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Surveying Identities in Context: Race, Gender & Sexual Orientation 'at Work'

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SURVEYING IDENTITIES IN CONTEXT: RACE, GENDER AND SEXUAL ORIENTATION ‘AT WORK’

A Dissertation Presented

by

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ABSTRACT

SURVEYING IDENTITIES IN CONTEXT: RACE, GENDER AND SEXUAL ORIENTATION 'AT WORK'

December 2018

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Researchers, practitioners and common practice have imputed a great deal of power onto categories of social identity (e.g. race, sexual orientation, gender, religion). It common practice to collect demographic and identifying information on the categories to which we belong in settings ranging from the Census to the online shopping profile. Moreover, we have come to expect that this information will be used to make meaningful decisions on government program funding, targeted marketing, college recruitment and so much more. We also know that minority identities have a long history of negatively impacting individuals in employment, housing and other realms of daily life beyond 'top-down' decisions, such as government funding.

While research has examined best practices for conceptualizing these categories, it has largely done so using terms that may not capture the nuance and actual

identity experiences of respondents (e.g. offering a 'gay' category but not a 'queer' category). Additionally, little research has focused on how these categories are understood by individuals with non-normative or multiple minority identities (i.e. intersectional identities such as being both LGBT and black) and what, if any, such identities have on lived experiences. The literature generally presumes that one's identity is stagnant - meaning, you self-identify and are known (as a sexual minority, by your racial identities, etc.) the same across all situations. This (potentially incorrect) approach likely impacts sexual minorities disproportionately, who still lack sufficient representation in the literature, and multiple minorities, whose identities are not usually considered in context. The timeliness of addressing this gap in the research is evidenced by national conversations around the Orlando Pulse nightclub attacks, the Supreme Court cases surrounding religious exemption, the Black Lives Matter movement and many others.

In response, this work proposes a three-part investigation: first, a meta-analysis of existing literature on identity and patterns of self-identification using national samples; second, cognitive interviews to investigate how respondents with multiple minority identities understand and answer questions around their identities, with an emphasis on disclosure (to whom they 'come out' and how) ; and third, a pilot survey using questions responding to the findings of the cognitive interviews on disclosure, with an emphasis on practices and experiences in the workplace in order to provide a specific context for examination of outcomes.

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CHAPTER 1

INTRODUCTION

The guiding research questions for this dissertation project is: How do multiple minorities understand their identities, self-identify in key social contexts, communicate those identities (disclosure) and what role does disclosure play in workplace experiences? The specific components of the research question are: (1) How many people identify as a sexual minority in nationally representative surveys (meta-analysis)?; (2) What categories of identity to sexual minorities employ in various social contexts, how are they defined, and is a fourth measure needed (disclosure)?; and (3) What are the disclosure experiences in the workplace, and what are the key outcomes (namely, subjective income and advancement potential)?.

While much progress has been made in a relatively short period of time in researching the traits and experiences of lesbian, gay, bisexual and transgender (LGBT) individuals, there is still much to learn. Much of the existing literature relies heavily or exclusively on nationally representative samples that yield few LGBT respondents or convenience samples that are not generalizable to a general population (Ahmed, Anderson and Hammarstedt 2011; Berg and Lien 2006; Weichselbaumer 2003). Previous research has established that social identities (e.g. race, religion, gender) influence outcomes (e.g. wages, educational attainment). Research has begun to demonstrate that sexual orientation is a similar type of identity to race or gender in that it influences outcomes such as income, but the true impact estimates are still hypothetical given the relatively small field of research to date (Tilcsik 2011; Diamond 2013; Herek 2009; England 1992).

Research has begun to examine sexual orientation identification practices for social identities offering demographic and population estimates (Gates 2014; Chandra 2011; Black et al. 2000; Brooks and Quina 2009). Additionally, research has considered the impact of social identities from the perspective of wages/economics (Badgett 1995), hiring discrimination (Tilcsik 2011; Hebl 2002) and emotional well-being (Bowleg, Brooks and Ritz 2008), to name a few. Additionally, research has established the necessity of considering these multiple minority identities in context, acknowledging that an additive model (black and gay) is not the same approach as an intersected model (black while gay) (Means and Jaegar 2013; Wheeler 2003). Wheeler (2003) asserts that while sexual and other minorities are oppressed and disenfranchised, the relationships between multiple minority social identities is likely to be geometric, rather than additive.

This dissertation aims to address and expand upon this literature by examining self-identification practices and experiences among sexual minorities in the context of other minority social identities, specifically race and gender. This work seeks to answer this question: How do multiple minorities self-identify in key social contexts, how do they understand and define these identities and what, if any, impact do these identities have on their workplace experiences (such as promotion and task-assignment)? Beginning to establish answers to these questions is important for public policy decision making, community outreach and overall visibility and meaningful public consideration of the lives and experiences of sexual and multiple minorities. Note the use of the plural —lives and experiences—like most other groups, there is no reason to believe this group to be homogeneous and the importance of uncovering similarities and differences cannot be overstated. As appropriate and possible, other identities such as class and religion will be considered.

In sum, the research will proceed in three parts: (1) a meta-analysis of publicly available and nationally representative data measuring sexual orientation and gender identity (SOGI); (2) cognitively testing questions on SOGI with participants from diverse backgrounds (i.e. those that both do, and do not, possess multiple minority identities with a specific focus on a potential fourth measure of disclosure); and (3) administering the tested pilot survey to an online non-probability sample, with an analytic focus on disclosure of identities and workplace experiences. While the full methodological description will be provided below, of important note is that the respondents for this project will be actively recruited from three states: one of which has anti-discrimination laws in place and is considered sociopolitically liberal, one that has anti-discrimination laws in places but is considered sociopolitically moderate and one state that is considered sociopolitically conservative (and states in this category do not have anti-discrimination laws in place). However, responses will not be limited (i.e. if the survey link is shared) to these areas. This survey will also contribute to the final element of this work, contextualizing minority social identities via potential impacts (e.g. full employment, wages). This final piece will be accomplished by including survey questions to capture self-reported employment experiences and practices for disclosure of identity.

Literature Review

Demographics and Measurement of Sexual Minorities

The measurement of sexual orientation has been conceptualized to include from one to three elements: self-identification (the most common), behavior, and attraction (Berg and Lein 2006; Black et al. 2000; Brooks and Quina 2009; Gates 2014). Sexual orientation estimations, using various combinations of these three elements, have been included in some national surveys since the late 1980's drawing from such studies as the General Social Survey (biannual from 1988) and National Health and Social Life Survey (NHSLS) (1992). Nationally representative estimates of the lesbian, gay, bisexual and transgender (LGBT) population stem from sources such as the American Community Survey (ACS), National Health Interview Survey (NHIS), National Survey of Family Growth (NSFG), the General Social Survey (GSS), and Gallup Daily Tracking Survey.

Early measurement of sexual orientation focused predominantly on self-reports of sexual behavior, and did not measure attraction or self-identification (see, for example, the GSS from 1984-2006). The behavior data was used as a proxy to operationalize sexual orientation in one of two ways. The first is to label respondents as homosexual/ non-straight if they report having ever had a same-sex partner. The second limits that label to those that have had an equal number or more same-sex partners (Badgett 2001; Laumann et al. 1994). The core issues with this approach are that behavior might not result in self-identification and that behavior also does not adequately capture potential changes over time (i.e coming out).

Attraction is similar to behavior, asking respondents to think about a reference period (often the same as behavior - since age 18 or the last 1-5 years). They are then asked to identify their attractions on a scale ranging from exclusively opposite-sex to exclusively same-sex. As with behavior, attraction focuses on actions rather than identity and can also produce different estimates as compared to self-identification. For examples of attraction and behavior question wording, see the GSS and NSFG.

Using these sources (and treating the three measures as largely interchangeable), national population estimates for the LGBT population range from 2.2 to 4 percent of the US population and are geographically isolated to urban areas and the coasts (namely the west coast and Northeast) (Gates 2014; Black et al. 2000). The population estimates at the state level vary slightly from the national levels ranging from 1.5 percent to ten percent (with Hawaii and Washington DC having the largest populations) (The Williams Institute 2013). Overall, the most accepted population estimates, using the self-identification measurement, suggest a population representation of about 3 percent (which is about 11 million people) (Gallup 2013). Understanding the potential size of the LGBT population underscores the need to better understand how LGBT people are similar or different from their straight counterparts (Gallup 2013; Gates 2014; Black et al. 2000).

When only behavior or only identity are analyzed as a marker of sexual orientation, outcomes can produce conflicting results, likely due to conflating aspects of identity (Bauer and Jairam 2008). The likely conflation of behavior and identity lead Bauer and Jairam to assert that, when running analyses, each identity group (behavior, attraction and identification) should not be collapsed but treated as separate identities/ markers. These findings are congruent with the range of estimates cited above that suggests, for example, measurement on behavior will yield a larger estimate than via self-identification.

Turning to self-identification, response categories offered range from limited (e.g. gay/homosexual, straight/heterosexual, bisexual) to more inclusive (e.g. gay, lesbian, straight, bisexual, pansexual, asexual, queer). An additional method of inclusivity is to allow for 'mark-all-that-apply' endorsements, which allows respondents to associate with more than one category of identity (Gates 2014; Bates 2012; McCabe 2012). In addition to paying careful attention to markers of identity, researchers are increasingly aware of the need for 'something else' or 'other' categories. Chandra et al. (2011) found that almost 4% of men and women in the 2002 NSFG answered 'something else' to the sexual orientation measurement questions. While the number dropped to just over 1% in 2006-2008, the concern is still significant as a source of error or bias.

Looking at women only in the 2002 National Survey of Family Growth (NSFG) Bauer and Jairam (2008) separated responses by identity, lifetime sexual behavior and past year sexual behavior. They found that while 1.4% and 2.5% of women identified as lesbian and bisexual, respectively, 4.1% of sexually active women had a same-sex partner in the last year and 11.8% did in their lifetime. They concluded that results based on behavior are not generalizable to identity and vice versa.

Potentially Sensitive Topic

In an experiment focusing on the mode and level of privacy of respondent answers, Coffman et al. (2013) found that when a veiled elicitation method was used, self-reporting of sexual minority identification increased by 65 percent over the 'best practices' method of computer based privacy and anonymity. A veiled elicitation method affords the respondent the opportunity to identify or disclose some potentially sensitive information (here, sexual orientation) without having to directly provide the information. For example, Coffman et al. (2013) employed the item count technique (ICT) in which respondents were given two lists with various statements, and identified the number of statements that respond to them (option A) or a direct report (option B). Option B included the same questions, with the same requirement for endorsement, but also included a direct question (yes/no) at the end on sexual orientation. Option A did not include this direct question and by comparing the number of endorsements, the ICT identifies discrepancies in reporting. These veiled methods have been identified as best practices in asking about sexual orientation by the Williams Institute (2009) and via numerous other methodological studies (see, for example, Tourangeau and Yan (2007)). Such methods are not employed in the large national datasets frequently used to generate estimates of population size.

Identity Endorsement

Labels and categories of self-identification appear to be fluid and change over time. Comparing self-identification by women in 2002 and 2006-2008 results from the

NSFG, bisexual self-identification was 2.8% and 3.5% in each wave, respectively (meaning more women reported bisexuality in the 2006-2008 study than in 2002); at the same time bisexual identity increased, lesbian/homosexual identity decreased (Chandra et al. 2011). Overall, in 2002 6.3% of female respondents reported an identity other than straight/heterosexual and that figure increased to 9.7% in the 2006-2008 wave. For men, 90.2% of men reported a straight/heterosexual identity in 2002, increasing to 95.7% in 2006-2008 (Chandra et al. 2011). In sum, this suggests an expansion of non-heterosexual identity for women but a contraction for men over the same time periods (Chandra et al. 2011).

Chandra et al. (2011) offer several explanations for the shift in identity including changes in social acceptance, changes in socially accepted terms and greater self-exploration. Herek et al. (2010) consider contextualized disclosure as another possible element influencing self-identification. Using a national probability sample (from a random digit dial frame from Knowledge Networks) Herek et al. (2010) surveyed 662 self-identified LGB respondents. Beyond asking for simple sexual orientation identity, they asked respondents the frequency that they used such identities. They found that self-labeling (all the time, often and sometimes were collapsed in the analysis) as 'gay' occurred 93% of the time for gay men. Gay men also self-labeled as 'queer' 16.8% of the time and 'homosexual' 38.7% of the time. Lesbians employed the terms 'gay' and 'lesbian' almost the same amount - 75.9% and 73.4% of the time, respectively. Their use of 'homosexual' and 'queer' was nearly identical to that of gay men, however an additional term 'dyke' was used 16.9% of the time. Bisexuals of both genders largely used ‘bisexual’ as their preferred term. Men used it 71.3% of the time and women 60.3%. Other terms included gay, queer, homosexual and dyke but largely remained at less than 10% use (Herek at al. 2010).

Herek et al. (2010) offer two potential insights into the differences of bisexual and gay/lesbian identified men and women. First, bisexuals in the sample were significantly younger than both the general American population and the gay/lesbian respondents in the sample. They assert that this may reflect one of two key things: that younger people are more likely to view their sexuality in fluid terms and thus identify as bisexuals or that as younger respondents, they are presently self-identifying as bisexual but will later identify as gay/lesbian (as 1 in 5 gay men and 1 in 10 lesbians do). Overall, these findings suggest (1) that gays/lesbians and bisexuals do not conceptually group together and likely have very different lived experiences; (2) that identity in self-labeling terms is not a sufficient measure of sexuality without also considering disclosure; because (3) terms of self-identification are not stagnant. Ultimately, future research needs to focus on population estimates while accounting for the potential differences between the three measures of sexuality (attraction, behaivor and self-identificaiton) while also being careful to consider potential between and within group differences, as identified above.

Self-Identification and Disclosure

Fausto-Sterling (2007) suggests that "the state of being gay (in adulthood) might, in fact, reasonably include identity, behavior, and/or desire (2007:48)”. While this multidimensional approach is becoming more commonplace, it is still not uniformly employed in research. Responding to these concerns, Gordon and Silva (2015) define sexual orientation as "a combination of attraction, behaviors, thoughts, feelings, and fantasies" and sexual identity as "the label we attach to ourselves to indicate to others our sexual orientation" (2015:500).

One body of work suggests that sexual orientation and identity is inherent, but that individuals realize, and disclose, their identities at various points throughout the life course and these realizations and disclosures are often tied to experiences of stigmatization (Kitzinger and Wilkinson 1995). Specifically, there are three stages in the process of identifying oneself as gay: looking for 'evidence' of being gay, internalizing heteronormative expectations and ideologies, and adopting a well-adjusted gay identity (Minton and McDonald 1984). While many researchers emphasize the requirement of the stages, even if they acknowledge they may not be linear, frequently the depth of the diversity of human experience is overlooked (see, for example, Colman 1982; Fassinger and Miller 1996). McCarn and Fassinger (1996) assert that people take 'diverse pathways' in establishing a self-identification.

The successful and ultimate method of navigating these three stages is understood to be highly reliant on context and best understood by considering multiple theoretical viewpoints, such as social constructionism, symbolic interactionism and scripting theory (Gordon and Silva 2015; Hammock, Thompson and Pilecki 2009; Katz 1995; Diamond 2005). Social constructionism suggests that while individuals do not necessarily choose their behaviors or attractions, the categories and labels that are applied to them are socially constructed in each unique social context (Diamond 2003).

Moreover, individuals perform their sexual orientation, not only in private, but also in public by dressing, acting, and speaking in ways that identify themselves to others as gay (Hebl 2002; Griffith and Hebl 2002; Morgan 2012). Identification as a sexual minority via a combination of passive (e.g. dressing, acting) and active (e.g. stating 'I am gay.') disclosure of sexual orientation has been met with increasing social acceptance in recent years, seeing a large increase in acceptance as marriage equality debates became commonplace (Gallup 2014; Savin-Williams 2005). However, sexual minorities are still met with high rates of discrimination and victimization (Friedman et al. 2012; Hebl 2002; Griffith and Hebl 2002; Tilscik 2011; Tilscik 2016). A core limitation of relying on a limited number of representative surveys, and specifically from a heavy reliance on self-identification (without consideration of attraction or behavior) is that the estimates produced are likely vastly underestimated (Coffman et al. 2013).

One key reason for interest in the disclosure of sexual identity process (often called 'coming out') for researchers is the negative ramifications from staying closeted (meaning, not disclosing sexual identity), such as internalized homophobia. For example, Costa (2013) employing a Portuguese convenience sample found that internalized homophobia, an internalized disapproval or dislike of oneself and the gay identity, was lessened when respondents disclosed their identities to key people such as close family and friends. Moreover, when they were accepted by their close families and friends, there was an additional decrease in internalized homophobia.

