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GAY MEN AND SATISFACTION WITH HEALTH CARE INTERACTIONS

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GAY MEN AND SATISFACTION WITH HEALTH CARE INTERACTIONS

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Nursing
at the University of Kentucky

By
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2019

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ABSTRACT OF DISSERTATION

GAY MEN AND SATISFACTION WITH HEALTH CARE INTERACTIONS

The purpose of this research was to determine relationships among depression, anxiety, self-rated physical and mental health, self-advocacy, internalized homophobia, and quality of patient-provider communication to satisfaction with health care interactions. These were measured while controlling for select demographic variables: age; ethnicity; urban or rural domicile; relationship status; household income; highest educational attainment; health insurance; disclosure to health care provider as a gay man; reason for last healthcare visit; and, general health self-rating. The specific aims of this study were to: 1) identify general characteristics of gay men in this sample; 2) examine how levels of satisfaction with health care differed by each characteristic; 3) assess relationships between each potential predictor of satisfaction and the level of satisfaction; and, 4) determine the relationship between each predictor and satisfaction after controlling for the most significant covariate(s).

A quantitative study was conducted in which 42 adult gay men participated. The author hypothesized that gay men who reported lower levels of depression, higher self-rated physical and mental health, lower levels of anxiety, higher self-advocacy scores, lower levels of internalized homophobia, and stronger evaluations of patient-provider communication would report more positive satisfaction with health care interactions. The hypothesis was supported by results of this research.

This research established that variables with the strongest effect on gay men's satisfaction with health care interactions were whether the patient had revealed his sexual orientation to the provider, how he rated his anxiety, and how he rated the quality of communication with his provider.

These results emphasize the importance of health care providers' awareness of specific psychosocial factors that influence communication during care of gay men, who understand their sexual orientation places them at a disadvantage when receiving health care services. Despite the pursuit of equitable, high quality, and satisfying health care, its achievement has been hampered by barriers that gay men encounter. Understanding those barriers while addressing health related needs of gay men will be important for providers who seek to improve satisfaction with health care interactions.

KEYWORDS: Gay Men, Communication, Self-advocacy, Satisfaction, Interaction, Health Care

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GAY MEN AND SATISFACTION WITH HEALTH CARE INTERACTIONS

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TABLE OF CONTENTS

LIST OF TABLES

Chapter One: Introduction and Essential Foundation

In 2011, the National Academy of Science (NAS) published The Health of Lesbian, Gay, Bisexual, and Transgendered People (LGBT) and established a specific research agenda (IOM, 2011). Among the recommendations made, the fifth animated the work reflected in this dissertation. It states that, specifically as it relates to research into LGBT health issues, the National Institutes of Health (NIH) should support a strong research-based approach as having the most promise in providing the foundation for needed change. Moreover, research should be financially supported, and it should focus on issues important to the LGBT communities (Anteby & Anderson, 2014). This echoed strong calls from researchers who had an interest in LGBT health issues (Kinney, 2001; Meyer, 2001; Miller & Vance, 2004). In fact, Miller and Vance (2004) began their article by stating, "Sexuality can no longer be overlooked or ignored in work on health and human rights" (p. 5).

1.1 Current Knowledge about Primary Care to Gay Men

Individuals within LGBT communities experience unique health disparities (IOM, 2011). Particularly notable obstacles are access to and delivery of health care resources as well as less persistence in seeking health care for prevention and treatment. Under the umbrella acronym LGBT, subpopulations experience unique healthcare challenges as they seek care (IOM, 2011; Anteby & Anderson, 2014). Within these subpopulations – lesbians, gay men, bisexual men and women, and transgender persons – further divisions exist based on factors such as race, gender, ethnicity, socioeconomic status, geographic location, age, community of preference, family of origin and preference, preferred nomenclature of self-identity, level of education, substance use and abuse, and other factors. Following the AIDS outbreak in 1981, research within the LGBT population increased. Nevertheless, research remains limited because the significant stigma LGBT persons experience as a sexual and gender minority makes researchers' access to this population difficult. In addition, political realities have also limited funding for this research focus (Kempner, 2008; Anteby & Anderson, 2104).

1.2 Gaps in Our Knowledge About Gay Men and Health Care

Researchers to date have provided some understanding of the LGBT population overall, but much remains unknown about the health status and challenges LGBT persons encounter, and especially about the LGBT sub-populations (IOM, 2011; Romanelli & Hudson, 2014). Further research is needed, focused in areas that are known to contribute to health disparities among LGBT patients and their families. These research focus areas include obstacles in access to care, the effects of stigma within health disparities, and especially stigma's effects on health care providers who work with gay and lesbian clients. All these cluster around the issue of stigma, which is uniquely called out by the NAS document (IOM, 2011). This same document challenges researchers to investigate how provider attitudes affect care provision, how these attitudes can be and usually are unconscious, and how health care structures are created that isolate and deny health care to segments of the US population.

Chapter Two of this dissertation explores different sampling methodologies used by researchers in research with LGBT communities or groups of gay men, evaluating each method for its efficacy in obtaining as representative a sample as possible, as well as in addressing threats to external validity. Chapter three is a discussion of socio-psychological factors and their proposed mechanisms, extant both individually and community-wide, that are understood to disturb effective research into stressed, minority communities. These are factors known to result in isolation of individual members of minority communities, as well as lead to reduction in positive health outcomes for entire communities (IOM, 2011; Anteby & Anderson, 2014). Chapter Four is a presentation of research into factors hypothesized to influence satisfaction with health care interactions in a sample of gay men.

1.3 Effective Research Methodologies

The authors of NAS document (IOM, 2011) identified one of the gaps in our knowledge as being a clear understanding of the best way to conduct research into highly stressed, isolated, and poorly served LGBT communities. In their research into how scientists have evaluated LGBT communities, Anteby and Anderson (2014) certainly support this opinion. They urge scientists to understand that the traditional approach toward LGBT persons has framed the research venture toward LGBT persons (and communities) as a either a medical abnormality, as persons living a deviant social role, as persons sharing a sexual preference and through this achieving some sort of collective identity, or as persons who through their sexual identity have chosen to live with an essential social distinctiveness. Anteby and Anderson (2014) argue that all phases of research, approaching and studying LGBT persons, have been severely restrained by this limited scientific vision in only four frames. They urge a more expansive, gestalt view of LGBT communities and the persons within them. These authors contend that research unconstrained by these artificial, inaccurate boundaries has the best chance of obtaining critically important data about persons who live as part of these communities and about the communities themselves. New ways of approaching LGBT communities are needed, and research is necessary to provide even these novel avenues.

The NAS document (IOM, 2011) states it is a presumption that LGBT communities are nonparametric and that generalization or transferability of results could be conflicted. However, the authors of the NAS document urge researchers to use the best designed protocols possible in their attempts to access and explore these communities. One difficulty noted was that sampling methodologies must be matched to the population being studied; in communities of gay men this generally means convenience sampling, often because of limitations in funding but also due to impediments in accessing a representative sample of research participants. This creates a concern for threats to external validity. As part of this dissertation, and to address this specific gap in our knowledge, an analysis is offered of sampling methodologies drawn from published research with gay men where possible, and with the larger LGBT community where this is not.

1.4 Access to Health Care

While sharing many of the same health care needs as heterosexual people, LGBT persons face unique obstacles in accessing health care resources and as a result are observed to experience worse health outcomes. These impediments to accessing health care resources include self-stigma, enacted (enforced) stigma, discrimination, violence, mental health concerns such as depression and suicide, and even variable coverage in health insurance (Conron et al., 2010; IOM, 2011). Researchers have established that LGBT individuals have worse health outcomes than heterosexual persons related to exacerbations of chronic illness, a higher incidence of some diagnoses, and earlier onset of disability (IOM, 2011). One of the central issues discussed in the NAS report is that obstacles to health care have measurable effects on health outcomes (IOM, 2011). This is particularly important in the LGBT population, most especially gay men of color and gay men who are HIV-positive. Access has been hindered by legal barriers such as refusal to recognize same sex relationships and marriages, even after the Obergefell v. Hodges (2015) ruling. As part of this dissertation, select demographic data were gathered to determine various types of obstacles to health care access. Not all of them are economic; stigma is one example of a non-economic obstacle with serious consequences.

One of the major gaps in knowledge about access to care for LGBT persons is the inadequacy of data collection (Coulter et al., 2014). Demographic categories in medical questionnaires generally do not offer individuals an option to choose among sexual orientation options. Whether this is for patient comfort or for staff and provider comfort is a legitimate question, especially given that LGBT persons face tremendous obstacles in obtaining respectful, sensitive health care that is inclusive of sexual orientation specific needs (Albuquerque et al., 2016).

1.5 Satisfaction as a Mediator of Health Care Access

Persons satisfied with health care access are more likely to include awareness of primary care opportunities and participate in or complete their treatment regimens (Bleich et al., 2009). Research has established that a dominant mediator of satisfaction is the quality of communication between the provider and patient (Wanzer et al., 2004; Holt, 2018). This quality is particularly susceptible to the focus of communication: patient centered care. If the provider is focused on product instead of process, patient satisfaction with health care interaction suffers (Duffy et al., 2004). As a result, patients may opt out of preventive care altogether.

Members of the LGBT community are already burdened with several obstacles when they approach health care providers. These include stigma, self-stigma, internalized homophobia, a lack of ability to advocate for self, an external health locus of control, and higher than typical rates of depression as well as other mental illnesses (Herek et al., 2009; IOM, 2011). Specifically, the factors that undergird satisfaction with health care interactions are ones that place LGBT persons at a disadvantage. In a setting of self-stigma and homophobia, as well as a predominantly external health locus of control arising from a power differential (Herek et al., 2009), LGBT persons experience poorer levels of satisfaction and higher rates of dissociation with health care resources. Health care outcomes suffer as a result. Several of the central lessons in the NAS (IOM, 2011) report are that LGBT persons are at a significant disadvantage when seeking health care resources, have fewer positive outcomes compared to their heterosexual peers, have lower rates of satisfaction with health care providers, and as a result delay seeking treatment until conditions are markedly worsened.

1.6 Current Gaps in Knowledge: Mitigators of Satisfaction with Health Care Interaction

1.6.1 Stigma. One gap in our knowledge is the actual conceptualization of stigma (Goffman, 1963). This is known to be a factor mitigating gay men's satisfaction with health care interactions (IOM, 2011). Goffman wrote eloquently about the concept from a psychoanalytic perspective and defined three different types of stigma (character traits; physical stigma; group identity). Link and Phelan (2001) were the first to offer a clear conceptual framework to stigma. While we have a greater understanding of the operation and the effects of stigma, much is still unknown. We understand that stigma is operative in sexual minority populations (Marsack et al., 2017), but exactly how remains a subject of continued research. The NAS report (IOM, 2011) specifically points to stigma as one of the issues needing to be explored because it has measurable effects in LGBT populations.

Stigma strongly correlates with emotional distress including depression and anxiety (Marsack et al., 2017; Rawls, 2004). Among gay men seeking primary care services, anxiety has often been used as a marker for depression by primary care providers. Körner et al. (2011) conducted in-depth interviews with 16 general practitioners (GPs) in Australia, each of whom had large caseloads of gay men. These GPs reported they knew the burden of stigma and used several methods to assess their patients for depression, including a wide variety of depression inventories. However, for gay men worried about HIV, or who were HIV-positive, anxiety was a strong feature of their daily experience. Mental health, specifically focusing upon depression and anxiety in gay men, continues to be an area where research is needed and where funding is scarce. The NAS document (IOM, 2011) charges that these conditions within LGBT communities are areas where qualified researchers need to focus their energies.

This dissertation aimed at exploring variables that were hypothesized to affect satisfaction with health care interaction. In so doing, this author sought to add evidence to the body of work addressing disparities in health care provision and utilization by gay men.

1.6.2 Satisfaction in health care. The definition of satisfaction of gay men with their health care providers continues to be a worrisome gap in our knowledge. In their concept analysis of the term patient satisfaction, Ng and Luk (2019) used the inductive method of Rodgers (2000) to identify salient attributes, while concluding that the work of a comprehensive definition of patient satisfaction must arise from collaboration by all partners in health care. They recommended that the missing voice – that of the patent – be involved more constructively in assessments of patient satisfaction (Niederhauser & Wolf, 2018). There have been other calls for this, for example Stewart (2001) who insists that when health care organizations want to assess patient satisfaction or patient centered care, they should look specifically at patients themselves instead of other measures that are currently used as proxies (*e.g.* patient waiting time in the emergency department).

Satisfaction with health care is an important concept (Mehta, 2015), and it is critical that we understand how this concept affects gay men. The gap addressed in this dissertation was to determine the experience of satisfaction with health care interactions by gay men who shared their sexual orientation with their health care provider. Recent studies of gay men who share this information with a provider have supported that it improved their communication and trust, and overall satisfaction increased (Coleman et al., 2017).

1.7 Purposes of Dissertation

There were three purposes of this dissertation. The first was to determine the relationships among depression, anxiety, self-advocacy, health locus of control, internalized homophobia, and self-stigma with satisfaction with health care interactions while controlling for selected demographic variables: age; ethnicity; urban or rural domicile; relationship status; household income; highest educational attainment; health insurance; self-disclosure to health care provider of sexual orientation; reason for last healthcare visit; and, general health self-rating. The goal of the dissertation was to bridge a gap in the literature as there are no published studies of the combined interplay of these variables on gay men’s satisfaction with health care interaction.

A second purpose was to explore several important socio-psychological factors posited to influence researchers during both the design stage and while working with minority communities and participants from those communities. This work focuses on unconscious bias often held by researchers that can blur important distinctions among critical concepts about communities of gay men – or gay men individually. Researchers interested in looking deeply into the lives of gay men and their communities, and studying behaviors, concepts, and phenomena will need to be aware of the ground upon which they themselves stand. Discarding presumptions, identifying one’s own biases and attempting to restrain or remove them, requires more than a checklist; it requires guided introspection. It is not something that can be accomplished in a vacuum. Instead, doing so requires concerted efforts in educating and illuminating researchers themselves.

A third purpose of this dissertation was to explore current methods for data collection among communities of gay men, and to determine which among those methods could qualify as the most likely candidates to provide the best outcomes in productive, accurate data gathering within this non-parametric, difficult to access population. The author identifies and investigates multiple research methodologies that have been used in communities of gay men, assessing their utility mainly from the point of external validity, which will damage generalizability. Statistics is not a static science; there are quite dynamic developments in statistical methods (Hilgers et al., 2016), especially those aimed at working with hard to reach populations or small sample size groups, and specifically in clinical trials. These new approaches recognize the influence of many different factors and will inform researchers in future projects. In completing the work of this third purpose, many different statistical methodologies were analyzed. Recommendations were made for researchers who want to reach gay men and their communities in the most efficient way possible, with the least damage to external validity.

1.8 Summary of Subsequent Chapters

1.8.1 Chapter Two. The body of literature concerning research with gay men reveals a clear gap: there appears little agreement among researchers as to which method is the better among the many methodologies, especially between probability versus non-probability sampling. In the former, access to a representative sample is the main concern, followed closely by financial cost. In the latter, multiple convenience sampling approaches have been used including direct recruitment, venue-based sampling, time-location sampling, social network recruiting, and respondent-driven sampling with seeds. Researchers have attempted to customize these methodologies so that they have as much internal and external validity as possible, mostly through structuring the research carefully but also by introducing complex mathematical weighting at various points in data gathering.

1.8.2 Chapter Three. This chapter is a review of foundational concepts important for researchers working with communities of gay men. The gap in our knowledge addressed in this chapter was the socio-psychological factors known to underly relationships between researchers and gay men. Several researchers (Herek et al., 2009; IOM, 2011; Morgenroth & Ryan, 2018; Romanelli & Hudson, 2014) have called researchers' attention to phenomena that have led to isolation and stigmatization of LGBT communities. These factors are broadly known to social science, but the literature presenting research with gay men appears largely absent a discussion of many of them.

Included in this chapter is a discussion of stigma and the way in which it is hypothesized to exert negative and damaging effects on gay men. The concepts of intersectionality, positionality, and essentialism are reviewed. These are presented as lenses through which not only gay men's communities may be viewed, but also and most especially the researcher her- or himself. Awareness of these will increase researcher sensitivity to the multidimensional human experience to understand important questions about gay men.

1.8.3 Chapter Four. This chapter is a report of a research study to address the gap in knowledge regarding gay men's satisfaction with health care interactions. This was a cross-sectional study of self-identified gay males over 18 years of age living in the state of Washington. An anonymous Internet-based survey was used with all individual participant data received at one time point. The following demographic characteristics were gathered: age, ethnicity, urban or rural domicile, relationship status, household income, highest educational attainment, health insurance, disclosure to health care provider as a gay man, and the reason for last health visit. Data were analyzed through independent samples t-tests as well as linear regression. All calculations were done with the Statistical Package for the Social Sciences (SPSS), version 25. The goal was to identify which demographic characteristics correlated most strongly with the dependent variable of satisfaction with the most recent health care interaction. Once identified, the attempt would be made to see which of the assessment instruments were also most strongly predictive of higher levels of satisfaction. In this way, the research hypothesis could be supported, supported with caveats, or dismissed.

1.8.4 Chapter Five. The final chapter is an integration of chapters two through four including how these chapters addressed gaps in the literature to advance the state of the science and guide future research and practice. Special emphasis is given to the importance of several issues: further exploration of stigma and its effects upon gay men and communities of gay men; of the nature of satisfaction in health care; and specifically, satisfaction with health care interactions from the perspective of the patient.

Chapter Two: Challenges, Approaches, and Suggestions in Statistical Sampling within Populations of Gay Men

Abstract

Researchers desiring access to communities of gay men encounter unique obstacles. Fears related to stigma arising from labeling and stereotyping, as well as historic and contemporaneous discrimination and lack of legal protections, have made obtaining a representative sample within this population difficult. This chapter explores a selection of sampling methods that have been used in this population. Assessment is offered of their promise and pitfalls, and a recommendation is made for researchers who wish to work within this population.

Keywords: Statistical sampling, methodology, health care satisfaction, gay men

2.1 Introduction

Gay men experience unique health disparities (Frost et al., 2015; Toomey et al. 2018). Specific obstacles contributing to these disparities are access to and delivery of health care resources as well as less persistence in seeking health care for prevention and treatment (IOM, 2011). The stigma that gay men experience renders access by researchers to this population difficult. Political realities have also limited funding for this research focus (Kempner, 2008).

The purpose of this chapter will be to describe approaches to sampling within populations of gay men. Several sampling methodologies have demonstrated efficacy for recruitment in a population that possesses both unique characteristics and impediments in approaching and receiving primary health care. Including probabalistic sampling which is rarely used in this population but will be reviewed, non-probabalistic or convenience sampling methods to be explored in this chapter include venue-based sampling (with or without corrective weighting), time-location sampling, social network recruiting, and respondent driven sampling with seeds.

This chapter will focus on sampling methods specifically for populations of gay men, instead of the larger LGBT communities. The reason for this is that the many different subcommunities under the LGBT umbrella can respond quite differently to varying methodologies (Sell & Petrulio, 1996; Weibley, 2009). For example, time-location sampling could be used to obtain data about anonymous sexual activity between adult males at highway rest stops. However, this methodology would not be effective in obtaining the same information about lesbian women.

2.2 Sampling Methodologies in Populations of Gay Men

Gay men comprise what Kalton (2001) called a rare and mobile population, or an elusive population (Sudman et al., 1988). In order to provide researchers with tools to work with populations such as these, the sampling statistician Kalton (2001) offers several methodologies intended to provide as probabalistic a sample as possible. However, all of these depend on the ability of researchers to identify the population in question, or to have others point out members of the population so that they can be approached and asked to be research participants. As will be seen, several factors make identifying gay men problematic. Being gay is not like having an accent, or being over a certain height, or having arrived in the country within the last five years. In fact, what being gay actually means remains a subject of tremendous scientific, political, social, and personal controversy (Bailey et al., 2016; Ganna et al., 2019).

There is a significant social and political burden that accompanies being gay (Bailey et al., 2016), arising from what has been posited as the Minority Stress Model (Toomey et al., 2018; Frost et al., 2015). Applied to gay men, his model hypothesizes that stress arises from three sources: the stigma of being different than others and seeing this difference as bringing with it an essentially unworthiness; internalized homophobia, judging one’s own identity negatively due to the inability to meet the standard of a majority heterosexual population; and, actual experiences of discrimination and sometimes violence at the hands of others arising from the fact of one’s perceived or known homosexuality. Unless there is a significant reason for gay men to self-identify and come forward to participate, researchers will encounter difficulties in gathering a representative sample.

Given these circumstances, is it possible to use probabalistic sampling methods to conduct research with populations of gay men? The complexity in this question rests in the fact that researchers will need to gather a representative sample of gay men for a study, randomize that sample, and assure the results can be extrapolated back to the larger population of gay men. The sample obtained and then randomized for the study should be representative of the population of gay men in ways that can be quantitatively described (Binson et al., 2007). However, the word "representative" can be misleading. It must not be understood to mean that sample characteristics are equally those of the larger population. Instead, statistical representativeness in this sense is on a continuum of precision that is defined by researchers in the context of the study.

There can be a heavy financial cost associated with probabilistic sampling, a limiting factor that is noticed in the body of peer reviewed studies of gay men and studies of LGBT communities in general. In a systematic literature review of journal articles studying gay and bisexual males and published in the year 2010, Brennan et al. (2017) determined that 250 journal articles met search criteria. Of these, 74% (185 studies) used a venue-based convenience sample methodology. Only 5.6% (14 studies) used a respondent driven sampling methodology, which as discussed later in this paper can closely approximate probability sampling (Heckathorn, 2002; Salganik & Heckathorn, 2004; Kendall et al., 2008).

