005), for example, researched fear among African Americans in a crime ridden park in Philadelphia. Although this study mostly focuses on men, Brownlow interviewed women as well. He found that women experienced more fear than men in the park, identifying more fearful aspects than men. Often, this led to women not using the park at all. When they did, they attempted to negotiate their fear by traveling in groups and remaining aware of their surroundings as best they could. Brownlow found that this led them to being able to interpret safety on a situation by situation basis, which was much different from the men in the study. The men interviewed armed themselves with weapons and traveled in groups, however, some entered the park alone. Men used avoidance as well, but men who employ avoidance are likely to be seen as weak. While in the park, rather than evaluating safety in different situations like the women, their fear was consistent and they relied more on their ability to escape a situation. Whether these qualities are specific to all men and women or only African Americans remains unclear in this study because the feared space involved their race specifically. Conducting a similar study with an unsafe space used by all races may help determine whether these findings are specific to African Americans. The contrast between the two genders in one study,
However, is useful and other studies taking the same route could shed more light on gender and fear in public spaces.

**Religion and Public Space**

Kwan (2008) conducted a unique qualitative study of how 9/11 affected the use of public space for Muslim women in Columbus, Ohio. Kwan focused on women specifically because they are more susceptible to discrimination, for example because of Muslim dress, and their familial position requires them to venture outside the home often. Kwan studied 37 women, who kept activity diaries, participated in detailed interviews, and drew areas they either used or perceived as unsafe (pre-9/11 and post-9/11) on maps. These three data collection techniques supplied information into a Geographic Information System (GIS) to construct their experiences visually. This included both mapping their activities and emotions and integrating in visual aids, such as video. Appealing to the non-Muslim community and trying to move beyond their fear by venturing into public spaces as normal were two of the ways women dealt with the impacts of 9/11. Kwan is careful to point out, however, that these women did not have a unified experience that could be generalized, but “revealed diverse experiences, reactions, and coping strategies in relation to their perceived threat of anti-Muslim hate violence,“ (2008, p. 666). The use of GIS in this study makes it unique among public space research. No other study included in this review used GIS. Further research on Arab, Muslim, and those perceived to have these identities also should be conducted, as it is a highly relevant topic in today's social and political climate and as Kwan points out, their varied experiences need further explanation to be understood.
Discussion of Public Space Literature

The body of literature on use of everyday public space is diverse. It explores different identities, from gender to race and religion. Most research, however, has focused on women. Studies on men, racial, and other identities are less in number. Studies on sexuality are non-existent. Research on women provides a base for the subject, but further studies on other identities are necessary to understand public space, as Pain (2001) has pointed out.

A theme that carries through much of the literature in this review is fear in public spaces. This gives the literature an overall negative tone. Koskela's (1997) study on women's boldness is an exception, but it is still about fear because it discusses how women remain courageous despite fearful circumstances. Studies on specific spaces focus less on fear, like Day's (1999) study of private public spaces that only mentions fear. More studies that do not center on fear or that look at more positive uses of public space could broaden the tone and breadth of this body of research.

Much of the public space research in this review comes out of the field of geography. Despite this, the literature has an obvious lack of one of geography's most useful tools – GIS. Many articles about qualitative research and GIS have been published (for example Kwan, 2002), but public space studies have not utilized these techniques. Kwan's (2008) study is the exception. The techniques used in her study, multiple types of data collection that went into a GIS, could be applied in other studies. She used fairly detailed methods, but simpler studies could be conducted. Utilization of qualitative GIS methods in public space research would make studies richer and more useful, as new
insights could be drawn and those viewing the research would be given new opportunities to understand its subjects.

Most important, however, is bringing new forms of identity into the public space literature. This research, therefore, will focus on sexuality and public space, while still taking into account other forms of identity such as gender, race, class, and age. As the main goal of this research is to determine how members of the LGBT community feel in and access public space, it is important to review geographical research in queer theory that discusses space and can relate to the LGBT community and public space. The following section uses the term “queer” as it is used in the literature as a challenge to the heteronormative ways of society and the term “queers” as the literature uses it to refer to members of society who defy heteronormativity. The rest of this research abandons this terminology and refers to members of the LGBT community as the focus of this research is on exploring aspects of the community rather than theorizing their interactions with or challenges to society. It is necessary however to explore queer theory to give context to how the LGBT community relates to space.

**Geographical Queer Theory**

Much geographical queer theory research includes a spatial aspect, making it relatable to public space research. Although queer theory does not focus on public space specifically, it often appears in passing. Knopp (2007), for example, in an exploration of feminism and queer theory discusses how queers often function in public space like women and experience fear and distrust. Public space research has feminist roots, and as Knopp points out, queer theory would not have developed without the basis supplied by
feminist geographical research. The two bodies of research are inherently different, with feminism focusing on gender and queer theory on sexuality, but they “share basic political commitments to social justice, equity, and the dismantling of power structures producing injustice and inequality,” (Knopp, 2007, p. 48). Knopp asserts that queer geographies could come together with feminist geography to reexamine concepts of space and place, which is the aim of this research project. There is much in geographical queer theory, both about queer spaces and otherwise, that informs this research even though there is not a specific focus on public space. First, it is important to understand the term 'queer space' as used in geographical queer theory; as defined by Rushbrook (2002), “The term queer space is used by geographers who theorize disruptions of the heterosexing of space,” or in other words spaces that challenge the heterosexual nature of places (p. 200).

Early research in geographical queer theory focused on locating where queers were, for instance creating maps of gay bar locations (Binnie and Valentine 1999; Valentine 1995). Researchers then began to look at how gay men and lesbian women function in space differently. Adler and Brenner (1992) critiqued arguments by Castell that claimed only gay men, and not lesbian women, cluster spatially. Adler and Brenner conducted a separate study which showed clear areas of lesbian concentration. They found lesbian areas to be financially restricted, have high counter-culture, and higher levels of single women and female-headed households. While these areas may be invisible to the public, Adler and Brenner attributed the lack of visibility of lesbian neighborhoods to the limited financial resources of the community rather than the
absence of desire for visibility. They also postulated that barriers to women's presence in public space, such as violence against women, may have affected their ability to be visible in their own neighborhoods.

Binnie and Valentine's 1999 article describing the progress of queer theory in geography outlines how research moved beyond locating queers and confirming that lesbian women create space and into work on less public aspects of queer spaces. The authors also described some limitations of early geographical queer theory, citing a lack of research on identities outside sexuality, such as race.

Valentine's own 1995 article exploring lesbian spaces in smaller cities in the UK is a good example of such research. In her 40 interviews, Valentine went beyond simply locating lesbian women to trying to describe these places. Valentine's interviewees described their neighborhoods as cheap, making it accessible to all lesbian women, and diverse in occupation, including students and various races, allowing them to be invisible. These women chose not to occupy dangerous or overtly masculine spaces in order to remain safe. Their neighborhood was only a lesbian one to them; others outside the community did not know it was there. The women in this study expressed that going to lesbian bars and events was a safety concern, and so they looked beyond commercial venues and developed spaces and support groups that only they knew about. The spaces described by these women, however, were what Valentine (1995) calls “an imagined community,” (p. 104). Differences among lesbian women, sometimes related to appearance, meant that these spaces were not equally accessible to all. The community was different for everyone and constantly changing and therefore Valentine asserts that
the sense of community they described is not entirely real. This research is clearly more progressive than simply locating lesbian women in space, but it does exemplify the identity limitations described by Binnie and Valentine (1999). Valentine does discuss how lesbian spaces may be unequally accessible, but she does not focus on how that manifests through specific identities such as race.

Later work in geographical queer theory continues to develop earlier paths in the research, for example gender discriminations affecting lesbian visibility is taken beyond the everyday by Puar (2002), who discusses it as a limitation in tourism as well. Puar actually defines the reason for this gender inequality among queers, hinted at by others, as coming from generally higher male incomes. This difference in income means that two gay males will make much more than two lesbian women and thus have more resources to become visible. Puar (2002) also continues critiquing queer research in geography, asserting that not only are other identities missing from the discussion, but that research enacts a homosexual/heterosexual binary, asserting that space is always heterosexual and “waiting to be disrupted through queering,” (p. 936). Puar argues against the assumption of space as heterosexual and claims that such a binary serves to eliminate other forms of identity in space making, such as race, class, and nationality. Rushbrook (2002) also acknowledges this lack of identity discussion, asserting that leaving out other identities has led to “naturalizing queerness as white and middle-class,” (p. 199). Puar (2002) also puts forth the question of how these various identities may actually hinder forming true queer spaces.
Deviating from the normal discussion of how queers interrupt heterosexual space, Rushbrook (2002) explores how queer spaces are being intruded upon by heterosexual tourists. Rushbrook is careful, however, to point out that the homogenization of these spaces only exists because identities beyond sexuality are often left out of the concept of queer space. Rushbrook discusses how queer spaces were not visible to the general public, but gentrification by gay males led to the commercialization of these areas. Tours of queer spaces and trips to queer events, such as parades, followed as cities began marketing their queer spaces to tourists alongside ethnic areas, using them as “a marker of cosmopolitanism, tolerance, and diversity for the urban tourist,” (Rushbrook, 2002, p. 188). As these queer spaces become more exposed to tourists, they are also visible to the rest of society. Rushbrook points out that heterosexuals partaking in these tours and events does not mean that society is welcoming of queers. Some queers have expressed distress over the touring of the their spaces, but in referencing Myslik's 1996 study, Rushbrook points out that queer spaces may still be seen as safer, because they allow for sexual identity expression which may be more important than escaping violence.

Bell and Binnie (2004) have discussed similar issues, specifically examining how cities must cultivate queer spaces in order to be aggressive which leads to queer spaces becoming more alike. Bell and Binnie assert that commercial queer spaces may pressure queers in them to act a certain way, which can exclude difference and lead to this assimilation. Certain forms of queerness may thus be left out, which Bell and Binnie claim is a move backwards for queer rights. Some queers dislike the heterosexual presence these spaces bring and in some instances, queers may gentrify an area and
attract heterosexuals who become less tolerant and push queers out altogether. These are clear problems with the commercialization of queer spaces, but Bell and Binnie do outline how creating these spaces can aid in the creation of safer spaces.

Corresponding to issues of queer spaces as tourist sites are issues of queers as tourists. Beyond the gender discrimination in tourism discussed by Puar (2002) are issues of sexuality limiting tourism options for queers. Pritchard, Morgan, Sedgley, Khan, and Jenkins (2000) assert that the heterosexual nature of public space affects queer tourism; most participants in their study said their sexuality was a significant factor in their choices. Queers in this study were looking for spaces in which they felt safe, amongst their own kind, allowed to be themselves, and freedom from heterosexual dominance. Finding these qualities in queer spaces, participants felt exposed when outside queer spaces or when heterosexuals invaded them. Pritchard et al. relate these findings to life in general for queers, suggesting their research implies queers are often uneasy on a daily basis. Cieri (2003) also examined queer tourism, but looked at guides targeted at lesbian women in Philadelphia, finding them to be commercial in nature, sending queer women into the same places as gay men where they may not fit in or get the experience they desire. Cieri used hand maps from local lesbian women, an innovative technique, to help establish that lesbian spaces in the city were indeed different from the gay male spaces marketed to them, exemplifying further discrimination in queer tourism. Pritchard, et al. and Cieri's studies are particularly important for this research when related to Rushbrook and Bell and Binnie's work. Together, this research demonstrates how both heterosexual and queer spaces can be exclusionary and make queers in them uneasy. In researching
how queers feel in and access public space, it is important to remember that queer spaces
are not inherently safer or more comfortable for all queers, but that generally they may
still feel safer in them.

Many researchers have recently begun focusing on the discrimination within
queers spaces, from perspectives of both race and class. Taylor (2007) conducted a large
study in the UK about working class lesbian women in queer spaces. Taylor found that
the working class lesbian women in her study did not feel accepted in heterosexual or
queer spaces. Appearance was cited as a big factor in accessing queer spaces, both in how
they dress and exhibiting appropriate signs of gayness. These working class lesbian
women had financial limitations to appearing the right way and so did not fit in. They
subsequently viewed queer spaces as stuck up, classed, and masculine. Some of these
women tried to embody the desired queer appearance, while others disliked such an idea.
Despite not fitting into queer spaces, many of these women still present it as their space,
seemingly preferring it to heterosexual spaces.

Nash and Bain (2007) discuss how even events that appear to promote queer
identity can be exclusionary. In an exploration of a Toronto Women's Bathhouse event
that promoted sexual encounters between women, Nash and Bain assert that power
structures within the community suppressed some sexual identities. Even though queer
spaces may be framed as progressive and tolerant and even strive to be so, Nash and Bain
demonstrate how they can still push out queer identities that organizers feel do not fit
with their atmosphere. Gay male clubs may also discriminate against certain queers, as
Tucker (2009) demonstrates through an instance of discrimination in Cape Town, South
Africa. A gay club denied entry to a coloured gay male, whose subsequent lawsuit resulted in many other victims of discrimination coming forward. South Africa is generally welcoming of queers, but racial discrimination is still prevalent. The term coloured refers to the race that sits between white and black in terms of class in South African society. Club owners therefore may discriminate against coloured men on the basis of class, seeing their presence as driving down the sophistication of their establishment. They may even discriminate on the basis of gender, as coloured gay men are considered feminine in South Africa and white gay men as masculine. These two instances suggest that both lesbian and gay male events or spaces can be exclusionary to certain queers.

Visser (2008) describes further instances of difference in South Africa's queer community, using examples of leisure spaces of white middle class gay men. Visser found that these men initially created spaces in which lesbian women were present, but as time passed they rejected queer spaces due to issues with class, race, and gender and began using heterosexual spaces for leisure. Visser sees this as a disruption of the heterosexual/homosexual spatial binary, but does point out that these men have the financial and educational ability to exist in the space of their choice in the more tolerant South Africa, although they did however avoid spaces they thought of as dangerous. Another example of a space conceptualized as tolerant that has proved otherwise is the gay Village of Manchester, UK. Although displayed in the television show *Queer as Folk* as tolerant and uniform, Skeggs, Moran, Tyrer, and Binnie (2004) found the gay Village to be quite different in reality, “a space occupied very differently by different groups in
which distinctions, conflict and struggle proliferate, leading to specific uses, circuits and routes for different groups of people,” (p. 1851).