However social acceptance will not always result from coming out, and in many communities could mean social exclusion and results in higher levels of internalized homophobia (Williams et al. 2004). Goode-Cross and Good (2009) in a study of black men who have sex with men, conducted at predominantly white universities, found that not only did race play a large role in the decision to disclose but that it was feared that disclosure would lead to social exclusion. In earlier study, Brown (2005) found that only about 2 percent of the black respondents in their study were out 'all the time'.

Beyond internalized homophobia, younger gay persons, and persons of color, are often concerned with victimization and ostracism as a result of disclosure (D'Augelli and Grossman 2001; Goode-Cross and Good 2009). Younger sexual minorities are also more likely to disclose their identity to peer, rather than family, networks first as they expect higher levels of social acceptance, although this pattern may not be observed across racial groups (Savin-Williams 1998; Goode-Cross and Good 2009). Goode-Cross and Good (2009) identify a core reason for observed racial differences: that racial minorities rely on race based networks and social groups to combat racism. If they were to come out and not be accepted, they would lose access to this crucial community membership.

Ultimately, these considerations suggest that 'coming out' and self-identification are not universal singular events, identity is fluid (at least for some point of the life course and in certain contexts) and that greater study is needed to fully understand disclosure practices. This requires a greater understanding of how individuals understand and define sexual orientation and when they opt to disclose, and which terms they use when doing so. Additionally, specific consideration must be given to the differences in age groups, and potential differences based on race or ethnicity.

In the Workplace

Researchers have devoted a fair amount of attention to the issues surrounding the relationships between gay identities and the workplace (Bernstein and Swartwout 2012; Bowleg, Brooks and Ritz 2008; Griffith and Hebl 2002). Largely, this work has focused on the 'disclosure dilemma' at work, where gay individuals need to decide whether to risk coming out and being socially rejected or remaining closeted and likely isolated anyway (Griffith and Hebl 2002).

Discrimination faced in the workplace can be captured in a number of ways including reports to human resource departments, reports to government agencies charged with preventing discrimination, prevalence of written complaints against certain populations. If an employer is accused of being racist or sexist in their salary offers or promotions, for example, one could examine their employee files and establish a pattern to determine the validity of any such claim. According to Badgett (1995), under those same circumstances of wages or promotions, the characteristic that is accused of being the basis for discrimination are more easily obtained; 'Is the employee female or male?'; 'Is the employee of this or that race?'.

The case for discrimination is far more difficult to prove in cases in which sexual orientation is the cause of the discrimination given its invisibility (Badgett 1995). Sexual orientation is typically not indicated on hiring paperwork. Thus, if the employment effects of being non-white are complex and identifying as homosexual is complex, then to be both likely poses an even greater challenge (Goode-Cross and Good 2009; Brown 2005; Means and Jaegar 2013; Butler-Sweet 2011).

As sexual orientation is frequently considered a (largely) mutable characteristic, that outsiders (here employers) only know when disclosure occurs. As such, establishing a pattern of discrimination based on sexual orientation is more difficult than that based on race or gender (Badgett 1995). Unlike race and gender, which are documented or visible characteristics, sexual orientation is not recorded anywhere leaving it to the employee to prove that the employer not only knew about their sexual orientation, but acted based on that identity and not something else. This discrimination can take many forms including hiring discrimination, differential wages, loss of promotions, termination and refusal to grant 'fringe benefits' afforded to straight employees, such as dependent health care. Badgett (1995) likens sexual orientation to religion or ancestry; identities that are not generally included on human resources forms but the interpersonal and professional ramifications can be just as severe as those based on race and gender, just nearly impossible to prove in many cases.

Hebl (2002) provides one of the most effective illustrations of this critique in their field experiment measuring both interpersonal and formal discrimination. Participants applied to service jobs in a local mall wearing one of two hats, either "Texan and Proud" or "Gay and Proud". Hebl found that those wearing the "Gay and Proud" hats were called back at significantly lower rates but could not discern whether being gay or 'prominently' displaying the identity was the cause of the differential treatment. By publicly displaying the sexual identity, the individual is presumed to both be communicating that they are gay, and that their gay identity is highly salient for them.

Research has yet to establish whether the identity itself or the salience of the identity results in differential treatment.

The subjective nature of experienced discrimination further complicates the situation. While some results of discrimination are potentially verifiable (e.g., lower wages, passed over for promotion), the employee must first be cognizant of differential treatment and attribute it to sexual orientation. The lack of state anti-discrimination laws based on sexual orientation means that a job candidate or employee must determine both objectively and subjectively that their negative treatment was a result of their sexual orientation and not another attribute.

While wage discrimination is important, research has recently turned its attention to experiences of hiring discrimination. The often used justification for this focus is simple: if someone cannot get a job in the first place, all other manifestations of discrimination are immaterial. Most instances of hiring discrimination cannot be observed via official reporting because job candidates lack access to interviewing and hiring justifications (Rubinstein 2002). As such, many researchers have turned to experiments like audit studies to demonstrate that resumes indicating a sexual minority identity receive significantly fewer callbacks than those that did not (Tilesik 2011; Drykakis 2009). A primary critique of audit studies lies next to their greatest strength; although they can control for all disseminated information, they cannot account for interpersonal responses.

Most of the existing research on employment discrimination for gay people only accounts for experiences within their employment, when reported through official channels. Direct discrimination has been the primary focus because the majority of studies have established a pattern of differential wages, believed to be evidence of direct discrimination on the basis of sexual orientation (Tilesik 2011). Badgett (2007) evaluated twelve independent studies on earnings for gays as compared to heterosexuals. Eleven of the twelve studies concluded that gay men earn 2.4 to 32% less than comparable heterosexual men (with an average of approximately 19%). Women were absent from several of the studies. When they were included, they either earned more than heterosexual women, or if less, only by 2-3%.

In audit studies, where pairs of nearly identical, fictitious resumes are sent in reply to job postings, several researchers have found a significantly lower amount of gay applicants (7.2-14% versus 40% for straight applicants) received callbacks (Tilescik 2011; Drydakis 2009). In both of these studies focusing exclusively on men, the only difference between the fictitious resumes was that one indicated via volunteer or work experience, being gay and the other made no indication of sexual orientation. A similar audit study, focusing solely on women, found similar callback patterns. Tilescik concludes that lower callbacks rates were more prominent when traditionally masculine traits were sought for the position.

Typically people—employees in the context of this work are unable to attribute differential treatment to their race, gender or sexual orientation or determine if it is a combination of all three (Bowleg 2008). Giwa (2012) found that race was a lesser factor in employment experiences than sexual orientation. If race was a factor at all, it was a positive one as racial minority women experienced greater success in the hiring process.

However, racial minority women experienced greater discrimination if a sexual minority identity was later disclosed (Bowleg 2008).

For example, the median income for black women is $28,000 although it is $32,000 for white women (Bowleg 2008). In addition, they make up 27% of the service sector workforce, nearly three times their representation in the population at large (Bowleg, 70). According to Badgett (2005), a similar disparity exists among homosexual workers. However, the literature almost never considers multiple identities in their analysis. Bowleg (2008) introduces results from a qualitative study that sheds light on the experience of black homosexual women. One quote in particular demonstrates the reported experiences well.

Evaluating the outcomes of people who identify as both racial and sexual minorities is particularly important in the economic realm given the overarching impact employment has on life chances (such as access to retirement opportunities, healthcare, resources for 'family' members). The first step in preventing discrimination is knowing how it is manifested. As we have an understanding from previous studies on how gay men have experienced hiring discrimination, it is important now to focus on the experiences of gay women to determine how similar they are, if at all. In the event that their experiences are comparable, this knowledge could be used to establish and implement policies to correct or eliminate the discrimination. However, if the experiences of gay men and gay women differ significantly, different policies would need to be instituted to correct for each group's specific discrimination concerns. The inability to generalize to gay women based on previous research is a catalyst for this research.

In addition the need identified by Tilescik (2011) to conduct more in-depth audit studies and experiences of hiring discrimination, future attention must also focus on self-identification and disclosure at work as well as metrics of workplace ‘success’ beyond income. Moving beyond income to job/task assignment, promotion or success with colleagues allows consideration of important elements of workplace success that may ultimately influence income, but almost certainly influence career advancement and workplace integration. Then, differences between those who have self-disclosed, believe ‘everyone knows’ (via passive disclosure such as pronoun use or self-presentation) or actively do not disclose should be considered. This will allow for a greater understanding of occurrences in the workplace beyond the largely impersonal hiring experience.

Multiple Minorities: A Geometric Consideration of Race and Sexuality

A unifying factor for many minorities is the sense of community and togetherness, on racial (or non-white lines) that ‘serves as their refuge against racism’ (Goode-Cross and Good 2009). For some populations (namely non-white lesbians) the experience of social exclusion from the mainstream society actually encourages greater togetherness or community via socio-political activism (Swank and Fahs 2012; Goode-Cross and Good 2009). These differences across race and gender lines are also identifiable in national studies, such as the NHANES (Zhou et al. 2016). Zhou et al. (2016) examined NHANES data for invariance between questions of sexuality and behaviors. Ultimately, they sought to examine whether the items accessing sexual behavior and their underlying constructs were congruent across demographic lines such as gender and ethnicity/race. Zhou et al.

(2016) found that gender moderated the invariance across age and racial/ethnic group. This suggests that one-size-fits-all definitions of identity, behavior and other markers of sexuality cannot uniformly be applied across groups.

Intersectionality theory asserts that multiple minority identities (e.g. class, race, gender, sexual orientation) should be considered concurrently to properly understand their individual and collective impacts on individual experiences and outcomes (Collins, 1995). Results from a Gallup poll, suggest that 27% of black women report employment discrimination compared to 22% of white women (Gallup 2014). The disparities are even greater for men as 26% of black men report discrimination compared to only 3% of white men. While this establishes a difference in employment discrimination based on gender and race, and their intersection, it does not allow us to identify sexual orientation. However, previous studies have demonstrated that homosexuals experience greater rates of discrimination than heterosexuals based on their sexual orientation.

When researching multiple minority populations, cultural variations need to be considered in order to accurately measure the experiences and identities of multiple-minorities (Ford and Norris 1991; Ford et al. 2007). Specifically, racial and ethnic minorities (namely Blacks and Hispanics) are more likely to be uncomfortable answering questions regarding sexuality generally, as well as those about specific sexual acts such as oral sex (Ford and Norris 1991). However, certain practices such as being on the “down low” (secretly engaging in gay sex) that are often attributed to certain racial groups are only stereotypes (Ford et al. 2007). To the contrary, the experience of being on the "down low" and the additional risks it poses (e.g. contracting HIV or other STIs) is not well established and more importantly, is not racially bound (Ford et al. 2007).

Kim and Fredriksen-Goldsen (2013) argue that item nonresponse is greater for racial/ethnic minorities on questions relating to sexual behavior and sexual orientation. Diversity in nonresponse within and between racial and ethnic groups with Asian and hispanic respondents more likely to refuse or respond 'don't know' or 'not sure'. They attribute this to two possibilities: an inability to interpret the offered categories or find themselves represented, exacerbated by language barriers for non-native English speakers (see also Dang and Vianney 2007; Battle et al. 2000). However the analysis of Jans et al. (2015) of ten years CHIS data found that nonresponse is decreasing, even accounting for potential language barriers.

Beyond the need to anticipate differences in racially/ethnically based interpretations of sexuality questions, the overall theme introduced above of racial/ethnic minorities being overall less likely to disclose or associate as gay cannot be overlooked in the process of this research (Zhou et al. 2016; Goode-Cross and Good 2009; Means and Jaeger 2013).

Policy Considerations and Problem Statement

In addition to a better understanding of the categories necessary to accurately measure the LGBT population, racial and multiple minorities and their subpopulations, the proposed research, especially the use of cognitive interviews, will offer a unique opportunity to bridge qualitative and quantitative methodologies and garner more valid categories and their definitions. In short, we do not know enough about how sexual minorities and multiple minorities identify themselves, how those identity categories are defined, or how they may influence experiences in the workplace. This research aims to contribute to the solution of that problem.

Population estimates are used in the allocation of every type of important public asset (including human services, health services, education, community building, policing, task-forces and so on) social and public policy requires an accurate estimate of all portions of a sub-population they serve. In order to gain access to this information, members of these groups must be given an opportunity to provide meaningful insight to the categories and their definitions, in the various social contexts of everyday interaction, that shape their lives. Better understanding the variations in measurement could ultimately result in better data, that ultimately will be used to shape all levels of social and public policy. Of specific importance beyond accurate measurement in survey is to better and more accurately understand identity in context.

Employment has been selected as that social context for several reasons. First, nearly everyone engages in the workforce for a substantial part of their daily lives, in order to provide for themselves and their families. This means that finding respondents who are currently engaged in the workforce, and thus have employment as a presently salient topic, is more likely than housing or education. While surely most people also have some education and search for housing throughout their lives, active engagement with those systems is less likely to be a daily occurrence than employment.

Additionally, job security includes more than a steady income, although that is clearly a primary focus. In the United States, many fundamental personal and family planning tools are directly linked to employment. For example, health insurance, paid medical leave, tuition assistance, retirement funding, and so on. Looking at experiences in the workplace is crucial to understanding the life experiences of racial and sexual minorities in context. Many studies have established that differential treatment in the workplace can be observed at the household level too. For example, Prokos (2010) evaluated the economic conditions of married heterosexuals, cohabiting heterosexuals and cohabiting homosexuals using the 2000 Census data and found that same-sex households (regardless of legal marriage status) earned significantly less than married or cohabitation heterosexual households.

At the federal level, for non-government employees, there are no protections for LGBT employees or jobseekers, when either intentional or subconscious traits are expressed (Tilesik, 587). Presently, only twenty states and the District of Columbia (nearly all in the Northeast or Pacific regions) have active employment anti-discrimination laws on the basis of sexual orientation and gender identity, applying to public and private employees. Three of these states cover sexual orientation only. Two states have laws prohibiting such protective laws from being enacted or enforced and several states regularly see bills proposed in state legislatures or on public ballot to limit protection based on sexual orientation or gender identity. While recent federal rulings (both via the executive branch and originating from the Equal Employment Opportunity Commission) extend some protections to some workers, they are non-binding for private employers and are often restricted by local challenges to the rulings and limited ability to enforce.

A Federal Employment Non-Discrimination Act (ENDA), having been before both houses of congress numerous times, has failed to pass for nearly two decades. Even if it were to pass, many LGBT advocates fear that employers will fail to hire perceived LGBT employees out of fear of opening themselves to litigation. And while that failure to hire would break the law set by ENDA, proving hiring discrimination is nearly impossible. As previous work has established, the patterns and decision-making in coming out varies greatly across groups. Using the workplace as an example of a public context, understanding how various groups fare from hiring to promotion, based on how the group members define themselves, will allow policy makers to more dynamically investigate and address differential treatment in the workplace.

Sexual identity and self-identification, drawing on symbolic interactionist and labeling theories, will expand on Gordon and Silva (2015) to include externally imposed labels (e..g. 'How do others most often classify you, without your input?') and active self-identification (e.g. saying 'I am gay.' in most social situations). Again, much of the literature does not examine these processes in depth beyond the checkpoint of 'coming out'. This treats disclosure and coming out as a singular event in time, after which it is fully complete.

The process of coming out and disclosure is typically an everyday occurrence for sexual minorities as they must choose if and how to identify themselves in various social situations, and in response to their other traits such as gender, race and ethnicity. These social situations range from the mundane (e.g. small talk on a plane, or at the grocery checkout) to more important interpersonal relationships (e.g. coworker, employer, professor) and friends and family. Whether, when, and how individuals choose to disclose is an important avenue for further investigation into better understanding the multifaceted nature of sexual orientation and informing measurement practices, and hopefully better measurement can be employed to combat discriminatory treatment and life outcomes.

CHAPTER 2

METHODS

While there has been increasing levels of research devoted to the LGB population, there are still many things to be considered by the field. Specifically, few national surveys have specifically collected data on the sexual minority population as a standard practice and any that presently do, have only done so for the last few years. Thus, as a contribution to the literature, this work proposes several unique methodologies aimed at increasing the knowledge base for both the sexual and multiple minority populations. While the majority of this work focuses on establishing patterns and terms of identity, a core part of the work focuses on contextualizing these identities. Specifically, measuring the salience of sexual identities, both independently and in conjunction with other minority identity (e.g. race) is a core focus of this work. Additionally, measuring and better understanding disclosure in context, meaning how does one choose to self-identify in various social setting such as work or with a healthcare provider, will contribute to the literature on sexual minorities and be able to serve as a reference for multiple disciplines ranging from public policy to questionnaire design.