Recognizing the complexities of representativeness in unusual populations as well as the need to employ probabalistic methodology where the study design requires it, Kalton (2001) suggests options for researchers to assemble sampling frames for rare populations, or what Kalton terms domains, in order to obtain the best estimates possible.

In this manner, probability sampling is closely approached and threats to external validity may be minimized. However, rarely does the body of peer-reviewed literature reflect use of any of these methods. Brennan (2017) lists no specific probability sampling methodology however includes an "other" category that includes 16 studies (6.4%).

2.3 Probability Sampling Methods

Homosexual persons have a history of being studied by researchers with the express purpose of identifying sexual deviance, and these studies themselves have been used to coerce medical and psychiatric professionals to provide further evidence that supported legislation to punish this population (Weitz & Bryant, 1997; de Block & Adriaens, 2013). Research with LGBT communities has been used – and continues to be used – to justify marginalization and oppression (Kong et al., 2002; Nicolosi & Nicolosi, 2012; Regnerus, 2012). This is one of several reasons why LGBT persons have been generally unresponsive to surveys about their sexual lives (Sullivan & Losberg, 2003). The fear of punishment from the outside, joined to the internalized homophobia and self-stigma to which LGBT persons subject themselves to varying degrees, make participation in a research study problematic. There are indications that this is changing; in a study by Lee et al. (2018) sexual minority younger adults demonstrated higher rates of response and less reluctance to participate in surveys compared with their heterosexual counterparts. Nevertheless, the process of locating gay men for research studies remains a problem for researchers. If a population cannot be enumerated – identified and counted – sampling is difficult. Another difficulty is that gay men are subject to stigma; homosexuality is considered a socially undesirable trait and results in gay men spending a disproportionate amount of their energies hiding their sexual orientation. However, the methods reviewed below are those that researchers have found useful as they explore important questions within difficult to reach populations.

In an address to the American Statistical Association on the occasion of the Seymour Sudman Lecture, Kalton (2001) suggests that the standard of probabalistic sampling may be approximated in hard to assess populations. He suggests a variety of means to enumerate a population and obtain data that supports conclusions strongly resistant to threats against external validity. Only one of those methods is explored next, because it has actually been used to provide a dataset for secondary analysis in research with gay men. Other probability sampling methods such as simple random sampling, systematic random sampling, stratified sampling, proportional stratification, cluster sampling, and other complex designs (adaptive, network sampling, site or time/location sampling) can be used to obtain a sample of gay men for a study. These can all incur significant financial cost, though the complex designs have been specially designed to be cost effective (Binson et al., 2007).

One virtue of probability sampling is that it allows researchers to calculate sampling error, which occurs when statistical characteristics are estimated from a sample that does not represent the population being studied (Lin, 2018). One way to reduce sampling error is to increase the sample size; however, the cost for this can be prohibitive. In response to issues of cost and sample representativeness, researchers working with gay men have used multistage sampling (Winkelstein et al., 1988; Rogers & Turner, 1991; Osmond et al., 1994; Binson et al. 1995; Cochran & Mays, 2000; Russell et al., 2001) as well as random digit dialing (RDD) (Harry, 1990; Kanouse et al., 1991; Catania et al., 2001). Though Binson et al. (2007) includes time/location sampling as a probabilistic sampling methodology, it is explored below as a nonprobability sampling method. The rationale for this is that time/location (or venue) sampling approximates probability sampling if the sample is large enough and diverse enough to represent the population being studied (Raymond et al., 2010). In a meta-analysis of the Young Men's Health Study Phase II data, obtained by time-location sampling, Karon & Wejnert (2012) used statistical weighting of samples in two stages. They concluded their methodology rendered data that closely approximated a probability sample. Semaan (2010) reinforces this message: even when time-location sampling is planned and conducted carefully, data are weighted appropriately, and with careful analysis of the data, this sampling method only approximates probability sampling. Probability sampling methods require careful planning and execution, and when done properly they are the gold standard. They can obtain a sample that most closely approximates the population from which it is drawn.

2.3.1 Disproportionate stratification. In this method, also called disproportionate stratified sampling, sampling occurs at higher rates, and in multiple waves, in a geographical area where the target population is known to exist in a higher concentration. Areas with less concentration of the population of interest are also surveyed. However, samples taken from higher concentrations are given more weight than samples taken in areas with less concentration. During statistical analysis, data from higher and lower geographical concentration areas enter into weighted mathematical calculations, with the result having a stronger likelihood of external validity. However, as Kalton (2001) warns, benefits of this method decline as members of the target population become more difficult to identify. This problem may not occur with samples of gay men in an urban area where being gay is accepted, but those areas are not commonly found in urban areas across the entire United States. Throughout the rest of the country, researchers attempting to enroll gay men in a study find great difficulty in identifying gay men to participate in studies (Binson et al., 2007; Frederick-Goldsen & Kim, 2017). As a result, the comparison may lose the equilibrium that the mathematical calculations need; thus, oversampling of urban areas and under-sampling in other areas cannot be compensated by statistical weighting.

An added pitfall in this method is that a sample of urban dwelling gay men will have a disproportionate number of younger, Caucasian, middle class participants. Compensating for this will be difficult, though methods to do so are available, such as network sampling (Sudman et al., 1988). A final shortcoming in this method is one of the central assumptions of the method itself: that the population of interest is easy to identify (Kalton, 2001). This may be the case in certain urban environments, but it will be unlikely in rural areas. This will contribute to the imbalance between sampled groups, making the result less likely to resist challenges to external validity. Here again, it is possible to compensate by using additional methods such as network sampling in rural areas to obtain participants. The costs of such research will increase accordingly.

One example of the use of disproportionate stratified sampling is found in the Behavioral Risk Factor Surveillance Survey (BRFSS), a statistical health related survey of the Centers for Disease Control and Prevention (CDC) (Centers for Disease Control, 2019). This survey is the largest (n >400,000 annually) health related survey in the world, and it has been conducted annually since the early 1980s. A telephone based RDD based survey, the BRFSS uses a disproportionate stratified sampling methodology for landline telephones and random sampling for cellular telephones. Starting in 2014, the BRFSS has included optional modules asking respondents about sexual and gender minority related questions. In 2014, only 20 states and Guam included these questions; in 2015 this increased to 21 states. At this writing there is no data available regarding use of the module in 2016. The BRFSS dataset including this optional module has shown utility; it has been used by researchers in the study of overweight and obesity in sexual minority young adults in North America (Azagba et al., 2019); rates of HPV vaccine use (Kang & Kim, 2019); and, self-rated health differences between Mormons and non-Mormons in Utah (Cranney, 2017). The BRFSS dataset is freely available to researchers and already formatted for several statistical analysis software programs.

As has been noted, a second significant obstacle in probability sampling of gay men is the financial cost. Obtaining a representative sample of gay men across the country would be prohibitive. Because of this, a common practice has been to use large scale studies as the source of probability samples. In this way, a sample of gay men could be obtained from a much larger study that included gay men, but was intended for a different reason (Meyer, 2003). Data about these gay men can be used for further research. That is the utility of the optional sexual orientation questions in the BRFSS optional modules, though their use across the nation and in territories has not been uniform.

Other methods exist, such as RDD of telephones in geographical areas known to have a high density of gay men. This method also encounters many obstacles; Binson et al. (2007) relate that 53,050 numbers had to be called to obtain 915 interviews. This method is highly subject to selection bias, as well; those not home will be missed, as well as those without telephones, or with call blocking of unknown numbers. This method is also applicable only to the population living within that geographical area. While this may be sufficient for a particular study, researchers generally want data about a population more broadly distributed.

Probability sampling remains subject to several biases. The origin of one of these, selection bias – specifically under-coverage – refers to the observation that there is a differential response rate among subgroups of any population. Gay men who respond to these surveys will typically be individuals with higher educational attainment and higher income (Meyer & Wilson, 2009). Unless measures are taken to overcome this, inference errors will occur, and external validity will suffer as a result. Researchers working with humans must determine the subsets of the community they are working with and make efforts to reach representative samples of these subsets. To the extent that they are successful, this bias can be overcome.

Binson et al. (2007) presents a survey of probability sampling methods. These include random sampling, systematic random sampling, stratified sampling, proportional stratification, disproportional stratification, and cluster sampling. There are also complex probability methods such as adaptive sampling and network sampling that can be used in populations of gay men. Again, the greatest challenge is identifying potential study participants and the actual costs associated with the study itself (Meyer & Wilson, 2009). Despite these obstacles, probability methods have been used in studies of gay men and LGBT communities (Rogers & Turner, 1991; Binson et al., 1995; Cochran & Mays, 2000; Harry, 1990; Winkelstein et al., 1988; Osmond et al., 1994; Valleroy et al., 2000; Kanouse et al., 1991; Catania et al., 2001; Diaz et al., 2001; Mashburn et al., 2004).

2.4 Nonprobability Sampling Methods

Only a probability sample allows for generalizations from the study sample to the larger population (Binson et al., 2007; Meyer & Wilson, 2009). Nevertheless, nonprobability sampling methods have an important place in research with gay men and the larger LGBT communities. Using the nonprobability method of convenience sampling, Evelyn Hooker (1957) provided the first evidence necessary to begin the process of removing homosexuality as a psychopathology from the Diagnostic and Statistical Manual of Mental Disorders (DSM). She observed that data about male homosexuals was drawn exclusively from men who were institutionalized in psychiatric and correctional institutes and realized as a result it was skewed because it did not include men who were not in these institutions. Thus, conclusions were being drawn about homosexuality that were actually conflated with their other pathologies or criminality. She wrote, "…for the present investigation the question is whether homosexuality is necessarily a symptom of pathology. All we need is a single case in which the answer is negative" (p. 30).

In Hooker's experiment (1957), she used convenience sampling to assemble two groups of 30 men each. One group was composed of homosexual men and the other, heterosexual men. She matched them for age, IQ, and years of education. She also had expert judges evaluate projective tests such as the Rorschach and others for these 30 pairs of men. As she stated, there only needed to be one homosexual man whom the judges could not differentiate from the heterosexual men in the group. In fact, the judges evaluated most of the men as functioning according to accepted norms. The experts could not do any better than chance in discerning heterosexual from homosexual men. Through this convenience sample of men, Hooker (1957) provided a scientific basis for the reconsideration of homosexuality as a psychopathology.

Though probability sampling is the gold standard, the lesson to be drawn from the above example is that non-probability methods are often they are the only available option, and in fact have for decades provided tremendous insights that otherwise could not have been achieved. A number of these techniques will be reviewed next. These sampling methods have been used in studies of gay men and have provided valuable insights into important research questions.

2.5 Convenience Sampling

This sampling method enrolls participants from the available population, and is non-probabilistic; therefore, it does not include a random selection of participants (Ehrenberg & Bound, 1993). Though researchers can draw some strong conclusions about the specific group studied, generalizability is hampered because the sample does not meet the rigor of randomization. That is, no guarantee can be offered that all members of the community have an equal chance at being selected. This is due to several factors, not the least being the burden of stigma and shame that keep gay men from openly living their lives. Until this occurs, researchers simply will not have access to them and thus no truly probabalistic study can occur. The next best option is a carefully designed convenience methodology that attempts to minimize threats to internal and external validity.

However, is it possible to generalize from a convenience sample? The answer is generally no, but there are exceptions to this. The NAS report (IOM, 2011) has a “no/but” recommendation to researchers. In LGBT populations, and by extension populations of gay men, the recognition that they are non-parametric is joined to the recommendation that we need conclusions based on sound research. While non-probabalistic sampling is the only real type available due to ignorance of population characteristics and access issues, conclusions must nonetheless be cautiously generalized. Successive researchers will be able to refine methods as more is learned about this population.

2.6 Threats to External Validity

To that end, convenience sampling is a way to enroll a sample economically and more easily as long researchers remember the limitations of this type of sampling. An example is the work of Schwarcz et al. (2007), who used both convenience and probability sampling in assessing HIV risk in men having sex with men (MSM). These researchers tested whether the two samples diverged significantly, and specifically whether external validity could be applied to a convenience sample. They enrolled 105 MSM in the convenience sample arm and 113 MSM in the probability sample, the latter obtained by RDD using a telephone prefix in San Francisco where it was known a majority of MSM resided. They concluded that sociodemographic data diverged significantly. However, in key variables of interest the convenience and probability samples were similar. These variables included sexual risk behaviors; erectile dysfunction (ED) drug use, specifically Viagra; previous testing for HIV status; belief in both groups that sexual partners would want to know about recent HIV test results; and, agreement in both groups that condoms were not necessary for oral sex, though they were necessary during anal intercourse. In both groups, an equal number of men agreed that they ignored safer sex messages. This study comparing non-probability and probability sampling produced samples with similar perspectives. The rigor of the probability sample suggested results from this convenience sample could be generalized. It also provided some evidence that research using convenience methodology might not suffer as much as originally thought from being non-probabalistic.

2.6.1 Selection bias. There are important caveats to this, and they bear particular mention. The first is selection bias. Schwarcz et al. (2007) had to minimize this in both samples of MSM. The authors describe specifically how they controlled divergence between the two samples. Participants in the convenience sample had to meet similar inclusion criteria: California residents for at least six months prior to the surveys; over age 18 years; and, able to provide informed consent. Surveys were obtained from gay bars in San Francisco between June and October 2001. The bars were selected on their ability to provide a quiet place for interviews, as well as their demographically diverse clientele. Men enrolled could not have self-reported as HIV infected, and they had to have reported sex with another man in the previous twelve months. The sample size was preset at 100.

The probability sample was obtained in San Francisco between June 2002 and January 2003. The sampling frame consisted of RDD within telephone exchanges where a majority of MSM were known to reside. Inclusion criteria included having sex with another male after age 14 years, being able to converse in English or Spanish, and self-identifying as either gay or bisexual. A sub-sample of individuals in this group were invited for interviews using select questions from the convenience survey. Participants interviewed in both groups received $25 as compensation for their time. In this manner, the authors attempted to minimize selection bias.

2.6.2 Integrity of variables. Another threat to generalization in non-probability sampling occurs when independent and dependent variables are not defined correctly. That is, these studies suffer from poor conceptual definition, and may be damaged by poor operationalization as well. Though it is generally not considered possible to generalize from a convenience sample to a population, the work by Schwarcz et al. (2007) attempted to provide some evidence against this assertion. Their purpose was to gather specific information about two population samples, one convenience and one probability, and compare them. They placed their conceptualization of variables upon established literature and maintained the two arms of their research as parallel as possible. In so doing, they minimized how participants could possibly misunderstand questions and thus how variables being measures could be unduly influenced. Schwarcz et al. (2007) quite specifically identified their variables of interest. Using two different sampling methods they ensured that participants understood what they were being asked; this was accomplished not only by carefully chosen assessment instruments but also by personal interviews. Their methodology specifically aimed to reduce divergence between the convenience and probability samples, while not requiring identical parameters regarding the population sample beyond that being MSM in San Francisco within a certain time span. Researchers addressed possible confounding variables by further exploration during subsequent personal interviews in the probability arm; these interviews already occurred in the convenience sample.

2.6.3 Application into the real world. A third threat to external validity can occur when results leave the controlled context of the study and are still considered relevant despite changing circumstances as well as the passage of time. In the work by

Schwarzc et al. (2007), the researchers remained contemporaneous to the lived experience of the participants' understanding of HIV infection risk during sex. However, should these same research conclusions be applied several years later, with two groups composed of different men – or even the same men who have passed those succeeding years with very different experiences – the results could be quite different. This is a threat that cannot be dismissed. One way to minimize this threat is to choose variables that are sufficiently distant from personal time and experience. However, to do this departs from the individual, lived experience that is so crucial to understand, particularly in the population of gay men.

2.6.4 Utility of convenience sampling in communities of gay men.

Convenience sampling can be useful in communities of gay men when the research question is not yet focused enough for other, more specific research questions that may only be relevant to a small subpopulation. Researchers use convenience sampling for a number of studies. These include pilot studies where basic data are gathered and initial trends are identified. As an effective exploratory methodology, convenience sampling helps to refine research questions and establish hypotheses. It is also the least expensive method of research. For these reasons, convenience sampling can be an attractive method to obtain basic data about a population of interest, if it is understood that data gathered may be unique to the sample.

One example of convenience sampling was used by Dodge et al. (2014) primarily to discover rates of lubricant use by gay and bisexual MSM during sexual intercourse. Secondary aims were frequencies of lubricant use, reasons for their use, and perceptions about the lubricant being used. Researchers observed that almost all previous research about lubricant use had focused on the question of lubricants containing spermicidal chemicals intended to reduce the likelihood of HIV transmission. Dodge et al. (2014) wanted to discover how MSM used lubricants generally, instead of strictly as an adjunct to HIV prevention during intercourse. Responses to these surveys by MSM were obtained almost exclusively using convenience surveys. However, when researchers wanted to understand specifically why MSM used lubricants during sexual intercourse and play, exclusive of HIV risk reduction, they found convenience sample surveys too nonspecific. To address this, they used an online questionnaire distributed to men and women over age 18 years. In their questionnaire, they intentionally oversampled self-identified MSM compared to the number of women, and in their analysis focused on MSM alone. This allowed them to determine rate of lubricant use by a large group of MSM, by age group and for specific reasons. Over 90% of MSM reported lubricant use at least once during their lifetime; that this use was during partnered sexual activities; and, that the most likely age group was men aged 25 through 29 years. The three most common reported reasons were comfort during anal intercourse, curiosity about how sex would feel with a lubricant, and to make sex more comfortable (Dodge et al., 2014).

Convenience sampling is frequently the only method possible. As an exploratory methodology, it is often the choice when considering financial cost, ease of recruitment, and the ability to make quick adjustments to the research question and direction of research.

2.6.5 A convenient variation: direct recruitment. In this method, either participants are invited to contact researchers directly or researchers contact participants (UyBico & Pavel, 2007). One example involving direct recruitment is a group of participants who have a specific diagnosis, and who have previously given permission for their protected health information (PHI) to be shared among researchers (Krischer et al., 2017). Like many enrollment strategies, this method does not allow for anonymity, although once enrolled a blinded approach may be employed if the research is experimental.

Direct recruitment allows researchers an immediate connection to the population of interest using many media, including social media (Facebook, Twitter, LinkedIn, etc.) and community outreach. Carr et al. (2010) found this particularly useful in reaching persons with dementia of Alzheimer's type (DAT) for their study. Their initial contact to primary care providers resulted in few participants in the study, whereas use of direct recruitment via outreach to families through social media led to the enrollment of 69 participants in the study.

However, as Cascade et al. (2012) found, bypassing completely other persons or organizations and adopting direct recruitment via social media also required them to screen participants with much more precision. The effects of organizations could be positive and include such things as a central nexus for outreach to prospective study participants. These organizations also could introduce bias in outreach to participants and actually impede research by imposing their own judgment about who would be appropriate participants. As a result, researchers must determine whether the advocacy provided by an organization is a positive benefit to enrollment of participants or whether direct outreach by other means would be more efficient.

In seeking participants for their research, Cascade et al. (2012) did not want to risk losing participants due to decisions made by external parties. Thus, in their patient recruitment strategy they chose to circumvent any involvement by physicians. They began careful direct recruitment procedures through outreach to members of an online group list-serve, explaining what they were studying and specifically how they wanted others to participate. These researchers found that participants did seem to report with accuracy the information about results needed for the study. Though researchers found that this direct recruitment method was not as immediately successful as asking physicians to refer participants to their study, they nevertheless concluded that their direct recruitment experience was a reasonable methodology. In their study, they had asked participants if they had gout, and if they could provide some details about their experience of that disease. Researchers also asked details about treatment, and if participants would consent to have their medical record examined by these researchers. Though the initial respondent number was 108, ultimately 38 persons had the diagnosis that researchers sought to explore. These researchers concluded that direct recruitment was a reasonable alternative to requesting physicians refer potential participants to them. Doing so avoided the delay in physicians replying to researchers, as well as potential participants contacting researchers too late to be included in the study.

2.6.6 Application of direct recruitment in communities of gay men. Direct recruitment has often been employed in research with gay men. Grov et al. (2014) employed a variation of direct recruitment (time-space-sampling) to compare three cohorts of 50 gay men each. Cohorts were drawn from each of the following areas: the “men seeking men for sex” section of Craigslist.com; men recruited at gay bars and clubs; and, men recruited from groups associated with sex party promoters. These researchers sought to identify significant areas of similarity and difference in sexual practices and risks among MSM across the three groups. Direct recruitment was the most efficient way for them to obtain participants. Similarly, Rosenmann et al. (2018) used direct recruitment methods via social media in a study of the ways in which consumer ideology has affected men’s own understanding of their masculinity. Their two-part study recruited both gay and heterosexual men in Britain and in Israel using direct recruitment, employing student unions and online social networks. Peacock (2000) used direct recruitment in his study of gay men who were aging. His interest was to determine whether Erik Erikson’s psychoanalytic stages (Erikson et al., 1966) could function as a theoretical framework to assess part of the life journeys of gay men. Peacock (2000) used direct recruitment methods to reach 19 gay men who consented to interviews. Fourteen of these men were contacted through an advertisement in a state-wide gay newspaper. The other five were recruited through a gay-only Alcoholics Anonymous chapter. Since this researcher wanted to ask almost 100 questions, only 23 of which were closed-ended (included in these were demographics and other specific information), the remaining questions took quite a bit of time. The direct recruitment method provided a sample large enough to conduct research while at the same time allowing this researcher to focus exclusively upon the age range and developmental life experiences of interest in this group of older gay men.