Overall, it is clear that differences prevail within queer spaces and that a clear heterosexual/homosexual binary does not work well to explain variations in spatial character. In some instances, such as certain event spaces, it is entirely inappropriate because queers assert their presence outside of what are considered queer spaces. One clear example of such an event is a pride parade. Brickell (2000) frames pride parades as instances of political resistance, but sees them only as instances and not as conquering the dominance of heterosexuality. Events not specifically aimed at queers can become instances of resistance as well, as outlined by McDonald (2008) in her discussion of a lesbian 'kiss in' at a WNBA game. An organization called the Lesbians for Liberty wanted the New York Liberty to recognize their lesbian fan base, but they would not, so they held a 'kiss in' that made them visible. This instance suggests that lesbian women may make themselves visible in certain public spaces as a form of resistance. In researching queers in public space, it is important to consider how they may choose to resist the dominance of heterosexuality through queer events that force visibility, and question if they do this independently of queer events and spaces as well.

Oswin's 2008 review of geographical queer theory acknowledges work on differences within space as breaking the heterosexual/homosexual binary. Oswin (2008) asserts the need to move further beyond the binary and instead of viewing spaces as one or the other to use a “queer approach to space in its stead,” (p. 91). Oswin discusses how for some queers it is not about disputing heterosexual dominance but about changing the
definition of normal to include queers. Oswin notes that queers have multiple identities and cannot be free of categorization and that research must strive to explain how these identities take form. Although some progress in exploring identities has been made, Oswin asserts that not enough focus is placed on race in geographical queer research and that this creates a bias in the discipline. Oswin suggests aligning queer research with other disciplines such as feminism and critical race research in order to advance geographical queer research.

The aim of this research project is to help move beyond gender in public space and consider sexuality, bringing public space research, with its roots in feminism, and queer theory research together as Oswin suggests. As queer theory research demonstrates, a heterosexual/homosexual binary is insufficient to describe space; other forms of identity and forms of resistance or nonresistance that contribute to individual experiences of public space must be considered by this research.

**Literature Summarized**

Several themes can be drawn from both the public space and queer theory literature that inform the goals of this research. The numerous public space studies included here reveal that people may change their access of public spaces to avoid fearful situations, that people generally feel more comfortable in areas they know and around people like themselves, and that some people purposely take a stance against norms. Most importantly however, it is clear from the public space literature that people experience public space differently. The research shows that women's experiences and decisions are often motivated by fear of attack, while men's experiences and decisions are
often motivated by a fear of losing control or their masculinity. The literature also shows variation by racial identity, with white women being more motivated by fear and women of other races being more motivated by potential racial tensions. Queer theory research has revealed similar patterns among the LGBT community, including a desire while on vacation to be around people like themselves, that they may try to create safe spaces and avoid fearful ones, that they may take a stand against norms, and that queer spaces can be just as exclusionary as any public space. These queer theory conclusions, however, come from parts of studies that do not focus on public space. It is important to conduct studies similar to those in the public space research, using the themes described here as a guide, in order to draw out further aspects of how those in the LGBT community experience and access public spaces.
Research Aims

As demonstrated by the literature, research on sexuality and public space is needed in both geographical queer theory and public space research. The research questions for this project are similar to questions asked by previous public space research, but with an emphasis on sexuality. Since the earliest studies on women by Gardner, researchers have been asking how people feel in public space, what kind of spaces they seek out, and how they change their behavior in public spaces. This project therefore inquires into what types of spaces and situations the LGBT community fears and feels safe in, what spaces they look for, and how they modify their behavior while in different public spaces. This research however goes beyond asking about only one identity, as many previous studies have done, and examines the intersection of other identities with sexuality as Oswin suggests. Spatial aspects of public space experiences have also been excluded from previous research, but exploring how feelings in public space change through space has the potential to reveal important information about the nature of those feelings and therefore was included in this research.
Methods

Survey

The first data collection step in this research was conducting a quantitative survey. A survey was used to, “obtain information about the thoughts, feelings, attitudes, beliefs, values, perceptions, personality, and behavioral intentions of research participants,” (Johnson & Christensen, 2012, p. 162). This is the first study on the LGBT community and public space and conducting a survey allows for many participants to answer questions and provide a foundation for more detailed research to be conducted later. Participants were located through snowball sampling in which the survey was first distributed to a few in the study area who passed it on to their friends, both male and female, who self-identify as a member of the LGBT community and live in the St. Louis MSA. In order to pass on the survey easily, participants filled out the survey via Survey Monkey, an internet survey site, and then passed the link onto other potential participants.

Using the internet hopefully generated greater feedback as it was easier to take the survey and may ensure a greater level of anonymity, which is important when dealing with a sensitive subject such as sexual orientation. Some potential participants may have hesitated to have a survey mailed to them or mail it back if it could possibly be linked to them. As the target population is not low income, internet access should not have been an issue in obtaining responses to the survey. Furthermore, 21% of respondents indicated
their income was $20,000 a year or less, demonstrating that the use of the internet did not exclude lower income populations. It would however exclude any participants who do not use the internet. The survey was initially sent to 4 contacts in the study area. The initial response to the survey was limited and so 2 new contacts were made in the area through LGBT organizations found via the internet. Between 6/13/2010 and 8/26/2010, 54 survey responses were received. One was incomplete and another listed their sexuality as heterosexual. These two surveys were dropped, lowering the response number to 52.

An introduction to the survey was displayed upon clicking the survey link. The introduction explained the research project, specifically how survey questions ask them to draw on not only experiences entwined with their sexual identities, but all identities they associate with. A clear definition of public space was provided to avoid confusion. The survey then asked for background information including gender, age, income, education level, sexuality, and the neighborhood of St. Louis they reside in. These specific demographic categories were used because they are areas where participants might differ in their perceptions of public space. For example, based off previous work on public space such as the 2003 work by Day et al., gender typically factors into a person’s concept of public space. One’s age could affect their view in spaces as well, for example an elderly person may feel differently about being in large crowds than a younger person. Income and education level could affect a participant’s perspective because activity spaces may change significantly based on where one lives and works which is affected by their income and education. Different neighborhood characteristics could also affect perceptions of public space. Sexuality is included as a category to verify that respondents
are eligible to participate and to see if it affects perceptions of public space. Most demographic questions had closed responses for the participants to choose from. As Johnston (2003) points out in her work on surveying sexualities, questions of gender and sexuality can be difficult to approach with closed-ended questions. Open-ended responses to the questions of gender and sexuality alone therefore were used in this research. Responses were later categorized for statistical analysis.

After obtaining background information, the survey moved to questions centered on participant's feelings in various forms of public space, their consciousness of safety in public space, and how their decisions to access space are affected by these feelings (see Appendix A). Questions had closed responses and used a Likert response scale with a 1 representing Strongly Agree and a 5 representing Strongly Disagree. Only ten questions were included in order to keep the survey short enough that people would respond. In addition, this is the first study of its kind to our knowledge and when exploring new concepts, it is acceptable to collect more limited data (Johnson & Christensen, 2012). Participants were also given a text box at the end of the survey to provide any comments they felt were relevant to the research. The survey results were downloaded from Survey Monkey in Microsoft Excel format. A summary of responses was generated in Excel showing the percent response to each Likert scale option per question.

In analyzing the survey data, it is important to look for constructs in the data such as questions that are answered in the same way by the same subjects. Within the survey, there are what are called factors, or groups of observations, that define the associations between variables, in this case the survey questions and not the demographic variables
(Pett, Lackey, & Sullivan, 2003). Statistical factor analysis was used to identify these factors.

A factor analysis begins by checking correlations. For this reason, the requirements of correlation were checked in the survey data (Pett, et al., 2003). In this case, the sample size and correlations between the questions in the survey were checked. The sample size of 52 is sufficient. No correlations were found. Normality was not considered to be important as some assumptions are often ignored in a factor analysis using Likert data and many researchers believe that normality is not of concern (Pett, et al., 2003).

After checking the assumption of correlation analysis, a Principal Components Analysis (PCA) was run in JMP. The analysis outputs eigenvalues for 10 factors, which corresponds to the number of questions in the survey. The eigenvalues add to 10 as well because, “the amount of variance available is equal to the number of items,” (Pett, et al., 2003, p. 92). Each eigenvalue explains less and less of the variance, or less of a portion of 10. The eigenvalues are used in deciding how many factors to include in the factor analysis. Factors with eigenvalues greater than or equal to 1 are generally included. Eigenvalues above 1 are explaining more variance than their allocated share of 10 (Pett, et al., 2003). To make this clearer, all eigenvalues for all 10 factors add to 10. If the variance were evenly distributed, each would equal 1. Eigenvalues above 1, therefore, are explaining more variance and those less than 1 are explaining less variance than expected. Only the first three factors had eigenvalues above 1 and thus were included.
The cumulative percent of these three factors was 57.987, which means they account for 57.987% of the total variance in the data.

These three factors were input into a factor analysis which was run with principal components and varimax. PCA was chosen because it is simple to comprehend and it is the method most often used in factor analysis (Pett, et al., 2003). Varimax, an orthogonal rotation which assumes independence in the factors, is also employed most often. This rotation increases the variance in high and low factor loadings (Pett, et al., 2003; Kim & Mueller, 1978). Rotating the factors creates mathematically equal factors but makes the factors more functional in scientific analysis (Comrey & Lee, 1992).

The output of the rotated factor analysis is a list of factor analysis loadings. Each of the ten survey questions has a loading for each of the three factors. If the loading’s absolute value is greater than or equal to 0.4, the question is included in the factor. A value less than 0.3 is considered weak (Pett, et al., 2003). The value 0.4 was chosen because it is stronger. The three factors in this research each had 3 questions with a factor loading absolute value of 0.4 or above. Each question ended up in 1 factor, except for question 6 which was not included in any factor. Question 6, “Some areas of the city are safer for me than others,” was answered by every respondent as either agree or strongly agree and so did not contain any variance to be explained by a factor. The factors produced by the analysis each had three questions that center around a theme. Each factor was given a name to describe its central theme.

A factor analysis also provides a factor score for each respondent for each factor. The scores represent each respondent’s fit with the factor. In other words, loadings for
each item in the factor are summed for each participant. The total describes how well the factor describes their responses. The factor scores can be analyzed as continuous data (Pett, et al., 2003). In this case, the factor scores were used to test if there are demographic differences in the scores and thus differences in responses to the questions in the factors.

Independent tests of two means and analysis of variance (ANOVA) were conducted for each demographic variable measured for each factor using a 0.1 significance level. An independent test of two means was used for the gender variable as it had only two groups, male and female. All other variables had three or more groups and so ANOVA was used in testing for differences among groups in these variables. The null and alternative hypotheses for an independent test of two means are:

\[
H_0 : \bar{X}_1 = \bar{X}_2 \\
H_A : \bar{X}_1 \neq \bar{X}_2
\]

The null hypothesis is that there is no difference between the means of the two groups. This does not assume that the means are exactly the same, but that they are not different enough to say that the difference is due to something besides random chance. The alternative hypothesis is that they are different and the difference is not from random chance. The null and alternative hypotheses for ANOVA are:

\[
H_0 : \tau_i = 0 \\
H_A : \tau_i \neq 0 \text{ for at least 1 } i
\]

The null hypothesis is that the grand mean of all groups is the best description and the alternative hypothesis is that at least one of the means has a treatment effect, or in other words at least one of the means is different from the other groups. The survey data
violates several assumptions of the independent test of two means and ANOVA, including normality and sample size (a total of 52 surveys means no two groups can each have the minimum required respondents of 30 each), but these assumption were ignored and the tests were conducted. Seven demographic variables were tested for three factors for a total of twenty one tests.

**Semi-structured Interviews**

After the survey data was collected, qualitative individual interviews were conducted with a small number of participants. After submitting the survey, participants were given the option of providing contact information if they were interested in participating in an interview. They were assured that their information will in no way be linked to the survey they submitted. Response to this prompt was decent, but most participants who left their information did not respond to requests for interviews or canceled their interview. Contacts in the study area therefore were used to obtain interviewees.

Interviews were semi-structured so that participants were asked the same basic questions while also allowing for follow up questions to responses that required more explanation or prompted further inquiry from the researcher. Semi-structured interviews were used because they are assumed to elicit more information than a more structured interview or survey (Flick, 2006). Interviews in general allow the researcher to draw out the subject's rationale, though a limitation can be the ability of the subjects to say something inconsistent with their reality (Johnson & Christensen, 2012). In this research, interviews were used to provide context to the survey questions and draw out details that
cannot be discovered through a simple survey. Using mixed methods enhances research because each technique has its upside and downside (Johnson & Christensen, 2012). In this case, the survey cannot draw out why questions are answered in a certain way as the interviews can but the survey can reach more people than the interviews.

Each interview took about thirty minutes. An effort was made to explore identities outside of sexuality to gain insight into how other identities (examples: race, gender, class, age) affect participants’ experiences and how these identities are tied into their sexuality. Though this research focuses on sexual identity, it is important to explore how other identities contribute to a person’s experiences and how participants see their identities working together to inform their feelings and decisions involving public space. Most questions were asked in such a way that they did not intentionally elicit responses based solely on sexual identity. Interview questions are included in Appendix B.

At the beginning of the interview, participants were asked for the same background information as the quantitative survey. Interviewees were asked to consent to audio recording so that each interview could be transcribed. This allowed for interviews to be coded using the qualitative data analysis software NVivo in order to systematically group similar responses together.

Each interview was transcribed and imported into NVivo. Coding is, “Deriving and developing concepts from data,” (Corbin & Strauss, 2008, p. 65) or in other words, “Codes are efficient data-labeling and data-retrieval devices. They empower and speed up analysis,” (Miles & Huberman, 1994, p. 65). Essentially, coding allows for themes to be drawn out of qualitative data for analysis. Miles and Huberman (1994) suggest that the
coding process begin before data collection is complete, providing perspective and allowing for data collection to evolve as needed. They advise coding begin with a list of codes, items you wish to identify or that appear in the data, based off hypotheses and to add new codes as you move through the data. Bazeley (2007) also suggests using themes identified in a literature review to create codes. For this research, all three techniques were utilized; codes were created based off of hypotheses, from previous studies, and as the coding process progressed, new codes were added as necessary. Coding was performed using NVivo, which allows faster and easier analysis than manual coding. Each interviewee was entered as a case, the unit of analysis, and each case had demographic information imported from a spreadsheet. Broad themes were identified first and narrowed down to more chiseled themes in order to “capture the finer nuances of meaning that lie within the text,” (Bazeley, 2007, p. 69).