Aiming to increase accurate measurement of both identity and experience, this work will rely on the three core measures of sexual identity (attraction, behavior, and self-identification), add a fourth (disclosure) and expand upon the conceptualization of race and ethnicity by allowing respondents greater choice in self-identification. This will make it possible to examine potential patterns in differences of voluntary identity and disclosure practices among various multiple minority groups generally and in the employment realm. These goals will be accomplished in three parts, one secondary data evaluation and two with primary data collection: (1) a meta-analysis of existing data on the population estimates of the sexual minority United States adult population; (2) cognitive interviews with sexual and multiple minorities to test and improve upon the questions and measurement of identity; and (3) a pilot survey utilizing the results of the cognitive interviews collecting data on these various identities and multiple measures of self-reported employment experiences.

While little research directly focused on multiple minority research methods, emerging work in the field suggests that primary considerations in all research require heightened awareness when dealing with a multiple minority population. Wheeler (2003) identifies five key areas of all research design that require unique consideration when researching this multiple minority population: confidentiality and protection of human subjects; study design/study introduction; sampling; instrumentation; and dissemination. Beginning with confidentiality and protection of human subjects, cautious and careful use of consent forms that avoid setting up an 'us-them dichotomy', likely achieved through consultation with someone Wheeler (2003) refers to as an indigenous expert, begins the research process with greatest precautions for the participants.

Additionally, when engaging in research with multiple minorities the researcher should prepare to offer heightened awareness of the respondents place in the research and the research's place in the greater society. For example, Wheeler (2003) argues that particularly for marginalized groups such as Black and African American LGBT persons, transparency is particularly important given the negative social experiences often imposed on these group members.

Ultimately, the methods proposed in this research will seek to satisfy three key considerations: full inclusion, avoiding tokenism and statistical power (Wheeler 2003).

Measures and Constructs

Race: Race will refer to any self-identification as a group member based on a shared cultural background or physical appearance and characteristics. Examples include multi-racial, black, African American, white, Native American and Asian. When dichotomizing race, the terms employed will be white and non-white in response to the subjective understanding of Person/People of Color, particularly in contrast to the opposite (i.e. conceptualizing non-person-of-color, as white is a ‘color’).

Ethnicity: Ethnicity will refer to any self-identification as a group member based on a shared cultural or nationalistic background. When nationalistic identities are provided by respondents in response to ethnicity questions, they will be treated as ethnic identities. Examples include Hispanic, Indian, Puerto Rican and Jamaican.

Sex and Gender: In an attempt to understand the dynamic natures of sex and gender in a method appropriate for this work, there will be three questions to capture these identities. The first will specifically ask for the respondents sex allowing for male, female and other (with an open text field to be filled in). The inclusion of other responds to standards set in previous work the that allows for the reporting of such categories as intersex, without imposing too many offered categories (see, for example, Rummell 2013). The second question will focus on gender identity and will be conceptualized as male, female, transgender, genderqueer and other. To reduce respondent burden, the two questions will appear on the same page. While the introduction of the other affords respondents and opportunity to report their most salient identities, it may pose an issue for analyses. When sufficient power is not attainable for other categories, they will be excluded from analyses.

Sexual Identity: Sexual identity will be primarily operationalized via three core measures (behavior, attraction and self-identification) and one secondary measure, disclosure. There will be two reference periods for the first three measures: presently and in the past. These reference periods represent the periods commonly employed by large national studies (e.g. GSS, NSFG) but are intentionally vague so as to establish a broad pattern (if identity has changed over time) without increasing respondent burden via recall or additional questions. The measures will spam from 'exclusively heterosexual' to 'exclusively homosexual' over a 7 point scale for behavior and attraction. Self-Identification will be asked in a mark-all-that-apply format with sexual identity categories. (Disclosure will be discussed separately under the outness/disclosure measure.)

Sexual Minority: Sexual minority will be defined as anyone who, through one of the three core measures of sexual identity and does not presently possess an exclusively or mostly heterosexual identity or set of attractions and behaviors. Meaning, someone who is gay, lesbian or bisexual (LGB) or self-identifies using another commonly used term, such as queer.

Outness/Disclosure: Outness will be measured using a redacted and tailored application of the Outness scale as developed by Mohr and Fassinger (2000). The scale has 8 values ranging from closeted to openly discussed - including an 'does not apply' category, across 14 categories of social relationships, measuring the level to which each relationship is aware of the respondents sexual orientation and it is discussed. For example, it asks about the respondents coworkers and whether they know about the respondent's sexual orientation, and whether it is ever discussed between themselves and the party in question. It will be tailored for brevity and applicability to the research at hand by reducing the number of categories from 14 to 10, and replacing certain categories (e.g. religious affiliation) with employment related categories. Additionally, the 8 point scale has been collapsed to 5, but still representing the same scope as the original scale. This is necessary for both respondent burden and to respond to the need to write and program survey questions to be presentable on mobile devices.

Salience and Prominence: Salience and prominence are theories used to understand how important social identities are to an individual and how likely they are to perform them in public or private contexts. These will be measured by asking direct questions about identity, including asking respondents to rank order specific social identities such as race and sexuality. For example, respondents will be asked to identify whether they are more likely to self-identify as a black lesbian or a lesbian who is black. While the distinction may seem minute, the literature on race suggests a meaningful difference to respondents, and this work offers and opportunity for measurement. Another example, while perhaps not a traditional measure of salience or prominence, will ask respondents to identify the likeliness of correcting a new acquaintance if the incorrect sexual or racial categories were used. A respondents readiness to correct a new acquaintance (presumably someone of little importance in their lives) suggests a likelihood that such an identity is salient to them, and is a form of expressing that importance.

Workplace Experiences: Workplace experiences will be measured by self-reported income and employment status, as traditional metrics of workplace success. Additionally, questions will be asked that relate the respondents qualifications to their present job assignments and pay. Additionally, they will be asked for their perceptions on the likelihood of employment success (such as promotions) in the future for themselves, and for context, their like situated coworkers. The final type of question will directly ask if they have ever received differential treatment, and if so, do they attribute it to their racial or sexual identities - if either.

Control Variables: Control variables will include parenthood, relationship and marital status (for family composition) as well as region and state of residence and work. These variables are the most commonly used in labor force research, particularly when employment status or income are used as dependent variables.

Analytic Plan Chapter 1: Meta-Synthesis

Data analysis will be conducted using Stata 15. In addition to the final data analysis employment of meta-regression across each of the three measures of identity, basic descriptive statistics and estimates will be calculated to best understand how using any one of the measures on their own or in unique combination with each other impact the parameter estimates.

The concerns and considerations discussed above suggest many possible avenues for future research, but all require a similar starting point: an integrated understanding of the state of the research to date. While there are several potential options, the strongest is a research synthesis because it allows for a systematic review of available data using both statistical and non-statistical approaches (Cooper, Hedges and Valentine 2009). For the present work, statistical analyses via meta-analysis is the best tool as it allows for collecting, integrating and analyzing results from various studies while also considering individual study design characteristics and their effects on effect size estimates (Borenstein et al. 2009).

The ability in a meta-analysis to consider study design characteristics, in conjunction with which sexual orientation questions were asked (attraction, behavior or self-identification) allows for a more comprehensive understanding of why and how estimates vary. While ideally any such analysis would include control variables such as region, education or race this paper offers an important bird's eye view of the research field in the context of design characterizes and establishes a direction for future research to collect data on these multiple identities with simultaneous intent.

While this project could be accomplished using only publicly available data or a combination of public and private data, public data will be used because the sampling design for the data included must be probability based if generalizability is sought and second, that the time and processes of requesting privately held data is beyond the scope of this project. As there has been little employment of meta-analysis to these types of datasets and an ability to generalize to the entire population is of key concern, the data sources selected must draw from probability based samples resulting in publicly available data, where all measures and design characteristics are available is the strongest choice for this project.

Data Collection and Analysis Strategy

The sample for this meta-analysis is constructed of data from probability-based representative studies, with original data available for public download or analysis, from 1985-2015. Additionally, data must have been individual based (not couple/household) and have clear sexual behavior and/or identity measures available (again, behavior, attraction or self-identification). To find datasets, three key sources were searched and evaluated. The first was a review of systematically identified literature, to compile a list of any data sources that have been used in publications. The second was to perform both a general Google search and independent searches of national organizations for any publications or datasets of interest (including searching ICPSR's database). The final method of identifying information was to turn to the literature reviews and references of key sources (e.g. Chandra et al. 2013; Black et al. 2010).

As nationally representative data is quite labor and resource heavy, most, if not all, work on population estimates relies on the government to execute, thus data is largely limited to federally run or funded studies where all study design characteristics are publicly available. As sexual orientation is a relatively new measure on surveys of this kind, setting the number of studies at a relatively low number and easily establishing the parameters for years of data collection, a near-census possible. The parameters for the year of data collection was set at 1985-2015 to represent the earliest known collection of sexual orientation (the 1989 GSS) and the most recent available data at the implementation of this study.

This search resulted in eight core studies, most with multiple waves of data collection, eligible for inclusion in this meta-analysis. The variables considered include traditional variables (questions directly asked in the study) and variables that represent the design characteristics. The studies, and their relevant years of data collection, include:

1. General Social Survey 1989-2014 (GSS)
2. American National Election Study 2008-2012 (ANES)
3. National Health Interview Survey 2013-2014 (NHIS)
4. National Survey of Family Growth 2002-2013 (NSFG)
5. Adult Tobacco Survey 2009-2013 (ATS)
6. Midlife Development in the United States Survey 1995-2014 (MIDUS)
7. National Health and Nutrition Examination Survey 2001-2013 (NHANES)
8. Behavioral Risk Factor Surveillance System 2014 (BRFSS)

Traditional Variables

Traditional variables, focused on the individual respondent, are listed below. Of note, because so many of the studies rely on sexual behavior as the marker for identity, respondents that were not sexually active were excluded from the data. Similarly, respondents had to have complete data on at least their sex or gender and the measure of identity employed by the study.

1. *Sex/Gender:* All studies collect data on dichotomous sex (male/female) and the variable will be used in its original form. If other, or ambiguous, responses were collected, such as an 'x' rather than direct endorsement, that case was dropped from the data analysis.
2. *Self-Identification*: Self-identification questions directly ask the respondent whether they self-identify as gay, lesbian, bisexual or straight/heterosexual, but categories are not uniform between studies. For example, when 'homosexual' was used instead of gay or lesbian, the respondent's sex was used to categorize into gay or lesbian categories to establish uniformity across the studies in analysis. While some previous work also includes 'x' or '-' marks by respondents (on paper surveys) to be endorsements of a category, I took a more conservative approach and dropped those cases from this analysis (see, for example, Wienke and Whaley's (2015) work on the GSS). The final categories for this study were gay, lesbian and bisexual (heterosexuals were excluded for relevance).
3. *Attraction Patterns:* The NSFG is the only study to directly ask attraction, and there are only three data points (representing the three waves of data collection by the NSFG), but it offers an important and unique look into one of the aspects of sexual orientation and thus was included. Respondents responded, on a scale, whether their romantic attractions are exclusively same-sex to exclusively opposite sex.
4. *Behavior Patterns:* Behavior (sex of sex partners in a given reference period) was asked by both the GSS and NSFG. Beyond the sex of their sexual partners, the NSFG asks respondents about specific sexual acts, but differentiates the questions based on the respondent's sex. As Ford (2007) and others have noted, these questions about specific sexual acts may be interpreted or avoided differently based on race and ethnicity (for example, nearly half Latinas are likely to consider only heterosexual intercourse as actual sex). As a result, for behavior I focus on the sex of sexual partners rather than on inclusion of specific acts as a marker.
5. *Congruency:* This calculated variable identifies whether a respondents answer to any one of the sexual orientation measures is congruent with another, when more than one are present.

Study Characteristic Variables

The study design characteristics are also the explanatory factors. They range from being very straightforward, such as identifying the study, to slightly more complex such as identifying how question wording was used in measuring sexual orientation.

1. Study Date/Year: The date the study was published or the attributed data collection year, regardless of date of individual completion, as that data is rarely available.
2. Mode of Data Collection: The mode of data collection used by each study for sexual orientation questions, as some studies use multiple modes depending on the question set. Relevant modes include self administered web based, in-person interviews, computer assisted personal interviewing (CAPI) and self administered paper surveys (via mail).
3. Sexual Orientation (Question Type): This identifies whether sexual orientation was asked/measured by self-identification, behavior, attraction, a combination of self-identification and behavior or all three. Attraction was only asked by the NSFG and was asked in a battery of all three questions and therefore no additional combinations including attraction are possible.
4. Sampling Procedure: All studies selected for inclusion are probability based but vary in their employment of sampling procedures. Specific attention will be given to whether a sampling procedure did, or did not, use any oversampling to account for the rarer or dispersed population attributions of the LGB population.
5. Proxy Use in Sexual Orientation: This indicates whether measurement of sexual orientation required use of proxy or assumptions, such as the sex of one's sexual partners rather than more directly asking the respondent a question to report on behavior and establishes whether a study solicited a direct report of same-sex behavior because it allows proper consideration of disclosure practices in the context of mode.

Data Management

Acknowledging the limitation that collapsing categories almost certainly masks certain groups and nuances of sexual identity, three overall categories were created (straight/heterosexual, bisexual and gay/lesbian) because it allows for the data to be used in the form originally collected without sacrificing cell size and power for analysis. For similar reasons, missing or ambiguous data was dropped from analysis.

When data needs to be transformed, it will be done as minimally as possible and use the most conservative approach. An example of this is the proxy use of the sex of sexual partners, rather than same-sex sexual history, used by the GSS. Rather than creating separate markers of identity over time, a single measure will be calculated for 'lifetime' behavior using the most conservative approach (any exclusive sexual behavior will be labeled gay or heterosexual, while any mixed-sex behavior will be labeled bisexual). This approach could be a significant source of error but as the study seeks to produce both the most conservative and most liberal estimates of the population, this method will suggest broad parameters rather than discrete estimates. Moreover, strong discrepancies at various points in the life course or larger than expected numbers of exclusive same-sex or mixed-sex relations will offer further evidence for the difficulty in measuring sexual identity one-dimensionally and likely lend further support to expanding to include (at least) a fourth metric in future work.

Each individual study created and published their own set of weights to be applied to their datasets when used in analysis. For each dataset, the weighting scheme was downloaded and reviewed so that the appropriate weighting variable could be applied. I will then create a weighting variable for the newly created dataset to account for the various sample sizes and designs. This allows comparisons to be made across samples and for techniques, such as meta-regression, to be applied.

Analytic Plan Chapter 2: Cognitive Interviews

The goal of cognitive interviewing is to test questions to ensure that the intent with which they are written is uniformly understood by the target audience. Here, questions of sexual identity, racial identity and how individuals navigate that in specific social situations are being evaluated, making cognitive interviewing imperative prior to launching a full survey to better understand areas where the interviewee struggles to understand the question or accurately recall the information needed to answer it (Willis 2005).

While previous work on sexual identity development and disclosure suggests that respondents are able to identify when in their life course certain events happened (and how), this research would be among the first to evaluate the cognitive process behind a respondents answer, particularly as it relates to the length of time since their first 'coming out' (see, for example, Calzo et al. 2011). These cognitive interviews will help to establish a general understanding of what goes into a respondents thought process during recall and establish patterns in identity and recall, or if they are largely idiosyncratic, suggest that resulting data is unreliable. This study, particularly the resulting pilot survey, involves a great deal of subjective material and cognitive testing will help to better understand how respondents conceptualize and recall their experience and identities, understand questions and clarify terms or questions for more accurate measurement. In order to lend greater reliability and validity to the study, most scales and questions have been derived from previously validated studies.

Participant Recruitment and Selection

Given the population of focus for this dissertation project is multiple minorities and the survey instrument will focus on questions related to multiple minority experience, the target group for the cognitive interviews will be members of racial, ethnic, and sexual minority groups although white and straight (majority group) members will be included for comparison.

To meet the goals of this project, particularly the desire to compare across racial or ethnic groups for sexual minorities, the target number of completed cognitive interviews will be 24, affording for 2 cognitive interviews per cell in a 3 x 2 x 2 design (including race, gender and educational level), despite average cognitive interview processes being between 5 and 12 completed interviews (Willis 2005). Cognitive interview generally occur in limited geographic areas, thus recruitment for the cognitive interviews will be primarily conducted in Boston, MA and targeted online communities (e.g. Facebook or Meetup groups). Fortunately, Boston is racially and economically diverse and has a large population of sexual minorities making it an adequate location for focus, beyond the convenience of being located here. In order to also consider positions and experiences beyond urban respondents, specific recruitment (via online platforms only) will target rural areas or groups predominantly within driving distance of Boston to ensure potential participants have the opportunity to select an in-person interview.

Recruitment will occur via message boards, social groups and via flyer postings at areas of interest for the target population in the city of Boston. Participants may choose to conduct the interviews via phone or online video chat (such as Skype or FaceTime) service, or in person in safe, private and neutral locations, such as an on-campus meeting room. If an online service such as Skype or FaceTime is used, the handle of the participant will never be recorded with their responses and their handles will be immediately deleted upon completion.