It is important to remember that a non-probability sample may not be representative of larger gay communities. However, the specific aims of some research may dictate a sampling strategy. For example, research into some issues that affect communities of gay men have included direct recruitment, and to great benefit. Among such issues are researchers’ desire to understand gay men’s use of pre-exposure prophylaxis (PrEP) (Kokolo et al., 2011) as well as factors that ultimately led to the successful Supreme Court decision for marriage equality (Obergefell v. Hodges, 2015). Alternately, other research aims such as exploring gay men's attitudes toward HIV/AIDS (Curtis, 2014) have encountered serious ethical concerns that have precluded direct outreach to research participants. Direct outreach has also not been a preferred method for studies with gay men who are HIV-positive or who have AIDS because of stigma tightly associated with this condition, in addition to the initial stigma of being gay. Other conditions that are also stigmatized – such as exploratory studies of attitudes toward homosexuality itself – tend to make this recruitment method less than ideal except in specific circumstances, as noted above.

The rapid development of many types of social media may allow researchers to directly recruit gay men. However, there is some evidence that gay men's use of social media is changing. In a study of how gay men were early adopters of social media and appear now to be renegotiating that role, Cassidy (2018) writes that social media platforms originally formed part of gay men's digital culture. These platforms allowed gay men to meet one another anonymously and avoid some of the potential dangers associated with being open about their sexual identity and preference in sex partners. Social media platforms also allowed gay men to organize for many other purposes, such as for political change and community activities. This began in the early 2000s and continued as social media platforms proliferated. Recently however, the phrase "participatory reluctance" has been used (Cassidy, 2018) to describe how gay men have approached social media. One of the reasons for this hesitancy has been the two-edged sword that is inherent in social media. While social media has allowed gay men to connect with each other, it has also allowed the proliferation of a culture of judgment and dismissiveness, as well as a disturbance in gay men's idealization of themselves. Examples of this are visible on platforms such as Gaydar, Facebook, Grindr, Instagram, Snapchat, and others. However, an alternate view is that of DeVito et al. (2018) who write that social media platforms allow gay men the ability to create a personal ecosystem that provides a measure of anonymity while affording the ability to change their images, opinions, and even identities over time. Given that social media is still in its infancy and new platforms appear regularly, researchers cannot dismiss these potential vehicles for direct recruitment.

2.7 Types of Direct Recruitment Used in Communities of Gay Men

2.7.1 Venue-based sampling. This method of reaching participants can be useful if enough is known about behaviors of the population of interest. One caution is that researchers might presume – incorrectly – they understand gay men's identity and social behaviors. This type of sampling conflates identity and activity with place. It presumes that researchers can obtain representative samples of a population by going to the places where that population is found. This can introduce a bias into the sample depending on the aim of the study as not all gay men will be present at any specific venue, and some venues may rarely or never include important segments of the gay male population.

One example of venue-based sampling is seen in the work of Xia et al. (2006) who used this methodology to assess risk for sexually transmitted infections (STI). These researchers were attempting to model prevalence of HIV and AIDS in a population of MSM and found that venue-based sampling provided a strong pool of gay men for their study. Iott et al. (2018) also included this methodology to reach gay men for their study of AIDS prevalence in Detroit. However, compared to other methods Iott et al. (2018) found venue-based sampling to be only marginally effective in reaching gay men. The reason for this was gay men of interest to these researchers, MSM who might have been unaware of their HIV status, did not frequent the physical venues as much as they did the virtual ones. Thus, while researchers continued to contact potential research participants at gay bars, they also selected other virtual venues (Facebook; Grindr; Scruff) and included HIV/AIDS clinics in order to have the widest possible outreach to gay men. They concluded that Facebook and personal recruiting (employing snowball sampling and seeds), as well as direct outreach, was far more effective and economically beneficial to their research than was venue-based sampling.

2.7.2 Concerns with venue-based sampling. Paquette and de Wit (2010) studied different methodologies used to assess gay men regarding risk factors for contracting HIV. They identified 26 surveillance systems incorporating different types of surveys across 23 developed countries. Venue-based sampling was used in a majority of these surveillance systems. However, there was wide variation in the way venue-based sampling was understood and operationalized. Because of this variability in the very conceptualization and operationalization of venue-based sampling, the authors determined that it was impossible to generalize to a wider population of gay men the findings from 12 of the 16 venue-based surveys. This identifies one major concern of venue-based sampling: even when a survey method is designed to generalize to the larger group, characteristics of the venue that are unknown to researchers can limit generalization. If the goal is to enroll as many gay men as possible who meet inclusion criteria, venue-based sampling at a gay bar or pride parade or other event that attracts a large group of gay men can be efficient. However, confounding variables do exist and can disturb the research venture. These confounding variables include the growing phenomenon of metrosexualism, a renegotiation of what constitutes traditional masculine identities to include some aspects of what previously had been considered “gay” (Rosenmann et al., 2018), as well as a continuing mainstreaming of LGBT communities into the general population and away from customary gathering places such as gay bars (Ghaziani, 2015). Finally, venue-based sampling where researchers believe gay men congregate will miss those gay men who do not frequent those locations. This missing group of gay men could itself limit generalization of research findings. Paquette and de Wit (2010) concluded that these points were not well understood among researchers using venue-based approaches.

2.7.3 Venue-based sampling with corrective weighting. To address threats to external validity while using venue-based sampling, Xia et al. (2006) included weighted calculations; this was done to compensate for probabilities in selection, nonresponse, and under-coverage. For example, weighted measures within venue-based sampling were particularly important in assessing risk of sexually transmitted infections (STI) in men who visited bath houses once per month compared to those men who visited weekly or even more. This same pattern was noted in persons who visited gay bars; risk of HIV increased as their rate of visiting these establishments increased within a set time. Xia et al. (2006) concluded that corrective weighting was necessary in their research with gay men who were variably present in circumstances that placed them at different levels of risk for contracting an STI. In their explanation of weighting data during statistical analysis, Lavallée & Beaumont (2015) note that it is done to remove the effect of external influences on different groups within the data set. For example, statistical weighting in venue-based sampling can overcome differences among participants who are not uniformly subject to the influences on the dependent variable. In the case of Xia et al. (2006), the risk of contracting HIV is influenced by the number of partners as well as the number of times partners engage in unprotected sex, as well as the risk of having unprotected sex with someone who is HIV positive. Just these three differences can benefit from weighting of data prior to analysis, if there is a basis for choosing how to assign weights to each category.

2.7.4 Time-location sampling. Often conflated with venue-based sampling, this method is instead the systematic sampling from a potential pool of study participants at a select location but during a specific time period (Ferreira et al., 2008; Karon & Wejnert, 2012). Some consider time-location sampling to approximate probability sampling, if locations and times are randomized, sampling at the site itself is systematic, and the actual time spent in the field gathering data is maximized (Raymond et al., 2010). While time-location sampling may include clustered random sampling, which is a type of probability sampling (Elfil & Egida, 2017), and randomization can occur in the sample gathered, this author would argue that any sample of gay men might not be representative. This is a danger to external validity in time-location sampling methodology. The fact of being gay constitutes only one aspect of a person, is difficult to actually measure (Gates, 2012), and even in a sample of men who identify as gay there will be disagreement as to what being a gay man actually means (Gates, 2012). Unless these concerns could be dispensed with, even using clustered random sampling would inevitably include gay men who are not representative of other gay men. For these reasons, the author of this document does not consider time-location sampling to be a probabalistic methodology.

As stated above, time-location sampling uses a sampling frame of places and times when a select population gathers, and systematically recruits within those parameters to get a sample of participants with different perspectives (Zhao et al., 2015). The drawback of time-location sampling is that it is only feasible if people visit a location at the same time of day or night (Wei et al., 2012; Kendall et al., 2008). This method can also be incorporated into other sampling methods. In this manner, a sample can be obtained with more precision. It can be inferred, for example, that heterosexual men uninterested in sex with other men will not be present at a location and during a time when gay men are present specifically for that purpose. If heterosexual men are present, they are either sexual explorers and may be of interest to researchers after all, or they will be unlikely to remain in the area and thus will not enter the sample.

A possible downside to time-location sampling is that persons who are of interest to researchers may be missed because either the time or location was incorrectly chosen. In order to address this, researchers randomize a complex structure of times and locations. Nevertheless, important segments of the population of interest can still be missed.

2.7.5 Time-location sampling in communities of gay men. As one example, Zhao et al. (2014) used both respondent-driven sampling (see below) as well as time-location sampling to study MSM. Their goal was a better understanding of how MSM were at risk for HIV, as well as how MSM potentially contributed to increasing HIV prevalence in the city of Shenzhen, China. These researchers understood that due to the strong pressure of societal mores, MSM in China had a high likelihood of marrying and fathering children. They would also continue to have sex with other men, and thus contribute to the spread of HIV (Chow et al., 2011). The decision by Zhao et al. (2014) to use time-location sampling allowed them to be selective for persons frequenting specific sites at specific times known to be of interest to MSM. These researchers also understood that they would miss MSM not present at that time and location. Thus, a respondent-driven sampling arm was added to enroll MSM who were missed by time-location sampling. The *n* of respondent-driven sampling was 621; for time-location sampling the *n* was 533; no individual was simultaneously in both groups. Researchers determined specific and important differences between these two groups. Participants in the time-location sampling group included more persons without the local Shenzhen *hukou* official residency permit (thus were considered migrants), were more socially marginalized, at 28 were older by two years (SD = 8), were found to be at higher risk for HIV infection, and generally did not self-identify as gay. The respondent-driven sampling group included men with higher levels of education, and who were more likely to have health insurance coverage that included HIV-related health intervention services. This group was also more likely to have local *hukou* registration, the document establishing their official residence in the Shenzhen province. Combining time-location sampling with respondent-driven sampling allowed researchers to recruit from within the population of interest through identifying participants by observation of specific indicators associated with risk for the conditions of interest. Researchers found that characteristics of men in the respondent-driven sampling and time-location sampling groups were disparate enough that both sampling methods complemented each other well. Neither alone would have provided access to the cross-section of MSM sought in this research effort.

2.7.6 Criticisms of time-location sampling. When time-location sampling alone is used, one of the problems researchers must overcome is that many persons within the population of interest do not appear at a specific time or particular location. For example, researchers who employ time-location sampling at a gay pride parade will have no access to gay men who prefer to avoid large public gatherings. This is likely to be a group of gay men whose attitudes, behaviors, and demographics may be of interest to researchers. Of course, time-location sampling would be a helpful method for researchers who specifically want to study the gay men present at pride parades, as it isolates these men from the larger population of gay men who do not attend. As Zhou et al. (2014) found however, time-location sampling is especially useful when it is an adjunct to another sampling methodology.

Time-location sampling is known to be susceptible to social desirability bias, with participants attempting to match their answers with what they believe researchers want to know. Though not a problem unique to this methodology, analysis of data obtained through time-location sampling supports that males (but not females) generally report what they believe researchers want to know, and to exhibit behaviors they think researchers expect to see, in order to gain some status in their own estimation and confirm their own identity as members of a particular male group with specific, expected sexual behaviors (Kelly et al., 2013). Why this occurs remains unknown; however, the influence of time and location – and the particular individual present at that moment – appear to achieve a confluence that can motivate participants to exaggerate their responses. Researchers questioning gay males about sexual activity have also discovered significant response bias, as well (Johnston et al., 2006: Kendall et al., 2008). Nevertheless, these two methodologies are important strategies and this bias can be taken into account.

2.7.7 Social network recruiting. Often utilizing social media platforms such as Snapchat, Facebook, LinkedIn, Twitter, etc., this is considered a snowball methodology, but can be even more tightly focused within a specific population or community or even special interest group. For example, a social network may be formed around a specific idea or interest, such as being a parent of a child with a rare disease or being part of a group with a unique interest and skill set such as programming in a difficult computer language (Kashi et al., 2016).

The usefulness of social network recruiting – and of social networks themselves – regarding gay men is demonstrated by Amirkhanian (2014), whose research demonstrated that social networks were critical ways to reach MSM. Amirkhanian’s research determined that social networks were in effect sexual networks. Persons working in the area of HIV prevention among MSM uniquely at risk (particularly minority MSM) have benefitted significantly from this realization.

Social networks also function as virtual communities, and they can exert significant influence on their members. For example, social networks in China and Africa have been crucial in the dissemination of accurate information about HIV and AIDS, as well as in prevention and treatment of other STIs. These networks are important avenues for researchers in their efforts to reach communities of MSM. Despite concerns for bias of different types (selection, social desirability, etc.) for which researchers can control, social networking as a tool for research is an increasingly important method and it will likely continue to remain so. Researchers who incorporate social networking within their recruitment strategies will have enhanced reach into communities of gay men.

2.7.8 Complexities in social network recruiting of gay men. The utility of social networking in research with gay men depends on the question being asked and indeed the social network being accessed. However, if true anonymity is needed, then any direct connection between researcher and a potential participant using social networks could be counterproductive. Changes in technology have resulted in ease of use; conversely, these changes have also led to much tighter links, some easily traceable, between users and resources. In their study of Internet use, Chiang and Su (2012) identified an interesting mix of social network users' presumptions of anonymity while at the same time noting a level of mistrust engendered by the security features built into Internet browsers. The experience of accessing and using Internet resources exposes an individual to rapidly changing environments. Researchers working with gay men must be aware that through the Internet they will have contact with gay men. However, even while gay men are frequent users of the Internet and associated technology, research shows that these men are also conflicted about how technology has replaced personal interaction (White Hughto et al., 2017). As a result, while some forms of research may benefit from social networking, other types might suffer from its use. Finally, researchers must also remember that social networks are ephemeral and only as effective as they are persistent. Novel social networks arrive quickly and are themselves replaced as they go out of fashion. Using only one social network platform for any research project may in fact not be ideal.

2.7.9 Respondent-driven sampling. This sampling methodology uses a multiple, long-chain, two-step, peer referral recruitment procedure and allows researchers to make population-based inferences through statistical adjustments. Respondent-driven sampling was designed specifically to reach hidden populations impossible to reach via probability sampling methods (Heckathorn, 1997). For example, this type of sampling could be used to reach persons engaged in activities proscribed by their country's legal system, or which are so socially unacceptable as to make the activities not publicly accessible. An example of the former would be injectable, illegal drug use while an example of the latter would be anonymous sexual activity among MSM at an undisclosed location such as a truck stop or public bathroom. The etiology of this sampling method was the AIDS crisis, as well as the understanding that the United States Census was not helpful for public health professionals attempting to determine an accurate picture of health care needs across the country (Heckathorn, 1997). It has gained application worldwide in the study of "invisible" groups and has been adopted for use in different cultures (Ramirez-Valles et al., 2005).

2.7.10 Respondent-driven sampling and use of seeds. The first recruitment step in respondent-driven sampling is an initial group of participants called "seeds" who fit eligibility criteria for the study. A monetary incentive is usually used for this group, and they are given a packet of coupons for those persons whom they will recruit to the study. If their recruit meets inclusion criteria, the coupon's value is given by researchers to the seed. The person enrolled by the seed is then offered a coupon to enroll another person and rewarded for doing so. In this manner, the entire network is incentivized to grow larger and more complex. In this manner, along with the embedded mathematical calculations, respondent-driven sampling establishes its claim to be a probabilistic methodology.

2.7.11 The process of respondent-driven sampling. From a statistics perspective, respondent-driven sampling begins with snowball sampling, a convenience non-probabilistic method. It then adds weighted mathematical calculations to compensate for the fact that the sample was gathered in a non-random manner. These mathematical calculations adjust the dataset, rendering it probabilistic (Salganik & Heckathorn, 2004). This sampling method is considered statistically rigorous (Kendall et al., 2008), having been used numerous times in world-wide studies of vulnerable populations (Heckathorn, 2002). Salganik and Heckathorn (2004) claim that respondent-driven sampling can produce unbiased population estimates. They reason that “the network of the hidden population forms one connected component” (Salganik & Heckathorn, 2004, p. 210). However, other authors demur, observing that there are hidden networks where communication among parts or even members is highly unlikely. One example offered is that of persons engaged in tax evasion (Meyer & Wilson, 2009). These persons, though engaged in similar enterprise, are unlikely to enter any form of network with each other. Nevertheless, this sampling methodology remains in use partly because this argument has not been definitively settled and the utility of respondent-driven sampling with seeds remains evident and productive. Salganick and Heckathorn (2004), Johnston et al. (2008), and Wejnert (2009) are three examples of researchers who view respondent-driven sampling with seeds as the gold standard for reaching hard to access populations where other methodologies have not been effective.

2.7.12 Respondent-driven sampling and selection bias criticism. To assess the accuracy of respondent-driven sampling particularly in smaller communities or networks where it been critiqued for underperforming or being statistically unstable, Gyarmathy et al. (2014) devised an experiment to compare respondent-driven sampling with what they termed incentivized snowball sampling. In respondent-driven sampling, seeds are limited in the number of participants they can recruit. This is done to minimize selection bias that could be introduced if one seed recruited an unlimited number of individuals, knowing that he or she would be rewarded for doing so. In incentivized snowball sampling, there is no limit to the number of persons recruited by the seed and an incentive is still offered. The goal is to reach as representatively into the network as possible. There is no mathematical manipulation of the dataset as is done in respondent-driven sampling.

In their experiment, Gyarmathy et al. (2014) focused on reaching persons using injectable drugs. They used both respondent-driven sampling as well as incentivized snowball sampling methodologies but used them separately to determine rates of HIV, hepatitis A, hepatitis B, hepatitis C, syphilis, and chlamydia infections, as well as ascertaining select demographic and behavioral characteristics. Their conclusion was that if population characteristics were similar in both types of sampling, prevalence of diseases being tracked was not statistically different between respondent-driven sampling and incentivized snowball sampling. In both methodologies, persons already in the study drove recruitment of other participants. These persons also tended to know each other quite well and shared goals as well as struggles. Not only did both methods allow researchers to reach deeply into the population of interest, but neither sample was appreciably different from the other.

For researchers attempting to enroll a representative sample of gay men, respondent-driven sampling could be an ideal method. Cárdenas et al. (2018) employed respondent-driven sampling to reach gay men and lesbians in Chile. The focus of this research was the effect of direct and indirect stigma on post-traumatic growth, where post-traumatic growth was defined as an individual's belief system and basic assumptions about him- or herself, others, and the entire world (Janoff-Bulman, 2006). In this study, respondent-driven sampling allowed researchers to reach a stigmatized and often invisible population of gay men and lesbians who had experienced long-term institutionalized and severe stigma. The researchers chose respondent-driven sampling because they concluded no other methodology would have allowed them this type of access.

Another example may be seen in the research by Raymond et al. (2009), who used this recruitment methodology in Kampala, Uganda to study gay men who had unprotected anal intercourse. In Uganda, anal intercourse is presumed to indicate homosexuality, which is not only socially proscribed but also punishable by life imprisonment and has verifiably included torture (British Home Office, 2019). Researchers employed seeds who were carefully trained in special methods in recruitment of other gay men. However, when the sample of men was analyzed, only 60% identified as gay or bisexual. Using respondent-driven sampling, even in an environment that heavily punished gay sex, researchers were nonetheless successful in reaching men who engaged in anal intercourse. Only a closed network of men known to each other would have allowed this research to progress. Whether a different sampling methodology using a less protected network would have been successful is unknown, but in that county under those circumstances it is unlikely.

Nevertheless, use of respondent-driven sampling remains somewhat controversial (Meyer & Wilson, 2009), with one recurring question being the number of participants a seed can recruit. As previously noted, in respondent-driven sampling every participant is incentivized but seeds are doubly so. There is thus a recognized vulnerability to selection bias. Respondent-driven sampling attempts to correct for this by limiting the number of participants recruited by seeds. However, research into some closed communities is of such import (*e.g.* users of intravenous drugs) that researchers neither want to give up the use of seeds nor want to limit the number of participants these seeds can enroll. In cases such as this, if selection bias is truly a concern then systematic random sampling could occur with participants enrolled by seeds (Elfil & Negida, 2017). In this method, if each seed brings an equal number of participants, every other participant enters the first sample. The second sample will include the ones omitted in the first. That way, no participants will be lost and comparisons between the two groups can be statistically examined. Almost any approach could work if it is systematic and applied to each group of participants brought in by seeds.

To explore the conundrum of selection bias more comprehensively, Lu (2013) created a "Linked Ego Network" in which respondents are asked questions related to the particular study. However, they are also asked questions about their own personal networks. Basic demographic data are already gathered; this forms the axial skeleton. Questions concerning personal networks are added to form an appendicular skeleton of information about the respondents. This allows researchers to create a "respondent chain" of connections among the research participants that describes both the individual and aggregate demographics, as well as the interconnections between participants. Lu (2013) found in his study that creating these linked ego networks and identifying respondents who were, essentially, outliers allowed for the identification and control of selection bias. The mathematics associated with this linked ego network are similar to those used to map neural networks or complex systems such as telephone exchanges and Internet connectivity. However, this method allows a modeling of the participant network to a degree of complexity never before possible. It appears to have great promise but the literature to date shows scant evidence of its application.

2.8 Conclusions

This chapter examined several statistical sampling methods used by researchers working with populations of gay men. Each type has promise as well as limitations. With appropriate reservations, external threats in non-probability sampling can be minimized even while they cannot be completely neutralized. In particular, threats to external validity should be considered when choosing a sampling method.

Convenience sampling is useful in pilot studies, and to gather basic data without the complexity of a randomized sample. It can also be the most inexpensive way to gather data. In groups of gay men, convenience sampling as a methodology can be extremely useful in refining a research question, or in the determination of trends such as sexual behaviors that place men at risk for contracting or communicating HIV.