Initial nodes were created to reflect natural groups of questions and themes that were evident after the interviews. The categories of questions include Feelings in Public Space, Consciousness of Safety, Decisions to Access Spaces, and Behavior in Public Space. The initial themes include Presence of Alcohol, Event and Crowded Spaces, and Location. The themes carry through multiple question categories, for example, as alcohol could be a factor in one’s feelings, consciousness, behavior, and decisions in public space. Interview responses were placed into these initial categories by reading through each transcription and assigning each passage to all corresponding nodes. It is important to note that many interview passages correspond to more than one node. For example, one could say that they feel scared in a specific location which raises their consciousness
of safety, which would fit into the Feelings, Consciousness, and Location nodes. After categorizing each transcription, text queries were run with key words corresponding to each node to make sure that passages belonging in the nodes were not missed. For example, several key words related to alcohol were queried, including alcohol, sober, drink, drunk, tipsy, and bar. After categorizing the interviews into the initial nodes, it became clear that deeper categories exist. New nodes were created as sub-categories to the original groups of questions nodes for Avoided Spaces, Preferred Spaces, Comfortable in Spaces, Uncomfortable in Spaces, Less Conscious of Safety, More Conscious of Safety, Feelings of Safety, and Feelings of Fear (Figure 2.). Bars were added as an additional theme separate from Alcohol. Each node was then examined for similarities and differences between subjects’ responses in each node and overall themes were identified and examined from the perspectives of the interviewees’ demographic data and telling of their personal histories. Using NVivo to code the data obtained for this research allowed each question asked to be thoroughly explored and allowed other forms of identity expressed in the demographic indicators to be analyzed with responses as well, which is a central goal of this project.
Figure 2. Diagram of nodes and their connections to one another

**Hand Mapping**

Feminist GIS is a growing area of research that provides alternative ways to display data that can better incorporate emotions and individual perspectives (Kwan, 2007). According to Kwan (2002), “the purpose of using GIS in feminist geographic research is not to discover universal truths or law-like generalizations about the world, but to understand the gendered experiences of individuals across multiple axes of difference,” (p. 646). Each interviewee therefore was asked to participate in mapping their feelings of safety and fear across the study area, allowing the researcher to accomplish this goal by looking at areas that are commonly feared or seen as safe by
pairs of subjects as well as to see the individual form these emotions take. The maps are also an opportunity to put the researched deeper into the research, or in other words let, “research participants self-represent, rather than being represented by those with authority,” (Pain, 2004, p. 658). The interviews give an idea of their feelings in certain parts of the study area, but allowing them to map their emotions across the city let them directly define these areas themselves, as Cieri (2003) did in her study of lesbian tourism in Philadelphia, rather than leave it to the researcher to interpret and possible misrepresent.

Much of the feminist and qualitative GIS literature is theoretical, and Kwan (2007) believes it needs to become convention for feminist researchers. This research aims to help move feminist GIS research from the theoretical to the practical. According to Kwan (2007) there is a need to, “experiment with new geospatial practices that better articulate the complex realities of gendered, classed, raced, and sexualized spaces and experiences of individuals,” (p. 24). As the goal of this research is to explore sexuality alongside these other forms of identity, it is an ideal candidate to explore new forms of data analysis, such as analyzing emotions as spatial data.

Participants mapped their emotions by hand. Each interviewee was given the same map of the study area and the same color scale representing how they feel in an area, using the following color scale:
The maps included almost the entire St. Louis MSA. The maps were printed from OpenStreetMaps and were large enough to see details such as parks and neighborhoods so that participants could be detailed in their mapping if they chose. OpenStreetMaps was chosen for the amount of data they include on their maps and because they allow users to zoom to a desired area and export a map. Participants were allowed to interpret the colors/emotions and directions to draw their feelings in any way they chose. If asked, the researcher provided more explanation as to what forms the maps could take.

Each map was scanned and georeferenced in ArcMap. Data from the maps was heads-up digitized, or in other words it was turned into a map layer, in the same projection as census data is provided, GCS North American 1983. Drawn boundaries were followed as closely as possible or municipality boundaries were selected from the 2010 Census Tiger/Line Place data where it was indicated a subject was referring to an entire jurisdiction. In some instances, subjects referred to everything they had not drawn as fitting into a specific category. These were digitized by using the Union geoprocessing tool with a dummy layer the size of the entire map area to fill all spaces not yet digitized. Digitized hand maps are included in Appendix C. Each composite layer was also broken down into the five categories (Very Safe, Safe/Comfortable, Neutral,
Unsafe/Uncomfortable, and Very Unsafe) which were separated into their own layers so that each hand-map has a total of six layers associated with it.

Each subject’s map first was viewed alone. The locations marked by each emotional category were documented. The layers associated with each map were re-projected into the projected coordinate system NAD 1983 StatePlane Missouri East FIPS 2401 and the total area of each emotional category documented.

The goal in analyzing these hand maps is to let subjects identify themselves and identify patterns in the data where subjects agree with one another on the status of a location in the study area. The initial attempt towards meeting this goal involved a top down analysis where the researcher attempted to place subjects into categories. Intersections of polygons of the same emotion were performed based on the demographic data. For example, all layers of the same income were intersected. This analysis returned no results, nor were there areas that all six subjects agreed upon. It is clear that the subjects are not agreeing on the status of locations based off their demographic factors alone and that the more subjects that are included in an analysis, the less they overlap. There are still clear overlapping areas of the same emotions on the hand maps, however they exist in the purest form at the individual subject pair level. There are areas that several subjects agree on, but the polygons drawn by each are of vastly different sizes and areas agreed upon by more than two subjects are often trivial in size. The areas of overlap therefore make more sense when viewed at the subject pair level, or in other words an overlap between two subjects alone. A simple methodology therefore was created to draw out all overlapping areas of the same emotion between all subject pairs. The goal of the
hand maps is to reveal what areas of the city subjects put into the same emotional
category. Identifying and analyzing areas of overlap between subject pairs shows what
areas of the city are being agreed upon and who is agreeing upon them. From there, the
question of why they are agreeing upon these areas was examined. Overall, this analysis
is meant to reveal what types of people and life experiences tend to agree on how they
feel in a particular area of the city.

Five geodatabases were created, one for each emotion, and all subject layers
corresponding to each emotion were imported into the emotion’s geodatabase.
Topologies were created with the Must Not Overlap rule for each geodatabase, producing
all areas where the subject’s maps of the same emotion overlapped with each other.
Polygons were created for all overlaps and exported into their own shapefiles, as they
cannot be analyzed like a shapefile while part of a topology. Each subject was given a
field in each shapefile. For each overlap, subjects were given a 1 in their field if they
were part of the overlap in question and 0 if they were not. The overlaps had to be
checked manually as the overlaps occasionally repeated. Fields were then added to each
shapefile for each subject pair. For example, subject A and subject B were given the field
AB. With six subjects, fifteen subject pair fields were added. A field calculation was
performed on each subject pair field that added the individual fields. The field for subject
A and the field for subject B were added together to populate field AB, for example. Any
rows that summed to 2 indicted an overlap between subjects because both subjects would
have received a 1 in their field during the overlap assignment process. Each shapefile
then was exported from its geodatabase to a shapefile and re-projected into the projected
coordinate system NAD 1983 StatePlane Missouri East FIPS 2401 Feet in order to calculate each overlap polygon’s area.

Each subject pair’s total area of overlap for each emotion was summed. The results of all five emotions were brought together as well and a total area of emotional overlap found for each subject pair. The results of this analysis showed the total area of emotional overlap and overlap by emotion for each of the fifteen subject pairs (Figure 3.). Areas of overlap were then qualitatively analyzed against the subject pair’s demographic data and interview responses.

Figure 3. Example of a subject pair overlap map
Results

Survey Demographics

Survey respondents were varied in some demographic background and similar in others. Gender has the least variation available as all open ended responses were categorized as either male or female for analysis purposes. More females took the survey at 32 responses than males with 20 responses. Sexuality was also categorized for analysis and has only three categories – gay, lesbian, and bisexual. Responses were equal between men and gay males who took the survey at 20 responses, while 27 of the women identified as lesbian women and 5 as bisexual. The other variables had more response categories (see Appendix D for break down of categories and responses). Race has the least amount of variation with 46 white respondents, 2 African American, 1 Asian-Pacific Islander, 2 Hispanic, and 1 Other. Age is more diverse with most subjects, 30, fitting in the categories 31-40 and 41-50, but with 19 subjects below 30 and 5 over 50. Income is diverse between less than $20,000 and $69,999, but only 4 subjects make $70,000 or more. Most subjects have some college to a Bachelor’s degree, with 42 respondents in these categories, but only 4 subjects have less than some college and only 6 have a Master’s degree or above. Neighborhood was quite diverse with populations spread across the city, with some living in the city or more up and coming neighborhoods and many living in the counties.
Descriptive Results of Survey

Of the ten questions in the survey, some were more varied in response than others. Question 1 and 2, as seen in Table 1., were related directly to sexuality and received a variety of responses from participants. More people agreed than disagreed with either of these questions, but a large percentage of respondents answered these questions neutrally, neither agreeing nor disagreeing as well. Question 10, "I am less conscious of my safety in large crowds", was also more variable in response, with 26.93% of participants agreeing or strongly agreeing, 26.92% neither agreeing nor disagreeing, and the largest percentage, 46.15%, of respondents disagreeing or strongly disagreeing.
Table 1. Percentages of participants that answered each Likert response to the ten questions in the quantitative survey.

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel safer in public spaces in which most people are not heterosexual.</td>
<td>11.54%</td>
<td>34.62%</td>
<td>38.46%</td>
<td>9.62%</td>
<td>5.77%</td>
</tr>
<tr>
<td>2. I am more uncomfortable in public spaces in which most people are heterosexual.</td>
<td>3.85%</td>
<td>26.92%</td>
<td>40.38%</td>
<td>15.38%</td>
<td>13.46%</td>
</tr>
<tr>
<td>3. I avoid public spaces in which I am afraid.</td>
<td>7.69%</td>
<td>65.38%</td>
<td>7.69%</td>
<td>11.54%</td>
<td>7.69%</td>
</tr>
<tr>
<td>4. The time of day affects my feelings of safety in public spaces.</td>
<td>25%</td>
<td>55.77%</td>
<td>9.62%</td>
<td>1.92%</td>
<td>7.69%</td>
</tr>
<tr>
<td>5. I feel safe in the neighborhood I reside in.</td>
<td>51.92%</td>
<td>38.46%</td>
<td>5.77%</td>
<td>3.85%</td>
<td>0</td>
</tr>
<tr>
<td>6. Some areas of the city are safer for me than others.</td>
<td>65.38%</td>
<td>34.62%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7. I seek out public spaces in which I feel safe.</td>
<td>5.77%</td>
<td>63.46%</td>
<td>15.38%</td>
<td>11.54%</td>
<td>3.85%</td>
</tr>
<tr>
<td>8. I am often conscious of my safety while in public spaces.</td>
<td>34.62%</td>
<td>48.08%</td>
<td>11.54%</td>
<td>5.77%</td>
<td>0</td>
</tr>
<tr>
<td>9. I am less conscious of my safety in public spaces which feel less judgmental.</td>
<td>21.15%</td>
<td>40.38%</td>
<td>23.08%</td>
<td>7.69%</td>
<td>7.69%</td>
</tr>
<tr>
<td>10. I am less conscious of my safety in large crowds.</td>
<td>3.85%</td>
<td>23.08%</td>
<td>26.92%</td>
<td>32.69%</td>
<td>13.46%</td>
</tr>
</tbody>
</table>

The other seven questions in the survey were agreed with more often than not.

Question 3, “I avoid public spaces in which I am afraid”, was agreed or strongly agreed with by 73.07% of respondents. Question 4, “The time of day affects my feelings of safety
“in public space”, was agreed or strongly agreed with by 80.77% of participants. Question 5, “I feel safe in the neighborhood I reside in”, was agreed or strongly agreed with by 90.38% of respondents. All participants agreed or strongly agreed with Question 6, “Some areas of the city are safer for me than others”. Question 7, “I seek out public spaces in which I feel safe”, was agreed or strongly agreed with by 69.23% of respondents. Question 8, “I am often conscious of my safety while in public spaces”, was agreed or strongly agreed with by 82.7% of participants. Question 9, “I am less conscious of my safety in public spaces which feel less judgmental”, was agreed or strongly agreed with by 61.53% of respondents.

**Factor Analysis of Survey Results**

Some of the variance in these questions is explained by the factor analysis. The three factors produced by the factor analysis account for 57.987% of the variance in the survey data before rotation and 40.227% of the variance in the data after rotation. There is still a high amount of variance in the data not explained by the factor analysis and so not all participants’ responses will fit into the factors.

Factor 1, titled Agency of Spatial Behavior, includes the following questions: “I avoid public spaces in which I am afraid,” “The time of day affects my feelings of safety in public spaces,” and “I seek out public spaces in which I feel safe”. All three questions are related to choices made in specific public spaces and situations. The factor loadings were positive for all three questions, meaning that all three questions are likely to be answered in the same way. If one question is answered positively, the other questions are likely to be answered positively as well and vice versa. Therefore, if a person avoids
spaces they are afraid of, they likely seek out spaces they feel safe in, and the time of day likely affects their perception of safety. This group of respondents has a higher level of agency, or in other words command in decision, in their spatial behavior when it comes to safety – their spatial behavior is affected by their feelings of safety which may shift throughout the day. Other respondents who do not avoid spaces in which they are afraid, likely do not seek out spaces in which they feel safe, and the time of day likely does not affect their feelings of safety in public spaces. This group of respondents has a lower level of agency in their spatial behavior when it comes to safety as they are not making decisions based on their safety or fear. Other individuals do not fit into either mold. As the factors are not explaining a high amount of variance in the data, it is expected that not all respondents will fit into either group.