These postings and flyers will have an email address and web link for the respondent to use when replying that will be unique for the project. In order to elicit the greatest number of respondents, advertisements for study participation will have limited indicators of the study intention or potential topics, beyond the age and employment requirements. The screening questions, via an initial four online questions when responding to the flyer, to meet the specific criteria that will be required in the pilot survey: currently employed at least 15 hours per week (for these purposes, actively seeking employment will not suffice), over the age of 18, and willing to disclose sexual orientation. While screening for current employed likely inherently screens out very negative employment experiences (such as being unable to find work), the foci of the employment questions are on current pay or promotion potential experiences making retrospective, and likely exclusively negative, recall a poor fit.

When someone responds with interest by emailing or visiting the web link, they will directed to the web link to answer the four screening questions and asked to provide an email address to be contacted. They will also be informed the interviews (which will not test the entire survey instrument, only questions likely to have meaningful differences or require testing) will take approximately 30 minutes to complete, be entirely confidential and anonymous, be audio recorded for later transcription, and if selected for participation will be thanked with a $25 Amazon gift card (delivered via email for virtual interviews or in physical form for in-person interviews and paid for my me). Full informed consent will be delivered electronically for those who choose to complete the interviews online and in person for those who complete an in-person interview.

Data Collection and Analysis

A cognitive interviewing protocol will be used including the core questions of the survey instrument that need to be tested with several probe and followup questions responding to each primary survey question. The majority of the survey questions will be drawn from existing survey questions, including those utilized by the national surveys examined in the previous chapter and others that have done targeted research on identity and disclosure or workplace experiences. However, the population recruited and probes utilized will specifically target questions of congruence between the three core measures of sexual identity, disclosure and multiple minority experiences.

When employing probes to uncover potential sources of response error during the cognitive interviews, both think aloud and direct verbal probing will be used to capture both the thought process of the respondent as they answer the question and to capture targeted data on their thought process. One particular area for targeted focus during the analysis phase will be item nonresponse. Specifically, some anecdotal data suggests that sexual and racial minority respondents will often opt not to respond when they are not able to 'truthfully' respond to core demographic and identity questions. While cognitive interviews are clearly not representative, they will offer an opportunity to better understand when, and how, respondents faced with this situation choose not to answer. To better understand this phenomenon, specific follow-up questions will focus on asking the participant to talk through how they arrived at the answer they provided, and what they would normally do on a survey if the answer categories did not provide a suitable option for them to answer properly.

Interviews will be audio recorded and transcribed (by a professional transcription service). The transcripts from the interviews, along with the interviewer notes, will serve as the foundation for analysis using coding schemes. The coding theme will be developed using the core tenants tested during cognitive interviewing: question comprehension, information retrieval, estimation and judgment and reporting ability, overall difficulty in recall and for use of words or phrases not introduced in the question (from think-aloud responses). Analysis will occur in a mixed method data management tool (Dedoose) and focus on patterns emerging from these themes in areas that questions are working as intended or need modification. Ultimately, the pairing of the interpretation of the interview notes and patterns in response established in the transcripts will serve as the foundation for deciding whether questions are being interpreted as intended or require further adjustment.

Analytic Plan Chapter 3: Pilot Survey

This proposed pilot survey aims to expand upon the findings from the first two chapters by focusing on the three core tenants of identity, social contexts of disclosure practices and subjective workplace experiences. While the first two chapters focus solely on identity, this chapter will expand by evaluating subjective workplace experiences and differences by identity or multiple identity groups.

Measuring hidden populations poses unique challenges, particularly when potentially sensitive and stigmatizing information is sought, and these challenges must be considered at all stages of the research design process, and an adequate sampling frame rarely exists (Kreuter et al. 2008; Heckathorn 1997). Given the focus and scope of this work, and the need to account for reaching a hard-to-sample population, the strongest option for acquisition of a sample for this project is a non-probability convenience sample and research has found that sexual minorities are motivated respondents and are likely able to be adequately measured through convenience sampling (Galupo et al. 2014; Bazarsky 2011). The sample will be recruited from strategically selected locations and organizations such as LGBT centers, NAACP chapters and other organizations likely to serve minority populations, and via snowball sampling from there. A focus on diverse geographic and social locations will help in garnering a broader variety of perspective in the survey results. This approach may limit cell size and statistical power for some variables, but overall is expected to produce a large enough sample for the most important comparisons among and between sexual and racial minority groups.

Target Population and Sampling

For this research, the overall target population members are internet-connected, employed at least 15 hours per week, regardless of number of jobs, adults (over age 18). Additionally, as the core stratification element (sexual and racial identity) will be via purposive sampling of organizations and groups, eligible units must be active members on at least one of the group listservs or online platforms selected for inclusion and willing to self-identify in a screening question. This will require the employment of a two-stage cluster sampling design with three selected states as a primary sampling unit and the individual groups and organizations as a secondary sampling unit.

The three states that have been selected as primary sampling units were selected based on two criteria: known anti-discrimination laws that include or exclude sexual orientation and their overall socio-political leaning. While the existence or lack of laws is easily discerned, the socio-political leaning must be derived. In order to make such a determination straightforward and easily replicated, the socio-political leaning was determined based on their political voting (Republican or Democrat) in state representation and presidential elections for the last twenty years. When most were Republican, they were labeled conservative, when most were Democrat, they were labeled liberal and when there was a mix it was labeled moderate. The states selected were Texas (conservative), Wisconsin (moderate) and Massachusetts (liberal). Specifically related to the core concepts in this project, Texas has never enacted a statewide anti-discrimination law to protect sexual minorities, Wisconsin was the first state to extend such protections to all (not just state) employees in 1982, and Massachusetts was the second state to extend that protect to all employees in 1989.

Coverage and Sample Size

Coverage will be a core concern in this study, as participants are likely to be enrolled/involved with multiple listservs or organizations (overcoverage) and there is a simultaneously concern of undercoverage by failing to capture or represent anyone who is not affiliated with organizations and listesrvs. Potential undercoverage cannot be determined with the data, but potential overcoverage will be estimated by tracking the link used to complete the survey (it will be marked if it was forwarded, but will not identify individuals).

As previous work has successfully recruited large sample sizes of the sexual minority population via snowball and other convenience methods both to panels and individual studies, I do not expect an insurmountable obstacle in securing an adequate sample size (Grov et al. 2015; Greenhill and Sergeant 2013; Harding and Peel 2007). Of note, Grov et al. (2015), in his male-centered study of race and sexuality, struggled with a common issue: underrepresentation of multiple minority male participation (meaning, black gay men). While this issue is common in the literature, Grov et al.'s use of a panel based design may further exaggerate the issue (Grov et al. 2015; Sullivan 2011). By actively recruiting through organizations and locations with high concentrations of multiple minorities, there is potential to begin to overcome that limitation.

Of additional concern for coverage, tor sexual minorities specifically, research suggests that those recruited through panels or online methods are more likely to be sexually experienced, young, less traditional in their values, and located in urban areas, suggesting that offline recruitment would largely alter representation (Greenhill and Sergeant 2013; Ross et al. 2005). However, as noted above, recruitment via convenience sampling, here social organizations, likely increases participation for rarer populations. Moreover, in a 2003 review of literature Harding and Peel found that in the studies they reviewed, response rates for online surveys targeting sexual minorities ranged from 20 to 92 percent. Of note, many studies did not provide details about how they calculated their response rates, but these findings suggest a potential response level to be expected.

Frame Creation

As no single frame exists with all potential organizations for identifying multiple minorities, multiple sources must be utilized. In this case, the sampling frame for the secondary sampling units will be constructed by compiling a list of groups organizations that serve racial, ethnic and/or sexual minorities in the primary sampling unit areas (again, Wisconsin, Texas and Massachusetts). They will be found via social media outlets (e.g. Facebook, Twitter), Google searches (for keywords and geographic location) and through key media outlets in the geographic area, such as community-based newspapers and blogs in the three states serving as primary sampling units.

The key search phrases for identifying these organizations will include: community, support, network, social (and Black, Hispanic, Asian, minority, gay, lesbian, LGB, LGBT) for a total of 32 unique two-word search phrases. Any resulting organizations, groups or entities will be included in the final sampling frame as the second tier in the convenience cluster sampling design. While this process of frame construction could have been completed any number of ways, it allows for a organized and tailored approach at recruitment (rather than searching for any organization anywhere in the country), but still has the possibility of greater representation (through referrals/ snowball sampling).

Recruitment, Incentives and Data Collection

Based on the proposed research questions, respondents and sampling frame, the only adequate data collection mode is a self-administered web survey. A web survey is the most cost-effective option and the strongest option for reaching a diverse respondent base (both in terms of geography and identity) while also providing the level of anonymity necessary in a survey that will ask questions about potentially sensitive behavior and actions in order to avoid biases such as social desirability bias (Tourangeau and Smith 1998; Turner et al. 1998). From a functional note, web surveys also allow for cost-free and easy correction during the editing process and quick repairs after launch should issues arise.

While studies that suggest nonresponse is higher in web surveys over mail surveys; much of data used in the studies is several years old (Groves et al. 2009). Moreover, current estimates state nearly 30 percent of their respondents complete invited surveys on mobile devices and recent reports suggest nearly 99% of all internet traffic will be mobile based by 2021, suggesting the concern over web surveys may be mitigated by the rise in mobile platforms. While it does impose an additional challenge in formatting for mobile use, the platform chosen (Qualtrics, discussed at greater length below) allows for survey customization to optimize display on mobile platforms - a tool that will be utilized during survey programming in addition to being cognizant about the use of certain questions types (e.g. if a forced choice matrix is offered in any form, respondents may satisfice by answering the question as basically as possible by selecting the first relevant answer to reduce the burden of answering via numerous radio buttons).

A final note on potential major considerations for a web based mode of data collection. First, web based modes of data collection skew younger, missing an already underrepresented older population. While the need for access and use of the internet will preclude some respondents, by specifically targeting affinity groups the assertion is that inherently a wider age range will be captured. This assertion is based upon two things - that these groups serve individuals on the basis of general 'group membership' and that nearly all groups now maintain their lists digitally. This means that the mode of data collection should not create new avenues of issue for access to respondents as it already considers the exclusion of those not associated with such groups.

Invitations will be sent by the individual organizations by the organization moderator, or posted to a message board/listserv by me, at the choice of the moderator and will contain informed consent and a full description of the project, including assurances of confidentiality. In order to facilitate ease of completion, the email will be able to be forwarded directly, with a link to the survey's web address. When an invitation is forwarded, the unique identifier from the original survey will be retained, but no identifying information will be available.

Incentives have been shown to increase response rates and participation with best results stemming from an incentive for every participant and noted increases in participation when offering every participant opportunities to be entered to win a number of prizes for completion of the survey, the approach that will be used here to best meet the scope of the project. Therefore, in the informed consent for participation, potential participants will be offered the chance to provide their email address to win one of ten $100 rewards, in the form of Amazon gift cards. This relatively large prize and larger number of opportunities to win likely strikes a strong balance between increased incentive and increased opportunity to 'win' and is particularly effective underrepresented groups are sought (Link and Burks 2013; Singer et al. 1999).

Upon clicking into the survey, the first page will provide an introduction to the study, reiterate the potential for an incentive reward and again offer the informed consent language. Specific consideration will be paid to informing potential respondents of the entirely confidential and voluntary nature of the survey. If respondents opt to participate, they will then be taken to the first of several screening questions. Specific screening will be the same as for cognitive interviews: currently employed at least 15 hours per week, over the age of 18 and willing to disclose sexual orientation.

Following an analysis of requisite sample size for group to group comparisons, the targeted sample size will be 2,100 which will allow for comparisons between key gender, sexual orientation and racial groups. While this sample size is slightly larger than referenced previous work, the sampling frame and sampling procedures will be markedly larger and more diverse as well. As the previous studies cited here were able to achieve sample sizes upward of 1,500 respondents, achieving 2,100 responses from populations likely to consider these identities highly salient is plausible. In the event that the requisite overall sample size is not attained, analysis will still be possible by collapsing groups. For example, rather than being able to treat race and ethnicity as multiple categories (white, black, other) it will be treated dichotomously to satisfy power requirements (white, non-white).

Data collection will occur entirely online via a web based survey programed into Qualtrics, which is licensed through my home university. Qualtrics is an online platform that allows full customization of the survey design and display, unlimited responses and complex skip patterns. Additionally, the program allows the survey to be sent from any email address so it would be possible to create an official university based email account for correspondence and data collection, further adding credibility to the design. Ultimately, the goal will be to create and utilize University of Massachusetts logos and email addresses so that the relationship to the university for the research/er is clearly conveyed to the respondent.

Each survey will be comprised of approximately 50-60 questions, depending on skip patterns. There are two matrix style questions (one with 4 elements and the other with 10). Each element has been considered a separate question for the purposes of calculating survey length. Completion is anticipated to take approximately 10-15 minutes and the programmed surveys have been optimized for completion on computers and mobile devices such as smartphones and tablets.

Analytic Strategy

The first consideration in an analytic strategy is how to handle missing data. Missing data can occur from break-off (where a respondent fails to complete the survey) or item nonresponse (where a respondent fails to answer specific questions). Respondents who fail to answer the screener questions, or do not satisfy the requirements of the study, will be automatically disqualified. Any respondents who fail to provide some level of sexual and racial identity will be treated as unit nonresponse and will be omitted from analysis.

In order to assure greater anonymity, paradata will not be collected or retained (including electronic device used for the completion of the survey, time for completion, data such as IP addresses, data that can be linked to geographic location). Finally, all analyses for data resulting from the pilot survey will be conducted in Stata 14. Data management and maintenance will be conducted entirely by me with well documented syntax records for increased documentation and replicability. In addition to core descriptive statistics and between group comparisons, data permitting, logistic regressions on income by identity groups will be conducted as well as standard linear regression on employment outcomes by singular and multiple minority statuses.

Conclusion

Final considerations for this work include: timeline, funding and plans for publication following completion of the project. This project will be self-funded, or funded in part with faculty resources available to me via my position as a lecturer at a local college. The proposed timeline intends for completion of the data collection of cognitive interviews by April 2017 and the survey responses by July 2017. Full copies of the manuscript will be submitted to the committee for comments and review in September 2017, allowing for a planned defense and subsequent deposit date of December 2017 and graduation in May 2018.

This dissertation proposal consists of three distinct and unique parts. The intention will be for these three chapters to serve as independent articles prepared for publication prior to, or immediately after, the successful defense of the dissertation project. Appropriate journals may include sexuality or race based journals (e.g. Journal of Homosexuality; Journal of Race and Ethnicity), employment based journals in the field of economics and labor or methods based journals, specifically for the cognitive interviews. Additionally, presentations will continue with preliminary data and findings at regional and national conferences such as ASA, AAPOR and ESS.

CHAPTER 3

ESTIMATING SEXUAL MINORITY PROPORTIONS IN THE UNITED STATES: RESULTS FROM A RESEARCH SYNTHESIS

Abstract

This work attempts to estimate proportion of lesbian, gay and bisexual (LGB) individuals in the United States via a research synthesis of prior research. Recent calls for research and increased measurement of sexual identity have been countermanded by limited funding to carry out probability based samples and increased resistance from federal mandates. Currently there are three best-practice methods for operationalizing sexual identity: self-identification, attraction and behavior. Estimates suggest that these operationalizations are not substitutable. All publicly available, probability-based surveys conducted between 1985-2014 that sought to measure the LGB population using at least one of these three measures of sexual identity were utilized. A total of 34 appropriate studies, including multiple waves of cross-sectional studies, were identified and included. Estimates were compared between studies based on three survey design factors using meta-analysis. The resulting estimates ranged from 3.6 percent to 5.9 percent with an overall population proportion estimate of 4.9 percent.

Introduction

Estimates of the lesbian, gay and bisexual (LGB)[1] population range widely, from one to 21 percent of the general population (Dahlhamer et al. 2014; Sell et al. 1995; Laumann et al. 1994; Billy et al. 1993). The wide variation in estimates of this important demographic characteristic results from two primary causes. First, sexual orientation questions are not routinely included in large nationally representative surveys. This omission increases the range of estimates by requiring greater reliance on non-representative surveys that are conducted without the resources typically afforded to large scale surveys. Second, operationalizations of sexual orientation often use imperfect indicators that do not fully reflect the underlying construct. This construct has been conceptualized to include from one to three elements: self-identification, behavior, and attraction (Berg and Lein 2006; Black et al. 2000; Brooks and Quina 2009; Gates 2014).