Direct recruitment methods provide researchers a way to contact gay men directly, given the required permissions have been obtained. Depending on the method of contact chosen, direct recruitment can be costly. However, it also allows researchers to overcome the obstacle of waiting for participants to come to them, as well as avoid the complexity of a mediator trying to enroll enough gay men into a study

There are several direct recruitment methods. Venue-based sampling is a focus by researchers on a specific location in an attempt to enroll a representative sample of participants. Time-location sampling is a refinement of the former in which not only the location is specified but also the interval during which potential study participants are approached. Social network recruiting is another refinement of direct recruiting that takes advantage of connections among persons belonging to specific social media groups. By contacting one member of the group, outreach is possible to all members. Lastly, respondent-driven sampling with seeds is a method that seems to most approximate probabalistic sampling techniques. This method carefully chooses and incentivizes directly contacted individuals to recruit others into a study, the latter being incentivized as well. Though incentives must be minimal, in total they can be considerable.

Among the methods reviewed, respondent-driven sampling with seeds seems to have the greatest potential in research with communities of gay men. It allows for a sampling frame of gay men that could be gathered from the widest possible areas and different gay men’s communities. It also incorporates mathematical operations that ostensibly render it probabilistic, at least as far as current authors seem to indicate. Authors who deny the probabilistic property of post-traumatic growth have a strong argument, and their objections must be met with further research. But the fact remains that respondent-driven sampling with seeds has been used extensively for research into gay men’s experiences, and it remains a valued methodology in the assessment of many issues within communities of gay men. It is hoped that continued criticism of its probabilistic claim will engender further refinement of its mathematical calculations, perhaps a common inclusion into this methodology of the Linked Ego Network (Lu, 2013). At the present time, the research by this author into statistical sampling methodologies has determined that respondent-driven sampling with seeds appears to be the best way to gather the widest array of gay men into a study while at the same time approaching as closely as possible the aspiration of a truly probabilistic research study.

Respondent-driven sampling with seeds is of course dependent on the seeds themselves, and how they are chosen can increase selection bias. Reisner et al. (2010) examined just this question by identifying four studies that had used seeds. They interviewed the seeds ($n = 74$) to determine what made them successful candidates for recruiting others into a study of gay men. Their interviews included an assessment of the seed's demographics, sexual history, and drug use. They also evaluated the number of contacts within their gay communities. Assessments of psychosocial risk factors and social network size were compared among the pool of seeds. In their analysis, they rated seeds as generative (recruited two or more subsequent participants) or non-generative (recruited one or zero participants). Seeds are ideally persons with strong social connections to the group being studied and highly motivated to recruit others to join with them in a research venture. Their study concluded that a large social network was not significantly associated with being a generative seed. Rather, the density of the social network, strength of ties within the social network, and the frequency of behaviors being studied might also be critical factors. This sampling methodology also incorporates mathematical operations that ostensibly render it probabilistic, at least as far as current authors seem to indicate. Authors who deny the probabilistic property of post-traumatic growth have a strong argument, and their objections must be met with further research. But the fact remains that respondent-driven sampling with seeds has been used extensively for research into gay men's experiences, and it remains a valued methodology in the assessment of many issues within communities of gay men.

Chapter Three: Foundational Concepts in Conducting Research with Groups of Gay Men

Abstract

Researchers over the last several decades have explored the roots of health disparities. This includes studies into gay men's experience of health disparities, and the ways that these specifically disenfranchise gay men from seeking health care resources. This chapter is an examination of foundational concepts that are important for researchers to consider. Understanding the concepts and effects of stigma, positionality, essentialism, and intersectionality will serve researchers well as they prepare to work with communities of gay men. This knowledge will also help researchers design and conduct studies that more accurately resist threats both to internal and external validity.

Keywords: Gay men, stigma, positionality, essentialism, intersectionality

3.1 Introduction

The human immunodeficiency virus (HIV)/AIDS crisis in the early 1980s brought to public health authorities the realization that this disease was clustered within gay communities (Aggleton, 1994). However, obtaining accurate statistics about these communities, their characteristics, behaviors, and risk factors proved to be an exceedingly difficult task. Access to these communities required an understanding of gay men possessed by very few researchers (IOM, 2011). As researchers slowly gained a greater understanding of characteristics of gay men's communities, refinements in research became possible and were more productive.

This paper will provide a review of several critical issues that have affected research within communities of gay men, specifically the role of stigma in the lives of gay men individually and in gay men's communities. The other topic will be factors – intersectionality, positionality, and essentialism – that researchers must understand have critical importance before approach is made to communities of gay men. Though it is likely that these issues affect research with other vulnerable or under-represented communities, this paper focuses on research within communities of gay men. A clearer understanding of their nature has the potential to improve research efforts.

Particularly with the first issue – stigma – there is growing understanding of its effects within gay men's communities. First defined by Goffman (1963) as an attribute that deeply discredits an individual, it is – along with internalized homophobia and actual experiences of discrimination – constitutive of the Minority Stress Model as experienced by gay men (Meyer & Frost, 2013). Stigma is considered one of the "upstream" determinants of health because it is foundational for health outcomes (Fitzgerald-Husek, 2017; Hatzenbuehler et al., 2013). It is a constituent of the Minority Stress Model (Meyer & Frost, 2013) that explains increased mental and physical disorders present in populations of gay men as well as other under-represented groups.

The second purpose of this paper is to discuss several foundational concepts, understanding of which will help researchers who seek to work with gay men or communities of gay men. As research with vulnerable populations has expanded (Mechanic & Tanner, 2007), attention is also being given to researchers working with these vulnerable groups. The ethics associated with research are well known; respect, beneficence, and justice provide the necessary foundation. Implementation of these principles is achieved through informed consent, privacy and confidentiality, a balance between risk and benefit, and fair participant selection. Nor is community based participatory research the current subject. Those principles are established to empower community participation and to improve accuracy of data gathered (Wallerstein & Duran, 2010). At issue is the psychological preparation of the researcher who approaches a community under stress. Researchers must understand how gay men construct their own identity within a culture that imposes significant and sometimes severe pressures upon them. How gay men cope with stressors varies, and how they build resilience is subject to many factors (Feinstein et al., 2017). Researchers need to be aware that they can inadvertently add to stress and damage resiliency among gay men while asking questions that reflect their own curiosity and perspectives while remaining unaware of the origins of their own power. It should not be presumed that heterosexual researchers, clearly the majority, who seek to work with gay men are able to provide adequate safety for participants without enhanced awareness of gay men's experiences of stress. Cameron &

Kulick (2003) explore how heterosexist language expresses not only thought but power, and they do so from a feminist perspective. Their work is highly instructive to heterosexual researchers, especially male, who want to work with gay male study participants.

Participants reflective of the dominant population tend to accept researchers and their efforts because they trust the reputations of the institutions these researchers represent (Guillemin et al., 2018). However, there now is much greater understanding of the impact on minority communities of poorly conducted research (Pacheco et al., 2013); the Tuskegee Syphilis Study (Laws, 2018), though now shown in research to have a minimal impact on decisions by some to enter clinical trials (Davis et al., 2012), nevertheless has attained the status of a sacred narrative among African Americans (Laws, 2018). This has led to heightened awareness of the impact that researchers themselves have on their own research. As a result, research ethicists understand that reciprocity and negotiation between researchers and participants form an organic whole, and trust can easily be broken (McDonald et al., 2008).

Researchers have increasingly allowed gay men a stronger voice in sharing their own stories, and not simply through their responses in assessment instruments. In studies such as by Underhill et al. (2016), they have shared their stories of discrimination, isolation, and prejudice when seeking medical care. The NAS report (IOM, 2011) urges researchers to give close attention to how they are perceived by members of LGBT communities, and to understand that if unexamined, their own biases and outreach methodologies equally have the potential to foster or damage their research venture (Dillman et al., 2009).

In this final section, three concepts – intersectionality, positionality, and essentialism – will be discussed. These are presented as windows through which not only gay men's communities may be viewed, but also and most especially the gay man himself. Yet is it hoped that the researcher will indulge in some introspection and find that these hypotheses about analyzing human behaviors will also help explain a bit about all humans, in community or not. Awareness of them may help form a more multifaceted researcher whose efforts to understand important questions about gay men, indeed all vulnerable individuals, will be rewarded.

3.2 Background

During the 1980s and 1990s, leadership in health care research arose from within the gay and lesbian communities themselves, often associated with the American Public Health Association (APHA) Gay and Lesbian Caucus (APHA, 2019) as well as the Gay and Lesbian Medical Association (GLMA) (GLMA, 2019). Universities also provided homes for research institutes such as the Williams Institute at the University of California, Los Angeles (Williams Institute, 2018), as well as many others. These organizations worked with the National Institutes of Health (NIH) and other private and governmental agencies to develop innovative approaches for research within LGBT communities. These approaches included recruitment strategies such as direct recruiting from the LGBT communities, venue-based sampling, and time-location based sampling. These organizations also conducted research into LGBT communities in attempts to discover determinants of health for members of specific subsets under the LGBT umbrella.

Well established methods such as venue-based sampling and time-space sampling employed within the LBGT communities were variably successful; however, no single method satisfied researchers and none met the high standards for rigorous research (Meyer & Wilson, 2009). Some of the reasons for this were discovered only after years of failed or less than effective efforts at research participant recruitment within gay communities. Researchers frequently misunderstood the identity of the LGBT communities, with mis-aimed research objectives that were not aligned with community realities. An example of this was an early presumption on the part of researchers that Caucasian and African American gay men were similar in their experiences of being gay men (Meyer & Wilson, 2009). Other researchers chose segments of the gay male community and operatively assumed that characteristics within one were going to be found in others. As the NAS (IOM, 2011) document observes, LGBT communities are fundamentally nonparametric. Researchers also based their efforts on previously-debunked presumptions about segments of the LGBT community; for example, that gay men had higher income levels than those found in the general public (Sears & Mallory, 2014).

Within communities of gay men, researchers were compelled to re-examine important concepts pertaining to sexuality, notions of community, and even how communication between researchers and members of these communities occurred. Researchers came to understand that social and psychological dynamics within communities of gay men necessitated adding additional variables. For example, conceptualizing lesbian, gay, bisexual, and transgender as categories led to realizations that there were many overlaps among these terms (Bostwick & Dodge, 2019; Brennan et al., 2017; Zea et al., 2014). In addition, presumptions about how people lived, communicated with one another, worked alongside each other, and related to persons outside their communities often did not transfer into LGBT communities. Health care needs were unique and pressing, and even community-based health care centers were not prepared to offer the services these communities needed. Medical and nursing education did not prepare practitioners to care for individuals in these communities. The Minority Stress Model explains much about gay men's physical and mental health (Meyer, 1995; Dentato et al., 2013; Frost et al., 2015), specifically the combined effects of stigma, internalized homophobia, and actual experiences of discrimination and violence. This model, now several decades old, provides an important foundation for scientists who intend to conduct research with gay men. However, two of its pillars – stigma and internalized homophobia – are still the subject of research themselves.

3.3 Foundational Concepts

3.3.1 Stigma. As conceptualized by Goffman (1963), it is "an attribute that is deeply discrediting" and something that changes the bearer of the attribute "from a whole and usual person to a tainted, discounted one" (p. 3). Link & Phelan (2001) continued this work, refining the concept. They write that stigma "exists when elements of labeling, stereotyping, separation, status loss, and discrimination occur together in a power situation that allows them" (p. 377).

Researchers initially understood the stigma associated with nonstandard sexual behavior would complicate obtaining a representative sample for any study (Bostwick & Dodge, 2019). What was not well understood included the conceptualization of stigma, as well as operationalizing stigma research within the gay community. The seminal work of

Goffman (1963) in conceptualizing stigma began to be expanded upon by other scholars (Courtwright, 2007; Falk, 2001; Heatherton et al., 2003; Herek et al., 2009; Herek, 2015; Link & Phelan, 2001; White Hughto et al., 2017) who explored the concept of stigma within several exemplars, including the experience of being a gay man. With the conceptual definition of stigma now more understood and its constituents clarified, researchers have operationalized stigma more precisely in populations of gay men.

There are different types of stigma. The type experienced as discrimination by LGBT persons generally and gay men specifically is known as enacted stigma and (Pescosolido & Martin, 2015). Enacted stigma is also called "felt stigma," and is a feeling of exclusion based on experiences and perceptions gained from interactions with the larger community within which one must live, but with which one does not identify. These experiences combine with internalized homophobia and experiences of discrimination to engender another type of stigma known as self-stigma, which is learned self-punishment and self-isolation where one subjects oneself to the judgment of the larger community to which one never truly belongs (Link & Phelan, 2001). The cycle of enacted stigma and overt discrimination leads to heightened internalized homophobia and self-stigma, to be repeated unless it can be stopped. As a result of self-stigma, gay men can choose to self-isolate. This is because self-stigma magnifies isolation of individuals even within the larger LGBT community, acting as a form of interior jury that pronounces the punishment of segregation even while the individual is surrounded by persons who share some of the most central and intimate experiential aspects of life (Hatzenbuehler et al., 2009).

When researchers approach communities of gay men, understanding the concept and mechanisms of stigma is critical. It is constitutive of the Minority Stress Model (Frost et al., 2015), essential information about any oppressed population being studied and knowledge without which, *inter alia,* accurate conclusions cannot be made. Stigma is also associated with psychological distress resulting in gay men withdrawing from their social circles and society in general (Steward et al., 2008), having depression rates three times higher than the general adult population (Lee et al., 2017), and with suicide rates multiples of the general male population (Hottes et al., 2016). A study by Lyons and Hosking (2014) used data from the CDCs National Violent Death Reporting System (NVDRS) from the 18 states participating in that program, available for the years 2003 through 2014. Though this study was limited by 32 states not being part of the report, conclusions were that gay male decedents reflected in the data had higher rates of depression, previous suicide attempts, had disclosed suicide plans, and were almost twice as likely to have been treated for mental health complaints. These are all associated with the Minority Stress Model, which rests firmly on a foundation of stigma (Rendina et al., 2017).

When researchers do not understand stigma or its effects, and when this phenomenon is not understood, it can act as an unidentified covariate, skewing results and making conclusions inaccurate (Sabin & Johnston, 2014).

3.3.2 L is not G is not B is not T… or is it? In approaching a community of gay men, researchers must understand that the abbreviation for Lesbian, Gay, Bisexual, and Transgender (LGBT) is simply a convenience, umbrella label. Additional letters as well as symbols have been added over time to make the abbreviation more representative of the diversity of human sexual orientation and gender. It is not uncommon to see LGBTQI+, meaning lesbian, gay, bisexual, transgender, queer (or questioning), intersex, and the + sign meaning inclusivity of everyone else (Padilla, 2003).

Researchers who decide to approach gay men must understand that there are many sub-communities of gay men under the letter "G." These sub-communities can be fluid and their names sometimes perhaps confusing or even vividly descriptive. For example, Lyons and Hosking (2014) conducted research into health risks in Australian gay men. During their research, they found several discrete gay male sub-communities with which most gay males seemed to identify. In their research, they determined that the delineation of men into these communities appeared to be somewhat voluntary and arbitrary. However, there were some expectations for membership into the groups. For example, bears required men to be quite hirsute, have large abdomens, are generally be bearded. For several decades at least, bears and have had strong social ties with other bears (Moskowitz et al., 2013). Pandas are Asian bears. Otters are physically smaller versions of bears, also quite hirsute, but usually without beards and with generally pronounced musculature. Cubs are younger versions of bears; the age of separation between bears and cubs seems fluid. Otters and cubs are often adopted by the bear community. Twinks are younger, sometimes slender males who pursue an archetype of a hairless male with perfect muscle definition, depilating their bodies to do so (Filiault & Drummond, 2007; Sánchez et al., 2009). Twinks are the most visible members of the gay male community and the most likely be encountered by researchers who visit gay bars. However, bars do exist that cater to sub-communities of gay men, and researchers need to know about these. For example, some bars cater exclusively to bears, while others will attract different gay communities. Some cities will have bars that cater to gay men who are part of the leather community. These men eroticize leather and symbolic dress, and form a tight community referring to themselves as leathermen or leatherfolk. Often the bar is identified by the letters “MC” for motorcycle club; one of the most comprehensive listings of these clubs can be found at the following website: leatherclubs.net. Leathermen are not defined by body type; rather, they choose leatherwear as a way to identify with other members of their community (Mosher et al., 2009). Another subculture is the drag queen. These men defy stereotypes, and adopt extreme, sometimes outlandish presentations of feminine ideals in both their dress and cosmetic presentation. In doing so they literally force observers to confront their own stereotypes about both male and female cultural expectations. The creation, enforcement, and metamorphosis of these subcommunities exist to minimize the effects of stigma (Moncrieff & Lienard, 2017).

There are different features to the subcommunities which are important for researchers to know. For example, bears tend to resist weight loss since it appears to be an important aspect of membership in that sub-community (Gough & Flanders, 2009). Otters do not want the excess weight and work to maintain muscle definition, while emphasizing the presence of their body hair. Cubs seem to malleably exist somewhere between bears and otters; not generally muscular and with much less body hair, they nevertheless identify with the bear community (Manley et al., 2007). As a rule, drag queens attempt to maintain a body shape that will accommodate the outfits they want to wear, or the body that will allow them the presentation they wish to make to the public (Moncrieff & Lienard, 2017).

Knowledge of these sub-communities is essential as part of the preparatory work of research. Researchers who want to work with all gay men need to understand that there will likely be no physical venue where all gay men can be found. Research with gay male sub-communities can occur in specific locations if the researcher is aware of the codes of behavior among members of that sub-community. Moving forward with research based on presumed knowledge will not be effective and could alienate participants. This will be perceived as a form of stigmatizing behavior.

Social researchers have emphasized just how different self-understanding and self-labeling can be (Epstein et al., 2012). Some conclusions of interesting research by Rosenmann et al. (2018) into masculinities of Israeli and British men show that ideas of these participant's own sexuality appear rooted in traditional concepts of heterosexual self-image (muscularity and leanness, quality of voice, self-objectification, and materialism). Ravenhill and de Visser (2017) found some of these same features operated as "masculine capital" for gay men in their efforts to achieve sense of masculine self-identity. One conclusion from this research is that self-understanding and self-labeling are fluid but are heavily influenced by many external factors. Researchers such as Rosenmann (2018) note this in their discussion of "metrosexualism," a term describing the fluidity of both self-understanding and self-labeling. As external influences have stressed a different image of maleness, indeed an allowance for men to have a wider sexual expression, men have done so.

Callis (2014) points to this emerging inclusiveness in masculinities in research about the decline of the current binary approach to sexual self-identification. This researcher interviewed 80 individuals concerning their views of sexuality, sexual expression, and self-identity. Findings from this research indicated, at least in this group, a resistance to adopt labels at all. Of the total, 17 persons used multiple labels to describe their sexuality or sexual self-identity. These findings were indicative of continuous change in sexual expression while at the same time resistance to static self-identification. It is important to note that the 80 participants in this study represented a cross-section of individuals who self-identified using a variety of labels or who resisted labeling themselves.

Researchers who want to gain access to communities of gay males must be aware of the interior struggles that current research tells us the individual community members work to overcome. These struggles complicate men's search for a place within themselves, as well as a place within a community. This theme of stigma and its ability to isolate and punish is something that research identifies repeatedly. Researchers who ask gay men about their experiences must know of this phenomenon, something that appears as a constant. An important insight is to be found in the conceptual structure of stigma (Link & Phelan, 2001). Gay men are isolated by the labeling of themselves as "other," by having negative attributes attached to them, by being separated from others by an "us versus them" schema, and by suffering status loss and thereby enduring discrimination. Those who would conduct research with gay men must first be informed about the psychosocial burdens associated with being gay. It will be of great help for gay men to see evidence of an awareness of their struggles on the part of researchers, particularly in well-designed assessments and during interviews.

3.4 Positionality, Intersectionality, and Essentialism

Researchers have a responsibility to prepare themselves to work with a community of interest beyond a literature review concerning their topic of interest. This can be done efficiently by guided study under the direction of a scholar who is aware of the history and current overall stressors within the community in which a study is to take place, *e.g.* gay men. As noted above, one of the first challenges for researchers is overcoming the reluctance of some men to identify themselves to researchers as gay. Awareness of and sensitivity to individual and community realities and burdens will become evident in a research design and implementation. To that end, research has identified the critical roles of positionality, intersectionality, and essentialism. An exploration of these will be a helpful foundation for understanding why traditional sampling techniques have often been less than effective within communities of gay men. The issue likely originates before sampling ever begins.

Evidence demonstrates that researchers can be confused when they include sexual orientation in their research; they sometimes do not know exactly what they are measuring (Sell, 2007; IOM, 2011). This points to a design issue; operationalization has been placed before conceptualization. In addition, literature reviews support that conceptual definitions are often lacking in published research concerning sexual minorities. When they are included, there can be marked differences in the definitions among researchers (Sell, 2007). Prior to the design stage of research with sexual minority populations, including gay men, researchers must adopt consistent conceptual definitions of terms used in studying issues related to sexual orientation.

The NAS document (IOM, 2011) conceptualizes its own work in four areas: a life-course framework, where subsequent stages are informed by prior experience as well as one's age cohort and the historical context of one's life; the Minority Stress Model, in which three components (stigma; internalized homophobia; and, experiences of discrimination) result in chronic stress; intersectionality (discussed below); and, a social-ecology perspective, which views the individual as formed by and subject to significant spheres of influence (family; community; society). That document recognized the difficulty among researchers in adopting common conceptual definitions when studying LGBT populations. In doing this, the document provides a strong foundation for the design of effective research with LGBT populations. Researchers have the tools to choose assessment instruments with strong psychometrics in order to measure variables of interest in specific subcommunities under the LGBT umbrella. But even the NAS document (IOM, 2011) recognizes the temptation to forge ahead in designing and conducting research without first placing that research on a firm conceptual foundation. Because the Minority Stress Model has been discussed elsewhere in this dissertation, and because of the importance of intersectionality, positionality, and essentialism as concepts critical to understand as to their effects within gay men – and within researchers – these will be explored next.