The factor scores do not relate to the demographics for Factor 1. As seen in Table 2., none of the demographic factors collected were significantly different for Factor 1. There are no differences in how respondents scored on Factor 1 at the 0.1 significance level based on gender, age, sexuality, income, race, education, and neighborhood. It is important to note that race would not be significantly different. Only 7 of the 52 participants were not white, meaning there was no variance in response to the question and so it would not yield significant results.
Table 2. Results of statistical tests on the factor scores for Factor 1, Factor 2, and Factor 3. Significant results are italicized and in bold.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>TEST</th>
<th>Agency of Spatial Behavior PROB&gt;F</th>
<th>Consciousness of Safety PROB&gt;F</th>
<th>Safety in Numbers PROB&gt;F</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>ANOVA</td>
<td>0.93</td>
<td>0.03</td>
<td>0.19</td>
</tr>
<tr>
<td>GENDER</td>
<td>2 MEANS</td>
<td>0.14</td>
<td>0.37</td>
<td>0.15</td>
</tr>
<tr>
<td>SEXUALITY</td>
<td>ANOVA</td>
<td>0.30</td>
<td>0.50</td>
<td>0.02</td>
</tr>
<tr>
<td>INCOME</td>
<td>ANOVA</td>
<td>0.98</td>
<td>0.54</td>
<td>0.05</td>
</tr>
<tr>
<td>RACE</td>
<td>ANOVA</td>
<td>0.18</td>
<td>0.75</td>
<td>0.83</td>
</tr>
<tr>
<td>EDUCATION</td>
<td>ANOVA</td>
<td>0.25</td>
<td>0.44</td>
<td>0.16</td>
</tr>
<tr>
<td>NEIGHBORHOOD</td>
<td>ANOVA</td>
<td>0.37</td>
<td>0.11</td>
<td>0.22</td>
</tr>
</tbody>
</table>

Factor 2, titled Consciousness of Safety, includes the following questions: “I am often conscious of my safety while in public spaces,” “I am less conscious of my safety in public spaces which feel less judgmental,” “I am less conscious of my safety in large crowds.” These questions all contain the word “conscious” and relate to the emphasis respondents place on their safety in public. The first question asks generally how conscious of their safety they are in public, while the second and third questions are specific to perceived less judgmental spaces and large, public crowds. The latter two questions are positive, while the first is negative. If a respondent is often conscious of their safety in public, they are likely not less conscious in what they perceive as less judgmental spaces and are likely not less conscious in large crowds. If a respondent however is not often conscious of their safety, they are then likely even less conscious in perceived less judgmental situations and large crowds. Not all respondents fit into either group. As the factors are not explaining a high level of the variance in the data, this is to be expected.
The factor scores relate poorly to the demographic information collected in the survey for Factor 2. As seen in Table 2., only one variable was significantly different, age, with a p-value of 0.03. The mean factor score for five of the seven age groups is negative and the two other groups are positive. The groups with positive factor scores encompass the ages 26-40. Respondents aged 26-40 tended to agree that they were more conscious of their safety in public and disagree that they are less conscious in a less judgmental space or in a large crowd. Four of the five negative groups had mean scores close to zero meaning they do not fit well with the factor. One of the negative mean scores was much closer to negative one, meaning it did fit well with the factor. These subjects were aged 18-21 and tended to disagree that they were often conscious of their safety and agree that they lowered their consciousness in either a less judgmental space or a large crowd. The other demographic variables were not significantly different at the .1 level, meaning there are no differences in how respondents scored on Factor 2 for gender, sexuality, income, race, education, or neighborhood.

Factor 3, titled Safety in Numbers, includes the following questions: “I feel safer in public spaces in which most people are not heterosexual,” “I am more uncomfortable in public spaces in which most people are heterosexual,” and “I feel safe in the neighborhood I reside in.” These three questions are all focused on how the respondents feel in public spaces. The first two questions directly relate to their sexuality, asking how they feel in spaces where most people are not heterosexual and in spaces where most people are heterosexual. The third question is not related to sexuality, but still asks about their feelings of safety. The first two questions are positive while the third is negative. If
a participant responded that they do feel safer in public spaces in which more people are not heterosexual, then they likely are more uncomfortable in public spaces in which most people are heterosexual, and likely do not feel safe in the neighborhood in which they reside. Conversely, those who feel safe in their neighborhood likely do not feel safer when there are fewer heterosexuals present or more uncomfortable when most people are heterosexual. Some respondents do not fit into either of these categories, as the factors are not explaining a high level of variance.

The factor scores for Factor 3 show more statistical relation to the demographic variables than the other two factors. As seen in Table 2., a significant difference in factor scores was found in sexuality with a p-value of 0.02 and in income with a p-value of 0.05, both of which are significant at the 0.1 significance level. Although they are statistically different, the average factor scores for each group in sexuality were low. This suggests that participants still do not correspond to Factor 3 based off their sexuality. Income, conversely, has several groups that do fit well with Factor 3. There is a clear pattern of participants making less than $50,000 tending to relate negatively with Factor 3 and those making $70,000+ relating positively. Those making less than $50,000 tend to feel safer in LGBT spaces while those making $70,000+ do not. The other variables, age, gender, race, education, and neighborhood were not significantly different, meaning there were no differences in how participants scored on Factor 3 based on those variables.
Semi-structured Interviews Summaries

Six interviews were conducted, five with females who self identify as lesbian women and one male who identifies as gay. All six interviewees were white. The subjects’ ages, incomes, education, and neighborhood vary however.

Subject A is a 31-40 year old female making less than $20,000 with some college who lives in North St. Louis County. Subject A maintains a high level of consciousness of her safety wherever she goes, feeling more comfortable in LGBT spaces but not safer and only lowering her guard when intoxicated and amongst many of her friends. Her consciousness of safety does not differ between night and day. When she must go somewhere which does not feel safe, she brings protection in the form of her young, straight, black, male roommate and/or a gun. She spoke often of her greatest fear being of a “hick” bar or town such as Millstadt, IL where she feels threatened and in fear for her life due to her sexuality. She avoids these spaces and conversely seeks out gay establishments first, particularly those for females, but will also seek out straight establishments on occasion. Generally, she feels comfortable but tends to feel uncomfortable in East St. Louis, IL, a minority area of high crime, and in North St. Louis County, where she lives and grew up, because it also has higher crime. She spoke of the police harassing her in some of these areas because she is white. She also tends to feel uncomfortable in upscale, ritzy areas, especially with public displays of affection, because she may be harassed or asked to leave. When she feels unsure about a situation, she reserves, draws back, and becomes more observant. Subject A most frequently mentioned her fear of “hick bars,” saying, “an unstable mind on alcohol, not my thing.”
Subject B is a 61+ male making between $50,000 and $59,999 with a Master’s degree living in South St. Louis city. Subject B does not often consider his safety while in public. He only thinks about safety in certain situations such as if he were out alone at night with his boyfriend. He mentioned feeling safer in the day than at night but would not avoid any spaces at night, just be more aware. Subject B does not think of himself as avoiding any spaces, because he would not want to go anywhere where he felt unsafe and you cannot avoid somewhere you do not want to go. He does seek out areas within his “comfort zone” and spaces his friends venture to often. He does not feel safer in LGBT spaces because as he says, “I’ve accepted myself for who I am and if anyone verbally approached me I could put them in a place pretty quick.” When he does feel threatened, Subject B will assert authority and use his body language to communicate aggression through standing up straight and making eye contact. At certain large events for the general public, he may feel more uncomfortable due to the presence of alcohol and the response that can draw from certain people. Overall, Subject B does not think that safety for the LGBT community is of concern when they employ common sense.

Subject C is an 18-21 year old female making between $20,000 and $29,999 who is currently pursuing her undergraduate degree and living in South St. Louis city. Subject C is highly conscious of her safety in public spaces. She thinks of it constantly, especially when walking to her car. She will often bring males with her to bars, limit what she drinks, and observe who is observing her. She avoids uncomfortable spaces at night, but says the time of day is negligible in LGBT spaces. In these spaces, she feels at home and allowed to be herself, though she does feel more comfortable in lesbian bars than gay
male bars. She does however recognize the potential for problems around LGBT bars, citing alcohol and aggression on both sides leading to incidents. Subject C also feels more comfortable in spaces with alternative cultures and mixes of people. She generally feels safer in large crowds, but prefers adult crowds because it can be uncomfortable to hear parents explain her behavior to their children. She feels most unsafe in the “country” because they “don’t want to see it in their town,” in judgmental affluent areas, and around the younger, frat crowd that drinks heavily and seeks confrontation. She will avoid these areas especially when she is with her girlfriend because her sexuality is more obvious when with her masculine girlfriend. Subject C will sometimes change her behavior when with her girlfriend, pretending not to know her. Otherwise, she changes her behavior selectively, sometimes choosing to be bold and assert her identity.

Subject D is a 26-30 year old female making between $30,000 and $39,999 with some college who lives in the Central West End area of St. Louis. Subject D is very conscious of her safety in public spaces, partially due to her sexuality but also because of her identity as a “white, large breasted woman.” She becomes even more aware of her safety when intoxicated and at night, but does not avoid spaces at night or in general. She does seek out spaces in which she feels more comfortable, including restaurants and LGBT spaces. Other than LGBT spaces, she feels most comfortable in areas she knows, parks, and the City Museum “cause everybody’s going there to just play.” She feels most unsafe in areas of high crime, including East St. Louis. Other than these areas, she generally holds the same level of safety in public, including in LGBT spaces where she feels more comfortable but not safer. Lesbian bars are more comfortable for her than gay
male bars because it upsets her when gay males think it is ok to grope her. In large
crowds, it depends on the situation. A mob mentality at certain events might lead people
to pick on certain individuals, but at a baseball game she feels she completely blends in.
When she does feel unsafe in public, she will adjust her behavior and attempt to act
straight to avoid conflict.

Subject E is a 31-40 year old female making between $30,000 and $39,999 who
preferred not to provide her education level or neighborhood. She is highly conscious of
her safety in public spaces, always maintaining an awareness of her surroundings. The
time of day does not really affect her consciousness of safety or her choices to access
spaces. She does however generally avoid certain places she perceives as dangerous
including bus stops, restaurants, and gas stations. She also seeks out parks and certain
restaurants in which she feels safer. She is most comfortable in LGBT spaces, though she
avoids those in bad areas and harder lesbian bars. She feels most unsafe in smaller towns
because of their judgmental tendencies, abandoned and minority areas because of their
higher crime levels, and new areas because they are unfamiliar. In larger crowds, she
does not worry too much about safety but maintains an awareness of her surroundings.
When she does feel unsafe, she will be more aggressive with her body language, for
example by standing taller.

Subject F is a 31-40 year old female making between $30,000 and $39,999 with
some college who lives in a smaller town outside St. Louis. Subject F is moderately
conscious of her safety in public spaces, especially when walking to her car at night. She
generally feels safer during the day and avoids unsafe spaces at night. Unsafe spaces for
Subject F include “ghetto” areas because they are generally dangerous or because African Americans may not accept Caucasians. She also feels unsafe in “hoosier” areas such as the small town of Millstadt, IL. Subject F feels safest at LGBT bars and parks near the LGBT bars. Within LGBT spaces, she feels less comfortable at African American bars and gay male bars because she is the only female. She feels safe in the town she lives in, but feels that her neighbors are unfair towards her because of her sexuality. Her feelings at large events depend on who attends them. She is more intimidated at a rock concert because of unruly men than at a concert with more women and avoids rap concerts altogether because of racism against Caucasians. When she feels out of place, she will change her behavior by adopting an attitude in “ghetto” areas and cleaning up her language and behavior in more affluent areas.

**Semi-structured Interview Coding Results**

Several themes arose when analyzing the coded data from the six interviews including the effects of alcohol on safety. Alcohol was mentioned by four of the six subjects in reference to safety in public spaces. Three subjects (A, C, and D) mentioned the effects of drinking on their consciousness of safety. Subjects C and D increase their awareness of their surroundings when they drink, while A lowers her awareness. Subjects A, B, and C mentioned the effects of alcohol in causing incidents related to their sexuality. Subject A mentioned the effects of drinking on “hicks” making her feel more unsafe than anything else; Subject B mentioned the presence of alcohol at large events creating a situation where someone who otherwise would not be confrontational may become so; Subject C mentioned “jerks drinking alcohol” in younger, fraternity areas.
who may decided to try to fight her more masculine girlfriend as well as alcohol in areas with straight bars and LGBT bars causing both sides to become confrontational. Alcohol emerged as a clear theme that affects consciousness of safety and causes conflict with individuals who do not accept the LGBT community.

A few themes emerged regarding accessing space, including avoiding and seeking out spaces. General themes that emerged involving spaces that the interviewees seek out include seeking places within their normal activity spaces, where their friends tend to be, and LGBT establishments. Questions about avoided spaces elicited more detailed responses. Subjects B and D do not really avoid particular spaces, except one instance that Subject D avoids involving beggars bothering pedestrians for money during the day downtown. The other four subjects clearly avoid certain spaces. Some of these spaces are highly individual, such as Subject A avoiding everywhere except LGBT spaces, gas stations near her house, and Walgreens when she is in drag, dressed as a male, or Subject C avoiding her girlfriend’s work because they are not comfortable there together. Both Subjects A and C also mentioned overcoming their fears and entering spaces they normally avoid for their families. Other spaces were often mentioned as avoided spaces such as “hick” spaces with lower income, white patrons and “ghetto” areas populated by lower income minorities.

“Hick” or “country” areas as dangerous spaces were mentioned by Subjects A and F as specific places they avoid due to the danger they perceive to be associated with judgments about their sexuality. Both mentioned Millstadt, IL as the most dangerous town and that they refuse to go there. Subject A specified that it is “a big KKK town.”
She also discussed “hick” bars specifically as the most dangerous due to the alcohol present and that,

A: “Well my biggest fear is a hick bar. That is absolutely my biggest fear is a hick bar. I will go in this area before I will walk into a hick bar.”

Researcher: “East St. Louis?”

A: “Yup, East St. Louis. I will drive around the neighborhoods of East St. Louis before I’ll walk into a hick bar. Unless I have protection.”

Protection for Subject A includes her young, straight, black, male roommate, a gun, or a big group of people. Though they did not specify that they avoid these spaces, subjects C and E discussed small towns as dangerous places as well because they do not want gay individuals in their towns or they try to convert them to being straight. Subject F lives in a smaller town and specified that she feels uncomfortable, though safe, in her town because she feels judged and treated unfairly.

“Ghetto” areas as generally dangerous spaces were mentioned as specific places to avoid by Subject’s A, E, and F. Subject’s C and D also discussed these spaces. Though Subject C did not mention these as spaces she avoids, she mentioned them as the most dangerous areas of the city for everyone. Subject D cited these areas as dangerous, but also mentioned traveling to unsafe areas of East St. Louis, IL after alcohol sales end in Missouri. Subject A and F also mentioned racism from African Americans as reasons they avoid these spaces. Overall, it is clear that low income, minority areas are perceived as generally dangerous areas. This is not to say that the interviewees do not get along with minorities at all, as Subject C mentioned fitting in better with minorities because
they could connect over their positions as minorities in society and Subject B mentioned having a variety of friends including African Americans.

Bars materialized as a large theme in the interviews. All six subjects discussed bars extensively, both as safe and unsafe spaces. LGBT bars were mentioned by all six subjects as places they feel the most comfortable, especially the LGBT bar strip in the Tower Grove area of St. Louis. As Subject E put it, “you’re around people that aren’t looking and judging you for who you are or what you are, maybe who you are, but not what you are.” Along the same lines, Subject C specified that, “it’s like being at home.” Subject A discussed that these are the first place she will look for in a new town. Even areas near the bars were cited by Subject F as safe. Not all LGBT bars are viewed equally, however. The five female subjects all mentioned that they prefer lesbian bars to gay male bars. Though they feel safe and, for some, accepted in gay male bars, they feel uncomfortable, like they do not belong there, or that they cannot meet other women there. Subject D also mentioned gay males thinking it is acceptable to grope her which makes her uncomfortable. Subject C pointed out that they are still better than straight bars. Other types of LGBT bars also were mentioned as more unpleasant for the subjects. Subject B prefers to avoid leather bars and bars for younger males, Subject E avoids “really hard lesbian bars,” and Subject F avoids African American bars due to perceived racism against her. Subjects E and F also avoid LGBT bars in bad areas.