Survey measures of sexual orientation, using combinations of these three operationalizations, have been included in relatively few nationally representative surveys since the late 1980s, such as the General Social Survey (biennial from 1988) and National Health and Social Life Survey (NHSLS) (1992). Current nationally representative estimates of the LGB population rely predominantly on data from the American Community Survey (ACS), National Health Interview Survey (NHIS), National Survey of Family Growth (NSFG), the General Social Survey (GSS), and Gallup Daily Tracking Survey. A systematic review of available data offers an

[1] In this article I focus only on lesbian, gay and bisexual persons because of the way the data used for analysis was collected, asking only questions of sexual orientation and not gender identity (under which transgender is best measured). I do not mean to ignore transgender individuals who use this label to identify their sexual orientations; they are just beyond the scope of this work.

opportunity to meaningfully contribute to LGB estimates, without substantial resources, as it utilized available data by applying statistical approaches to produce pooled estimates (Cooper, Hedges, and Valentine 2009). A systematic review, such as this meta-synthesis, allows for integration and analysis of existing survey data while also considering individual study design characteristics and their effects on effect size estimates (Borenstein et al. 2009). The consideration of study design characteristics, including which sexual orientation questions were asked (attraction, behavior, or self-identification), provides a more comprehensive understanding of how and why estimates vary.

Thus, this chapter synthesizes the publicly available and nationally representative survey estimates of the LGB population from 1985 and 2014. I analyze the effect survey question characteristics and data collection mode in order to account for these survey characteristics and generate a better estimate of the size of the LGB population. Moreover, this chapter provides important overview of the research field in the context of design characteristics and establishes a direction for future research to collect data on the multiple facets of sexual orientation identity.

Literature Review

Demographics and Estimates

Early measurement of sexual orientation (e.g., GSS 1984-2006) focused predominantly on self-reports of sexual behavior and did not measure attraction or self-identification. Behavior was used to operationalize sexual orientation in two ways. The first application labels respondents as homosexual/non-straight if they reported having ever had a same-sex partner. The second application limits that label to those that have had an equal number or more same-sex partners (Badgett 2001; Laumann et al. 1994). The core problems with these approaches are two-fold: behavior may not result in self-identification, and behavior may not adequately account for changes over time (i.e., coming out).

Attraction has also been used to operationalize sexual orientation. Similar to behavior, attraction questions ask respondents to think about a reference period matching that from behavioral measures (e.g., "since age 18" or "in the last five years"). Respondents are typically asked to identify their attractions on a scale ranging from exclusively opposite-sex to exclusively same-sex[2]. Attraction can also produce problematic estimates that differ from self-identification because such measures rely almost exclusively on ascribing meaning to feelings without context. This approach assumes that respondents must accurately recall, label and report attractions in the way the researcher intended and that the researcher's categorization of non-exclusive attraction is valid.

Self-identification typically results from individuals labeling their behaviors or attractions (Wienke and Whaley 2015). Self-identification as a sexual minority[3] has been increasing in recent years, arguably due to increased societal acceptance and an increasing rate of bisexual behavior and identity in the face of relatively stable rates of same-sex behavior and identity (Chandra et al. 2011). Notably, some of the observed

[2] Of note, the terms "sex" and "gender" may not be understood as analogous by respondents, based on data collected in this project (that will be considered fully in a separate manuscript).

[3] Sexual minority is defined as a person possessing an identity related to their sexual orientation (e.g. who they partner with romantically) that is not heterosexual/straight.

increase in self-identification may also be due to new reports of temporary same-sex behavior or attraction.

LGB population estimates based on any of these three operationalizations of sexual orientation range from 2.2 to 4 percent of the U.S. population and are geographically centered in urban areas, on the West Coast and in the Northeast (Gates 2014; Black et al. 2000). The population estimates at the state level range from 1.5 percent to ten percent, with Hawaii and Washington D.C. having the largest populations (The Williams Institute 2013). The most well-accepted population estimate, about three percent or 11 million people, is based on self-identification (Gallup 2013). The size of the LGB population underscores the need to better understand how LGB people are similar and different from their straight counterparts beyond identity into their experiences with education, employment and other core social institutions (Gallup 2013; Gates 2014; Black et al. 2000).

Measures of behavior and identity can produce conflicting estimates of the size of the LGB population (Bauer and Jairam 2008). Behavior measures typically yield a larger population estimate than do attraction or self-identification measures. For example, the 2002 NSFG estimated self-identified lesbian and bisexual populations of 1.4 and 2.5 percent of women, respectively, but 4.1 percent of sexually active women had a same-sex partner in the last year and 11.8 percent did in their lifetime (Bauer and Jairam 2008).

The response categories for self-identification measures can range from relatively limited (e.g. gay/homosexual, straight/heterosexual, bisexual) to more extensive and inclusive (e.g. gay, lesbian, straight, bisexual, pansexual, asexual, queer). An additional method to ensure inclusivity is to allow for mark-all-that-apply endorsements, which allows respondents to associate with more than one category of identity (Brenner and Bulgar-Medina 2018; Gates 2014; Bates 2012; McCabe 2012). Researchers also increase inclusivity by including "something else" or "other" categories, which respondents employ fairly frequently - in the 2001 NSFG almost four percent of men and women in the 2002 NSFG answered "something else" to the sexual orientation measurement questions (Chandra et al. 2011). While the number of "something else" endorsements dropped to just over one percent in the 2006-2008 wave, the concern is still significant as a source of error.

Identity Endorsement

Identity endorsement has the ability to change over time and vary across gender, age and racial/ethnic groups. While gay and lesbian, along with bisexual, continue to be highly utilized terms, the reclassification of one's identity to reflect changes in experience or the opportunity to use new terms (e.g. queer) highlights the fluidity in sexual minority self-identification (Herek 2010). There are several possible explanations for shifts in identity endorsement which include changes in societal acceptance, socially accepted and employed terms of identity, and greater self exploration (Chandra et al. 2011; Herek et al. 2010). Another explanation for the shifts in self-identification is the possibility of contextualized disclosure, meaning that respondents understand their identities in terms of to whom they have "come out" or disclosed and subsequently report their identities in response to those interactions (Herek et al. 2010).

From 2002 to 2008, bisexual self-identification by women increased from 2.8 percent in 2006 to 3.5 percent in 2008, but lesbian endorsement decreased (Chandra et al. 2011). During that same time period, women reporting an identity other than straight/heterosexual increased from 6.3 percent in 2002 to 9.7 percent in 2006-2008. For men, there was an observed decrease in endorsement from 9.8 percent in 2002 to 4.3 percent in 2006-2008, suggesting an expansion of non-heterosexual identity for women but a contraction for men over the same time periods (Chandra et al. 2011). This likely does not reflect a shift in behavior or attraction experiences, but rather a shift in the terms used in self-identification and disclosure (i.e. reporting on surveys).

Overall, these findings suggest several key considerations for measurement of sexual minority identification. Gays, lesbians and bisexuals do not conceptually group together when we consider that lived experiences can vary dramatically for these groups. Moreover, terms of self-identification may be impermanent and flexible, and self-identification alone is not a complete measure of sexual orientation. In light of these considerations, we much strive for accurate measurement of sexual orientation that also includes attraction, behavior, and disclosure. Research needs to focus on population estimates while accounting for the potential differences between the three operationalizations of sexual orientation. The research also needs to consider differences within and between sexual minority subgroups. This work seeks to provide a first step toward this goal by meta-analyzing estimates of sexual orientation drawn from large representative surveys. The utility and approach of a research synthesis will allow for multiple survey estimates to be considered in concert, while considering potential impacts of question wording and mode of data collection.

Methods

Data collection and Maintenance

The systematic search and selection for population based surveys followed best practices for systematic review (Borenstein et al. 2009). Studies, limited to those published between 1984 and 2014[4], were identified through targeted searches in ICPSR, SocINDEX and Google Scholar, as well as utilizing literature reviews and references from key sources (e.g. Chandra et al. 2011; Black et al. 2010; Herek et al. 2010). In order to capture large national surveys with dedicated web pages, and to ensure "gray literature" was not missed, general Google searches were also performed. The search, conducted from January to March 2016, utilized the following search terms and phrases: "LGBT," "LGBT population," "Sexual Identity," "Sexual Identity Estimate," "Survey LGBT," "survey gay," "sexual orientation estimates," "sexual attraction," "sexual behavior," "sexual identity," "coming out," "gay population" and "sexual* estimates." A second tier of searches, using terms and phrases generated as a result of repeated keywords in the earlier studies, included: "gay," "lesbian," "bisexual," "gay/lesbian/

[4] The selection of 1984 as the earliest benchmark reflects the time period in which studies measuring sexual orientation in a general population were first conducted; 2014 was selected as the end year in order to include only complete and publicly available studies at the time of this data collection.

bisexual + estimate," "LGBT + estimate," "LGBT + population" and "gay/lesbian/ bisexual + numbers."

I developed a data extraction form to record each identified survey and then recorded data on survey year, sample size, sampling design, survey question(s) used to measure sexual orientation, and the number who reported as gay, lesbian or bisexual. In most cases this data was compiled by hand (including calculations of proportions) except for when the data could be manipulated and derived directly from its website, as was the case for the GSS and NSFG. Repeated cross-sectional studies with multiple waves were included as separate cases resulting in a final study count for analysis of 34.

Core Studies with Multiple Waves

1. General Social Survey 1989-2014 (GSS)
2. American National Election Study 2008-2012 (ANES)
3. National Health Interview Survey 2013-2014 (NHIS)
4. National Survey of Family Growth 2002-2013 (NSFG)
5. Adult Tobacco Survey 2009-2013 (ATS)
6. Midlife Development in the United States Survey 1995-2014 (MIDUS)
7. National Health and Nutrition Examination Survey 2001-2013 (NHANES)
8. Behavioral Risk Factor Surveillance System 2014 (BRFSS)

Data transformations were minimal, using the most conservative approach. An example of this is the proxy use of the sex of sexual partners, rather than same-sex sexual history used by the GSS. Rather than creating separate markers of identity over time, a single measure was calculated for "lifetime" behavior using the most conservative approach for identifying homosexual and the most liberal for identifying bisexuality. Any exclusive sexual behavior was labeled gay/lesbian or heterosexual, and any mixed-sex behavior was labeled bisexual. This likely produces a liberal estimate of bisexuality as any reports of same-sex experience, even if isolated to a specific time period, will result in a label of bisexuality. This liberal approach attempts to conceptualize bisexuality as inclusively as possible, but may also incorrectly classify those with isolated behavior or attraction experiences. While bisexuality is most liberally estimated, gay and lesbian are more conservatively estimated as only exclusively same-sex experiences are classified as gay or lesbian. Most of my analyses collapse lesbian, gay and bisexual together into a single count, largely mitigating these concerns, but this highlights the need for measuring markers of sexual orientation in context (e.g. time period(s)).

Variables

Self-Identification: Self-identification questions directly ask the respondent whether they identify as gay, lesbian, bisexual or straight/heterosexual. Unfortunately, these categories are not uniformly operationalized between studies. For example, some studies use "homosexual" instead of gay or lesbian. In this case, the respondent's sex was used to classify respondents into the gay and lesbian categories to establish uniformity across the studies in analysis.[5]

[5] While some previous work also includes "x" or "—" marks by respondents (on paper surveys) to be endorsements of a category, I took a more conservative approach and dropped those cases from this analysis resulting in the most conservative, rather than liberal, estimates from each source (*cf,* Wienke and Whaley 2015). Additionally, these studies did not offer expanded categories of identity (e.g. queer) so addressing such coding was not required.

Behavior Patterns: Behavior, defined as the sex of sexual partners in a given reference period, was asked by the GSS and NSFG. NSFG problematically asks respondents about specific sexual acts, based on the respondent's sex. The interpretation of questions about specific sexual acts, and subsequent response or nonresponse, may differ based on race/ethnicity. For example, many Latinas only consider heterosexual, vaginal intercourse as "sex" and would otherwise report themselves sexually inactive (Ford 2007). Thus, I focus on the sex of sexual partners as a marker, rather than on inclusion of specific acts.

Attraction Patterns: Questions about attraction from the NSFG present a seven-point scale of patterns of attention based on the sex of the other person. Response options range from "opposite sex only" to "both sexes equally" to "same sex only."[6]

Study characteristics: Study year is included as an explanatory variable. Mode of data collection is divided into three groups: (1) self-administered; (2) personal or phone interview; and (3) self-administered during a personal or phone interview. Type of sexual orientation question asked (self-identification, attraction and behavior) is asked in six potential permutations: (1) self-identification only; (2) behavior only; (3) attraction only; (4) self-identification, behavior and attraction; (5) self-identification and behavior only; and (6) behavior and attraction only.

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[6] Future research should examine the use of sex, rather than gender, in these questions and how respondents interpret the difference, if at all.

Analytic Approach and Data Analysis

Analyses rely on untransformed proportions as they are uniformly available across studies (Borenstein et al. 2009; Rona et al. 2007). A random effects model was selected because it presumes that the studies selected are only a random sample of a theoretical universe of potential studies measuring the LGB population and that the observed effects are due to some overall average effect, such as the observed increases in self-identifications observed in other studies, and are not artifacts of chance. Forest plots present the relative weight of each study and its confidence interval. The diamond at the end of each graph summarizes the overall estimates and confidence intervals based on a random-effects model.

Analyses were performed in RevMan 5 and using the “metan” macro in Stata 15 for tests of proportions and creating graphical representations of forest plots.[7] First, all studies were included to offer a basic overview of potential estimates. Then analyses were conducted for each question type (attraction, behavior, self-identification) and each mode of data collection (in-person, web, phone, mixed). Finally, the results from each of these analyses were combined into a final forest plot. Both RevMan 5 and the Stata macros developed for meta-analysis incorporate weighting procedures, as appropriate for each type of analysis.

Heterogeneity was considered by question type and for all the studies included. As expected, heterogeneity was most highly significant when different question wordings

[7] This redundancy was the result of suggestions for best practices and to respond to the potential errors of using user-generated macros in Stata that I did not have the knowledge to verify performed as I intended. No differences were observed.

were combined. Any instances where the *p*-value of the estimate for heterogeneity was highly significant ($p < .001$) should be considered with caution. Estimates were included as untransformed proportions and computations into proportions was completed using the software, along with the calculation of 95 percent confidence intervals of each estimate.

Findings and Discussion

Identity Congruency

Identity congruency occurs when multiple measures of sexual identity (self-identification, attraction, behavior, disclosure) result in the same label (gay, lesbian, bisexual). Table 3.1 represents a summary of identity congruency across multiple measures, pulling from the NSFG and GSS studies. While these are the only two studies with an opportunity for such comparison, and attraction can only be compared across waves of the NSFG, it offers an important starting point for thinking about future research investigating the true values for these measures. One key example that can be drawn from these findings compares the self reports of behavior and identity for women. Very few women who identify as gay/lesbian have had exclusively same-sex experiences in adulthood. Using only self-identification as gay/lesbian only, the estimated parameters are 1.2 to 2.4 percent, with an average estimate of 1.6 percent; this estimate increases to 1.75 percent when including bisexuality. Combining all three measures, the gay/lesbian estimate is 3.0 percent of women while the gay/lesbian/bisexual estimate is 4.6 percent of women. Figure 3.1 depicts the population estimates by the study year. While the presence of outliers appears to be of greater concern in earlier years, the existence of outliers in more modern years reflects the increased reports of bisexuality.

Women are more likely to consider their behavior with both sexes as bisexual. In contrast, men are more likely to report being straight in light of some same-sex experiences, or report being gay. Estimates of gay men, who report congruently across the three measures are 1.2 percent for gay only and 1.9 percent for gay and bisexual identity. Measuring only behavior, the estimate for gay men would range from 2.6 to 9.3 percent, with an average of 5.8 percent. Attraction lowers the estimate for gay men to an average of 5.4 percent. Looking solely at self-identification, 2.1 and 1.3 percent of men identify as gay or bisexual, respectively. These findings highlight the potential differences between men's and women's sexual orientations, which appear to be important even along the binary, suggesting with greater inclusion of sexual orientation or gender identity categories the predicted differences would increase.

General Overall Estimates and Considering Effects

The overall estimate for the LGB population, regardless of gender, is 4.9 percent with confidence intervals of 4.1 percent to 5.8 percent (Table 3.1). Table 3.2 reports the summary of the various estimates by question type and then by potential interviewer presence, while Appendix 1 presents the findings for each study by type. Cases in which an interviewer is present are noted separately. While in many cases the questions related to identity were answered using a self-administered mode during the interview, this approach allows for a simple comparison to modes that are entirely self-administered, and thus have no concerns for these types of interviewer effects.[8]

Table 3.1: Summary of Identity Congruency

	Mean	Minimum	Maximum
Same-Sex Behavior (NSFG)			
Men	5.8 percent	5.2 percent	6.2 percent
Women	13.7 percent	11.2 percent	17.4 percent
Solely Same-Sex Attraction (NSFG)			
Men	1.4 percent	1.2 percent	1.5 percent
Women	0.076 percent	0.7 percent	0.8 percent
Both-Sex Attraction (NSFG)			
Men	5.43 percent	4.9 percent	5.8 percent
Women	15.03 percent	12.9 percent	16.9 percent
Same-Sex Behavior (GSS)			
Men	5.81 percent	2.57 percent	9.30 percent
Women	5.58 percent	2.27 percent	8.86 percent
Self-Identification			
Men (Gay)	2.06 percent	1.12 percent	3.53 percent
Men (Bisexual)	1.26 percent	0.43 percent	2.08 percent
Women (Gay)	1.23 percent	0.63 percent	2.09 percent
Women (Bisexual)	2.45 percent	0.53 percent	5.5 percent
Identity Congruency			
Men (Gay)	1.16 percent	—	—
Men (Bisexual)	0.78 percent	—	—
Women (Gay)	0.278 percent	—	—
Women (Bisexual)	1.725 percent	—	—

[8] Veiled methods of collecting data on sexual orientation significantly increase reporting of non-heterosexual identity (by 65 percent), lending further support to the need for caution when creating, administering or interpreting results from these questions (Coffman, Coffman and Ericsson 2013).