3.4.1 Positionality Theory. This concept holds that individuals have a *position* from which they socially construct their world and their place in it (Alcoff, 1988; Collins, 1993; Haraway, 1991). This position is a relational self-understanding informed by several factors: sex (a biological construct), gender (a social construct), ethnicity, nationality, socioeconomic class, etc. These simultaneously inform and reinforce the individual’s worldview. Positionality theory assists individuals in making sense of their world, in finding a place and stability within it. In this way it is an instructive, cyclical activity. It can also be destabilizing; while the individual may seek a fixed identity, he or she remains at the whim of change wrought both by internal and external circumstance.

Researchers will find it important to understand that positionality may have another nuance when viewed from inside the gay community. Positionality theory asserts that persons adopt a position not in a prepositional manner but rather as a reaction to their experiences and thoughts. This position is created not only to provide protection but also access to power and resources, thereby allowing the individual to socially construct and find meaning within his or her world. As such, positionality theory holds that the individual is strongly influenced by perceptions of changing social dynamics. Further, negative influences are more powerful than positive ones. Thus, effects arising from social ostracism and denial of the goods of community are threats that cannot be ignored. Individuals respond variably but generally accede to the demands of the larger communities in which they live. This is but one example of the effect of in-group power over out-group members as evidenced by stigma theory (Link & Phelan, 2001; Feinstein et al., 2012). Thus, the researcher who approaches a community of gay men must understand that the structures within which these gay men live and how they interact are reactive to sometimes disruptive internal events as well as pressures from the dominant heterosexual community. Keeping this in mind may allow researchers to identify and minimize the effects of confounding variables from within the gay community. There will be other variables to control, such as expectations of partner selection, having or not having children, choice of place to live, educational and professional choices, and healthcare access to name but a few.

Researchers working with gay men should consider that positionality theory is itself informative about process, even while the research venture seeks product, information about variables of interest. As England writes (1994), research is a shared space; it cannot be a static series of events whereby the researcher remains unmoved by what is discovered, or by the process in which that discovery takes place. Vanner (2015) emphasizes the reflexive nature of research, particularly qualitative research. It is this reflexivity that promotes greater insight on the part of the researcher, not in attempting to join with participants in their experiences but rather to recognize that real neutrality is simply not possible. Power and privilege are on the side of those who are conducting research. Sometimes, researchers will be challenged by study participants (Bourke, 2014). This can arise in recognition of the differences in strata they occupy compared to their research participants. Acevedo et al. (2015) urge researchers to become aware of the institutionalization of their social identities; this process is the source of their power. This same institutionalization of social identity has placed gay men at a decided disadvantage compared to that of researchers; this is an additional disadvantage to the gay man's sexual orientation. The resulting disequilibrium places a burden on the person with the power: the researcher. He or she should use effective means to become aware of this differential in power, the effects it has had for benefit or otherwise, and remain sensitive to those things from the beginning of the research enterprise until its very end. Arising from positionality theory, there is no study that leaves either researcher or participant completely unchanged. The directionality of the change is however largely under the control of the researcher. This imposes serious ethical obligations.

An example of positionality theory as it has affected the lives of gay men is AIDS Coalition To Unleash Power (ACT-UP). As a forceful response to positionality, to researchers who worked from this perspective, and to health care workers who were the consumers of positionality-oriented research, this organization’s leaders trained other leaders, and then its members, to refuse to accept the status quo that was killing them. This group used a variety of methods, few of them socially acceptable and most quite destabilizing to medical and political structures of the time, to reframe the entire discussion around AIDS and HIV. They confronted and challenged the position of researchers who considered HIV as the “gay cancer.” In so doing, they forced researchers to adopt a different perspective about the HIV virus, how they viewed gay men’s lives, and the way they studied how gay men lived and died (Wright, 2013).

3.4.2 Intersectionality. Originating in a seminal article by Kimberlé Crenshaw (1989) and achieving maturity through her scholarship, intersectionality also found a critical theory in the work of Carbado et al. (2013). The term describes how oppressive social equity issues including racism, sexism, homophobia, transphobia, xenophobia, and classicism are intrinsically interconnected and therefore separate scholarly analysis of each construct cannot occur. A reductionist approach is impossible in the minds of those who accept the concept of intersectionality.

Intersectionality holds that researchers cannot approach a phenomenon of interest without a comprehensive understanding of the array of forces at work on participants of their research. These forces include researchers themselves as holders of power and privilege. As such, researchers influence in unknown ways the outcome of their research; their hand is always on the scale. Researchers working to control their own bias is not enough; intersectionality theory posits that biases are functionally operative at an unconscious level to get and maintain power (Carbado et al., 2013). Thus, these biases are invisible to the one who holds them. However, it is possible to identify and address them. Mcmaster and Cook (2019), in their analysis of how intersectionality can have a positive role in quantitative research into educational inequalities, make the following recommendations about the actual research process itself. First, in the design or choice of instruments used, multidimensional measures of social background and other personal characteristics can reduce the negative impacts of intersectionality. These authors identify a gap in the quantitative literature concerning the analysis of disparities within social groups; this is the "intra-categorical" effect of intersectionality. Using multidimensional measures may overcome the divisions that place people into discrete categories and ignore the effects of intersectionality, thereby hiding the effects of latent variables. Another recommendation is that researchers engage with intersectionality theory, understanding its foundations and possible implications on their intended research. Second, in order to understand the effects of intersectionality on gay men, prior data should be identified if at all possible that includes as closely as possible the known to date specifics of the population in question, the social pressures upon that population, and current efforts to overcome inequities. Awareness of these things can help make research designs more sensitive to the population and make researchers aware of characteristics of the population that they may have missed in their own literature reviews. A final recommendation is to include longitudinal and comparative quantitative research efforts as population samples are researched. This will help identify important changes in intersectional inequities, without which they cannot be addressed. No research should be done as a one-off, isolated from other research and comprising only a snapshot view of even important variables in a population. The outcome of doing these things may inhibit some of the more negative effects of intersectionality that can occur when researchers work with gay men.

One example of intersectionality as it affects researchers working with gay men is seen in the work of Subirana-Malaret et al. (2019) in the area of intimate partner violence (IPV). They note that IPV has long been viewed through a heteronormative and cisnormative lens that has left gay men (as well as lesbians, bisexuals, and transpersons) completely out of research and thus out of the protections afforded heterosexual persons. In fact, these researchers note that in the fifty years that batterer intervention programs have been in existence in western societies, their scoping review showed that gay men (and others under the LGBT umbrella) have essentially been left out of the literature even though their rates of IPV are understood to be similar to heterosexual couples' rates (Badenes-Ribera et al., 2015; Dixon & Graham-Kevan, 2011). The multiple intersections of social and psychological forces from which IPV originates have simply not been considered when gay men are victims of IPV.

3.4.3 Essentialism. This concept is defined as a shared identity among members of a group (Plante et al., 2015; Rothbart & Taylor, 1992), an underlying nature that both constitutes and differentiates social categories (Bastian & Haslam, 2006). It is also understood to be a way of viewing members of a group as possessing inherent characteristics that set them apart from the larger social group – often to their disadvantage. Essentialism is further divided into social essentialism and trait essentialism (Ryazanov & Christenfeld, 2017). Social essentialism differentiates people on socially relevant attributes such as race or gender. This division of essentialism views persons as having a "social essence" that makes them like one another and differentiates them from other groups. This essence is considered natural or biologically determined (Rhodes & Gelman, 2009). Trait essentialism refers to specific human attributes such as intelligence, weight, height, etc. (Ryazanov & Christenfeld, 2017). Researchers working with communities of gay men will need to be aware that sexual orientation straddles both social and trait essentialism because it includes both the socially relevant attribute of sexual expression and maleness, as well as the essentialism of all the visible and invisible traits incorporated into the gay man being studied (Rosenmann, 2018). These traits are inherent in the human person, exist partly to define the person, are expressions that associate a person with a particular group, and allow others to identify that person as a member of the dominant social group or label him or her as an outcast. Gay men are vulnerable to essentialism whenever they interact with members of a group not their own. That will most likely include researchers, the majority of whom by mere population percentage are themselves not gay men. Researchers must also understand that in considering any large group of gay men, there will be subgroups with exclusionary membership requirements that isolate even other gay men. Awareness of the dynamics of essentialism will bring to researchers a heightened sense of the pressures under which many gay men live every day.

Understanding essentialism is especially important for researchers who may be unaware that they operate from an essentialist perspective, particularly a social essentialist one. Individuals such as these tend to accept social stereotypes, and they also tend to act unconsciously from those beliefs. They are also disposed to accept the more negative attributes based in stereotypes, particularly toward stigmatized groups (Haslam et al., 2005). Lacking an awareness of this tendency, a scientist who attempts to design and conduct research with gay men may bring to the project from its very inception an unconscious bias as well as those very same stereotypes that gay men seek to avoid. This will have a predictably negative outcome on any research venture. The reason for this is hypothesized to be inherent in essentialism: individuals tend to hold themselves in higher worth than they do others, and they consider their own social group to have more worth than any other social group (Haslam et al., 2005). If this is true, and there is some evidence to believe it is, research with gay men must consider essentialism and its tenets from the very beginning of any research venture.

Researchers working with communities of gay men must also be aware of the attraction-repulsion dynamism of essentialism. This will be evident in sometimes contradictory results in questions relating to sexual identity as well as in instruments assessing homonegativity, internalized stigma, and a host of other concepts that have been explored in communities of gay men. That results are sometimes equivocal can be explained by essentialism and the struggles of gay men to reconcile unfair exclusion from their community of origin while continuing to struggle with membership in their community of choice. In a case such as this, it may well be that a selected assessment instrument proves to be insensitive to target variables while being overly influenced by latent variables whose importance was unnoticed during the design stage.

The struggle to belong within a setting of constant rejection arises as a result of the gay men's community needing to redefine itself against the larger, ostensibly stable heterosexual community. That this larger community is also renegotiating its own identity is not as easily seen, since a vast array of issues constantly stimulate that renegotiation – including how to relate to the gay community. However, within all this heat there is also some light: Chao and Kung (2018) assert that as individuals attempt to make sense of the prejudices and biases they encounter (and perpetuate), the concept of essentialism can explain the social dynamics they encounter as they negotiate in-group and out-group balances of power. From the social essentialism perspective of the gay men's community, the task is to find a home in which homosexual expression in all its forms is welcome, celebrated, and safe. This is an ideal, and perhaps a cultural fantasy, but it is also a tenet of social essentialism (Haslam et al., 2005).

Researchers may find that essentialism can explain some of the discordance that appears when an instrument with sound psychometrics does not function well as they explore gay men's experiences. Variables that could be reflected by this discordance are those where the standard response, or the range, is based on communities quite different than gay men. For example, in a literature review of 250 peer reviewed quantitative studies of MSM published in 2010, Brennan et al. (2017) determined that the focus of these studies was overwhelmingly on HIV and STIs. They were simply not reflective of the experience of gay men beyond these boundaries, especially when compared to the array of studies in heterosexual male populations. For example, when mental health was assessed in gay men, sexual orientation was defined as an identity instead of a behavior. Alternately, when sexual orientation was assessed it was considered a behavior instead of an identity. Their recommendations for future research include making clear in published research exactly how sexual orientation was measured; the use of multiple measures of sexual orientation in research exploring health in sexual minority males; ensuring that sample descriptions and intersectional analyses include ethnoracial background and other factors that illuminate the diversity of the sample; development of standardized measures that are sensitive to this population, not borrowed from other populations; and, expanding research to include areas of gay men's lives where little is known compared to heterosexual counterparts, such as eating disorders or physical health outcomes.

Essentialism holds that there are indeed elemental characteristics possessed by groups; that these can be identified; further, that understanding these characteristics can provide foundations for more effective intergroup understanding and social progress. This is promising for external validity even in research with communities of gay men, where research looking at the same phenomenon has sometimes resulted in contradictory results. For example, early research into gay men's sexual experiences missed the different "flavors" that gay men had the freedom to explore, and the different communities into which this separated them (Grov & Smith, 2014). Nor, in fact did researchers realize until well into the AIDS epidemic that quite a few different types of gay men's communities existed that defined themselves in unique ways (Prestage et al., 2015). One final example of essentialism is the experience of being African American and gay; both social and trait essentialism combine in these men to influence how others view them, and how impressions are formed when multiple stereotypes converge (Remedios, 2014).

An example of the way essentialism can affect the design, conduct, and interpretation of research can be found in efforts to identify the "gay gene." First identified in 1993, it was a correlation between the genetic marker Xq28 gay male sexuality (Griffiths, 2016). However, the results of this initial study linking the gene to gay sexuality have never been replicated even though they have drawn the attention of researchers who convinced *a priori* that being gay is the unique result of genetics (O'Riordan, 2012). The work of Dar-Nimrod and Heine (2011) in this area is instructive; their efforts have been to enlighten other researchers and move them away from what they term "genetic determinism" and toward an understanding that genes are only partly deterministic. Regarding what has been termed psychological essentialism (Gelman, 2009), these deterministic views have been used by researchers who compartmentalize members of groups to their disadvantage. Dar-Nimrod and Heine (2011) note that researchers have been and remain susceptible yet to the siren's call of easy categorization of gay men into specific knowledge boxes, removing the difficulties of the many blurred lines that separate gay from straight. The search for a gay gene is but one such effort.

3.5 The Interior Preparatory Work of the Researcher

The researcher must understand his or her position vis-à-vis the research participant. Identifying one's own perspective is critical and necessary to address inherent bias. This is true in both qualitative and quantitative research. It appears relevant not only for heterosexual individuals attempting research within groups of gay men, but also for gay researchers doing likewise. In the preparation for a study, awareness of bias toward the subject of research must always be noted wherever it exists.

It is also a first principle in essentialism theory, as noted by Quillien (2018). The researcher approaches participants with a presumption of knowing core information about them, a desire to know specifics from them, and sometimes having created an environment that controls what is believed to be important in order quantify discrete effects on one or more outcome variables. If the researcher has by omission or intention not included voices or at least important information about the community of interest in the formulation of the research plan, the experiment can go off the rails quickly. The most effective way to ensure a more fulsome awareness of the community of interest is for the researcher to obtain and maintain knowledge about the socio-psychological stressors at work in the community of interest, both at the individual and aggregate levels. This can be done through responsible reading guided by scholars with expertise across major aspects of the community of interest, in this case gay men, even while those same scholars will not know the specific information sought by the intended research.

The community may simply be out of reach, critical concepts may be mis-operationalized, and the research may simply not resonate with participants. Fundamentally though, the researcher has some power and authority over research participants while their power over the researcher is generally limited to non-participation. Gay men who are invited to join a study and find themselves mischaracterized by questions, assessments, or even the process of being part of the research project, have few options. They can continue to participate, or they can drop out and be lost to the study. They can also contact the person listed on the Informed Consent document, however a study in progress is unlikely to undergo significant change unless there is a serious concern. With gay men having very little power beyond these options, positionality theory holds that the researcher can be – and remain – unaware of issues that can result in a research study not providing accurate results even while the research question may be of great importance. The difference in power between researcher and the gay male in the study is simply too great.

As an extension of this, intersectionality theory informs that researchers who do not have a clear conceptual understanding of phenomena of interest within the gay community may also misunderstand how unknown forces intersect with variables of interest. Influences such as race, language ability, and membership in (or exclusion from) sub-communities within the larger gay community can be impediments when researchers attempt to reach a representative sample. Awareness of these influences should motivate researchers to develop greater sensitivity to forces at work upon and within gay men's communities. This will only enhance the research effort.

Researchers will improve their outreach to gay men insofar as they incorporate a basic understanding of personality formation within the context of community. Doing so will require a competent understanding of formation of the person, including the concept of essentialism and its effects (Chao & Kung, 2015). Scientists should be aware of the intrinsic dynamism and stress arising from an individual identity that is nonetheless formed alongside belongingness within a community that may itself resist expression of that individual identity. The factors that affect personality formation will seldom be the focus of the research itself; however, awareness of them should be part of a primer for those wanting to conduct research with gay men.

Researchers should ask themselves how a gay man actually views himself, how he understands himself as a gay man, both as an individual and as part of a community.

Components of this are quite amenable to research. However, researchers should ask themselves these questions with at least a basic understanding of forces at work within communities of gay men, and in the lives of gay men individually, with at least a cognitive if not affective understanding of the role of stigma, positionality, intersectionality, and essentialism. The self is a social construct arising from a dynamism between the individual and society, taking place within the boundaries of one's community but under the influences of a much wider society and world (Devos et al., 2012; Jonathan, 2008; McConnell et al., 2013). That this statement is fundamentally a western, Caucasian idea is an expression of positionality and essentialism theories, though it contains what must be a germ of accuracy if not truth. As gay men attempt to understand themselves, the notion of intersectionality (Carbado et al., 2013) also becomes operative. As O'Byrne et al. (2014) explored the experiences of college-aged (Caucasian) men who were struggling to discover what being a gay or bisexual meant to them, these researchers identified two major themes. The first was the experience of being marginalized socially from the larger community. The second effect was internal isolation and exclusion from the larger gay community. This research was a "thought experiment" with a group of gay or bisexual males. These individuals were given a scenario and based on their own experiences and presumptions they offered their conclusions on the most likely outcomes. The men in this study spoke of their fear about exclusion from the larger community based on being gay, as well as a result of the thought-experiment (being HIV-positive and not sharing that information with a potential sex partner). But they also shared their fears of being isolated within the gay community, not only arising from the thought-experiment's parameters but also those relating to their own experiences. The evidence in this study of intersectionality theory is particularly distressing: college aged gay and bisexual men were attempting to find their place in a community of other gay and bisexual men who, in their own experiences, had not and would not welcome them. As a result, they were denied an opportunity to embrace within a safe community a central aspect of being – their sexual selves – so central to the identification of self. This experiment provided but one opportunity to see behind the veil of gay men's experiences in trying to be part of a highly stressed community that they believed would reject them for being the very persons for which that community existed. This is a social dynamic that researchers cannot miss, and which may be completely invisible to non-members. Researchers would do well to become aware of the psychosocial dynamics operative in gay men's communities prior to encountering them as data arising from their studies. Doing so will give an opportunity for greater insight to the design stage of research.

3.6 Conclusions

This purpose of this paper was to provide important background for researchers who want to work with communities of gay men. Researchers are not and cannot be free of bias and misunderstandings. The impact of stigma upon gay men and communities of gay men is real. The multiple effects of stigma must be considered when a research project is being designed as well as during its execution. Stigma has real effects upon participant's willingness to join and continue in a research venture. Awareness of theories of positionality, intersectionality, and essentialism should also be included early in preparation for research with gay men – and for every other population as well. Doing so will provide critical insight into a community of interest and allow sensitivity that opens doors where none may previously have even been seen.

The other purpose was to illuminate the complex issue of the identity of the gay man and the process of his achieving some level of self-understanding as a person and as a sexual being. This can be an unpredictable and fluid process and is subject to many forces both within his community of choice and from the external community that rejects him (Fingerhut et al., 2010). Researchers working with gay men who are conflicted and subject to heavy social stress may find the association productive if the subject of research concerns these stressors. However, as Haslam et al. (2005) notes, individuals who are not members of dominant cultural groups receive many messages through various ways that they are less human than those who judge them. Researchers unaware of these stressors may find their access to gay men is limited and may not understand some of the major reasons hypothesized to explain this. Of course, researchers cannot generally be involved in participants' own intellectual and affective growth. But researchers should be aware of the struggles that gay men embrace as part of their life experience. This awareness may lead to a deeper understanding of the forces at work within sometimes highly stressed and isolated communities. There are many influences upon and within the community of gay men that make research access difficult. Becoming cognizant of them will benefit the research venture, even while the researcher must understand that some may remain insurmountable.

Chapter Four: Predictors of Satisfaction with Health Care Interactions Among Gay Men

Abstract

Sexual minority groups experience challenges such as stigma, obstacles to health care access, provider mistreatment, and increased rates of mental illnesses. Sexual minority patients are also less likely to feel satisfied with health care due to multiple barriers. The purpose of this cross-sectional study was to examine associations among demographic characteristics as well as relationships among selected predictors as they related to satisfaction with health care interactions. The dependent variable was satisfaction with health care interactions. Independent variables were depression, self-rated physical and mental health; anxiety; self-advocacy; internalized homophobia; and, quality of communication with a health care provider. The expected relationships among these were that gay men with lower levels of depression, higher self-rated physical and mental health, lower levels of anxiety, higher levels of self-advocacy, lower levels of internalized homophobia, and higher ratings of communication with a health care provider would report higher levels of satisfaction with health care interactions. Forty-two adult gay men completed an Internet-based survey gathering selected demographic data as well as instruments measuring the dependent and independent variables. Data were analyzed by independent samples t-tests, and hierarchical multiple linear regression was used to determine predictors of satisfaction with health care interactions. Among demographic characteristics, there was a significant difference in the scores for self-disclosure (M = 56.57, SD = 14.32) compared to non-disclosure (M = 32.66, SD =

10.64); t(38) = -5.2, p = <.001. These results supported that self-disclosure was significantly associated with satisfaction with health care interactions. The most influential predictors of satisfaction were the quality of patient-provider communication (r^2 = .66, p = <.001) and anxiety (r^2 = .51, p = .012). However, depression (r^2 = .42, p =.842), self-rated physical health (r^2 = .42, p = .804), self-rated mental health (r^2 = .44, p = .216), self-advocacy (r^2 = .43, p = .322), and internalized homophobia (r^2 = .41, p = .938) were not predictive of satisfaction. This study suggested future research directions and interventional approaches through a greater understanding of predictors of satisfaction in order to decrease health care disparities among gay men.

Keywords: health care satisfaction, gay men, self-disclosure, communication, anxiety

4.1 Introduction

Health disparities among lesbian, gay, bisexual, transgender (LGBT) persons have been recognized as a major national health issue with unique health disparities (IOM, 2011). Notable obstacles related to disparities were access to and delivery of health care, as well as less persistence in seeking health care at all levels of prevention and treatment. Further, LGBT subpopulations experience unique healthcare challenges as they seek care. These include self-stigma, overt homophobia, and fear of discrimination and harassment (IOM, 2011).