Straight bars often were discussed in contrast to LGBT bars. Subject A mentioned that though she feels more comfortable in LGBT bars, she can feel comfortable in straight bars. She mentioned selecting straight bars for their drink specials and that there
were a few straight bars she would be comfortable entering while in drag. The other four female subjects, C, D, E, and F mentioned straight bars as being uncomfortable for them. Subject D specified that she does not want to compete with men for women. Subject F does not want to risk being bullied.

F: “You never know when someone is gonna scream out lesbian or something like that.”

Researcher: “Does that happen?”

F: “Every once in awhile around some hoosier ass guys or something.”

Bars were also discussed as unsafe spaces. Subject E and F stated that they avoid LGBT bars in bad areas because it is not worth risk. Even the bar strip has a lot of muggings, according to subject F. Subject C also perceives danger in this area due to alcohol consumption causing conflict with patrons as straight bars in the area. Subject B also mentioned someone he knew being shot coming out of the bar and someone else who died coming out of the bar several years ago. Subject D, who is new to the community, mentioned being aware of a need to keep up her consciousness when outside the bars. Despite clear dangers around the LGBT bar areas, however, the bars are still generally seen as the most comfortable areas for the interviewees. It is important to note that not all subjects feel safer in these spaces, just more comfortable.

Behavior modification in unsafe or uncomfortable situations is another theme in the interviews. All six subjects modify their behavior in public spaces in certain situations. Subjects B, E, and F become more aggressive in their body language through standing up straight or looking others in the eye and/or adopting an attitude if they feel
threatened. Subjects C and D change their behavior to avoid conflict. Subject C will pretend not to know her girlfriend and subject D will attempt to act straight. Subject E mentioned that she used to try to act straight when she went to the “country,” but that she no longer cares what anyone thinks about her. Subject A becomes more reserved and tones down her behavior when she feels uncomfortable, but did not mention covering up her identity. Behavior is clearly affected by perceived unsafe public situations. Subject F also mentioned that she will change her behavior in other situations as well, including toning down her use of curse words in more upscale areas in order to fit in better.

When asked about large events, every subject said they felt safe at the gay pride parade. Subjects A and E are generally comfortable at large events but maintain their consciousness of safety. Subject C is alone in feeling safer at large events, though she may feel awkward if she is the only gay person there. She also mentioned feeling more comfortable in adult crowds because there are no parents explaining to their children why she is with another woman. For subjects B, D, and F, their feelings of safety depend on who is in the crowd. For example, Subject B mentioned alcohol pushing some people over the edge in crowds. Subject D mentioned her feelings depending on individuals in the crowd and the possibility of mob mentality. Subject F mentioned feeling safer around women rather than unruly men at a rock concert or African Americans at a rap concert who may be racist against her. When asked about events such as baseball games, interviewees felt comfortable because of the mix of people. Overall at large events, subjects are generally comfortable but certain circumstances may make some of the subjects uncomfortable.
Consciousness of safety for four of the six subjects is prevalent in their everyday lives. Subjects A, C, D, and E all specified that their general consciousness of safety is an 8 to 10, with 10 being the highest possible awareness of their safety. Subject A only lowers her consciousness of safety when she is with a large group of her friends and intoxicated or in LGBT spaces. Subject D will lower her awareness when in a familiar place. Otherwise, these four subjects are always on guard and observing their environments. For Subject A, the high level of safety consciousness does not have to do with her sexuality, but with being raised in lower income, higher crime areas where being conscious of your safety is necessary. For Subject C, her high level of safety awareness does appear to come from her sexuality. For Subject D, her higher level of awareness comes from her years of traveling across the country. For subject E, it is unclear why she maintains a higher level of consciousness of safety.

Subject F is moderately conscious of her safety, putting it at a 6 of 10, but will raise this consciousness particularly when walking to her car at night. Subject B does not feel that he thinks of his safety often, but only in specific situations such as when walking at night with his boyfriend. The time of day also does not affect his awareness of safety, except in this situation, because he generally does not consider his safety. Subjects A and E also felt that the time of day did not affect their awareness of safety because they are always on guard. For subjects C and F, they are more conscious of their safety at night. Subject D was only affected by the time of day when downtown and around beggars during the day.
Other spaces of comfort and safety were discussed by the subjects besides those that have already been mentioned. The city was mentioned often as a comfortable and safe space for interviewees because they feel accepted there and the LGBT bars are located there. Other spaces were mentioned as well. Subject A feels comfortable in certain suburban spaces, even with public displays of affection. She also feels safe in her neighborhood, despite its location in the “ghetto.” For Subject B, he feels that his comfort zone is similar to anyone’s because he does not believe that people can tell he is gay. He generally feels safe except for a few situations at night and prefers spaces based off familiarity and choices of friends. Subject C is more comfortable with other minorities than in the town she grew up in because they can relate to each other more than she can with white, upper middle class individuals. Subject D tends to be more comfortable in areas she knows, including where she grew up, certain suburbs, and in parks and the City Museum. She also mentioned Augusta, MO as a specific location she feels safe because she frequently sees lesbian cycling groups doing wine tours there. Subject E also mentioned parks as somewhere she feels comfortable. She also discussed that she currently feels comfortable in the “country” where she grew up, but that when she was younger she did not and would change her behavior to fit in. Subject F discussed being comfortable in parks as well as feeling comfortable in certain suburbs where she knows people. These spaces of comfort are clearly highly individual, but three of the subjects do mention feeling comfortable in parks.

Uncomfortable and unsafe spaces besides those already mentioned include higher income, upscale areas. Subjects A, C, and D mentioned feeling more uncomfortable in
these areas, particularly with public displays of affection for Subject A. Subject D and E also mentioned that the energy of a place, without being able to describe that energy, can make them uncomfortable. Subject E also feels uncomfortable in new places.

**Hand Mapping**

The hand maps have some things in common, but most maps are highly individualistic. Four subjects, A, B, C, and E, covered the entire extent of their maps with data by extending one emotional category to the map’s boundaries. Subjects D and F, however, did not cover the entire extent of their maps, but only mapped a few hundred square miles (362.4 and 200.6 square miles respectively) and left other areas blank with no indication of their feelings towards those areas. Mapping technique was also individualistic, with some subjects bounding specific areas only, while most subjects combined techniques and specifically bounded areas as well as referencing entire municipalities.

Subject A both bounded certain areas and marked municipality names in reference to the entire municipality. Four of the five emotional categories were used by Subject A, all but Safe/Comfortable. Unsafe/Uncomfortable was the most used category at 822.3 square miles. Unsafe was used second most with 575.4 square miles mapped. Neutral was next in area with 522.1 square miles, followed by Very Safe as the least mapped with 419.6 square miles.

Subject B only bounded areas with no reference to municipalities. Three of the five emotional categories were used, leaving off Unsafe/Uncomfortable and Very Unsafe.
Neutral was most used with 2184.9 square miles. The other categories were much smaller, with 98 square miles mapped for Safe and 26.7 for Very Safe.

Subject C used all five emotional categories, bounding some areas while referencing municipalities for other areas. Neutral was used most with 2162.4 square miles mapped. Unsafe was next with 123.4 square miles mapped. Safe/Comfortable and Very Safe were much smaller with 15.7 and 8.1 square miles mapped respectively. Very Unsafe was much smaller with only 0.07 square miles mapped referring to a very specific area of the city.

Subject D used all 5 colors and only referenced one municipality, bounding all other areas. Subject D left much of the area unmapped, putting only 362.4 square miles of the map into categories. Subject D marked areas Very Safe most often with 183.9 square miles mapped. Neutral was next with 116.1 square miles mapped, followed by Safe/Comfortable with 59.9 square miles mapped. Unsafe/Uncomfortable and Very Unsafe were much smaller, with only 0.47 and 2 square miles mapped respectively.

Subject E used only three emotional categories, leaving out Safe/Comfortable and Neutral. Subject E mostly referred to municipalities while mapping, except for a reference to the rest of the study area as Very Safe. The category most used, therefore, was Very Safe at 2212.4 square miles mapped. Unsafe/Uncomfortable was next at 67.6 square miles mapped, followed by Very Unsafe at 36.3 square miles mapped.

Subject F used all five emotional categories and mostly referred to municipalities, bounding only one area. Subject F did not put the entire map into categories, but mapped only 200.6 square miles. Neutral was used most often with 124.4 square miles mapped.
Unsafe/Uncomfortable and Very Unsafe were close together with 27.1 and 24.9 square miles mapped respectively. Safe/Comfortable is next with 18.6 square miles mapped. Very Safe was least used with only 5.7 square miles mapped.

Overall, the six subjects used the Neutral category most often with 5109.9 square miles mapped. Very Safe was the next largest at 2856.4 square miles mapped. Unsafe/Uncomfortable was the only other category in the thousands with 1041 square miles mapped. Very Unsafe was still rather large with 638.7 square miles mapped, while Safe/Comfortable was by far the least used with only 192.3 square miles mapped.

The overlap analysis technique showed clear differences in area of overlap by subject pair. Three groups stand out in the total area of overlap – high overlap, medium overlap, and low overlap. Four subject pairs have high overlap. One subject pair, BC, has a total overlap area of 2067.2 square miles (see Table 3.). This is the largest overlap area, almost all of which came from overlapping Neutral areas. There are three subject pairs with several hundred square miles of overlapping area. Pair AC has 991.8 square miles of overlap, almost entirely from Neutral areas. Pair AB has 514.9 square miles of overlap, again mostly from Neutral areas but with 24.4 square miles of Very Safe overlap. Pair AE has 417.8 square miles of overlap, in this case mostly from Very Safe overlap with 26.2 square miles of Unsafe/Uncomfortable overlap.
Table 3. Area of overlap by emotional category and total for each subject pair.

<table>
<thead>
<tr>
<th>EMOTION</th>
<th>( AB ) Area (mi(^2))</th>
<th>( AC ) Area (mi(^2))</th>
<th>( AD ) Area (mi(^2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERY SAFE</td>
<td>24.4</td>
<td>6.0</td>
<td>93.7</td>
</tr>
<tr>
<td>VERY UNSAFE</td>
<td>0</td>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>UNSAFE/UNCOMFORTABLE</td>
<td>0</td>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>SAFE/COMFORTABLE</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NEUTRAL</td>
<td>490.5</td>
<td>985.5</td>
<td>94.1</td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>514.9</td>
<td>991.8</td>
<td>188.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EMOTION</th>
<th>( AE ) Area (mi(^2))</th>
<th>( AF ) Area (mi(^2))</th>
<th>( BC ) Area (mi(^2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERY SAFE</td>
<td>391.7</td>
<td>3.2</td>
<td>0.2</td>
</tr>
<tr>
<td>VERY UNSAFE</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>UNSAFE/UNCOMFORTABLE</td>
<td>26.2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SAFE/COMFORTABLE</td>
<td>0</td>
<td>0</td>
<td>6.3</td>
</tr>
<tr>
<td>NEUTRAL</td>
<td>0</td>
<td>16.7</td>
<td>2060.8</td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>417.8</td>
<td>19.9</td>
<td>2067.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EMOTION</th>
<th>( BD ) Area (mi(^2))</th>
<th>( BE ) Area (mi(^2))</th>
<th>( BF ) Area (mi(^2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERY SAFE</td>
<td>2.0</td>
<td>26.7</td>
<td>2.8</td>
</tr>
<tr>
<td>VERY UNSAFE</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>UNSAFE/UNCOMFORTABLE</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SAFE/COMFORTABLE</td>
<td>31.9</td>
<td>0</td>
<td>10.8</td>
</tr>
<tr>
<td>NEUTRAL</td>
<td>109.5</td>
<td>0</td>
<td>117.5</td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>143.5</td>
<td>26.7</td>
<td>131.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EMOTION</th>
<th>( CD ) Area (mi(^2))</th>
<th>( CE ) Area (mi(^2))</th>
<th>( CF ) Area (mi(^2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERY SAFE</td>
<td>2.6</td>
<td>7.3</td>
<td>0.1</td>
</tr>
<tr>
<td>VERY UNSAFE</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>UNSAFE/UNCOMFORTABLE</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SAFE/COMFORTABLE</td>
<td>9.9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NEUTRAL</td>
<td>110.6</td>
<td>0</td>
<td>124.4</td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>123.1</td>
<td>7.3</td>
<td>124.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EMOTION</th>
<th>( DE ) Area (mi(^2))</th>
<th>( DF ) Area (mi(^2))</th>
<th>( EF ) Area (mi(^2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERY SAFE</td>
<td>172.5</td>
<td>2.7</td>
<td>5.7</td>
</tr>
<tr>
<td>VERY UNSAFE</td>
<td>0</td>
<td>0</td>
<td>6.3</td>
</tr>
<tr>
<td>UNSAFE/UNCOMFORTABLE</td>
<td>0</td>
<td>0</td>
<td>3.6</td>
</tr>
<tr>
<td>SAFE/COMFORTABLE</td>
<td>0</td>
<td>2.4</td>
<td>0</td>
</tr>
<tr>
<td>NEUTRAL</td>
<td>0</td>
<td>12.7</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL AREA</td>
<td>172.6</td>
<td>17.8</td>
<td>15.6</td>
</tr>
</tbody>
</table>
A medium amount of overlap is around 100-200 square miles. Of the fifteen subject pairs, six pairs have medium overlap between 123.1 and 188.2 square miles of total overlap. The area of overlap for four of these subject pairs, BD, BF, CD, and CF, is dominated by Neutral areas. These pairs do have minimal overlap in other categories however. For subject pair DE, it is all Very Safe areas. For subject pair AD, overlap is split between Very Safe and Neutral areas, with less than one square mile of Unsafe/Uncomfortable overlap. The remaining five subject pairs have low overlap. Low overlap ranges from 7.3-26.7 square miles of overlap. These five pairs vary in what category of overlap dominates their totals and some are split between several categories.