When an interviewer is present (see Appendix 1), the resulting estimate drops to 4.5 percent with confidence intervals of 3.7 percent to 5.3 percent. Self-administered modes yielded an estimate of 5.4 percent, with confidence intervals of 3.5 percent to 7.3 percent. These findings are consistent with the existing literature on social desirability effects in interviewer-administered surveys. Future researchers should administer these questions using self-administered methods as much as possible, and potentially include other approaches such as veiled methods.[9]

Figure 3.1: LGB Proportion by Year

[9] With unique consideration given to healthcare settings, where patients may be more likely to accurately respond if they know the reason for the data collection.

Table 3.2: Summary of Estimates

	Estimate	Lower CI	Upper CI	SE	*P* Value	tau^2/I^2	*P* Value
All Studies/Waves	0.049	0.041	0.058	0.004	0.001	.001/99.87	0.001
By Question Format							
Self-Identification	0.044	0.031	0.057	0.007	0.001	.001/99.83	0.001
Behavior	0.050	0.035	0.064	0.007	0.001	.000/99.29	0.001
Identity/Behavior	0.036	0.026	0.046	0.005	0.001	.000/99.50	0.001
All Three Measures	0.059	0.015	0.102	0.022	0.008	.001/99.97	0.001
By Potential Interview Effect							
No Effect (Entirely Self-Administered or Self-Administered for Sexual Idenity)	0.054	0.035	0.073	0.010	0.001	.001/99.69	0.001
Potential Effect (Interviewer Administered)	0.045	0.037	0.053	0.004	0.001	.000/99.82	0.001

Self-Identification

Appendix 1 shows estimated proportions when only self-identification is considered. Estimates range from 1.4 percent to 15.1 percent across the 34 included studies and result in a weighted estimate of 4.4 percent, with confidence intervals of 3.1 percent to 5.7 percent. As with other measurements discussed here, there was significant heterogeneity. While the levels of heterogeneity are generally a concern here, they align with previous research that suggests significant influences of change over time (i.e. greater self-identification with increased societal acceptance) and the varying estimates previously cited in the literature.

Behavior

Estimates of same-sex sexual behavior are slightly higher than self-identification at 5.0 percent, with confidence intervals of 3.5 percent to 6.4 percent (see Appendix 1).

As reports ranged from 2.7 percent to 10.7 percent, this further supports previous research and an assertion that proportion estimates based on behavior are likely higher than other forms of measurement and subject to concerns about contemporary application.

All Three—Attraction, Behavior and Self-Identification

Although attraction has only been asked on recent years of the NSFG and BRFSS, the opportunity to consider all three measures together offers an interesting insight into estimates. Without consideration of question type, proportion estimates range from 4.4 percent (self-identification) to 5 percent (behavior). If any marker of sexual minority status is used, the resulting estimate is 5.9 percent with confidence intervals of 1.5 percent to 10.2 percent. Not surprisingly, this is the broadest confidence interval of any of the measurement approaches and is also marked by significant heterogeneity ($p<.001$) and should serve as a warning against substituting one measure for another or collapsing them together.

Identity and Behavior —Asked Together[10]

A comparison of measures of self-identification and behavior from the same survey suggests that reports of behavior may not be contemporary or congruent with self-identification. Only 3.6 percent of respondents report congruent behavior and identity. The confidence intervals range from 2.6 percent to 4.6 percent and represent reports

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[10] Since attraction is only asked in conjunction with behavior in two studies (with proportion of 2.3 percent and 14.8 percent), that comparison is not presented separately here.

ranging from 1.7 percent to 7.0 percent. Moreover, significant heterogeneity (p<.001) suggests measure reflect different underlying constructs.

Conclusions and Future Directions

This work has demonstrated some of the ways in which sexual identity measurement is multi-faceted and complex. This chapter demonstrates and explains the limits to congruency between three commonly used measures of sexual identity (self-identification, behavior, and attraction), suggesting that these measures are not interchangeable. Each approach at estimation represents a unique conceptualization of measurement, but when taken together they represent some true value. Although estimates based on self-identification (4.4 percent) and behavior (5.0 percent) are similar, measurement heterogeneity was, as expected, highly significant. Even after outliers greater than 50 percent were omitted, estimates were still influenced by outliers.

Meta-synthesis offers a fairly broad view of the literature and available data, but there are caveats. A core concern is the high likelihood of confounding effects of question development, wording and implementation, given that the field of researchers and practitioners working on these topics is fairly small. Although collaboration and reliance on a small subset of questions and researchers is commonplace and has many benefits, one of the core drawbacks is that weaknesses get passed along to each study along with strengths. For example, reliance on previous questions that did not include expanded categories of non-binary sexual orientations (e.g. queer, pansexual) resulted in the need for respondents to use the other/write-in option. Moreover, despite my intention to identify and include every eligible survey estimate of the LGB population, it is possible that a data source was unintentionally omitted.

Another key area for concern is the effects of unique experiences of racial and ethnic minorities when answering questions on sexual identity. The interpretations of what is classified as "intercourse" is one key example of the potential differences in measurement by race/ethnicity, with studies suggesting that concepts around behavior are not comparable across racial/ethnic groups (Ford 2007; Faulkner 2003).

The final concern to note is that the groups that make up the LGB population were not divided for consideration here. This was an artifact of both feasibility and an attempt to align with the approaches of previous research, as many studies do not readily allow a comparison between gender and sexual identity responses and combine the experiences of the sexual minority community. Future research should focus on comparing these potential differences at greater depth to better understand how gender and the different forms of sexual identity intersect and impact estimates.

Accuracy in estimating the LGB population has significant implications for understanding the unique lived experiences of sexual minorities. As such, this work contributes to the body of literature focused on estimating the size of the sexual minority population. Findings suggest that the true value of the US-based LGB population lies between 1.5 percent and 7.3 percent of the overall population. The wide range of these estimates leaves policy makers and advocates without clear guidance as to the true size and scope of the population as they seek to make laws, shape healthcare policies and inform other public decisions aimed at serving sexual minorities. Future research should investigate alternative methods of estimating this hard-to-sample population, examine the impacts of context on disclosure, develop measures that accurately capture racial/ethnic minorities, and develop methods of standardizing the collection of demographic data on sexual identity. One such measure, contextual disclosure, adds a fourth dimension to the measurement of sexual identity and may help us to better understand and improve the measurement of sexual orientation (Sell 1997; Herek 2010).

CHAPTER 4

A FOURTH MEASURE OF SEXUAL ORIENTATION?: CONSIDERING IDENTITY DISCLOSURE PRACTICES OF SEXUAL AND MULTIPLE MINORITIES

Abstract

Social identities, such as race/ethnicity and sexual orientation, are difficult concepts to operationalize and measure, given the multiple and varied ways individuals understand these identities. This work aims to better understand how members of a singular minority group (i.e. sexual minorities) and multiple minority groups (i.e. racial/ethnic and sexual minorities) view their social group memberships and under what circumstances they perform or disclose those identities. Current best practices suggest measuring sexual orientation using self-identification, attraction, and behavior. This research draws upon 27 cognitive interviews with self-identified sexual minorities, half of whom also identified as racial/ethnic minorities. Answers to questions about sexual orientation, race/ethnicity and disclosure were analyzed using qualitative coding software (Dedoose). Three key findings stand out. There are racial/ethnic differences in disclosure practices. Disclosure practices are inconsistent from one context to the next (e.g. participant would disclose to one parent and not the other, or coworkers but not supervisors). Disclosure did not perfectly overlap with participant responses to attraction, behavior and self-identification, in effect soliciting an "it depends" response to whether the respondent had disclosed their experiences of attraction, behavior, or self-identification. These findings suggest that a more accurate measure of sexual orientation should include the fourth element of disclosure in all cases, but especially when considering the experiences of multiple minorities.

Introduction

Social identities, such as race/ethnicity, gender and sexual identities dictate expectations for how one is supposed to act, dress, and speak. Thus, social identities extend beyond one's self-perceptions, the product of the individual and the expectations of society (Bowleg 2008). These identity expectations can have an impact on life outcomes, such as education and employment, where many racial minorities fare poorly in comparison with counterparts. Numerous studies have suggested that even with all else equal, racial and other minorities still fare less well than their majority counterparts (Bowleg 2008; Tilscik 2011; Pedualla 2014). Moreover, many members of minority groups frequently think about these identities and their ramifications in contrast to those in majority identities.

Drawing upon 27 cognitive interviews with self-identified sexual minorities, half of whom also identified as racial/ethnic minorities, this chapter examines potential differences in experiences and outcomes for members of minority social identity groups. Answers to questions about sexual orientation, race/ethnicity and disclosure were qualitatively analyzed from an intersectional perspective that considers social identities in concert, rather than operating independently, to impact lived experiences (Hill Collins 1993; Goode-Cross and Good 2009). The intersection of race/ethnicity and sexual orientation are a core focus of this approach. I discuss how those with multiple minority social identities navigate self-identification, or disclosure, of their social identities in various social settings.

Literature Review

Constructs of Sexual Identity

The original conceptualization of sexual orientation was based only on sexual behavior and the match or mismatch between the sex of sexual partners. Current definitions are more comprehensive, including self-identification and attraction as key components. However, sexual orientation is still frequently reduced to the sum of its parts. For example, the popular acronym “LGBT” (lesbian, gay, bisexual, transgender) is used to encompass multiple sexual identities but is limited in key ways (Fassinger and Arseneau 2007). First, it both separates and conflates gender and sexuality. It separates lesbians and gays as unique identities and assigns them mutually exclusive genders (female and male, respectively), while excluding gender from bisexuals. It also conflates gender identity with sexual orientation, most notably in the term “transgender.” Perhaps most importantly, it reduces the variability and complexity of these identity groups (Parent, Declare and Moradi 2013; Barring, Sumerau and Gay 2017).

Sexual orientation is typically operationalized in three dimensions: self-identification, behavior, and attraction (Berg and Lein 2006; Black et al. 2000; Brooks and Quina 2009; Gates 2014). Early measurement of sexual orientation focused predominantly on reported histories of sexual, although rarely accounting for behavioral fluidity or change, but ignored attraction and self-identification (Badgett 2001; Laumann et al. 1994; Kinsey, Pomeroy and Martin 1948; Kinsey et al. 1953). Yet behavior does not necessarily result in self-identification nor does it adequately capture potential changes in self-identification over time (i.e. coming out). Similar limitations exist when relying on attraction, which applies a sexual orientation label to any emotional response beyond the exclusively heterosexual or exclusively homosexual.

When operationalized for a survey question, self-identification response options range from limited (e.g. gay/homosexual, straight/heterosexual, bisexual) to extensive (e.g. gay, lesbian, straight, bisexual, pansexual, asexual, queer). Question exhaustiveness is typically assured by including a “something else” or “other” response option which can be selection nearly four percent of a representative sample (Chandra et al. 2011). An additional method to ensure exhaustiveness is to permit respondents to “mark-all-that-apply” and associate with more than one identity category (Bates 2012; Brenner and Bulgar-Medina, 2018; Gates 2014; McCabe 2012).

Identity Theory and Coming Out

Identity theory seeks in part to understand how people conceive themselves as members of social groups, what these memberships mean to them, and how those conceptions influence behavior and group processes. It asserts that the self defines itself in relation to established social categories (Stets and Burke 2000). The emphasis on group access and integration may be even more important for racial/ethnic or sexual minorities, as minority identity creation may be even more relational to other in-group members than identity formation for members of majority groups, such as racial or sexual majorities (Singh 2012). Minority individuals find self-affirmation and models for self-identification from their peers with similar identities, but can also face negative emotions if they are not reflected or accepted by their peers. As such, individual self-identification changes over time in response to changes in social group interaction.

The concept of "coming out" with one's minority identity originally referred to a singular or limited duration set of events, occurring in marked stages, in which an individual comes to understand their identities and verbalizes their sexual orientation to key individuals in their lives (e.g. friends, parents) (Cass 1979; Coleman 1982; Martin 1991). These early coming-out models have been replaced with the modern understandings that acknowledge it to be contextual and a regular (near daily) event for sexual minorities (Morris, Waldo and Rothblum 2001). There is often a "first disclosure" where the individual tells an important other for the first time. The decision to disclose happens repeatedly in each new social setting or context.

This suggests that identity consolidation, the use of a central or overarching identity, may be contextual, meaning multiple identities may still be required, given the social setting the individual finds themselves in. The decision to disclose or which social identity to use as "primary" is highly contextualized, and may hinge on identity, behavior, or desire (Goode-Cross 2013; Fausto-Sterling 2007). This multidimensional approach is increasingly accepted, yielding a revised definition of sexual orientation as "a combination of attraction, behaviors, thoughts, feelings, and fantasies" and sexual identity as "the label we attach to ourselves to indicate to others our sexual orientation" (Gordon and Silva 2015:500).

Moreover, individuals publicly perform their sexual orientation by dressing, behaving, and speaking in ways that identify themselves to others (Hebl 2002; Griffith and Hebl 2002; Morgan 2012). This embodiment of identity affords individuals an opportunity to be visible to other members of their group, and potentially to society generally, at will. Both passive (e.g. dressing, acting) and active (e.g. stating "I am gay") disclosure of sexual orientation has been met with increasing social acceptance in recent years, potentially increasing the number of individuals who perform their private identities publicly (Gallup 2014; Savin-Williams 2005).

However, sexual minorities are still met with high rates of discrimination and victimization[11], suggesting that for many this public space performance of private identities may not be feasible in many (or all) situations (Friedman et al. 2012; Hebl 2002; Griffith and Hebl 2002; Tilscik 2011; Tilscik 2016). Young gay persons are often concerned with victimization and ostracism as a result of disclosure (D'Augelli and Grossman 2001; Goode-Cross and Good 2009). Thus, many LGBT youth are likely to initially disclose their identity to peer networks rather than family, given expectations for social acceptance.

An inability to disclose, or perform, ones identity may accompany other negative outcomes, like internalized homophobia. Internalized homophobia, an internalized disapproval or dislike of oneself and the gay identity, is lessened when respondents disclose their identities to important others such as close family and friends (Costa 2013). Moreover, when accepted by important others, internalized homophobia decreased

[11] Following the 2016 president election, the number of reported hate crimes based on sexual orientation increased significantly, and support for sexual minorities decreased - trends that appear to be persistent (Gallup 2016).

further. This suggests a cyclical, and perhaps causal, relationship between internalized homophobia and the inability to disclose.

However, coming out does not necessarily result in social acceptance. Particularly in racial/ethnic minority groups, coming out can result in social exclusion and higher levels of internalized homophobia (Williams et al. 2004). In a study of black men who have sex with men, race played a large role in the decision to disclose and that it was feared that disclosure would lead to social exclusion (Goode-Cross and Good 2009). Moreover, only about two percent of black respondents reported being out "all the time" (Brown 2005). Reasons for (non)disclosure among racial minorities can be attributed to region, context and religion as equally as other traditional markers of racial/ethnic minority group inclusion. Those who rely heavily on racial/ethnic minority networks for acceptance and opportunity are less likely to risk those relationships by disclosing (Goode-Cross and Good 2009). Ultimately, these considerations suggest that "coming out" and self-identification are not universal singular events. Further research to understand disclosure practices is needed, specifically, understanding how individuals understand sexual orientation, when they opt to disclose, and the terms they use when doing so. Specific consideration must be given to the differences between age groups and racial and ethnic groups.

Intersectionality acknowledges that multiple identities come together to form experiences and that those unique combinations of identity effectively result in a new multidimensional identity. Rather than understanding each identity as an independent component of the self (e.g., black, female, and gay) the intersectional paradigm treats social identities simultaneously (e.g., a black gay woman) (Bowleg 2008; Warner and Shields 2013; Sarno et al. 2015). Multiple minority identities (e.g. class, race, gender, sexual orientation) and cultural variations should be considered concurrently to understand their unique and collective impacts on individual experiences and outcomes (Ford and Norris 1991; Ford et al. 2007; Collins, 1995).