Individuals in LGBT communities have reported discrimination by health care providers and identified barriers to health care access (Kosenko et al., 2013; Rossman et al., 2017) including enacted (or overt) stigma, gender insensitive care, providers' discomfort while treating sexual minority patients, verbal and non-verbal micro aggressions, refusal to provide care, and insults toward patients including verbal abuse and disrespect by both providers and health care office staff (Kosenko et al., 2013; Rossman et al., 2017). Previous negative experiences by LGBT persons during health care interactions have reinforced messages of exclusion. These messages enhance realities already experienced by LBGT persons, including self-stigma, internalized homophobia, and a lack of ability to advocate for self (Centers for Disease Control and Prevention, 2016; IOM, 2011; Herek et al., 2009). These challenges may catalyze mental disorders. Centers for Disease Control and Prevention (CDC) identifies depression and anxiety as major concerns in this LGBT group (Centers for Disease Control and Prevention, 2016; IOM, 2011; Herek et al., 2009). As part of a negative cycle, LGBT persons are at increased risk for developing mental illness as well as mood disorders of depression and anxiety (Chakraborty et al., 2011; King et al., 2008). Partly associated with these health complications, they experience lower satisfaction and higher rates of dissociation with health care resources (Jabson & Kamen, 2016). For these reasons, they may not connect with appropriate health care providers, and may not continue in an effective patient-provider relationship. The result will be predictably poorer outcomes. These individuals are at a significant disadvantage when seeking health care resources, have fewer positive outcomes compared to their heterosexual peers, and have lower rates of satisfaction with health care providers. As a result of these factors, LGBT persons delay seeking treatment until conditions are markedly worsened (IOM, 2011). These factors contribute to health disparities among persons in the LGBT communities. The current research focused on gay males instead of the larger LGBT communities in order to control for variations across the different sub-communities.

Effective communication between patient and provider, as well as between patient and provider office staff, is a critical factor within the patient-provider dyad (Bieber et al., 2010). Gay men often describe their interaction with providers as poor due to perceived lack of effective communication with their providers and struggle to obtain what they consider equitable care with their heterosexual counterparts (IOM, 2011). This can result in decreased satisfaction with health care interactions.

Physical health function, mental health function, anxiety, depression, self-advocacy, and internalized homophobia appear to be independently associated with satisfaction with health care interactions (Butler et al., 2016; Chakraborty et al., 2011; Handlovsky et al., 2017; Herek et al., 2009; King, 2007; Lyons and Hosking, 2014; Préau et al., 2016). However, their association is not well understood, and more research is needed to explore these associations in greater depth (IOM, 2011). For example, from a clinical perspective it is not uncommon to diagnose depression and anxiety together (Dunlop, 2013). In fact, for persons diagnosed with bipolar disorder these two coexist on a spectrum (McCormick et al., 2015). Further, their combined effect on satisfaction with health care interactions is not known. Therefore, the purpose of this study was to identify predictors of gay men's satisfaction with health care interactions.

4.2 Specific Aims

The specific aims of this study were 1) to compare levels of satisfaction with health care according to participant demographic characteristics and 2) to determine whether self-rated general health, depression, anxiety, self-advocacy, internalized homophobia, and patient-provider communication were independent predictors of satisfaction with health care.

Research with communities of gay men has provided some indication at directionality for the relationship of the independent variables on satisfaction with health care interactions. Based on prior research it was hypothesized that gay men who have higher levels of self-rated general health, lower levels of depression, lower levels of anxiety, higher self-advocacy scores, lower levels of internalized homophobia, and higher patient-provider communication scores will report more positive satisfaction with health care interactions (Butler et al., 2016; Chakraborty et al., 2011; Handlovsky et al., 2017; Herek et al., 2009; King, 2007).

Among demographic characteristics collected, self-disclosure was hypothesized to be most significantly associated with satisfaction. Though the body of literature concerning gay men and self-disclosure must be drawn from larger studies that usually include the entire LGBT community, current literature is illustrative of the influence of this variable on satisfaction with health care interactions. Stein and Bonuck (2001) studied various factors influencing communication between lesbians and gay men (*n* = 575) with physicians. While satisfaction itself was not a variable in this study, of the 30% of participants who did not reveal their sexual orientation to their provider, almost half of these (47%) stated they were concerned about either a bad reaction by the provider, or a negative impact on the treatment they received. Of the 30% who had not disclosed, 17% stated they had avoided or delayed seeking health care specifically because it was related to their sexual orientation. They simply were not willing to see their provider, knowing that their sexual orientation would become evident to someone they believed they could not trust. The issues of disclosure, trust, and care of the participant's entire health care needs were prominent themes in this study. This author would argue that these are also antecedents of satisfaction with health care interactions.

A study by Mosack et al. (2013) of lesbian and heterosexual women and their satisfaction with their medical provider did specifically look at disclosure of sexual orientation. In this study, 354 women who identified as lesbian, gay, bisexual, or other "queer" identity completed a survey, along with 66 heterosexual women. This study found no differences between these two groups when looking at likelihood of having a recent health care appointment; having received – or received a recommendation for – diagnostic or preventive care; or being comfortable discussing sexual health issues with their provider. Important differences emerged however in the area of satisfaction between non-heterosexual women who had disclosed their sexual orientation compared to those who had not; the former reported greater satisfaction with their provider than the latter.

Quinn et al. (2015) studied LGBTQI (the Q meaning queer/questioning and the I signifying intersex) persons' experience with both risk and treatment of cancer. They noted the prominent disadvantages of population in the area of health disparities, specifically the increased rates for various types of cancers as well as low rates of screening leading to poorer outcomes when treatment did occur. One of the reasons they observed for nondisclosure was fear of discrimination, as well as a history by LGBTQI persons of negative interactions with health care providers. Among several conclusions, these authors encourage health care providers to become aware of messaging given to LGBTQI patients that they are only welcome so long as they match societal norms. Theses authors concluded self-disclosure was unlikely to occur in an environment where patients understand the risk of doing so could have a strong, negative impact on their medical care.

The Department of Health and Human Services (DHHS) (2015), Centers for Medicare and Medicaid Services (CMS) released a final rule in March of 2016 announcing a new requirement. Starting in the calendar year 2016, the meaningful use incentive program for electronic health records (EHRs) would require asking patients about their sexual orientation/gender identity (SO/GI). The benefit of this rule is that data would be available for research and policy making, as well as more accurate demographic analysis (Cahill et al., 2016). This is not obligatory for patients, but providers should ask patients about both their sexual orientation as well as how they describe their gender identity; a guide explaining implementation of the final rule is provided by the Fenway Institute (2016). The concern with this rule is that it views the issue as a matter of data to be gathered instead of a personal dynamic in which an individual from a sexual minority is welcomed to disclose sexual orientation information to a provider. Gay male patients who are not willing to provide this information will simply reply inaccurately, leading to inaccurate data. In some parts of the country, this could lead to undercounts. In any event, the final rule impacts the issue of self-disclosure because it places the impetus for the same on the provider asking the question. As noted by the researchers above, the process of self-disclosure is a dynamic one and is mediated by many factors. To expect that this information will be shared as a result of a series of questions is to misunderstand the process of gay men who have learned that disclosure sometimes comes at a cost. As Stein and Bonuck (2001) found in their study, a significant number of gay men and lesbians had delayed or avoided medical care related to their sexual orientation specifically in fear that they would need to disclose that information to a provider whom they presumed they could not trust.

In their study of young LGBTQ adults, Rossman et al. (2017) focused specifically on the issue of self-disclosure to medical providers. Questionnaires were completed by 206 participants with ages ranging from 18 to 27 years, nested within a larger study. Of this total, 130 participants (63%) stated they had disclosed their sexual orientation to a provider while 67 (32%) stated they had not done so. A number of themes emerged from this study for participant non-disclosure: some reported they simply were not asked; that they did not want to damage the patient-provider relationship and felt disclosing would do so; they wanted to maintain their privacy; they wanted to avoid the stigma of a label; and, they did not believe that disclosure would have any relevance to their health care. However, when participants reported they had self-disclosed, reactions from providers ranged from affirmation and enhanced communication to discrimination and disbelief.

This study emphasized the importance of provider attitudes and environments that welcomed self-disclosure of LGBTQ patients.

Brooks et al. (2018) conducted a systematic review of 31 studies of sexual orientation disclosure in health care settings, representing 2,442 sexual minority participants. Dominant themes that emerged from these studies were the following: sexual minority patients not believing self-disclosure was relevant to their health care; the stigmatizing language and communication skills of the provider; and, fear of what might happen after self-disclosure, including a damaging effect upon health care provided to the participant who disclosed. These studies provide evidence that self-disclosure of one's sexual orientation will influence the patient-provider dyad. Whether the effect is helpful or at least benign cannot always be foreseen by the patient. The decision to disclose one's sexual orientation appears to be mediated by past experiences as well as by environmental and communication cues received from health care personnel, including but not limited to the provider.

Research with communities of gay men has provided some indication at directionality for the effects of the independent variables on satisfaction with health care interactions. Based on prior research it was hypothesized that gay men who have disclosed their sexual orientation to a provider, have higher levels of self-rated general health, lower levels of depression, lower levels of anxiety, higher self-advocacy scores, lower levels of internalized homophobia, and higher ratings of provider communication, will report more positive satisfaction with health care interactions (Butler et al., 2016; Chakraborty et al., 2011; Handlovsky et al., 2017; Herek et al., 2009; King, 2007).

4.3 Methods

4.3.1 Design, setting, and sample. A cross-sectional design was used to examine the relationships of satisfaction with health care interactions with depression, anxiety, self-rated physical and mental health, self-advocacy, internalized homophobia, and communication with a health care provider. The study was approved by the Institutional Review Boards (IRB) of both the University of Kentucky and Seattle University. The convenience sample included 42 self-identified gay males over 18 years of age living in the State of Washington, an area of the country where LGBT communities are highly visible. The sample was recruited in partnership with three large LGBT community-based organizations. These three organizations represented three different LGBT constituencies: one was a community-based outreach to a wide-ranging demographic of LGBT persons clustered in urban, suburban, and some rural areas. Another was a statewide LGBT organization with a strong presence in the professional and educational communities. The third organization had a mission specifically aimed to support minority LGBT persons. Contact with potential participants about the study by these three LGBT organizations was through notices on their websites as well as email message blasts. These organizations also disseminated information about the study through notices included in their weekly/monthly bulletins sent both by surface mail and by electronic means, by flyers and posters in the community partner offices and gathering spaces, by the distribution of flyers by their staff and volunteers at community meetings as well as in their offices, and through word of mouth by community organizers. Flyers and posters included both the Internet address of the study and the QR code for access by electronic devices. Sixty-two persons opened the online survey, but 13 individuals did not progress to completing the instruments. Forty-nine participants began the surveys, 3 answered only the demographic questions, and 42 completed the instruments and were included in this study. Data were collected between January 1, 2018 and May 31, 2018 using Internet-based Research Electronic Data Capture (REDCap). Participants followed the online survey internet address generated by REDCap or scanned the QR code to that link; both were printed on posters and leaflets advertising the study. Once initiating electronic contact with the survey, respondents first read the cover letter and the elements of consent. This letter explained the purpose of the research as well as benefits and risks to participants and included contact information for the PI and research committee chair. Participants were informed in the cover letter that though confidentiality could not be assured, all possible measures were being taken to remove any identifiers generated as participants completed the surveys. Informed consent was established by specifically selecting the radio button marked “continue with survey” at the bottom of the cover letter. Participants were informed that they could stop the survey at any time. The total time to complete all instruments ranged between 24 and 36 minutes. Once participants completed the survey, they received a screen message thanking them for their participation. As each survey was completed, the collected data were encrypted and stored on the secure REDCap server. Access to this server was restricted to the PI. Survey data were stripped of any location identifying data and downloaded into a secure computer for analysis. These data did not include any identifiers and would be used only for research and study purposes.

4.4 Measures

Demographic characteristics included age, ethnicity, urban or rural domicile, relationship status, household income, highest educational attainment, health insurance, disclosure to health care provider as a gay man, and the reason for last health visit.

4.4.1 Depressive symptoms. The Patient Health Questionnaire (PHQ8) was used to assess depressive symptoms (Kroenke et al., 2009). The PHQ8 has been used in the LGBTQ community (Seelman et al., 2017; Rimes et al., 2018). Total scores range from 0 to 24. A total score of 0 to 4 indicate no significant depressive symptoms; 5 to 9 is associated with mild depressive symptoms 10 to 14, moderate depressive symptoms; 15 to 19, moderately severe; and 20 to 24, severe depressive symptoms (Kroenke et al., 2009). The final question concerning suicidality was omitted from the survey, with total scores adjusted to reflect this. The authors report a Cronbach alpha for this instrument of 0.94, representing high internal consistency. Concurrent validity using the Beck Depression Inventory (BDI) is reported at $r > 0.67$, both having been used in the LGBT community (Rimes, 2018).

4.4.2 Anxiety. The Brief Symptom Inventory-Anxiety subscale (BSI) was used to assess anxiety. The six-item subscale is rated on a five-point Likert scale and the reliability and validity of the measure have been evaluated (Franke et al., 2017). The entire scale has been administered in the LGBT population (Mustanski et al., 2010) as well as in a sample of gay and bisexual males (Pachankis et al., 2015). Respondents were asked to rate how much the problem has distressed or bothered them recently, including today. The responses of each six items range from 1 (not at all) to 5 (extremely). Higher scores indicate higher levels of anxiety. Franke et al. (2017) report a Cronbach alpha of the anxiety score as 0.95, representing strong internal consistency. Meachen et al. (2008) administered the instrument to persons with traumatic brain injury and found convergent validity with an array of measures with r-values between 0.26 to 0.68. No research was identified that established concurrent validity of this measure with other measures used in the LGBT population.

4.4.3 Physical and mental health. Permission from Optum was obtained to use the Short Form 12-item version 2 (SF-12v2) Health Survey in order to assess self-rated physical and mental health. The SF-12v2 is a 12-item survey derived from the 36-item Short-Form Health Survey (SF-36). Refinements in the thirty-six item SF-36 resulted in the SF-12, which was further tested to provide the SF-12 version two (SF-12v2). The SF-2v2 includes more familiar and clearer language, an improved layout, and translation into multiple languages (Montazeri et al., 2011; Kim et al., 2014). The SF-12v2 has two specific dimensions: the Physical Component Summary (PCS) and the Mental Component Summary (MCS). Each dimension has a maximum score of 100 (Ware, 2002). Likert scales are used for responses and have varying levels of answers. Scoring is accomplished with proprietary software that converts the participant's scores through an algorithm into a different number for the final score. Scores obtained from the SF-12v2 range from 0 to 100, with higher scores indicating better self-rated overall health (Hayes et al., 2017; Kim et al., 2009). Scores are nationally normed at 50, with a standard deviation of 10; individuals who score below 45 on either the PCS or the MCS have a health status below the national norm (Ware, 2002). Higher PCS scores indicate better physical functioning, higher energy level, and better general physical health. Higher scores on the MCS indicate absent or minimal psychological distress, no limitations in social role activities, and better general mental health (Cheak-Zamora et al., 2009). Both dimensions of the SF-12v2 display strong internal consistency, with both Cronbach's alpha and Mosier's alpha > 0.8 (Hayes et al., 2017; Kim et al., 2014). Both construct and discriminant validity were established through comparison with the European Health Related Quality of Life survey (EQ-5D) (Gusi et al., 2010). Convergent validity with the EQ-5D is moderate (r = .56), with the only exception being self-care. The SF 12v2 Mental Health Component correlates weakly (r > .38) with the EQ-5D (Gusi et al., 2010).

4.4.4 Self-advocacy. The Patient Self-Advocacy Scale (PSAS) was used to measure this variable. The PSAS is a 12-item instrument designed to measure patient self-advocacy across the four dimensions theorized by Brashers et al. (1999): knowledge of self; knowledge of rights; communication; and, leadership. Respondents rated the extent to which they agree or disagree with each item on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A higher score indicates greater total self-advocacy (Pickett et al., 2012). The scale was originally piloted with gay men living with HIV/AIDS, so questions about self-advocacy were focused on this population. For this study, the questions were modified to be about illness and treatment in general rather than specifically about HIV/AIDS. The authors report a Cronbach's alpha coefficient for the PSAS Scale as between .69 to .83, representing respectable internal consistency. Concurrent validity was established with four other measures (the Desire for Control Scale (DCS); the Health Opinion Survey Instrument (HOSI); the Desire for Autonomy Scale; and, the Health Locus of Control Scale), and range from 0.26 to 0.63 (Brasher et al., 1999).

4.4.5 Internalized homophobia. The nine-item Internalized Homophobia Scale (IHS) has long been used to assess internalized homophobia (Herek et al., 1997) and the instrument is available in multiple languages. The items are rated on a five-point Likert response scale, ranging from one (strongly disagree) to five (strongly agree). Scores are summed then averaged, with a range from zero to five. A higher score indicates a greater level of internalized homophobia. Cronbach's alpha for this instrument is measured at 0.94, representing strong internal consistency. Convergent validity of the IHS has been measured at r = 0.39 (Gençöz & Yüksel, 2006).

4.4.6 Patient-provider communication. Assessment of patient-provider communication was assessed using the Questionnaire on the Quality of Physician-Patient Communication (Bieber et al., 2010). The authors sought to create an instrument with strong psychometric values that would offer medical students at the University of Heidelberg valuable feedback as they worked with patients. In crafting this instrument, the authors drew upon multiple existing analogous measures in English and in German for appropriate items. Convergent validity was examined against several other measures of communication quality; Pearson's r was reported as between .38 to .64 depending on the comparison instrument. Cronbach's alpha was reported by Bieber et al. (2010) at .95 for the overall scale. Test-retest at three weeks was measured at r = .59, indicating stability over time. Testing demonstrated the measure was not overly influenced by social desirability effect and was less influenced by patient's existing health conditions than several other quality-related measures. The result was a 14-item questionnaire with all items worded positively and answered with a 5-point Likert scale. Scores on this instrument range from one to five. Scores are summed and a mean score is obtained, with higher scores indicating higher rating of quality of interaction with providers by patients. Dr. Bieber graciously granted permission for the instrument to be used in this research; it has not been used in English before, though the authors did publish their research article and scale in English. Sustersic et al. (2018) included parts of the QQPPI when they created a satisfaction survey for patients in the acute care setting, but there appears to be no record in the literature of the QQPPI being used in another setting.

4.4.7 Patient satisfaction. The dependent variable was measured using the Patient Satisfaction Questionnaire Short Form (PSQ-18), published by the Rand Corporation. This instrument has been used to assess general satisfaction by ambulatory patients with health care interactions. The PSQ-18 is based on the Medical Outcomes Study (MOS) instrument (Hays et al., 1995) which has a reported construct validity of r = .40 and an inter-item r = .49. No measures of validity are available for the PSQ-18, however it is a result of successive factor analyses to reduce the number of items in the MOS from 116 to the current 18-item PSQ-18. It has been used in both primary care and ambulatory care settings (Thayaparan & Mahdi, 2013). The instrument contains seven subscales (Marshall & Hays, 1994). Subscales are scored separately: general satisfaction (2 items); technical quality (4 items); interpersonal manner (2 items); communication (2 items); financial aspects (2 items); time spent with provider (2 items); and, accessibility and convenience (4 items). We used the scoring schema provided by Marshall and Hayes (1994). Higher scores reflect higher levels of satisfaction with medical care. As reported by the Rand Corporation, Cronbach's α for this instrument was 0.96, representing high internal consistency.

4.5 Data analysis

All statistical analyses were done using SPSS (version 25). A *p*-value of < 0.05 was considered statistically significant. Sociodemographic characteristics were summarized using means and standard deviations or frequencies and percentages, as appropriate. Mean substitution was used for a single missing item on two instruments from two participants, the PHQ8 and PSAS. Both instruments have high internal consistency, suggesting this was a reasonable solution for a limited amount of missing data. Independent samples t-tests were used to compare group differences in satisfaction with health care interaction by sample characteristics: ethnicity; domicile; relationship status; income; health insurance; self-disclosure as gay; visit type; and, educational level. Due to a small number of responses within several levels in each characteristic, they were combined into two levels before analysis. Hierarchical multivariate linear regression was used to determine whether self-disclosure, depression, self-rated physical and mental health, self-advocacy, internalized homophobia, and quality of patient interactions predicted satisfaction with health care interactions. Self-disclosure was entered into all models because of its critical role in the patient-provider dyad (Brooks et al., 2018). In the regression analysis, the dependent variable was satisfaction with health care interaction; self-disclosure as gay to one's provider entered in block one, and each of seven variables (PHQ8, BSI, PCS, MCS, PSAS, IHS, and QQPPI) entered in block two in seven separate regression models (see tables 4.4.1-7). The standardized betas and change in R^2 were used to determine the contribution of each additional variable to the prediction of satisfaction with health care interaction when each of the predictors entered the second block of the seven regression models.