The emotional category most often overlapped by subject pairs is Neutral. As seen in Table 4., there were 4122.3 square miles of Neutral overlap between subject pairs. Most of this, however, originates with subject pair BC, the pair with the overall highest area of overlap as well. The rest of the Neutral total is spread between nine other subject pairs. Some of these Neutral overlaps are larger, above 100 square miles, and others are smaller. Those that are larger include either subject B or subject C in the subject pair. Those that are smaller originate with other subject pairs.
Table 4. Total Area of Overlap Between Subject Pairs by Emotional Category

<table>
<thead>
<tr>
<th>EMOTION</th>
<th>AREA OF OVERLAP (mi²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERY SAFE</td>
<td>741.40</td>
</tr>
<tr>
<td>SAFE/COMFORTABLE</td>
<td>61.33</td>
</tr>
<tr>
<td>NEUTRAL</td>
<td>4122.28</td>
</tr>
<tr>
<td>UNSAFE/UNCOMFORTABLE</td>
<td>30.28</td>
</tr>
<tr>
<td>VERY UNSAFE</td>
<td>6.44</td>
</tr>
</tbody>
</table>

The second largest amount of overlap by emotional category is for areas designated Very Safe. Total overlap between subject pairs for Very Safe areas was 741.4 square miles. Much of this total, 564.2 square miles, is coming from subject pairs AE and DE. The rest is spread between the other thirteen subject pairs. All subject pairs had some Very Safe overlap, though pairs CF and BC had less than one square mile of Very Safe overlap.

The remaining emotional categories, Safe/Comfortable, Unsafe/Uncomfortable, and Very Unsafe have much smaller total areas of overlap by subject pair. Safe/Comfortable has 61.3 square miles of overlap, Unsafe/Uncomfortable has 30.3 square miles of overlap, and unsafe has only 6.4 square miles of overlap. The Safe/Comfortable total is spread between five subject pairs. The Unsafe/Uncomfortable overlap is spread between four subject pairs, though mostly comes from subject paid AE. All but 0.1 square miles of the unsafe overlap comes from subject pair EF.
The overlap technique was also useful for drawing out what areas of the city are classified the same way by the subjects, rather than how much overlap or which categories were overlapped most often. The majority of Very Safe overlaps are in the city of St. Louis and the suburbs. Safe/Comfortable overlaps were few because the category was not used often, but those that do exist are in the suburbs as well. Neutral overlap areas tended to be scattered through St. Louis county and outside the suburbs and into the more rural areas. Unsafe/Uncomfortable overlaps are mostly in North St. Louis County and the more rural towns. Very Unsafe areas of overlap were limited, and the one overlap of any substantial size was near East St. Louis, IL.

These results came through more clearly in qualitative analysis. Viewing the maps all at once revealed that everyone marked some part of the city of St. Louis safe. The exact location was not always the same, but all six subjects indicated that they felt safe in some part of St. Louis city. In addition, each subject marked some suburban area as Safe/Comfortable or Very Safe, just not the same areas for all subjects. Some may mark an area Safe/Comfortable while others designate it Very Safe, which does not create an overlap but does show a closer agreement than if the area were marked Neutral or Very Unsafe. Every subject who used the category Unsafe/Uncomfortable, all subjects except B, included some area of the rural study area (often called the “country”) in that category. The subjects also often included “ghetto” areas in that category. Four of the six subjects, A, D, E, and F, marked East St. Louis, a dangerous area of Illinois, or nearby areas as Very Unsafe. Subjects B and C used the category Neutral differently than other subjects. While the other subjects using that category specifically indicated that certain areas were
Neutral and left areas they had no opinion about blank, B and C marked everything they
did not feel safe or unsafe about as Neutral. This was by far the majority of the study area
for both. Subject A clearly defined parts of the suburbs and “country” as Neutral. Subject
D defined areas of the suburbs as Neutral. Subject F marked specific parts of the suburbs
and Illinois “country” or towns as Neutral. Subject E did not use the Neutral category.
Discussion

Discussion of Descriptive Survey Results

The majority of questions in the survey were mostly agreed with, while a few were more variable in response. Questions 3 through 9 were agreed or strongly agreed with more often than not. For question 3, “I avoid public spaces in which I am afraid,” this implies that most participants avoid public spaces in which they are afraid. Agreement with question 7, “I seek out public spaces in which I feel safe,” suggests that they also seek out public spaces in which they feel safe. Avoiding fearful spaces and seeking out safe places shows a high level of spatial agency in the participants’ behavior. They make clear decisions about which spaces to travel to based off their feelings in those spaces.

The time of day appears to generally affect the feelings of participants in public space, as seen by majority agreement with question 4, “The time of day affects my feelings of safety in public spaces.” From question 8, “I am often conscious of my safety while in public spaces,” it is clear that generally subjects also feel they are often conscious of their safety in public spaces. These two questions demonstrate that subjects feel differently in public spaces depending on the time of day, but that generally they feel that they are conscious of their safety in public spaces. This does not mean that they are more or less conscious at night than they are in the day, but that on average they feel they
maintain a high level of safety consciousness. Their overall feelings of safety can change throughout the day but not necessarily their consciousness of their safety. The only change in consciousness of safety demonstrated by the survey is from question 9, “I am less conscious of my safety in public spaces which feel less judgmental,” which shows subjects feel less conscious of their safety in spaces which feel less judgmental to them. This question implies that subjects associate their safety with how they are being judged by others. In a less judgmental environment they will be less conscious of their safety, presumably because they feel safer. In a more judgmental environment, they will be more conscious of their safety, presumably because they feel less safe.

Agreement with question 5, “I feel safe in the neighborhood I reside in,” implies that participants also generally feel safe in the neighborhood in which they reside. Though they feel safe in their own neighborhoods, 100% agreement with question 6, “Some areas of the city are safer for me than others,” means that all respondents believe some areas of the city are safer for them than others. These questions imply that respondents recognize that parts of St. Louis are less safe for them, either because of their sexual identity or because the areas are generally dangerous, and that they are making the choice to live in a neighborhood in which they feel safe.

Questions 1, 2, and 10 were more variable in response. Questions 1 and 2, the only two questions related directly to sexuality, received a variety of responses from participants. The majority of participants do not agree with these questions but neither agree nor disagree or disagree to some degree. Participants vary about whether they feel safer in a public space where most people are not heterosexual and whether they felt less
safe in an environment where most people are heterosexual. This suggests that the sexuality of the individuals in a space does not overwhelm other factors that might make one feel safe or unsafe. It appears that many respondents do not become more uncomfortable in spaces for the general public than when they are in spaces used mostly by the LGBT community and that not all respondents feel safer in LGBT spaces than they do otherwise. The highest percentage of response for both of these questions was neither agree nor disagree, indicating that those who did not agree with the statements in questions 1 and 2 are mostly neutral about them and do not dissent strongly against them. This suggests that the sexuality of individuals in public spaces may not be an important enough issue to them to change their feelings about the space either way.

Question 10, “I am less conscious of my safety in large crowds,” had some participants agreeing and some answering neutrally, but the largest percentage, 46.15%, of respondents disagree or strongly disagree. This demonstrates that many participants are not less conscious of their safety in large crowds. They either maintain their normal consciousness or increase their level of consciousness. About one-fourth of respondents answered this question neutrally. Another one-fourth agreed. Whether this is due to their sexuality cannot be decided from the survey results, but the interviews make this clearer.

Discussion of Factor Analysis

The three factors found in the statistical analysis of the data provide information about the relationships between questions in the survey. Factor 1, Agency of Spatial Behavior, suggests that whether a participant avoids public spaces in which they are afraid relates to whether they seek out spaces in which they feel safe and whether the
time of day has an effect on their feelings of safety. Some participants avoid public spaces in which they are afraid, seek out public spaces in which they feel safe, and are affected by the time of day while others do not avoid fearful spaces, do not seek out safe places, and are not affected by the time of day. Agency of Spatial Behavior clearly shows that some respondents have a higher level of agency in their spatial behavior and others have a lower level of agency when it comes to their feelings of safety. The first group is actively making decisions about where they go based off their feelings of safety, showing a higher level of agency in space, while the second group is not accounting for their feelings in their spatial behavior. A safer environment is more appealing to the high agency group but not to the low agency group. The high agency group therefore appears to be more affected by their environment than the low agency group.

There are some individuals who do not fit into either group and for example may have agency in regards to seeking safe places but not in avoiding fearful spaces. It is logical that if one seeks safe spaces they would also avoid those they perceive to be dangerous, but it is possible that some respondents do not. They could choose the safer place when that is easier or possible, but when faced with the convenience or necessity of a more fearful space, they may choose to rise above their fear and travel to that space, as women in Koskela’s (2007) study of women’s courage in public spaces did. They used reasoning, frequenting a space, and self defense to retain their confidence.

Agency of Spatial Behavior did not differ by age, gender, sexuality, income, race, education, or neighborhood. A difference in race was not expected as the overwhelming majority of participants responded that they are white, but differences in the other
variables seemed possible. When thinking about what expected responses would be, however, it becomes clear how two people in the same situation can have a different perspective. A person with a higher income may have an activity space with less crime and therefore have less agency in their spatial behavior related to their feelings of safety. Conversely, that person may feel more inclined to account for their safety in their decisions of where to go because they feel out of place in any environment different than their own or are not used to living in an area with more crime as a person with a lower income may be. An elderly person may feel more vulnerable and have more agency or may have enough life experience that they no longer account for those feelings in their behavior. These same opposing viewpoints for the same demographic are possible for education and neighborhood as well. For gender and sexuality, the questions would be if there is a difference between male and females and is there a difference between those identifying as gay males, lesbian women, or bisexual. There was no expectation for the outcome of sexuality as it has not been researched in the public space arena, but gender has produced clear differences in the view of public space in past research. From past research, it is reasonable to expect that men would have less agency in their spatial behavior related to their feelings. Day, et al. (2003) showed gender differences in feelings in public space in the Irvine, CA study. Men in this study tended to base fear off challenges to their masculine identity whereas women’s fear tends to be influenced by their identity as women. It is therefore reasonable to assume that men would focus less on their feelings than on their identity as men. This is not the case in this research, suggesting that the sexuality of the male participants affects their consideration of their
feelings while moving through public space. It is possible, however, that this is not the
case and that there is no difference because of the small sample size of the survey. In
order to know, there would have to be heterosexual male respondents to the survey to use
for comparison. Overall, a lack of difference by demographic variables suggests that
differences in response are related to other information about the participants or simply
their varying life experiences.

Factor 2, Consciousness of Safety, suggests that respondents who are often
conscious of their safety do not lower that consciousness in specific situations.
Participants who are often conscious of their safety in public likely do not become less
conscious when they are in a less judgmental situation or in a large crowd. It is easier to
understand how a large crowd may cause someone to maintain their high level of
consciousness of their safety because crowds may become rowdy or invade personal
space. However in a less judgmental space where people are more accepting of those in
the space, one would expect consciousness of safety to lower. This is not the case in this
factor. Those who are often conscious of their safety and would also maintain that
consciousness in a large crowd likely do not lower their consciousness in a less
judgmental space. This suggests that this group maintains a high level of consciousness
of safety regardless of the situation. Conversely, respondents who are not often conscious
of their safety are also likely less conscious in both large crowds and less judgmental
situations. This suggests that those who are not often conscious of their safety become
even less conscious when they are around a lot of people at an event or when they feel the
situation is less judgmental. This group of respondents has an overall lower level of
consciousness of their safety. As Consciousness of Safety does not explain a high level of variance in the data, there are some respondents who do not fit into either group.

Consciousness of Safety did not relate to the demographic variables except for age. Besides those aged 22-25, it appears that respondents aged 40 or less tend to fit into one of the factors and generally be conscious or less conscious of their safety. Respondents aged 18-21 were generally less conscious of their safety, while those 26-40 were generally more conscious. Those 18-21 may simply lack life experiences that compel them to feel conscious of their safety, while those 26-40 have more experience and feel more conscious. Those over 40 do not fit well with the factor and may be more variable in their consciousness of safety. Results for those aged 22-25 could be affected by a small sample size. The other demographic variables did not show any differences, implying that other than age, consciousness of safety is related to other characteristics of the participants such as their life experiences, similarly to Factor 1. Past research in public space has not focused on age and so it is unclear why age is a significant variable.

Factor 3, Safety in Numbers, suggests that some respondents are more affected by the contents of a public space than others. The first group in the factor likely feels safer in spaces where the majority of people are not heterosexual, likely feels less safe in spaces which are heterosexual, and likely does not feel comfortable in the neighborhood they reside in. This group is clearly more conscious of who is in an environment and prefers to be around people like themselves. The feelings of safety of the second group in the factor are likely not affected by the sexuality of individuals in a public space and they likely do feel safer in their own neighborhood. This group does not base their feelings of safety off
of whether they are in a heterosexual space. This does not imply whether they generally feel safe or unsafe, only that they do not adjust their feelings of safety based off other people’s sexuality. The fact that they tend to feel safe in their own neighborhood while those who are affected by the sexuality of others do not hints at the possibility of this group generally feeling safe rather than unsafe. As this factor does not explain a high level of variance in the data, there are respondents who do not fit into these groups and, for example, may feel safe in their own neighborhood and safer in a space occupied mostly by members of the LGBT community.

Income was the only demographic variable that was statistically different for factor 3 and fit well with the factor. Those making less than $50,000 tend to feel safer in LGBT spaces and those making $70,000+ do not feel safer in LGBT spaces as opposed to heterosexual spaces. The question of why is difficult to answer as previous studies have not examined income and public space. It is possible that the spaces accessed by higher income populations generally feel safer and so higher income LGBT individuals would not feel any safer in LGBT spaces as opposed to any other space they access. Lower income individuals, conversely, may tend to access spaces that feel less safe generally and so being in an environment with other LGBT individuals may make them feel safer or more comfortable. Other than income, Factor 3 is not related to the demographic variables and so the participants’ feelings of safety may be related to other life experiences in addition to their income, as in Factor 1.
Discussion of Survey Context

Overall, the three factors describing the survey responses do not vary by demographic factors. Consciousness of Safety varies with age and Safety in Numbers varies with income, but the other variables do not appear to affect the participants’ decisions, feelings, and consciousness in public spaces. Most of the demographic variables collected including age, sexuality, income, and education level have not been examined in previous public space studies. Gender and race in public space have been studied, but although Day (1999) found differences by race in her study of white, Hispanic, and black women in Orange County, CA, differences by race were not expected in this study because the overwhelming majority of respondents are white. Once again, it was expected that there would be gender differences based off the work of Day, et al. (2003) which showed clear differences in how men and women think about public spaces. These differences, however, were not found. It is possible that the small sample size of the survey influenced this, or perhaps there are not differences in the St. Louis LGBT community’s perceptions of public space by gender, which may or may not be influenced by the sexuality of the participants.

Overall, the survey results show a clear difference from previous public space work because gender differences were not found. There have been suggestions, for example by Pain (2001), that other identities should be explored in public space research to truly understand how people feel in public space. In this case, they were explored and the demographic variables were more often than not unrelated to the survey responses. This, however, could be unique to this study and further research with higher sample
sizes should also explore identity differences to gain a more complete perspective on what identities affect the LGBT community’s perspectives on public space.