An important consideration for this work, members of racial/ethnic minority groups may be uncomfortable answering survey questions about sexuality, including about specific sexual behavior (Ford and Norris 1991). This discomfort results in higher item nonresponse on questions relating to sexual behavior and sexual orientation for some racial and ethnic minorities, including Asian and hispanic respondents (Kim and Fredriksen-Goldsen 2013). Higher nonresponse was attributed to two potential causes: (1) an inability to understand the offered categories; or (2) an inability find themselves represented, a concern exacerbated by language barriers for non-native English speakers (see also Dang and Vianney 2007; Battle et al. 2000).[12] Thus, considering the intersectional approach of respondents is key to fully understanding the experiences of these unique intersectional identities.

[12] However the analysis of ten years of CHIS data by Jans et al. (year) found that nonresponse is decreasing, even accounting for potential language barriers.

Methods

Cognitive Interviewing

Cognitive interviewing is commonly used in survey research to understand how targeted audiences (with similar attributes to the greater population of interest) comprehend, process, and respond to survey questions (Willis 2005). I use it here to understand the disclosure practices of sexual and multiple minority individuals and as a tool for evaluating survey questions to be used in the next stage of this research. Particular attention is paid to the respondent's difficulty understanding the question or recalling the information needed to answer it; this allows the question to be improved before including it in a production survey. Previous work on sexual identity development and disclosure suggests that respondents are able to place events in time, but little research has been done to better understand how the respondents recall the information necessary to answer these questions.

Participant Recruitment and Selection

A convenience sample was recruited using ads on online message boards, Meetup groups, Facebook and Craigslist. Several geographic areas (San Antonio, TX, Boston, MA, New Hampshire, Tennessee and Wisconsin) were a focus to ensure racial, ethnic, and geographic diversity. Screening criteria ensured that respondents were employed, 18 years of age or older, a fluent or native English speaker, and a self-identified sexual minority. Neither respondents names nor identifying information were retained to ensure privacy and confidentiality. Ultimately, 49 individuals volunteered, of whom 45 were eligible yielding 27 completed interviews lasting from ten minutes to two hours. Participants were offered a $25 Amazon Gift Card incentive. Respondents were given an option for the mode of interview completion in the recruitment phase: over telephone, with voice recording only; via video chat (e.g. Skype, FaceTime) with interactive video but only voice recorded; or in person, with voice recording.

Participant Demographics

Age was collected in six categories: 18-24 (6 participants), 25-34 (11 participants), 35-44 (4 participants), 45-54 (2 participants), 55-64 (2 participants) and 65 or older (2 participants). The sample was highly educated, with 6 participants holding less than a bachelor's degree, 9 with a bachelor's degree and 12 with a graduate degree. There were 13 participants who identified primarily as white, 8 who identified as black or African-American[13], and the remaining 5 identified in some other way.

Sexual Orientation and Gender Identity

Sexual orientation was measured using the following categories: lesbian, gay, bisexual, questioning, queer, asexual, straight (that is not gay), "I prefer not to label my sexual orientation/identity" and "something else". The offered categories for gender identity were: male, female, transgender male, transgender female, genderqueer, non-

[13]African-American and black have been conceptualized in the literature as separate identities and were treated separately here. Individuals were asked each separately and then asked for clarification after selecting either. African-American was not used by those of Hispanic or Caribbean origin, preferring black.

binary and "something else." When "something else" was endorsed, the participant was asked to specify their gender identity. Five participants identified as non-binary, trans, or in some other way, 10 identified as female and 12 identified as male. The majority of participants identified as lesbian (8) or gay (11). The remaining primary categories were bisexual (2), queer (4) and no label (2).

Disclosure

For each of these categories, the participants were asked if that person/group definitely knew about their sexual orientation, might know or definitely does not know. Participants were also asked to evaluate the level to which they discuss their identities with each group with response choices of: talk openly about identity, some level of open discussion or no discussion at all (which would include not bringing around a same-sex partner, or not introducing them as a partner). This last category was dependent on the age of the participant.

Questions and Probes

Appendix two contains the entirety of the survey instrument. A question on disclosure was the primary focus of the cognitive interview. The question read: "I'm going to show you a list of people and some possible experiences you might have with disclosing and discussing your identity with them. I will read each category and then ask you to tell me two things (1) Does this person/group (definitely/maybe/definitely does not) know about your sexual orientation/sexual identity[14]?; and (2) Do you (openly/

[14] The term used corresponded to their preferred term selection in a prior question.

rarely/never) discuss your sexual orientation/sexual identity with them?" The categories of persons or groups asked about disclosure were: mother, father, extended family (e.g. aunts, uncles, cousins, grandparents), siblings, straight friends, coworkers, bosses/supervisors, members of a religious community or social group, strangers (in a confined setting like a plane and an open setting such as a grocery store), healthcare professionals and in new professional settings (such as a job interview).

Probes were used to clarify respondents' answers: "While it can be anything that you consider "discussion" some examples may be, do you openly discuss your romantic partners with them, would you conceal the nature of your relationship, change pronouns or bring a same-sex partner around this person/group?" The categories asked, and key conceptualizations and operationalizations will be discussed below.

Findings and Discussion

General Observations: Typologies of Disclosure

There are three key contexts discussed (workplace, healthcare, and persons of color) and three overarching typologies of participants that emerge from this work. They are discussed separately to identify the several potential opportunities for concern when developing questions measuring sexual orientation. While most of the participants did not face traditional cognition issues with these questions, the struggles I sought to measure were with the applicability of the questions, more than their wording alone. Ultimately, my analysis of this data suggests that researchers need to modify questions of sexual orientation by adding an additional type of reference—social context—when developing these questions.

The first type is the "almost always out" person. This type of respondent reports being "entirely out or open" about their sexual orientation and frequently uses terms such as "everyone knows" or "it's common knowledge". Throughout our interview, these individuals identified at least one key context (e.g., conversation with someone on an airplane) during which they would not disclose their sexual orientation. The second respondent type is the "contextually out." This type acknowledges that their disclosure practices vary by context. They typically limit disclosure outside of "need to know" situations or when using disclosure as a political statement. The third respondent type, "the rarely out," see their identities as private, only disclosing to immediate friends and family with a need or right to know, whether acknowledged or discussed or not. Unlike the other two types, "rarely out" respondents live in more rural or suburban areas.

Respondent Type 1: (Almost) Always Disclosers

While many important patterns were observed in the responses to disclosure practices, one of the most important findings may be that prior to probing, nearly all participants placed themselves as entirely or nearly entirely "out". However, when probed for the individual groups as described in the disclosure measure, all participants were surprised by conditions in which they would not disclose. Such respondents would almost certainly be able to answer questions of sexual orientation with a fair amount of validity and reliability, but likely without complete accuracy. This type of respondent likely does not need context provided to easily provide an answer to sexual orientation but doing so would increase the validity of their responses and make them more reliable.

Even a more detailed question "Are you out at work?" would likely not be sufficient for accurate measurement. This singular question has numerous meanings, with no ability to predict interpretation. For example, Joy, a 50-year-old lesbian, reported working in a system of education, where there are coworkers, supervisors, department heads, members of other departments, students and their parents and families as part of her daily work interactions. She interpreted the question as "at all" but said each of these groups would greatly vary her response. And Joy was one of many who appeared to also read into this question as "Would you hide/lie/conceal your identity?", a markedly different question. Many workplaces require consideration of numerous groups ranging form close colleagues, supervisors, managers, clients, building employees to which disclosure may or may not occur. While this may seem inconsequential, the small everyday interactions that require identity management (i.e. answering a simple "Where are you headed for the holidays?" question) can impose a great burden on individuals and vary greatly on their outcomes.[15]

Racial/ethnic minorities all reported that their race/ethnicity was immutable, at the very least some (often incorrect) racial or ethnic identity was ascribed to them from just physical appearances. This "immediate minority" experience may help to explain why racial/ethnic minorities were less prone to disclosure than their white counterparts.

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[15] Consider, for example, research in employment fields seeking to understand the relationship between informal networking, such as grabbing drinks after work, and career advancement. Informal networking opportunities are only afforded to those who become social with colleagues and supervisors, which would likely be especially challenging if one is constantly managing their identity.

Racial minorities are more likely to feel a need for racial group acceptance, and a fear of losing it over sexuality, making disclosure that much more difficult (Goode-Cross 2013). Table 5.1 summarizes patterns of disclosure practices in the current study.

White participants were more likely than multiple minorities to intentionally disclose and discuss their identities with important others such as parents and siblings. They are also less likely to intentionally conceal or avoid discussion than their non-white counterparts who almost never discuss their sexual identities. This openness ends with strangers or new open social settings, indicating an important social interaction limitation for multiple minorities. Strangers and new social settings tend to be where risk of physical or emotional harm is greatest according to the participants. However, beyond lack of disclosure being associated with more negative mental health outcomes, we live in a social world where meeting and networking with strangers makes friendships, finds jobs, recruits new clients and any other number of benefits. Future research should seek to better understand whether identity management and concealment limits multiple minorities beneficial outcomes or generates the expected hostile reaction upon disclosure (Goode and Good-Cross 2009; Bowleg 2008; Ford et al. 2007).

Two key methodical needs arise from this work. First, the need for increased measurement of disclosure itself, and better understanding the representative practices of disclosure in the population. This can be accomplished through both asking these disclosure questions generally and employing representative sampling methods. Second, this work strongly suggests that a single measure of disclosure or "coming out" neither supports the conclusions of the literature on the perpetual act of "coming out" nor generates reliable and valid measurements of disclosure. Even for respondents who think that they're "always out" there are contexts in which that is not true. For others, the question cannot be reliably or validly answered without situational context. While these are clearly methodological concerns, they should also be concerning for those working in substantive fields such as healthcare and employment.

Future research should address these disclosure experiences from other avenues and identity intersections, such as gender, sex, queer identity and region. Additionally, future work should aim to better understand the perceived differences between identity terms such as "sexual identity" versus "sexual orientation," "sex," and "intimacy" and better investigate whether reports of attraction, behavior and self-identification are congruent with disclosure practices. However, additional researchers and data collection efforts will be required for this field of study to contribute to the body of knowledge on sexual identity and multiple minority representation in research generally and in quantitative and survey research, specifically.

Jane and Simon

Jane and Simon are assertive about their level of "outness" in their various social communities and hold fairly visible professional positions where they "always" make their sexual publicly known. However, upon further probing, both Jane and Simon both report that they actually do not or would not disclose in many social settings, particularly extended family and in new social settings. Perhaps most interestingly, this type of respondent also rarely discloses or discusses their identities with straight friends or colleagues at work. For researchers interested in social group cohesion or employment based experiences, failing to provide a context for their question on sexual orientation would not yield accurate results.

"You know, I'm the [religious leader's] wife. Everyone knows us. We have a lot of respect from the congregation, they're great, but some of our queer congregants go a bit further in supporting us. I've always been out, never in, not with anyone. [My wife] is totally out too, but maybe, uh, a little less than me. I mentor our younger community members, both straight and queer, and they know and it's totally not a problem. Even though I present as female and walking down the street you probably wouldn't know and just think I'm a typical white educated woman, I never act any other way."

This type of respondent also reported that they present as cisgender and straight. It's in the settings where they are least comfortable where they are likely to not disclose, or correct presumptions about, their sexual orientations.

"I mean, they know. They know me - they get me. I haven't said "I'm Queer." To them specifically. I, um, I - well thinking about it, I don't really talk about it much with them. I think they talk about it [their lives/romantic partners]. I haven't thought about it."

Simon is one of only two participants who report having been out for less than one year. This shorter period of time may have an impact on the self-reports of disclosure, as they differ fairly substantially from similarly aged peers (in similar social settings) who report having come out longer ago. Any explanations as are purely theoretical, but one likely possibility is that the stigma associated with sexual minority identity, and the expected response to stigma is "scripted" by peers and set early in one's disclosure process. Given the changing social climate surrounding sexual identity, perhaps those that came out in the past are set in a different script than those experiencing their first disclosures more contemporarily. This finding suggests that age may not work entirely as predicted and that all questions should be asked with context regardless of the targeted age group.

Respondent Type 2: Contextual Disclosers

While, after probing questions on disclosure, all respondents had at least one setting in which they would be unlikely to disclose, the contextually out person analyzed each category of disclosure and applied unique contexts to best articulate their disclosure practices. Frequently, the decision to disclose was made based on two factors: (1) did the person or group need to know and (2) was the respondent "in the mood" to deal with the ramifications of disclosure. Interestingly, this category of disclosure was almost exclusively reserved for gay men and persons of color. This group likely represents the majority of respondents, if the findings from these cognitive interviews are any indication. They offer further support for the need to contextualize questions on sexual orientation and add additional considerations for anticipated differences by gender and race/ethnicity.

Sheldon and Slate

Sheldon's approach to disclosure represents the contextual discloser. "I'm the type that wouldn't lie, nor would I tell necessarily." A key example of this is Sheldon's approach to the workplace; through organic opportunities like holiday parties to which he brings his partner, most coworkers know about his sexual orientation. Yet Sheldon has never, and would almost certainly never, disclose his sexuality on an application or during an interview unless specifically asked, and then it would depend on his perception of those asking the question.

Slate, a gay man in his mid-20's, lives in a large northeastern city, that he describes as socially liberal. Slate is one of the only respondents to classify his disclosure practices as "contextualized", having not disclosed to his parents, siblings or extended relatives because it has never come up.

> "Um, you know, talking to people about myself and who I am and stuff. That's, well. I'd have to say, contextualized. Who I tell and who I would talk about myself with, well it would depend. Depend on the person, the place, and why we are talking."

Respondent Type 3: Rare Disclosers

The rare disclosers are the smallest represented group of respondents. This is expected given the theme of the cognitive interviews and methods of recruitment that required individuals to both become aware of the opportunity to participate and disclose their sexual orientation when they expressed interest in participating. This group appears self-aware of their sexual orientation and fairly comfortable discussing it, but do not disclose in most settings.

Jessica and Joy

Jessica and Joy are both self-identified lesbians in their 50's; one lives in the rural south and the other in the Northeast. Both report that their parents, siblings and children know and are "supportive enough" but extended family (and in the case of Jessica, her in-laws) do not. Moreover, they do not disclose in most social settings, including the workplace. This group, even more so than the contextualized disclosers, would answer "How do you identify your sexual orientation?" with "it depends". When probed, they report that on a standard survey they would be able to answer the question but that generally it would not capture anything more than their private identities.

"So they don't know who I really am or that my wife is gay, she's never told them. They're traditional, you know older and don't live in the US, so…She's really worried about being disowned by her father, he's 95, her mom probably doesn't care, but her father, he'd, he'd definitely disown her because he has disowned his other daughter for other reasons. So yeah, they were even at our wedding and everything, but uh, think it's for taxes and health insurance reasons only and it's one of those really weird and awkward situations where we all know what it is but we don't say what it is."

Multiple Minorities

All persons of color fell into the "contextualized disclosers" group. However, given their unique experiences disclosing as a sexual minority, they are discussed separately here. Several themes emerge from the disclosure practices of people of color: (1) friends and family don't understand terms and reduce all identities to single terms; (2) acknowledging the dual dangers of being a multiple minority, in new or strange social settings disclosure rarely occurs; and (3) despite the first two themes, being a multiple minority makes disclosure more important and therefore disclosure to friends and family carries less reservations and identities and lives openly discussed for many. This near-universal reported experiences of discussing identities and lives with friends and families was found only among multiple minorities.

Janae

Janae's use of her identity as a political statement, like the other participants, always finds qualifications in safety, especially in relation to other identities of gender and race.

> "You know when you're just in that mood, that I'm-not-taking-any-BS-mood, and someone says something or asks something - or you know - whatever, that's when I use Queer a lot. Get my point across."

Being of Caribbean descent, she identifies as both Hispanic and black, but not African-American. While she says her primary identity is queer, she admits that sometimes she uses her mother's tactic and says bisexual, but it depends on the context. She gives an example of being in a straight-leaning environment (i.e. an environment where everyone is, or is presumed to be, straight), where she fears bisexuality might be interpreted by straight men as an invitation. In that case, she says she always uses queer. She also uses queer to reflect a mood or political statement.

> "And I like men, and I like women. She doesn't get that. It's like, you know, pointless to correct her. I tell her "Mami, I'm queer. Or bisexual I guess. But I'm not gay. She doesn't listen. So I just let her say what she wants and tell people what she wants."

Stefan

Stefan is a gay black man in his mid 20's, who reports safety as a concern both within certain family circles and society at large. While he openly discusses his sexual orientation with those he feels feels safe with (siblings, coworkers and friends), he doe not discuss it when he feels unsafe (with his parents, extended family and strangers). He briefly talks about code-switching in the way he talks and dresses, being sure to be "like, normal black dude" around people and groups from whom he fears retaliation. He doesn't speak much about his experiences with sexual orientation, even when probed, but leaves me with "it's hard enough being a black man right now, I don't know if I can be more than that right now, you know?" This safety perspective likely play a significant role when individuals are considering answering questions on their sexual identities, particularly if they are unsure about the purposes of asking the question or how the data will be used. While one solution would be to clearly explain the purpose of each question before asking it, this group likely would respond just as reliably with just context being offered.