4.6 Results

4.6.1 Sample characteristics. Even though the largest single group of participants in the sample were Caucasians, 56% were non-Caucasian individuals. Participants' mean age was 42 (±14.7) years, they were mainly urban dwelling, highly educated, married/partnered, and had incomes >$75,000 annually. Eighty-six percent were covered by health insurance. Seventy percent had disclosed their sexual orientation to a provider. Their most recent visit to a provider was almost evenly split between routine care and an urgent/emergency department intervention. Table 4.1 provides specific information about sample demographics. The sample had a low overall depression score, a low anxiety score, slightly better than average self-rated physical health score, an average self-rated mental health score, a moderately high self-advocacy score, a relatively low internalized homophobia score, a moderate quality of patient-provider communication score, and a slightly better than average patient satisfaction score. Of particular note were differences between those who had self-disclosed and those who had not. Self-advocacy scores were significantly higher in those who had self-disclosed. Internalized homophobia scores were significantly higher in those who had not disclosed. Finally, quality of communication was rated as significantly higher by those who had self-disclosed (Table 4.3). Findings of this research supported the research hypothesis that gay men in the sample with lower depression, lower anxiety, higher physical and mental health, higher self-advocacy, lower internalized homophobia, and better assessment of patient-provider communication would also report higher satisfaction with health care interactions.

4.7 Differences in satisfaction with health care interaction by sample characteristics

Comparison of satisfaction scores by demographic characteristics are shown in Table 4.2. Satisfaction scores of married/partnered gay males were 24% higher than unmarried or divorced respondents. Those with incomes >$75,000 annually had 25% higher satisfaction scores than those who earned less. Those who had self-disclosed their sexual orientation to a provider had satisfaction scores 54% higher than those who had not done so. Satisfaction scores of those who received routine care were 26% higher than those who had received care in an emergency department setting. Scores of those who had a graduate degree were 21% higher than those with a bachelor's degree or less.

4.8 Predictors of satisfaction with health care interaction

Tables 4.4.1 through 4.4.7 are the regression models. Self-disclosure accounted for 41% of the variance in satisfaction with health care interactions when entered as the first block. Depressive symptoms (PHQ8), self-rated physical health (PCS), self-rated mental health (MCS), self-advocacy (PSAS), and internalized homophobia (IHS) were not significant predictors of satisfaction with health care interactions when entered in the second block of the separate models with self-disclosure. In all models, the standardized beta for self-disclosure showed minimal change in the second block.

In contrast, anxiety (BSI) was a significant predictor of satisfaction when it entered in block two. The beta coefficient for self-disclosure decreased slightly from .64 to .56 and the beta coefficient for BSI was -.32. Adding BSI to the model increased the amount of variance in satisfaction scores explained from 41% to 51%. Quality of patient provider communication (QPPI) was also a significant predictor when added in the second block but self-disclosure was no longer a significant predictor. The combined model of self-disclosure and quality of patient provider communication explained 66% of the variance in satisfaction scores.

4.9 Discussion

Results of prior research on health and illness experiences of gay males suggest that rates of depression, mental health, and internalized homophobia are higher and measures of self-advocacy are lower when compared to the heterosexual community (King et al., 2008; Herek et al., 2009; Chakraborty et al., 2011; IOM, 2011; Centers for Disease Control and Prevention, 2016). Gay males also experience higher rates of dislocation from health care services, as well as lower rates of satisfaction when they do receive these services (Jabson & Kamen, 2016). Communication within the health care settting is also an issue for LGBT persons (Cant, 2006; Durso & Meyer, 2013; Flynn et al., 2019). However, these variables have rarely been studied in subsets of the LGBT communities. Data from gay males in this study provided greater clarity with which to view some of the effects of the variables mentioned above.

The importance of patient satisfaction with health care interactions cannot be overstated. It has a powerful predictive effect on health care access, as well as on influencing decisions made during and after the health care interaction (Junewicz & Youngner, 2015). Additionally, patient-focused communication is one of the most important determinants of overall quality of health care interactions (Mosadeghrad, 2014). Regarding gay men specifically, effective communication by providers signals they may expect safety within the overall practice as well as within the patient-provider dyad (Rossman et al., 2017). For these reasons therefore, participants' assessment of satisfaction with health care interactions was the dependent variable in this study.

Being married or partnered is known to be associated with life satisfaction (Dolan et al., 2008) if not specifically with satisfaction with health care interactions. In this sample of gay men, being married or partnered was associated with higher satisfaction with health care interactions compared to those participants who were single. There seems to be no evidence of studies specifically linking marital status of gay men with health care satisfaction; however, marriage equality has only been legal across the entire United States since 2015 (Obergefell v. Hodges, 2015) so data may simply not yet be available.

Annual gross income as well as having health insurance are two among the five social determinants of health that have a strong effect on overall health outcomes in human persons (Office of Disease Prevention and Health Promotion [ODPHP], 2016). A study by Schneebaum and Badgett (2018) used data from the American Community Survey (2010 to 2014) to look at poverty rates in same-sex households. These data include approximately 15 million persons per year. For these years, data indicate that same-sex households are more likely to be in poverty compared to heterosexual partnered households. Health insurance is largely dependent on income except for those in poverty, where the question then becomes one of access to care Davis et al., 2002). Schneebaum and Badgett (2018) determined however that same-sex households were generally protected from poverty by higher levels of education, participation in the labor force, and by a lower probability of having children in their homes. These last two items were not assessed in the current study, but income and higher education seem in concordance with the conclusions reached by Sncheebaum and Badgett (2018). Higher educational attainment, seen in the current study sample, is associated with better-paying employment which itself is associated with having health insurance. Though their study did not explore satisfaction with health care, results from their analysis did offer some evidence that the annual income of gay men in the current study was not typical of gay men nationally.

Another notable difference between groups related to satisfaction was the reason for the most recent visit to a health care provider. Over half of participants (55%) were seen for routine health care; their satisfaction was higher than participants seen for emergency care. This finding is reasonable; during an emergency the focus is primarily on life-saving measures. Several issues exclusive of patient care can negatively affect patient satisfaction in an emergency department, not least being crowded waiting rooms and long waiting times (Tekwani et al., 2013). In a prospective, cross-sectional study by Hoonpongsimanont et al. (2019), satisfaction surveys were collected at a university-based emergency department from July to December 2017. The satisfaction scores came from two sources; the first group were external surveys administered by Press Ganey Associates, and the second were internal surveys given by hospital staff to patients at the time of their discharge from the emergency department. Both were patterned after the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) from CMS. There were some interesting discrepancies between the two surveys (at the same emergency department, and for the same physicians) but of significance to this current study, Hoonpongsimanont et al. (2019) found that Caucasian, female, Christian patients were more likely to give higher satisfaction scores on the internal survey given contemporaneously with treatment in the emergency department, compared to the Press Ganey Associates scores obtained via external surveys completed between 48 hours and up to six weeks after discharge. The authors concluded that that patient race/ethnicity, education, language, age, and gender were associated with differences in emergency department satisfaction scores. They also concluded that the way satisfaction surveys assessed patients could conclude quite different things from the same environment. Current literature does not seem to show any specific evaluation of emergency department satisfaction rates by gay male or even LGBT patients. However, the study by Hoonpongsimanont et al. (2019) does offer evidence that satisfaction rates in an emergency department are influenced by a myriad of factors quite different from a primary or even ambulatory care setting. Thus, it was reasonable to see in the current study that gay men who received routine care were more satisfied than those who received care in an emergency department.

Self-disclosure of sexual orientation to a health care provider was an important factor in this study. Self-disclosure is an important act of trust. Brooks et al. (2018) identified past experiences of discrimination and stigmatizing language by providers, as well as fear of what might happen after self-disclosure, as reasons why LGBT persons made the choice not to disclose. We asked only whether self-disclosure had or had not occurred, not any rationale for or against. However, the decision by LGBT persons concerning self-disclosure is typically fraught Meckler et al., 2006). Afifi and Steuber (2009) list six specific methods by which LGBT persons typically determine how disclosure could occur. These methods follow a type of screening of the health care provider by the LGBT patient in order to assess the environment as well as the provider for any cues supporting a decision to disclose or to remain silent. The methods include the following: preparation and rehearsal; directness; third-party revelation; incremental disclosures; entrapment (i.e. by inadvertent discovery of sexual orientation through lab test results, through health care records, etc.); and, disclosure via indirect mediums. However, LGBT individuals can also disclosure through a combination of means; any one of the six methods above are not exclusive of the others.

Our finding that depressive symptoms, mental and physical symptoms, self-advocacy, and internalized homophobia were not predictors of satisfaction with health care interaction differs from other studies, which have found these independently associated with health care satisfaction (Butler et al., 2016; Chakraborty et al., 2011; Handlovsky et al., 2017; Herek et al., 2009; King, 2007; Lyons and Hosking, 2014; Préau et al., 2016). It is possible that the sample was too small, or the composition did not include a group with enough variability in perceptions among these concepts.

Our finding that anxiety was a negative predictor of satisfaction is supported by numerous authors (Bostwick et al., 2010; Ross et al., 2018; Toomey et al., 2018; Venetis et al., 2017). Anxiety is a known factor in preventing self-disclosure to health care providers (Durso & Meyer, 2013; Coleman et al., 2017). Though we did not test for this, it could be one reason for the results in our study. For the sample of gay men in this study, anxiety being a negative predictor of satisfaction with health care interactions adds further support to the literature in this area. Regarding self-disclosure, the question to be answered is why this receded into insignificance when QQPPI entered the regression model. The most likely answer is that there are factors within the QQPPI that are similar to those governing self-disclosure. In fact, six of the 14 questions in the QQPPI address either directly or indirectly the issue of trust, placing patients at ease, or the provider's expression of genuine interest in the patient's welfare. In these perhaps is to be found an explanation for QQPPI remaining the only statistically significant predictor in the model.

The relationship between communication and self-disclosure between gay men and health care providers is not a simple one. A study by Flynn et al. (2019) explored patient-provider communication specifically involving the issue of self-disclosure that would be likely to result subsequent to a question to the provider about a sexual concern. Their study included a sample of 4,325 persons, 334 of whom were gay males. These researchers determined that 70% of gay men in the sample had self-disclosed their sexual orientation to a provider. However, self-disclosure by the other 30% was impeded by unmet needs, specifically including poor patient-provider communication. Approximately 20% of patients in the study, heterosexual as well as homosexual, had issues of a sexual nature that they simply would not discuss with their health care provider. Communication with the provider appeared to be the critical issue; patients needed to know they could trust that their sexual issue of concern would not damage the patient-provider relationship, particularly in a relationship where they perceived all power was held by the provider. The authors are clear that their study, being cross-sectional, did not allow them to establish the direction of the association. However, their study seemed to support the conclusions of Kuyper and Vanwesenbeeck (2011) who in a systematic review of 31 studies (*n* = 2,224) determined three major obstacles to self-disclosure: 1) perceived relevance of disclosure to the health care issue; 2) communication skills and language used by the provider; and, 3) fear of poor treatment or negative reaction after disclosure. In these studies, communication on the part of the provider – communication in all its forms, but especially verbal skills of the provider – were strong predictors of a decision by the gay male patient regarding a decision to disclose his sexual orientation. In this study by Kuyper and Vanwesenbeeck (2011), directionality is clear: patient evaluation of communication occurred first, and only if that were positive would self-disclosure follow. This seems to support the rationale for Bieber et al. (2010) who addressed the issue of the patient's evaluation of a provider making efforts to place them at ease, to build trust, and to express true interest in their overall welfare.

In the study by Durso and Meyer (2013), poorer psychological health outcomes were seen at one-year follow-up among lesbian, gay, and bisexual study participants who did not self-disclose their sexual orientation to their health care provider. It is evident that a decision not to self-disclose has risks. Disclosing can have an important effect on health care interaction for sexual minority patients as well as health care outcomes, and that it is predicated upon a presumption of safety within the patient-provider environment (Romanelli & Hudson, 2017; Sabin et al., 2014). This self-disclosure in turn arises at least partly from communication that sexual minority patients rate as more effective. In this current study with self-disclosure no longer statistically significant, one must conclude that it is nonetheless somewhere present within the QQPPI measure. The question remains: where is it? Future studies are needed to identify this with more clarity.

Research shows that communication is highly complex, with the verbal medium being only one of several important types (Berger, 2010). Many factors build effective communication, not only for the speaker but for hearer as well. What is not a matter of argument is that in the health care environment, the responsibility for effective communication rests with the providers of health care. It is they who must confirm that messages have been heard and understood. Data from the current study support existing research that open and honest communication between a gay male patient and his provider contributes positively to satisfaction with health care interactions (Rivoli, 2011; Sherman et al., 2014). In this current study, the contribution of effective communication led to higher ratings of satisfaction with health care interactions. Coming specifically from a sample of gay men instead of an inclusive LGBT sample, this is an important contribution.

4.10 Limitations

Because this was a cross-sectional study, causal relationships could not be established. The sample was recruited from three large LGBTQ community-based advocacy groups; however, their membership may not fully reflect the experiences of gay males in Washington state or other parts of the country. Gathering demographics such as age, ethnicity, gender, and professional license designation of health care providers would allow for closer comparisons to several existing studies (Klitzman and Greenberg, 2002; Durso and Meyer, 2013). We asked if participants had self-disclosed, not reasons for doing so or for avoiding that discussion. Those data could be helpful, given the importance of self-disclosure in this study. A study with a larger, a more diverse sample is needed before more definitive conclusions can be drawn. We also did not ask about gender of providers; this could provide important information about communication between gay men and their providers. Additionally, we did not ask details about marriage, or whether marriage was to a man or a woman. This information might have provided additional clarity about the sample, particularly if an existing relationship with a provider might have begun when a gay man was married to a woman and is now married to a man. This could have unknown effects on self-disclosure as well as impact trust within the patient-provider dyad.

4.11 Conclusions

The first aim of this study was to compare satisfaction with health care interactions according to participant demographic characteristics. The largest difference in satisfaction scores was between those who self-disclosed their sexual orientation to a provider compared to those who did not. This study affirms existing literature about the importance of self-disclosure within the patient-provider dyad (Cant, 2006; Durso & Meyer, 2013; Haider et al., 2017).

The second aim of this study was to determine whether self-rated general health, depression, anxiety, self-advocacy, internalized homophobia, and patient-provider communication were independent predictors of satisfaction with health care. The results of this study support the predictive contribution of anxiety as well as the quality of patient-provider communication. Among study participants who self-disclosed their sexual orientation to a health care provider, anxiety exerted a negative effect on the dependent variable. Participants who rated the quality of their communication as more positive also rated their satisfaction as higher, to the exclusion of the effect of self-disclosure. This study thus affirms prior research concerning the critical nature of effective communication within the patient-provider dyad (Bieber et al., 2010; Flynn et al., 2019) while at the same time leaving one with important questions about how a gay man's decision to self-disclose his sexual orientation to a provider is determined by the quality of his communication with that provider.

4.12 Abbreviations

LGBTQ: lesbian, gay, bisexual, transgender, and queer; IOM: Institute of Medicine; IRB: Institutional Review Board; REDCap: Research Electronic Data Capture; SD: standard deviation; GED: General Educational Development; HIV/AIDS: Human immunodeficiency virus infection and acquired immune deficiency syndrome; SF-36: Short Form 36; SF-12v2: Short Form 12 item version 2; PCS: Physical Component Summary of the SF-12v2®; MCS: Mental Component Summary of the SF-12v2®; PHQ8: Patient Health Questionnaire; BSI: Brief Symptom Inventory (Anxiety dimension only); PSAS: Patient Self-Advocacy Scale; IHS: Internalized Homophobia Scale; PSQ-18: Patient Satisfaction Questionnaire Short Form; VIF: Variance inflation factor; MD: Medical Doctor; DO: Doctor of Osteopathic Medicine; PA: Physician's assistant; NP: Nurse practitioner

Table 4.1 - Characteristics of respondents (n = 42)

Characteristics	*N* (%)
Race/ethnicity	
Non-Hispanic white	18 (42.9)
Non-Hispanic African American	4 (9.5)
Hispanic	7 (16.7)
Asian/Oriental	4 (9.5)
Native American/First Peoples/American Indian	2 (4.8)
Multiracial or other	7 (16.7)
Residence location	
Urban	31 (73.8)
Rural	9 (21.4)
Not sure	2 (4.8)
Marital status	
Single, never married/partnered	16 (38.1)
Partnered	8 (19.0)
Married	13 (31.0)
Divorced	1 (2.4)
Other or would rather not answer	4 (9.5)
Education	
High school/GED	3 (7.1)
Bachelor	21 (50.0)
Graduate	18 (42.9)
Annual household income	
Less than $15,000	1 (2.4)
$15,000 – $30,000	4 (9.5)
$30,000 – $50,000	13 (31.0)
$50,000 – $75,000	7 (16.7)
More than $75,000	16 (38.1)
Would rather not answer	1 (2.4)
Type of health insurance	
Public (e.g. Medicare, Medicaid)	6 (14.3)
Private (either purchased by self or provided by employer)	30 (71.4)
Do not have any health insurance	6 (14.3)
Identified yourself as a gay man to a health care provider	
Yes	28 (66.7)
No	12 (28.6)
Uncertain	2 (4.8)

Table 4.1 (continued)

The reason for most recent visit to your health care provider	
Routine (episodic) visit	18 (42.9)
Serious (acute) illness, such as flu or infection	18 (42.9)
Emergency Department visit	1 (2.4)
All other reasons	5 (11.9)

GED, General Educational Development.

Table 4.2 – Satisfaction with health care interaction by demographic characteristics

Characteristic	Satisfaction	|t|	*p*
Identified self as gay man to health care provider		-5.2	<.001
No (*n* = 12)	32.7 ± 10.6		
Yes (*n* = 28)	56.6 ± 14.3		
Reason for most recent visit to health care provider	55.4 ± 15.7	2.6	.014
Routine (*n* = 23)	42.8 ± 16.0		
Urgent illness or ED (*n* = 19)			
Marital Status		2.3	.018
Partnered/ Married (*n* = 21)	55.8 ± 14.9		
Other (*n* = 21)	43.7 ± 16.9		
Annual Household Income		-2.5	.018
≤ $75,000 (*n* = 25)	44.7 ± 18.2		
> $75,000 (*n* = 16)	57.4 ± 11.9		
Education		-2.1	.045
Undergraduate Degree or less (*n* = 24)	45.3 ±18.1		
Graduate Degree (*n* = 18)	55.7 ± 13.4		
Race/Ethnicity		.1	.905
White/non-Hispanic (*n* = 18)	50.0 ± 14.2		
Other race/ethnicity (*n* = 23)	49.3 ± 19.3		

Satisfaction data are Mean ± SD. Grouping variables are arranged in binary format due to few responses in original multiple categories under each characteristic. Health Insurance and Urban vs Rural domicile are not represented; groups sizes were too small to make meaningful comparisons.

Table 4.3 – Comparison of predictor variables by participants who did not or did identify as a gay man to health care provider

	Did not identify as a gay man (n=12)	Identified as a gay man (n=28)	*p* value
Depressive symptoms (PHQ-8)	4.7 ± 6.0	3.1 ± 4.8	.383
Physical health (PCS)	59.4 ± 6.4	55.1 ± 7.4	.087
Mental health (MCS)	43.2 ± 10.8	48.9 ± 11.8	.166
Self-advocacy (PSAS)	36. ± 9.9	45.2 ± 6.7	.003
Internalized homophobia (IHS)	3.51 ± 1.2	4.3 ± .7	.011
Anxiety (BSI)	1.8 ± .8	1.4 ± .7	.113
Quality of communication (QQPPI)	1.5 ± .5	3.1 ± 1	<.001

Values are Mean ± SD

Table 4.4.1 – Prediction of satisfaction with health care interaction from self-disclosure and depressive symptoms

Model Statistics				Coefficients		
Predictor	R^2	Adjusted R^2	R^2 Change	Standardized *ß*	Standard Error	Sig.
Block 1	.41	.40	---			
Self-disclosure				.64	4.61	<.001
Block 2	.42	.38	.00			
Self-disclosure				.65	4.68	<.001
PHQ8				.03	.80	.842

p <0.05. PHQ8: Patient Health Questionnaire

Table 4.4.2 – Prediction of satisfaction with health care interaction from self-disclosure and physical symptoms

Model Statistics				Coefficients		
Predictor	R^2	Adjusted R^2	R^2 Change	Standardized *ß*	Standard Error	Sig.
Block 1	.41	.40	---			
Self-disclosure				.64	4.61	<.001
Block 2	.42	.38	.00			
Self-disclosure				.65	4.90	<.001
PCS				.03	.31	.804

p <0.05. PCS: Physical Component Summary of the SF-12v2®

Table 4.4.3 – Prediction of satisfaction with health care interaction from self-disclosure and mental symptoms

	Model Statistics			Coefficients		
Predictor	R^2	Adjusted R^2	R^2 Change	Standardized *β*	Standard Error	Sig.
Block 1	.41	.40	---			
Self-disclosure				.64	4.61	<.001
Block 2	.44	.41	.02			
Self-disclosure				.61	4.70	<.001
MCS				.16	.19	.216

p <0.05. MCS: Mental Component Summary of the SF-12v2®

Table 4.4.4 – Prediction of satisfaction with health care interaction from self-disclosure and self-advocacy

	Model Statistics			Coefficients		
Predictor	R^2	Adjusted R^2	R^2 Change	Standardized *β*	Standard Error	Sig.
Block 1	.41	.40	---			
Self-disclosure				.64	4.61	<.001
Block 2	.43	.40	.02			
Self-disclosure				.59	5.08	.001
PSAS				.14	.26	.322

p <0.05. PSAS: Patient Self-Advocacy Scale

Table 4.4.5 – Prediction of satisfaction with health care interaction from self-disclosure and internalized homophobia

	Model Statistics			Coefficients		
Predictor	R^2	Adjusted R^2	R^2 Change	Standardized *ß*	Standard Error	Sig.
Block 1	.41	.40	---			
Self-disclosure				.64	4.61	<.001
Block 2	.41	.38	.000			
Self-disclosure				.64	5.10	<.001
IHS				-.01	.29	.938

p <0.05. IHS: Internalized Homophobia Scale

Table 4.4.6 – Prediction of satisfaction with health care interaction from self-disclosure and anxiety

	Model Statistics			Coefficients		
Predictor	R^2	Adjusted R^2	R^2 Change	Standardized *ß*	Standard Error	Sig.
Block 1	.41	.40	---			
Self-disclosure				.64	4.61	<.001
Block 2	.51	.48	.09			
Self-disclosure				.56	4.43	<.001
BSI				-.32	.46	.012

p <0.05. BSI: Brief Symptom Inventory - anxiety subscale. *n* = 40

Table 4.4.7 – Prediction of satisfaction with health care interaction from self-disclosure and quality of patient-provider communication

	Model Statistics			Coefficients		
Predictor	R^2	Adjusted R^2	R^2 Change	Standardized *ß*	Standard Error	Sig.
Block 1	.41	.40	---			
Self-disclosure				.64	4.61	<.001
Block 2	.66	.64	.24			
Self-disclosure				.19	4.80	.151
QQPPI				.67	.15	<.001

p <0.05. QQPPI: Questionnaire on the quality of patient-provider interaction.