**Semi-structured Interviews**

Several important themes emerged from coding the interviews including the effects of alcohol on consciousness of safety, alcohol as conflict instigator, “hick” areas as dangerous for the gay community, “ghetto” areas as dangerous for everyone, race as a separating factor, bars as a topic of conversation, LGBT bars as comfortable, straight bars as uncomfortable, specific situations involving bars as unsafe, behavior modification in unsafe situations, crowds as safe unless certain individuals cause problems, a high level of consciousness of safety, the city as safe, parks as safe, familiar areas as safe, and upscale areas as uncomfortable.

Though themes exist, overall perceptions of public space are related to each subject’s life experience. In most themes, all subjects did not agree, did not discuss the theme, or did not agree for the same reasons. For example, four of the six subjects generally have a high level of consciousness of their safety but for different reasons. Only one seemed aware of her safety because of her sexuality. Another maintained a high consciousness because of the necessity to be aware of your surroundings in lower income areas where she has always lived and not because of her sexuality. With this theme, it is clear that consciousness of safety is individual and cannot be generalized to the LGBT community. Changing behavior in unsafe situations is similar. All subjects indicated that they adjust their behavior, but not in the same way. Three responses were given. Depending on the person, they may become more assertive, drawback, or pretend to be
straight. What can be generalized, however, is the reaction of changing behavior. Modifying behavior in public spaces is not unexpected, as Gardner (1989) found that women modify their behavior in public spaces, including pretending a man is with them, in her early work on public space.

Other themes that cannot be generalized but are important due to their uniqueness to this study include alcohol effecting awareness of safety and alcohol as a conflict instigator. Only three subjects mentioned each of these themes but despite this, alcohol was mentioned in some capacity by five subjects and does affect their feelings of safety. There is not any precedence for this in the literature, however, and so it is difficult to tell if it is related to their sexuality or not. Parks were also mentioned as safe spaces by only three subjects and therefore cannot be generalized across the study, but it is important to note that the subjects comfort in parks seems to stem from their existence for everyone, including minorities such as themselves. There is no exclusion in parks. Three subjects also discussed feeling uncomfortable in more upscale areas. This is also unique to this study because they were not uncomfortable due to class differences but due to perceived judgment of their sexuality from the occupants of these spaces.

Other themes however can be generalized. All subjects agree that LGBT bars are the most comfortable spaces and that the city is safe. These are clear themes that can be generalized to all six subjects. The LGBT bar theme, however, cannot be generalized to the entire St. Louis LGBT community because most survey respondents neither agreed or disagreed with statements about LGBT spaces being safer and more comfortable. It is unclear whether the city being safe can be generalized to the rest of the community as this
question was not asked on the survey and six subjects is not a high enough number. Other generalizations include all five lesbian women preferring lesbian bars over gay male bars, but the lone gay male interviewee did not specify preferring male bars to lesbian bars. The five female subjects also felt more uncomfortable in straight bars and generally unsafe in “ghetto” areas. Once again, the only male interviewee did not mention these themes in his interview. All gay people may not feel uncomfortable in straight bars, but it is clear that the majority of the interviewees feel out of place in them. It is also clear that they perceive the same areas of the city as unsafe for everyone and with this theme, it is safe to assume that it is related to general knowledge in the St. Louis community as a whole. Race was also mentioned by several subjects in conjunction with the “ghetto,” which is not unexpected as Day (1999) found women associating fear of public spaces with their racial makeups. Familiar areas were mentioned by three subjects as preferred spaces and another subject mentioned feeling uncomfortable in areas she did not know. It is clear that for four of the subjects in the study, their knowledge of an area affects their comfort level in that space. This is consistent with previous findings, including Day's (1999) study in which women preferred to stay in familiar areas and Day et al.’s (2003) study of men in which unfamiliar places were fearful for them.

It is also clear from the interviews that the LGBT bar strip in St. Louis is not the safest area. Clear examples were given of muggings, shootings, and deaths in the area so despite the fact that one subject did not mention any danger in the area, it most certainly exists. Some of these examples are directly related to the strip's LGBT character, which is not surprising as Valentine (1995) found in her study of lesbian neighborhoods that going
to bars was often mentioned as a safety concern. Discussing bars in itself became a theme, as bars were a heavy topic of discussion in all six subjects interviews. This is not surprising either, as previous studies have focused on bars as a way of locating the LGBT community (Binnie & Valentine 1999; Valentine 1995). Bars however were not a frequently mentioned topic in public space literature, making their importance to the LGBT community unique.

Five of the six subjects also mentioned feeling unsafe or uncomfortable in small town or “hick” areas and the danger they perceive in these areas is clearly important to these subjects. The only male interviewee, once again, was the only subject not to mention these areas. It is unclear whether his difference in response has something to do with gender, or perhaps his age as he is by far the oldest participant, or if it simply has to do with his life experiences. Perhaps he has no knowledge of “hick” areas and did not mention feeling uncomfortable in straight bars because he does not believe anyone can tell he is gay. Having only one male interviewee is a clear limitation to making any distinctions between males and females in the St. Louis LGBT community.

Alongside “hick” areas as dangerous, subjects mentioned “ghetto” areas as dangerous. Though subjects generally agree they feel unsafe in these lower income areas, this raises a larger question of how race fits into how these subjects view public space. The “ghetto” areas that they avoid are mostly African American areas, and though subjects may avoid them largely because they are generally unsafe, this does separate them from the African American community. This is further exemplified by the subjects who are uncomfortable at African American bars or concerts because they feel
discriminated against for their identity as Caucasians. These subjects clearly feel separated from this community, which is further exemplified by the fact that African Americans are absent from this research because the Caucasian contacts used to generate participation have limited interaction with them. This division does not exist across the board for the subjects in this research, however. Subject C feels more comfortable with other minorities because they have their minority status in common. Subject A has an African American roommate who she sees as a protector. Subject B mentioned having African American friends. Although it is clear that race is a dividing factor between the subjects in this study and the African American community, there are still instances that cross that division.

Most subjects are generally comfortable at large events, but for some it is dependent on the type of people at the event. All subjects feel comfortable at the gay pride parade, however. This was expected as Brickell (2000), for example, showed that the gay community asserts its presence in this specific instance. One question that arose from the literature was whether the gay community asserts its identity outside of LGBT events and spaces. For these interviewees, this did not come through in the interviews. Only two instances of asserting their sexual identity outside of LGBT spaces and events were mentioned, including Subject A citing public displays of affection in certain suburban areas and Subject C mentioning choosing to be bold in certain situations and express her identity rather than hold it back. Although they did not mention asserting their sexual identities often, the subjects did reveal some instances of bravery, as the women in Koskela's (1997) study did. Subject A mentioned just doing it when needing to
enter fearful spaces and overcoming her fears of “hick” bars for family members. Subject B is not generally aware of his safety, but will choose to say something to someone who reacts to his being gay. Subject C, besides specifically mentioning being bold, also discussed going to unsafe spaces with her family. Subject E has changed over time, in the past she adjusted her behavior in the “country” but has since overcome this and chooses to be herself despite what anyone else thinks. It is clear that the subjects in this study sometimes will assert courage despite their fears in public spaces.

One of the research questions in this study asks what other identities affect members of the St. Louis LGBT community’s perceptions of public spaces. Despite asking each subject this question, no themes of other identities emerged. This was unexpected as some of the literature, for example Pain (2001), pushed for the exploration of other identities in public space research and Oswin (2008) emphasized exploring other identities in her queer theory article. Other identities were occasionally mentioned, such as Subject D as a white woman and Subject B preferring to be around those of his own age in bars. Discrimination against whites in African American areas is important for subjects A and F, but this was not the case for all subjects. Other than these few instances, perceptions of public space are related more to the individual life experiences of the subjects than any other categorical identity. This is consistent with the survey results which show little correspondence to demographic factors, implying that the responses are related to subjects’ personal histories. As age and income did not emerge as interview themes, the interviews also do not explain the differences found in the survey.
The other research questions in this study were clearly answered by the interviews. Spaces of fear and safety became clear, with LGBT spaces, the city, and parks emerging as safe spaces and “hick,” “ghetto,” the outdoor areas of the LGBT strip, and some spaces of alcohol emerging as unsafe spaces. These same unsafe spaces were often mentioned as avoided spaces, while LGBT spaces and other familiar spaces were cited as spaces they sought out. It is also clear that all subjects change their behavior when they become uncomfortable in public. Some spatial manifestations of safety and fear became clear in the interviews, such as the city as safe, but the hand maps made the manifestations of these themes in space clearer.

**Hand Mapping**

The technique interviewees used to create their maps had an influence on how much they agreed with other subjects on the emotional status of an area. Neutral and Very Safe were the most used categories and the most agreed upon categories because of how they were used by three interviewees. Subject B and C designated everything on their map that they did not mark as a different category as Neutral. Subject E did the same with Very Safe. This led to much larger overall areas being marked Neutral and Very Safe, as well as high levels of overlap between these three subjects with other subjects. The subject pairs with high overlap were BC, AC, AB, and AE. Subjects B and C mostly agreed on Neutral areas because they both designated a high area of the map as Neutral. Pair AC overlapped highly because of Neutral areas, AB because of Neutral areas, and AE because of Very Safe areas. This does not invalidate these results, but simply adds perspective to them. These four pairs did agree on a large area of the map,
but it is because they covered the entire map. Subjects B, C, and E covered the whole
map with mostly one category while subject A covered the whole map but with a more
varying use of the categories. Subjects D and F have a medium area of overlap with
subjects B and C mostly from Neutral areas, once again because the more area mapped,
the more a subject will agree with other subjects. Neutral accounted for most of B and C's
maps and so they overlapped more with others in that category. The amount of area
agreed upon has more to do with how much area the subjects mapped and their tendency
to call everything one category or not than with any similarities between subjects. The
subjects’ demographic information did not relate to how often they agreed. For example,
the highest overlap area was between Subjects B and C, who are incredibly different with
Subject B being the lone male, the oldest, and the most affluent while Subject C is a
female, the youngest, and makes little money.

In future studies, it would be useful to prompt all participants to map the entire
study area to avoid this situation. Even if that were done, it would not stop subjects from
calling everything on the map they do not wish to be more specific about Neutral or
another category. The question then becomes, do they really feel Neutral, Very Safe, etc.
towards these areas or are they unfamiliar with them? One could feel neutrally towards an
area they do not know, or they could feel safe because they are unfamiliar with the area
and have no reason to feel otherwise. If a person felt safe most of the time, it is
reasonable to assume they might map unfamiliar areas as safe until they had a reason to
feel otherwise. This raises the question of how subjects interpret the categories. This
could be made clearer in further research by asking each subject what a category means to them.

What the overlap analysis did reveal was the relationship between overlaps and emotional categories, rather than simply which subject pairs agreed most often. The highest number of overlaps and second most overlap area exists for Very Safe areas. The least amount of overlaps, in number and area, exists for Very Unsafe areas. Very Unsafe was used the least by participants and so it would be expected that overlaps in this category would occur the least. Very Safe, however, was not the category used most often. In area, Neutral was used most often. Per person, Unsafe/Uncomfortable was used most often by A, Neutral by B, C and F, and Very Safe by D and E. It is unexpected, therefore, that Very Safe overlaps occurred most often. Interviewees found common ground most often in areas they considered to be the safest and every subject pair agreed on some Very Safe areas. Although Unsafe/Uncomfortable areas were mapped often, there were not as many instances of agreement on an area. This suggests that there are areas that are generally accepted as safe by the participants in the study, but that their views on unsafe areas are more variable in space. With a limited sample size of six, this finding cannot be generalized to the St. Louis LGBT community as a whole. Further research is necessary to discover if this holds true for the entire community.

The overlap analysis also indicated the areas of the city in which overlap occurred. Areas thought of as safe tended to be in the city and the suburbs – which is consistent with what was said in the interviews about LGBT spaces in the city and certain suburbs being considered safe, just sometimes judgmental. Areas thought of as unsafe are
in the North county areas, which tend to be lower income, and the rural areas, which are considered uncomfortable or dangerous due to the subjects' perception of the residents judgment of them for their sexuality. This clearly corresponds with the interview responses about unsafe areas in “ghetto” and “hick” areas.

Overall, using quantitative techniques to analyze qualitative hand maps is questionable. The initial approach to analyze the maps involved a more top down approach that attempted to view the maps based off the subject's demographic characteristics. This did not work. Looking for areas placed into the same emotional category above the subject pair level, or in other words examining three or more subjects, and through the lens of the subjects' demographic information did not return results. The more maps that were viewed at once, the less they agree. There were slivers of areas that more than two subjects agreed upon, but they were not substantial enough to lend to any analysis. The subject pair level was found to be the best method for looking at what areas and emotional categories subjects were agreeing upon. If all subjects had been instructed to cover their entire map, the analysis may have produced better results than the larger the area covered the more agreement between subjects. Perhaps it would be clearer if subjects with similar life backgrounds agree on areas more than those with different backgrounds. As the survey and interviews do not relate well to the demographic information, but speak more to life experiences, it would be expected that more similar life backgrounds would have more agreement between maps. This was not seen here. In fact, subject's E and F had the most similar backgrounds, both being women who grew up in rural areas outside St. Louis and are around the same age and income, but did not have
one of the highest areas of overlap. The question then is whether subjects are not agreeing based off their demographic variables and life experiences, or if the results are being skewed by some participants mapping more of the study area or using one category much more than others. Further research with a bigger sample size that prompts all respondents to cover their entire map would be useful in answering this question. Despite some uncertainty in the results of the overlap analysis, it did clearly reveal that safe areas were agreed upon more often than unsafe areas. This was an invaluable result that would not have been easily determined by simply looking at all six maps. It was not clear that safe areas were agreed upon more often until the overlap analysis revealed it. For this reason, the overlap analysis was still useful in this research despite the lack of uniformity in mapping technique.

The overlap analysis also showed that what are considered to be safer areas are in the city and suburbs and unsafe areas are in lower income and judgmental rural areas. These are useful results, but these results were obvious from simply viewing the maps and going back to the interviews. In fact, analyzing the maps qualitatively provided more insight. Safer areas are still in the city and county, but whereas in the overlaps this is a generalization, as not all subject pairs have overlaps in these areas, simply viewing the maps shows that every subject marked some part of St. Louis city as safe and some part of the suburbs as safe, just not the same areas. This is the same with unsafe areas, where every subject using the unsafe categories marked some part of the “country” as unsafe, and many marked the lower income areas in the county as unsafe, just not the same areas. Once again in the Neutral category, many subjects marked areas of the suburbs and rural
areas as Neutral. This raises the question of how the subjects are thinking about the maps. There were no direct overlaps between all six subjects, but they did all mark an area of the city as Very Safe. Do they perceive where things are differently, or do they truly feel differently about different areas of the city? The dialogue used as the subjects were mapping suggests that they feel the same about these areas of the city for similar reasons, for example feeling safe in the less judgmental city. This suggests that they may be perceiving where things are differently, which is why they often had similar areas mapped, such as parts of the suburbs as safe or the rural areas as unsafe, without having true overlapping areas for more than a couple of subjects. Without analyzing the maps qualitatively, these observations would not be made. Strictly quantitative analysis did not reveal anything but strict overlaps. It is therefore important when analyzing qualitative hand maps to use qualitative methods in addition to quantitative methods, as quantitative techniques will be limited by the mapping techniques used and the interpretation of space by the subjects. It is important to note, however, that viewing the maps in a GIS was more useful than viewing the paper maps because one of the mapping techniques used was to place a dot on or circle a municipality name rather than bound an area. When looking at the paper maps, the spatial extent of these areas is not clear. It becomes clear when they are digitized with the municipality boundaries and viewed in a GIS. This corresponds with Pavlovskaya's (2009) ideas on the importance of qualitative analysis in a GIS, where she argues that digitized data is not automatically quantitative and that visualization is, “arguably the most powerful and widely used function in GIS,” (p. 22). Though quantitative analysis was found to be useful in this research for identifying which
categories had the most and least area of overlap, the digitization and visualization
techniques offered by GIS revealed more powerful results for where subjects agree.

The hand maps were useful for another reason, beyond what quantitative and
qualitative analysis of the maps revealed. Completed at the beginning of the interview,
the hand maps were instrumental in facilitating the rest of the interview. Subjects
maintained a running dialogue, prompted by the researcher when necessary, that
explained what they were mapping and why. These dialogues often answered questions
that were going to be asked later in the interview. Additionally, in later questions,
subjects often referred back to the map to provide more context to what they were
discussing. Giving the subjects a visual stimulated their thoughts and involved them in
the interview more as well as reminded them of things they otherwise would not have
thought of, such as how they feel in a specific location. After seeing that location on the
map, they would discuss their feelings in that location. Without the map, a lot of
information about feelings in specific locations would have been lost and in this way
using hand maps was invaluable to the research.

Discussion of Overall Results

The survey, interviews, and hand maps all suggest that experiences in public
spaces are more related to life experiences than to any categorical identities such as age
or income. From the survey, it is clear that some respondents have a higher level of
agency related to safety in public spaces and some have a lower agency. This is
consistent with the interview results as well, in which some subjects were very specific
about unsafe areas that they avoid and others felt the same about most spaces. The survey
also reveals that some subjects have a higher consciousness of safety than others. This is also clear in the interviews, with four subjects being generally conscious of their safety, one being moderately conscious, and one being almost never conscious of safety. It is also clear from the survey that some respondents are more affected by who is in an environment than others. This is also revealed in the interviews, with all subjects being more comfortable in LGBT spaces but not safer, some citing the presence of alcohol in certain situations being uncomfortable, and some citing the people in a crowd affecting their comfort level.

What is not consistent between the interviews and the survey are the responses to the questions of safety and comfort in LGBT spaces, which were mostly answered as neither agree nor disagree in the survey but in the interviews it is clear that LGBT spaces are more comfortable. This difference could be due to the fact that in the interviews subjects discussed feeling differently in various LGBT environments. The question on the survey was very general and some subjects may not have agreed fully that they were more comfortable in LGBT spaces because they do not view all of these spaces the same way. It is also possible that the questions were not communicated clearly on the survey or that seeing LGBT spaces as generally more comfortable was unique to the interview participants.

The interviews and maps were mostly consistent, but it is interesting that the maps revealed safe areas to be agreed upon most often, because the only specifically agreed upon safe spaces in the interviews were on the LGBT strip and the rest of the city, which is a relatively small area. From the interviews, subjects seem to be agreeing more about
unsafe “ghetto” and “hick” areas, but this did not manifest spatially. Perhaps the individual spaces, such as spaces familiar to each individual, have more in common than was clear in the interviews, or perhaps interviewees perceived where the “ghetto” and “hick” areas were differently. Overall, however, results were consistent between the survey, interviews, and hand maps.
Conclusion

The results of this study were expected to be related to categorical forms of identity besides sexuality, but this is not the case. Besides a few significant variables explaining the survey factors, all three data sources relate more to the participants’ individual life experiences. It is clear from the survey factors however that some participants think about public spaces similarly and that there are clear groups in the LGBT community in regards to spatial agency related to safety in public spaces, consciousness of safety, and how individuals are affected by who is in an environment. Some themes in the research also arose from the interviews, the most important of which are LGBT spaces as comfortable, the city, parks, and familiar spaces as safe, bars as important spaces, behavior modification in unsafe situations, the importance of alcohol to safety, “hick” areas as dangerous, race as a separating factor, and upscale areas as uncomfortable.

Some of these are new observations that contribute to public space research, revealing new spaces of safety in the accepting environments of LGBT spaces and the city and the open environment of parks, and new uncomfortable or fearful spaces in the more judgmental environment of “hick” areas and upscale areas. The question of whether alcohol as a factor in safety in public space is specific to the LGBT community or not is also a new uncertainty. Other observations are not new to public space research, such as
familiar spaces being more comfortable and adjusting behavior in unsafe situations. This research also contributes to queer theory research, moving beyond the contest over space to demonstrate how some members of the LGBT community feel about, access, and behave in public spaces. The only theme related to previous research is that bars are an important aspect of the LGBT community. Some other findings are consistent with past queer theory literature however, such as a desire to be around people like themselves which was seen through the preference for LGBT spaces, that queer spaces can be exclusionary which was seen in the inclination towards some LGBT spaces over others, and that the LGBT community may take a stance against norms which was seen in some subjects’ acts of boldness in public space. The rest of this research, however, is a new contribution to queer theory research.

Though the research questions of what spaces are safe and fearful, what spaces are avoided and sought out, how behavior changes in public space, and how these feelings manifest spatially were answered, the results cannot be generalized to the entire LGBT community as a whole, or even the St. Louis LGBT community, because the sample sizes in the survey and interviews were so small. Attempts to contact every organization in the St. Louis area that might have been helpful in expanding the participant pool produced only minimal results, with only two organizations passing the survey to their members. The difficulty in making contacts in the area beyond existing ones is a significant limitation in this research. Furthermore, the difficulty in securing interviews prevents interview results from being applied to the larger community.
Further research should spend more time developing contacts in organizations to increase sample sizes. Future interviews would then be able to build off the themes identified in this research and possibly make more general statements about the community. In order to do so, it is also important to reach a larger variety of participants as well. This research was limited by race in the survey and interviews and by gender in the interviews. A mix of participants will provide clearer results. If larger sample sizes with more varied participants prove to be difficult in obtaining, future research could attend community events, such as the local gay pride parade, to try to reach more people.

The small sample sizes maybe related to my position as an outsider of the LGBT community. The survey was likely less affected as contacts I know in the area passed the survey along and those who received the survey have no knowledge of my identity and therefore would not be deterred by my outside perspective. For potential interviewees who ultimately did not participate and spoke with me over the phone or in person, it is possible that my identity as an outsider became clear and this affected their decision not to participate. It is unclear however if this is the case. My racial identify, white, may have separated the research from the African American community. I had no direct contact with members of that community, but all but one of my contacts are white which could have limited their contact with the African American community and excluded them from the study. Gender may have affected my lack of male interviewees as well. It is possible that males were not interested in meeting with me because I am even more disconnected from them than from females. I am both an outsider to the LGBT community and a female. Women may have felt comfortable speaking with me as an outsider because we
share a gender identity, while I do not have such a connection with men. Overall, it is difficult to tell how my identity affected the sample size and demographics of this research, but future studies should spend more time developing a relationship with a broad range of LGBT community members in order to reach a variety of people.

Additional studies on the LGBT community and public space could also take a comparative approach, examining more than one city, as LGBT experiences in public space are likely to vary by city. For example, experiences in San Francisco where the community is larger would likely be different from a city like St. Louis with a smaller LGBT community. It would also be useful to interview both members of the LGBT community and members of the general community in order to separate out what perspectives are related to the LGBT community specifically and what perspectives are more general. This would have been useful in this study to answer questions, for example, of whether alcohol as a factor in safety is specific to the LGBT community.

Feminist and qualitative GIS research is also informed by this research, as it explores hand-mapping and analysis from a production standpoint rather than a theoretical one. Overall, the hand maps were invaluable in improving the interview, providing important observations about what emotions the subjects tend to agree upon across space, and raising questions of whether the subjects perceive where things are differently. The decision to let participants map as they saw fit, interpreting the categories in different ways and choosing to cover different amounts of the map, limits the analysis of the maps. Future research using hand maps should strive to guarantee that all participants are using the categories similarly and require that all subjects cover the entire
map area. Though the maps seemed to produce a more constructive interview, this concept should be tested in further research. Interviews could be conducted using the same question set, but some with and some without the use of hand maps. This would make the contribution of hand maps to the interview clearer. It would also be useful to increase the sample size of the hand map participants, either through increasing interviewee numbers or creating an online interface. The latter possibility could allow participants to use drawing tools to complete a hand map via the internet and each drawing could be accompanied by an annotation. For much larger studies, this would be ideal because scanning, georeferencing, and digitizing a large number of hand maps would be a time consuming task. An online tool could do this for the researcher.

Overall, this research provides a solid foundation for future studies on the LGBT community and public space. The factors and themes identified here can be explored in more detail with more subjects and study areas in the future. The study of hand maps can also build off this research, taking the positive aspects and considering the drawbacks in constructing future research projects.
References


Appendix A: Survey Questions

Participants will be asked to rate their agreement with the following questions using the scale:

- +2 Strongly Agree
- +1 Agree
- 0 Neither Agree nor Disagree
- -1 Disagree
- -2 Strongly Disagree

1. I feel safer in public spaces in which most people are not heterosexual.
2. I am more fearful in public spaces in which most people are heterosexual.
3. I avoid public spaces in which I am afraid.
4. I seek out public spaces in which I feel safe.
5. The time of day affects my feelings of safety in public spaces.
6. I feel safe in the neighborhood I reside in.
7. Some areas of the city are safer for me than others.
8. I am often conscious of my safety while in public spaces.
9. I am less conscious of my safety in public spaces which feel less judgmental.
10. I am less conscious of my safety in large crowds.
Appendix B: Interview Questions

• What types of public spaces or public situations do you feel safest in? Why?
• What types of public spaces or public situations do you feel fearful in? Why?
• Do you feel safer in queer spaces?
• Are there certain queer spaces that are safer than others? Why?
• What other identities affect your feelings in or decision to enter public spaces?
• Do you ever avoid public spaces in which you do not feel safe? What might those spaces be?
• Do you ever seek out public spaces in which you feel safer or more comfortable? What might those spaces be?
• How conscious of your safety are you while in public spaces?
• Are there certain spaces in which you feel less conscious of your safety?
• Does the time of day affect your feelings of safety?
• Does the time of day affect your decision to enter certain public spaces?
• Do you ever change your behavior to feel safer in a public space?
• Do you feel safe in your own neighborhood?
• Are there certain areas of the city you feel safer in? Why?
• Are there certain areas of the city you avoid? Why?
• Do your feelings of safety differ by the amount of people around?
• How safe do you feel at large events?
Appendix C: Digitized Hand Maps

Figure 1. Subject A Digitized Hand Map overlayed on drawn hand map
Figure 2. Subject B Digitized Hand Map overlayed on drawn hand map
Figure 3. Subject C Digitized Hand Map overlayed on drawn hand map
Figure 4. Subject D Digitized Hand Map overlayed on drawn hand map
Figure 5. Subject E Digitized Hand Map overlayed on drawn hand map
Figure 6. Subject F Digitized Hand Map overlayed on drawn hand map
Appendix D: Survey Demographic Tables

Table 1. Break down of respondent ages

<table>
<thead>
<tr>
<th>Age</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-21</td>
<td>7</td>
</tr>
<tr>
<td>22-25</td>
<td>5</td>
</tr>
<tr>
<td>26-30</td>
<td>7</td>
</tr>
<tr>
<td>31-40</td>
<td>14</td>
</tr>
<tr>
<td>41-50</td>
<td>16</td>
</tr>
<tr>
<td>51-60</td>
<td>2</td>
</tr>
<tr>
<td>61 or over</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 2. Break down of respondent income

<table>
<thead>
<tr>
<th>Income</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $20,000</td>
<td>11</td>
</tr>
<tr>
<td>$20,000 - $29,999</td>
<td>5</td>
</tr>
<tr>
<td>$30,000 - $39,999</td>
<td>14</td>
</tr>
<tr>
<td>$40,000 - $49,999</td>
<td>3</td>
</tr>
<tr>
<td>$50,000 - $59,999</td>
<td>4</td>
</tr>
<tr>
<td>$60,000 - $69,999</td>
<td>9</td>
</tr>
<tr>
<td>$70,000 - $79,999</td>
<td>1</td>
</tr>
<tr>
<td>$80,000 - $89,999</td>
<td>1</td>
</tr>
<tr>
<td>$90,000 - $99,999</td>
<td>1</td>
</tr>
<tr>
<td>$100,000 - $149,999</td>
<td>1</td>
</tr>
<tr>
<td>More than $150,000</td>
<td>0</td>
</tr>
<tr>
<td>I prefer not to answer this question</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 3. Break down of respondent race/ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>46</td>
</tr>
<tr>
<td>African American</td>
<td>2</td>
</tr>
<tr>
<td>Asian-Pacific Islander</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2</td>
</tr>
<tr>
<td>Native American</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 4. Break down of respondent education

<table>
<thead>
<tr>
<th>Education</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>1</td>
</tr>
<tr>
<td>High School/GED</td>
<td>3</td>
</tr>
<tr>
<td>Some College</td>
<td>18</td>
</tr>
<tr>
<td>2-Year College Degree</td>
<td>7</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>17</td>
</tr>
<tr>
<td>Master's Degree</td>
<td>4</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>1</td>
</tr>
<tr>
<td>Professional Degree</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 5. Break down of respondent neighborhoods

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Central West End</td>
<td>6</td>
</tr>
<tr>
<td>Midtown</td>
<td>2</td>
</tr>
<tr>
<td>South City</td>
<td>6</td>
</tr>
<tr>
<td>West County</td>
<td>8</td>
</tr>
<tr>
<td>South County</td>
<td>1</td>
</tr>
<tr>
<td>North County</td>
<td>2</td>
</tr>
<tr>
<td>St. Charles County</td>
<td>3</td>
</tr>
<tr>
<td>Metro East</td>
<td>4</td>
</tr>
<tr>
<td>Grand South Grand</td>
<td>5</td>
</tr>
<tr>
<td>The Grove</td>
<td>1</td>
</tr>
<tr>
<td>Soulard</td>
<td>1</td>
</tr>
<tr>
<td>Tower Grove</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
</tr>
</tbody>
</table>