Chapter Five: Discussion and Conclusions

5.1 Background and Purpose

The purposes of this dissertation were to explore significant stressors within the lives of gay men and their communities, to investigate concepts that researchers working with communities of gay men must make themselves aware of, to review statistical methods that have been used to study communities of gay men, and to examine associations among predictors of satisfaction with health care interactions between gay men and their health care providers.

The purpose of this chapter is to synthesize results from the dissertation and to discuss how they contribute to advancing the science regarding the health care of gay men. Recommendations for future research are discussed, as are implications for clinical practice.

5.2 Summary of Findings

Chapter Two was a review of probability and non-probability sampling techniques used in research with gay men. Literature reviews have demonstrated a gap in the area of sampling methods, with convenience sampling often used because of economy and the ability to access a sample quickly. Convenience sampling techniques used in studies of gay men have provided important insights that have led to additional, focused studies employing other sampling techniques. Among different sampling methodologies, respondent-driven sampling with seeds was determined to be the most likely method to provide a more representative access to communities of gay men. This sampling method is considered statistically rigorous (Kendall et al., 2008), having been used numerous times in world-wide studies of vulnerable populations (Giles &

Handcock, 2010; Heckathorn, 2002). Several concerns have been raised regarding selection bias when seeds are used, most specifically how selection bias can be minimized (Heckathorn, 2002). However, techniques have been established that minimize bias and result in this method being similar to probabilistic sampling. This is done by carefully tracking seeds (the initial respondents) and their numbers of social contacts recruited into the study. A mathematical model then weights the sample in order to compensate for the fact that recruitment has in fact been non-random. This process involves Markov chain theory (Peng et al., 2010) as well as Biased Network theory (Abdul-Quader et al., 2006), which heretofore had not been prominent in sampling methodologies. As a result, respondent-driven sampling with seeds is considered able to provide unbiased population estimates as well as provide researchers with calculations to determine the precision for those measures. This sampling technique can be expensive, depending on the sample size desired. However, respondent driven sampling with seeds can allow researchers a much deeper access into a population of interest, in this case gay males.

Chapter Three was an exploration of seminal concepts for conducting research with communities of gay men. Scholars have identified a gap in the literature concerning awareness of the effects of stigma and other critical socio-psychological hypotheses on gay men that have the potential to isolate them individually and communally. A researcher's lack of awareness of these concepts can negatively affect both research design and recruitment strategies. The Minority Stress Model, constituents of which are stigma, internalized homophobia, and experiences of discrimination, serve to isolate gay men and reinforce their exclusion from the dominant community having power and privilege (Goffman, 1963; Meyer & Frost, 2013). These constituents make gay males more likely to resist identification for fear of additional stigmatization. As a result, gay males are less likely to respond to researchers who want to enroll them in studies and research conducted in samples of gay males can suffer from lack of representativeness (Salganick & Heckathorn, 2004).

The socio-psychological concepts of positionality (Alcoff, 1988; Collins, 1993; Haraway, 1991), intersectionality (Carbado et al., 2013; Crenshaw, 1991), and essentialism (Bastian & Haslam, 2006; Chao & Kung, 2015; Plante et al., 2015; Rothbart & Taylor, 1992) affect researchers and study participants in ways that are not always readily apparent. All researchers must be aware of and work to control their own biases but may not be cognizant of the ways their perspective, their "position," affects how they view the gay males as participants in their research. As highly educated scholars, researchers have a social status that gives them power; study participants recognize this and their response may not always be positive (Acevedo et al., 2015). So, too must researchers recognize a tendency since Thales and Descartes toward reductionism in scientific endeavors. While this has shown promise in biological studies, it cannot be extended to social sciences where holism rules (Beresford, 2010). The combined influences of many negative forces have been recognized as causing damage to gay males individually and communally. Carbado et al. (2013) and Crenshaw (1991) describe how oppressive social equity issues including racism, sexism, homophobia, transphobia, xenophobia, and classicism are intrinsically interconnected and therefore separate scholarly analysis of each construct cannot occur. A reductionist approach is impossible in the minds of those who accept the concept of intersectionality. The danger however is that researchers who are not aware of intersectionality will seek to understand a unique issue experienced by gay males and their communities while not recognizing the holistic effect of multiple forces that underlie or produce the unique issue being studied. Finally, the concept of essentialism affects researchers because they themselves are members of a social group that holds unconscious perspectives toward persons and groups different from their own (Plante et al., 2015; Rothbart & Taylor, 1992). Essentialism is an underlying nature that both constitutes and differentiates social categories (Bastian & Haslam, 2006). This concept is further divided into social essentialism (e.g., race or gender) and trait essentialism (e.g., intelligence, weight, height, etc.) (Ryazanov & Christenfeld, 2017). Researchers working with communities of gay males must be aware that sexual orientation straddles both social and trait essentialism; it includes both the socially relevant attributes of sexual expression and maleness, as well as the essentialism of all the visible and invisible traits incorporated into the gay man being studied (Rosenmann et al., 2018). These are all inherent in the human person and exist partly to define the person. They are also things that associate a person with a particular group and allow others to identify that person as a member of the dominant social group or label him or her as an outcast. Gay males are vulnerable to essentialism especially when they interact with members of a group not their own. Understanding essentialism is important for researchers who may be unaware that they operate from an essentialist perspective, particularly a social essentialist one. Individuals such as these tend to accept social stereotypes, and they also tend to act unconsciously from those beliefs. They are also disposed to accept the more negative attributes based in stereotypes, particularly toward stigmatized groups (Haslam et al., 2005). Lacking an awareness of this tendency, a scientist who attempts to design and conduct research with gay men may bring to the project from its very inception an unconscious bias as well as those very same stereotypes that gay men seek to avoid. This will have predictably negative outcomes on any research venture. The reason for this is hypothesized to be inherent in essentialism: individuals tend to hold themselves in higher worth than they do others, and they consider their own social group to have more worth than any other social group (Haslam et al., 2005).

Finally, as one of the negative constituents of stigma theory (Goffman, 1963), labeling serves to isolate gay males in order to remove access to power. However, labeling can be self-imposed and can become a source of power for gay males and for the entire LGBT community (Epstein et al., 2012). The use of the LGBT abbreviation, especially as it has grown to include queer/questioning and intersex individuals, demonstrates how an umbrella term has enlarged to include marginalized persons and communities. In this way, power and resources previously denied are found in different venues, circumventing the effects of stigma in meaningful ways. It is significant that the LGBT community has defined itself through forces of its own oppression (Pew Research Center, 2013).

Chapter Four was a report of a cross-sectional study of 42 self-identified gay males over 18 years of age living in the Washington State. The gap addressed by this study concerned the lack of knowledge regarding the effects of select factors on gay men's satisfaction with health care interactions. Several factors previously identified as being associated with satisfaction with health care interaction were examined including depressive symptoms, anxiety, self-rated physical and mental health, self-advocacy, internalized homophobia, and the quality of communication between gay males and their providers. Demographic characteristics of the sample demonstrated additional predictive factors and showed that self-disclosure of sexual orientation to a provider was the most statistically significant (M = 56.56, SD = 14.32, $p = <.001$).

Hierarchical multivariate linear regression was run with self-disclosure of sexual orientation in block one of seven different models; each measure entered individually in each model in block two. Each model was statistically significant, but in the models for depression (PHQ8), physical self-assessment (PCS), mental self-assessment (MCS), internalized homophobia (IHS), and self-advocacy (PSAS), only self-disclosure was significant. The model with self-disclosure and anxiety (BSI) showed both were statistically significant, with anxiety having a negative effect on satisfaction with health care interactions ($R^2 = .51$, $\beta = .56$ (self-disclosure) and -.32 (anxiety), $p = <.001$ (self-disclosure) and .012 (anxiety)). This model thus explained 51% of the variance in satisfaction scores for this sample of gay men.

In the model containing self-disclosure and QQPPI, only QQPPI remained statistically significant ($R^2 = .66$, $\beta = .67$, and $p = <.001$). This model explained 66% of the variance observed in satisfaction scores for this sample, which is notable in studies of human behavior.

5.3 Impact of Dissertation on the State of the Science

Scientists are encouraged to conduct research because our understanding about communities of LGBT persons is nascent and at present tends to be focused in only a few areas, such as sexual risk behaviors, HIV/AIDS, and STIs (Brennan et al., 2017). Research with communities of gay men should employ robust sampling techniques and be as statistically rigorous as possible. This research addressed an area needing additional research regarding gay men's perceptions of healthcare provider interactions. Observing a worrisome gap in peer reviewed studies, Brennan et al. (2017) urged researchers working with LGBT communities to gather ethnic data along with other important demographic information, as well as to include important conceptual definitions within the methodology; this dissertation has presented research that has done so.

Chapter Two presented an evaluation of specific sampling methodologies including an evaluation of their ability to minimize threats to external validity. We concluded that in research with gay men and their communities, it may yet be possible – as the NAS document (IOM, 2011) recommends – to employ non-parametric sampling methodologies, particularly as they form a valuable foundation for work in the future. In particular, the use of respondent-driven sampling with seeds has been quite useful within communities of gay men. This dissertation has shown that respondent-driven sampling with seeds most closely approximates probabilistic sampling; thus, future research employing it in research with gay males will have a higher likelihood of protection from threats to internal (e.g., selection bias) as well as threats to external validity. Additionally, in affirming this methodology as most strongly resembling a probabilistic method while controlling costs, future researchers may find this sampling method to be feasible where economic restrictions impose difficult choices.

The concepts presented in Chapter Three are critical for researchers who intend to work with gay men and their communities. Researchers who maintain awareness of the effects of stigma in the lives of gay males and their communities, as well as how positionality, intersectionality, and essentialism affect the researchers themselves, will see benefits as they work with all vulnerable populations. The four concepts discussed in this chapter are deeply operative in the lives of gay men as well as in the communities they build. The concepts affect how gay men seek health care resources, and why they avoid them. They also explain at least some of the reasons why gay men express dissatisfaction with their own lives, as well as disaffection when they interact with the larger heterosexual community in which they live. Awareness of these concepts advances the state of the science regarding gay men and satisfaction with health care interactions because these concepts can be operationalized and measured. In this way they cease to be unidentified, confounding variables. Research with vulnerable populations demonstrates their ability to skew results if their presence is unknown.

Chapter Four added to the body of knowledge regarding factors that contribute to gay men's satisfaction with health care interactions. This research attempted to bridge the gap in knowledge about associations among gay men's satisfaction with health care interactions, physical health function, mental health function, anxiety, depression, self-advocacy, internalized homophobia, and communication between gay men and their providers. Results support that for the sample in this research, self-disclosure of sexual orientation to the gay male's provider coupled with assessment of anxiety were predictive of satisfaction with health care interactions. It also showed that the quality of patient-provider communication was a predictor in gay men's satisfaction with health care interactions. This is useful knowledge because of the health care disparities known to exist with gay males who either delay health care or refuse to seek it until that care is no longer preventive but rather emergent. Healthcare institutions provide care for gay males. These same healthcare institutions also understand that patient satisfaction is a very useful proxy for the success of providers and indeed the entire healthcare institution

(Prakash, 2010). This dissertation adds to the body of knowledge concerning factors that contribute to satisfaction by a sample of gay males who seek care from health care providers, thus contributing to providers and institutions that seek to improve their care to all gay males.

5.4 Recommendations for Clinical Practice and Research

5.4.1 Clinical practice. The research presented in Chapter Four has applicability to clinical practice. In this study, gay men who self-disclosed their sexual orientation to their health care provider and rated their anxiety as lower, had greater satisfaction with health care interactions. This would support that health care providers who create spaces of safety for self-disclosure by their gay male patients and who work to reduce or remove sources of patient anxiety should see greater satisfaction by those same patients. Providers who work to improve the quality of communication with gay male patients – and who ensure their efforts are successful by evaluations from those gay male patients – should also see greater satisfaction with health care interactions expressed by gay male patients. This can be expected to translate to better health care outcomes for gay men (IOM, 2011; Smith et al., 2017).

5.4.2 Research. Results within this dissertation indicate several future directions for research. Sampling for research within communities of gay men remains a challenge; issues of access to participants and concerns related to external validity must be addressed. A representative sample of gay men remains difficult to assemble, though several of the methods discussed in Chapter Two can address this challenge with some success. Of the sampling methods explored, respondent-driven sampling with seeds seems to be the most effective method for researchers to obtain as close to a probability sample of gay males as possible. Done properly, this sampling method is considered by some to achieve the precision of probability sampling (Binson et al., 2007; Heckathorn, 2002). This method has used incentivized chain recruitment, thereby reaching persons socially connected and likely to share important features of interest to researchers. In research with gay males, this method has resulted in studies that have reached a wider pool of participants than other sampling methods, and at the same time have minimized threats to external validity.

Obstacles remain in reaching gay males for research purposes. One of these is stigma, which remains a powerful and negative influence in the lives of gay men. As a constituent of the Minority Stress Model (Toomey et al., 2018; Frost et al., 2015) along with internalized homophobia (Herek et al., 1997) and actual experiences of discrimination that contribute strongly and negatively to a worldview, stigma continues to be operative in vulnerable communities of all types and certainly in the lives of gay males. As well, the concepts of positionality, intentionality, and essentialism are embedded in the way human beings view one another (Agadullina et al., 2018). These justify social categorization by dominant groups along with strategies that isolate and punish both individuals and entire groups that do not meet those cultural standards. However, there is little published literature studying their effects specifically in communities of gay men. The study by Grace et al. (2008) presents reflexive engagement as a way for researchers working with LGBT communities to know themselves, others, and the culture within which study participants live. In this way, the impact of in-group and out-group dynamics integral to the concept of stigma may be understood better. In a much earlier study (Rhoads, 1997), the effects of positionality become evident in critical postmodernist qualitative research with gay males. In that research, heterosexual researchers were concerned about being branded by the same stigma attached to gay men, thereby essentially losing their place as members of the in-group. Yet the process of scholarly research offers opportunities for greater understanding of the stigma-created chasm between those who have power and those who have had power restricted, as well as offering important insights into the lived realities of gay men. Researchers aware of and sensitive to the operations of positionality, intentionality, and essentialism can bring a heightened maturity to their research. They are also individuals willing to be affected by the dynamism of research; what they learn about gay males changes them in some important ways. It is not simply a sterile investigation where the viewer remains unmoved. Ideally, awareness of the influence and power of stigma, positionality, intentionality, and essentialism will help researchers understand themselves and their own complex and sometimes damaging relationships to the gay male communities they intend to study, or indeed already have studied.

The concept of patient satisfaction remains a topic of continuing scholarly discussion, with health care organizations tracking it closely (Almeida et al., 2015). The Patient Satisfaction Questionnaire Short Form (PSQ-18) was chosen for this study due to its strong psychometrics and abbreviated length, but there are certainly other measures of patient satisfaction that could be used. This study used the Patient Health Questionnaire-8 to assess for depression (omitting the final question concerning suicidality). Anxiety was assessed using the Brief Symptom Inventory (BSI) Anxiety subscale. Because both depression (Lee et al., 2017) and anxiety (Pachankis & Bernstein, 2012) are prominent in gay males, further assessments of both as they relate to satisfaction with health care interactions would be helpful, particularly for clinicians. Interesting research done by Wang et al. (2016) showed that stress resulted in growth in the area of emotional regulation, however this did not answer the question about the relationship between stress and anxiety or indeed their role in emotional regulation. As observed by Wang et al. (2016), stress-driven emotional growth of gay males because of either anxiety or depression has not been studied. This is an area where well-designed and conducted research with gay males and their communities could make a strong contribution.

The self-advocacy model of Brashers et al. (1999) was operationalized in this study using the Patient Self-Advocacy Scale (PSAS). The ability to speak for oneself, to represent oneself, and to advocate for one's own interests and needs are important components of health seeking behavior. These actions constitute self-advocacy and arise from self-confidence, self-awareness, the ability to know one's own mind and to be able to cope with disappointment (Holmes, 1995). The model as conceptualized by Brashers et al. (1999) includes three dimensions: increased knowledge about one’s own health and illness; increased assertiveness within the patient-provider dyad; and, increased potential for non-adherence to treatments as recommended by providers. These would seem to work directly against burdens imposed by stigma, internalized homophobia, and prior experiences of discrimination. The PSAS was not a significant predictor in this study however that may have been due to the highly educated, generally Caucasian sample that had both health insurance as well as earned high annual incomes. Research with a more diverse sample may provide different results.

Much of the literature exploring self-advocacy is within research into disabilities (Test et al., 2005), and self-advocacy in other exemplars needs further study. For example, the self-advocacy patterns of Caucasians have been noted to be quite different from those of African Americans, yet little research exists that explores this (Test et al., 2005). Self-advocacy within other cultures outside the United States has received some attention (Ledger & Tilley, 2006; Traustadóttir, 2006; Tsuda, 2006) yet the comparison seems to be made with the understanding of American self-advocacy as the norm. From a global perspective this cannot be true. Nevertheless, self-advocacy is well recognized within health care and forms a foundation from which patients value themselves and speak of their own needs to providers. Further research with this concept with groups of gay males could provide important data about how self-advocacy could mitigate stigma, self-stigma, and internalized homophobia.

5.5 Recommendations

Based on this work, future research exploring gay men's satisfaction with health care interactions would benefit from further exploration in select areas. One of these is in the design of the study. Working with LGBT community organizations could help researchers learn more about gay men in a particular community and would assist researchers in establishing the background necessary to refine their research question further. Specifically, the notion of self-advocacy should be explored more deeply as it relates to the Minority Stress Model, and stigma in particular. Operationalizing the concepts of positionality, intentionality, and essentialism would provide deeper insight into gay men's perceptions and stressors related to their interactions within their community and with the larger, heterosexual community. The use of respondent-driven sampling with seeds could allow researchers access to a more representative number of gay males, thus helping to minimize threats to external validity. Lastly, the assessment instruments chosen for this study all had strong psychometric values and seemed appropriate for the research question. The QQPPI instrument in particular deserves more attention, with a deeper investigation into its factor analysis in order to determine how it may converge with self-disclosure. Replication of this study with a larger group of gay males could provide a different perspective concerning how satisfaction with health care interactions is associated with depression, anxiety, physical and mental status, internalized homophobia, and communication with a provider.

5.6 Limitations

Though the sample was reflective of the ethnic makeup of Washington State, a larger multistate study with a more diverse and larger sample would allow for more complex statistical analyses, providing additional insights into the interactive effects on gay men's satisfaction with health care. This dissertation also focused only upon the dyad of gay male patient and health care provider. Whether the question of satisfaction with health care interaction extends to healthcare organizations was not the subject of this study, but it is an important one and should be pursued. Lastly, in this study approximately two-thirds of high-income, highly educated, Caucasian gay men had disclosed their sexual orientation to their health care provider and rated patient-provider communication highly. It cannot be presumed that this is the case throughout the rest of the nation. This appears to be one of the most serious limitations to external validity in this study. Future studies should cast a wider net and attempt to enroll participants representative of many gay male communities across the United States.

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Vita

Education

Institution	Degree Awarded
Spalding University, Louisville KY	Ed.D
Vanderbilt University, Nashville TN	MSN
Bellarmine University, Louisville KY	BSN
Pontificia Università Gregoriana, Roma Italia	Baccalaureum in Sacra Theologia (STB)
Saint Meinrad Seminary, Saint Meinrad IN	BA

Professional Educational Positions

Institution	Academic Position
Seattle University, Seattle WA	Tenured associate professor; lead faculty, Adult/Gerontological APRN track
Seattle University, Seattle WA	Associate dean for graduate education
Bellarmine University, Louisville KY	Tenured associate professor; Associate director, APRN program
Education Law Institute, Loyola Marymount University/NCEA, Los Angeles CA	Education consultant
Spalding University, Louisville KY	Assistant professor; Graduate program director

Professional Practice Positions

Practice	Clinical Position
SMG Bainbridge Island, WA	Clinician and primary care provider; gerontologist
Grove St Family Clinic, Marysville WA	Family practice; gerontologist
Umoja Health & Wellness Clinic; Golden Door Clinic, Louisville KY	Founder & lead clinician
The Tabler Group, Louisville KY	Internal medicine and geropsychiatric consultant
HealthEssentials, Louisville KY	Clinical director, APRN services; clinician and gerontologist
ElderHealth, Inc, Baltimore MD	Lead gerontological APRN
Haller, Hazlett & Adams, Louisville KY	Internal medicine APRN
Policlinico Agostino Gemelli, Roma, Italia	AIDS care team

Scholastic and Professional Honors

2012	Inducted as Fellow of the American Academy of Nurse Practitioners (FAANP)
2010	Miles Service Award, Bellarmine University
2008	Education Law Institute Excellence Award, 2003-2008
1996	Sigma Theta Tau International

Publications

Journal Articles

Huggins, M. & Shaughnessy, A.M. (2016). Transgender, sex, and gender: Legal and medical issues. *NCEA Momentum, 47*(1), 48-51.

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