Key Context: In the Workplace

If studying employment opportunities and experiences is of key interest to the researcher, these cognitive interviews strongly suggest that context is required. A general sexual orientation question would not capture the disclosure experiences in the workplace. Jane further illustrates the importance of context. When I probed Jane on this question, she responded with surprise at herself, suggesting a lower level of outness than expected, suggesting that without context even respondents aren't always fully self-aware of their identity and disclosure practices.

> "Well I guess I'm out, but not as much as I thought now that I think about it. I figured, you know, they like know, so that's it. But thinking about it, I guess that if I don't tell anyone at work besides my immediate coworkers, and I probably wouldn't, I mean, I guess I'm partially out. And I don't really know why I don't talk about it even with them or correct them or anything. I guess I knew. But, I dunno, didn't think about it?"

Key Context: Healthcare Settings

Jessica has never reported her sexual orientation to a doctor without being asked, and hasn't always disclosed. Sheldon, when thinking about his experiences with medical settings, seems less certain about how he would behave. With a regular provider, who he had gotten to know and perceived was "safe," he probably would if he were asked. In situations with specialists or providers with whom he has less constant contact, Simon says it is unlikely he would disclose. Jane, when asked about how she would identify in a medical setting, said she would likely choose queer if given the option, but would use binary male/female terms if the purpose of the form or question was related to her sex:

"I mean, in any medical setting I would [use queer], but if it was like, related to directly my genitalia or something, then I'd be clear based on what I understood was the purpose of the form or question."

These representative examples demonstrate another key area that requires the use of context when measuring identity. Recent findings suggest that disclosure of sexual orientation in the medical setting is likely, if patients are asked. These finding elaborate on those assertions and suggest a potential need to add context or other information to inform patients and make them feel secure.

Conclusions and Future Directions

Throughout this paper, three key themes emerged. First, there are several patterns of disclosure and this data suggests a single measure (i.e. "Are you out to close friends and family?") would not be interpreted in the same way by all respondents. For some, being out means having (at least once) disclosed their sexual identity, but does not necessarily mean that they are open by bringing home same-sex partners. Similarly, a respondent may interpret being out as not actively concealing—but that does not mean actively disclosing, either. This suggests that for some respondents, an “Are you out?” question more closely measures an idealized self or idealized perception of outness, rather than actual experiences (Brenner 2011). These differences in interpretations vastly alter the constructs being measured yielding results incomparable. While some may argue that self-perceptions or idealizations are more important that actual experiences, they are likely relegated to the psychological realm and those rooted in measurable consequences and outcomes would likely see observed differences, as we do in earnings, without regard to these internal identities.

The second key theme suggests that disclosure as a stand-alone act is incongruous with discussion. Individuals may report "being out" when they really meant they have experienced "coming out". “Being out” suggests that (nearly) everyone has knowledge of their sexual orientation while “coming out” marks a singular autobiographical experience. While the first theme focuses more on my interpretation of differences in disclosure practices, this second theme draws directly from the reports of participants as they thought through their experiences with both disclosure and discussion across categories. Respondents acknowledged that they were “out” but would not discuss a romantic partner, nor introduce them to certain groups and were able to identify areas in which they intentionally practiced different disclosure patterns. There were two key examples where a strong “I’m out” was meant with a reported limit on discussion. The first was extended family events (beyond the nuclear parents/siblings), such as a holiday party. The second setting was the workplace.

In both of these examples, the majority of respondents would not bring a same-sex partner, nor discuss them in any detail, while attending such events. Yet, they also reported being "out". While this contextual difference for disclosure was seen for whites, it was more strongly manifested for persons of color. Respondents of color were aware that their disclosure and discussion practices were not uniform across all contexts illustrating the need to include disclosure and context questions.

The final theme is inconsistent disclosure that does not perfectly correlate with self-identity, often to the surprise of the participant[16]. Participants frequently exaggerated their level of outness early in the interviews, without my probing. However, after the situational disclosure questions, their initial reports of "outness" did not match their disclosure practices. Thus, measures of disclosure must contextualize settings.

Patterns of disclosure as reported by participants in these cognitive interviews identify that questions such as “Are you out?” would almost certainly yield one of two responses. The first, a general response, would answer a different question “Are you out at all?”. While a researcher would more likely be interested in the experiences of interactions in daily life, such a question as this may well yield "yes" responses from people who are only out to a small group of friends. Alternatively, respondents may be left asking themselves “What does this question mean? Do they mean am I out at work? To my parents? To my congregation?” and substituting contexts for themselves, another

[16] Nor do they correlate perfectly with attraction or behavior, but such a comparison and discussion of this data will be reserved for a future manuscript.

outcome likely to be undesirable to the researcher. This work suggests the need for detailed and direct contextualization for these questions to meet the basic standard of survey questions: that every question should be understood in the same way by every respondent and that understanding should match that of the question author (Fowler 1995).

Important differences appear to arise between white and minority respondents, with minority respondents less likely to disclose generally and more frequently cite safety as a concern. Future research should seek to better understand whether identity management and concealment limits multiple minorities beneficial outcomes or generates the expected hostile reaction upon disclosure (Goode and Good-Cross 2009; Bowleg 2008; Ford et al. 2007).

In sum, two key methodical needs arise from this work. First, the need for increased measurement of disclosure itself, and better understanding the representative practices of disclosure in the population. This can be accomplished through both asking these disclosure questions generally and employing representative sampling methods. Second, this work strongly suggests that a single measure of disclosure or "coming out" neither supports the conclusions of the literature on the perpetual act of "coming out" nor generates reliable and valid measurements of disclosure. Even for respondents who think that they are “always out” there are contexts in which that is not true. For others, the question cannot be reliably or validly answered without situational context. While these are clearly methodological concerns, they should also be of concern for those working in substantive fields such as healthcare and employment.

Future research should address these experiences of disclosure from other avenues and identity intersections, such as gender, sex, queer identity and region. Additionally, future work should aim to better understand the perceived differences between identity terms such as "sexual identity" versus "sexual orientation", "sex" and "intimacy" and better investigate whether reports of attraction, behavior and self-identification are congruent with disclosure practices. However, additional researchers and data collection efforts will be required for this field of study to contribute to the body of knowledge on sexual identity and multiple minority representation in research generally and in quantitative and survey research, specifically.

CHAPTER 5

PREDICTING IDENTITY DISCLOSURE AMONG SEXUAL MINORITIES: EVIDENCE FROM A COMMUNITY BASED CONVENIENCE SAMPLE

Abstract

Self-identification, attraction and behavior are frequently used to measure sexual orientation, but disclosure, defined as performance of this situational identity, is not. This work estimates the congruence between self-identification, attraction, and behavior with the likelihood of disclosure in key social settings. Gender identity, racial/ethnic identity and age will also be considered. Survey data were collected from September 2017 to January 2018 from a community based convenience sample of self-identified sexual minorities. Recruitment through social media posts to key outlets yielded an analytic sample of 1,078. Key findings highlight the potential incongruence between self-identification, attraction, behavior and disclosure generally, with 5 to 15 percent of respondents not disclosing their identities in social settings. Moreover, self reports of disclosure are inconsistent across situations; 15 to 40 percent of individuals have not disclosed to their parents or siblings, and more than half of some sexual identity subgroups would not self-disclose in key settings, such as the workplace. Findings highlight the need for representative research to include individuals who would be missed by these community based sampling techniques.

Introduction

This next step in the research uses a survey to ask respondents to report on their sexual orientation using measures of self-identification, attraction, and behavior over several key reference periods; in the last year, in the last five years, in the adult lifetime. The survey also adds a fourth element, contextualized disclosure, asking respondents to identify in what contexts they disclose their sexual orientation. I examine the congruency between these four operationalizations of identity and estimate the shared and unique contributions of each. This work also seeks to include those of other sexual orientations and a consideration of gender identity (male, female, transgender, other). Findings suggest that contextualized disclosure is a necessary component for accurate measurement, particularly as self-identification, attraction and behavior are frequently incongruent.

Literature Review

Operationalizing Sexual Orientation

Conceptualizations of sexual behavior originated using only behavior (sex of one's sex partners). Today, the three conceptualizations typically used to conceptualize sexual orientation are self-identification, behavior, and attraction (Berg and Lein 2006; Black et al. 2000; Brooks and Quina 2009; Gates 2014; Fausto-Sterling 2007). The problems with these approaches are two-fold: behavior may neither result in self-identification nor adequately capture potential changes in self-identification over time.

Attraction, which taps into an emotion without context, is similarly limited (Chandra et al. 2011).

However sexual orientation is still typically reduced to the sum of its parts, forming an inadequate measure. A more robust approach includes additional measures of sexual orientation (e.g. asexual, pansexual, demisexual) and the interaction of gender identity with sexual orientation (Sumerau et al. 2016; Parent DeBlare and Moradi 2013; Fassinger and Arseneau 2007; Barring, Sumerau and Gay 2017). Incorporating more robust measures of sexual orientation, beyond LGB, the true diversity in experiences with self-identification can be better understood, such as through disclosure ("coming out") practices.

Self-Identification and Disclosure

Gordon and Silva (2015) define sexual orientation as "a combination of attraction, behaviors, thoughts, feelings, and fantasies" and sexual identity as "the label we attach to ourselves to indicate to others our sexual orientation" (2015:500). This indication to others is also known as "coming out" or disclosure. Disclosure can yield self-affirmation by connecting with others who share their identity, or simply by making their identities known (Singh 2012; Warner and Shields 2013). While these expressions of identities have been asserted generally, researchers with an intersectional lens assert that they are uniquely important for racial/ethnic minorities as they navigate multiple minority identities (Bieschke et al. 2008; DeBlaere et al. 2010; Sarno et al. 2015).

While sexual orientation is an inherent characteristic of the individual, its realization and disclosure is a process that occurs throughout the life course (Minton and McDonald 1984; Kitzinger and Wilkinson 1995; Colman, 1982; Fassinger and Miller, 1996). Disclosure follows an expected script within situations. Although individuals cannot control to which sex they are attracted, they can choose which label they apply to themselves and with whom they share it (Gordon and Silva 2015; Hammock, Thompson and Pilecki 2009; Katz 1995; Diamond 2003, 2005).

While sexual minorities have seen greater acceptance in society recently, reducing the risk of disclosure related harm, they are still met with high rates of discrimination and victimization (Gallup 2014; Savin-Williams 2005; Friedman et al. 2012; Hebl 2002; Griffith and Hebl 2002; Tilscik 2011; Tilscik 2016).[17] Beyond the likely benefits of social acceptance, such as employment opportunities, disclosure and acceptance by close friends and family has been associated with lower rates of internalized homophobia, defined as disliking oneself and the gay identity (Costa 2013). But when disclosure does not yield social acceptance, the resulting social exclusion can generate or increase rates of internalized homophobia. For racial/ethnic minorities, this risk of exclusion frequently results in a choice not to disclose (Williams et al. 2004; Goode-Cross and Good 2009; Brown 2005). Younger persons overall are more likely to disclose in peer networks than to family. However, racial/ethnic minorities, regardless of age, are less likely than whites to disclose to anyone (D'Augelli and Grossman 2001; Savin-Williams 1998; Goode-

[17] In the wake of the 2016 political season and election, studies have suggested that LGBT individuals are the most targeted group for aggression and violence, and that the incidence rates of negative actions against LGBT individuals is rising.

Cross and Good 2009). These patterns may be attributable to younger people's greater reliance on family for housing or financial support, causing them to fear being kicked out of their home or cut off financially.

When individuals do not choose to disclose, knowledge or expression of other measures—such at attraction or behavior—may be limited to the private sphere. Friends, family, and coworkers would have no reason or ability to know about someone's sexual orientation and thus any outcomes cannot be confidently attributed to sexual orientation. For example, if an individual is LGB closeted but sexually active, colloquially called being on the "down low," they would not convey this identity to family or in the workplace, but may disclose on an anonymous survey. If they are presumed straight at work, a researcher studying workplace experiences might incorrectly interpret self-reports of personal identities or behaviors when analyzing the workplace outcomes. If the disclosure never happened, the sexual minority identity itself cannot be assumed to be related to the outcomes.

Contexts of Disclosure: The Workplace

Disclosure in the workplace, often known as the "disclosure dilemma", requires LGB individuals to weigh the risks of coming out and being socially rejected against remaining closeted and likely isolated anyway (Bernstein and Swartwout 2012; Bowleg, Brooks and Ritz 2008; Griffith and Hebl 2002). The dilemma exists as sexual orientation is often considered a mutable characteristic that individuals must choose to actively display, disclose, or deny, their sexual orientation in the workplace. Alternatively, race/

ethnicity and gender are more likely to be visible, documented by human resources and protected in most employment settings.

Employment is important for understanding contextual disclosure because of its centrality in our lives and as a frequent source of discrimination (Badgett 1994; Hebl 2002; Rubinstein 2002; Tilesik 2011; Drykakis 2009). However, most existing research only focuses on experiences in the workplace resulting from formal disclosure and subsequent negative treatments, failing to capture the experiences of those who do not end up reporting experiences of discrimination (Tilesik 2011; Badgett 2007).

Thus, disclosure and self-identification are not universal singular events and may be incongruent with other markers of sexuality, even self-identification. As such, in addition to other important categories of disclosure, such as friends and family, the workplace is considered a key social context where disclosure may occur, and especially one where disclosure may happen in multiple occasions.

Methods

Target Population and Sampling

The LGB population is hard-to-sample, paying particular focus to the potentially sensitive or stigmatizing nature of the information sought on sexual orientation identity and disclosure. Lacking a sampling frame, I will use a non-probability sample, which has been demonstrated to be effective for examining issues of measurement in research on sexual minorities, although inappropriate for making inferences to the whole population (Kreuter et al. 2008; Heckathorn 1997; Galupo et al. 2014; Bazarsky 2011). This sampling design may not necessarily cover the LGB population well as it excludes the portion of the population without access to the internet and those not connected to digitally active groups. While these findings are not generalizable, they do offer insights into this hard-to-sample population and as an identifier for areas of future investigation with probability sampling methods and fewer coverage concerns.

This research is a foundational study to test the measures of sexual orientation (self-identification, attraction and behavior) for congruency across the operationalizations. The characteristics of members in the target population for this study are: adults (over age 18), who work at least 15 hours per week for pay[18] and are willing to self-identify their sexual orientation. As this will be a web survey, participants were also required to have access to both the internet and an internet connected device.

Sampling was conducted in several stages. Stage one included outreach and recruitment via strategically selected locations and organizations including NAACP chapters and urban or regional LGBT centers in Massachusetts, Wisconsin and Texas. These three states were selected as initial points of contact because of their differences in politics, racial composition, and estimated sexual minority population representation. NAACP chapters were identified using the publicly available lists and search tools for identifying local NAACP chapters. LGBT serving organizations were identified via Google searches using the keywords: LGBT, LGBTQ, Gay, Lesbian, Center, Resource, Group, Organization, black, Asian, Hispanic, African-American and the associated state names and the three largest cities each state (as defined by the Census). For example, a

[18] Current employment is required as a core component of this work is disclosure in the workplace, requiring participants to have some engagement with the workforce.

search string for Texas would be “gay center Texas” or “LGBT Resource Houston”. Organizations were contacted with a letter detailing the study and asking them to forward the recruitment information/digital flyer to their listserv members. This stage was conducted in early fall 2017.

The second stage of recruitment focused on Facebook pages on identifiable groups encompassing the sexual and racial/ethnic minority communities, regardless of geographic location. These groups were identified using the same search terms as stage one, but without the geographic markers. The additional requirement of this stage was that potential respondents needed to be subscribed to the newsfeed of the Facebook affiliated group in order to see the recruitment flyer. This stage resulted in the individual groups and organizations serving as the primary sampling unit, whereas in stage one the selected states served as the primary sampling units. This recruitment took place from early to mid-fall 2017.

The final stage of recruitment took place from late fall 2017 to early winter 2018 and involved to components (1) an expansion of search terms for Facebook, along with the addition of Twitter; and (2) the use of a compiled reference list of sexual minority serving organizations from the United States, available on websites serving sexual minorities, centers and organizations known to me or referred to me from other researchers and practitioners.

Data Collection

The web survey included 111 questions, although skip patterns routed respondents through the questionnaire such that few respondents received every question. The response time interquartile range (25th-75th percentiles) ranges from 8 to 18 minutes. Respondents were able to return to and change prior answers or skip questions.

A web survey is a cost-effective option and appropriate mode for reaching this population and providing a sense of anonymity that encourages honest answers to questions about potentially sensitive behaviors (Tourangeau and Smith 1998; Turner et al. 1998). However, web surveys typically yield a sample that skews younger, missing an already underrepresented older population (Pew Research 2017). While the need for access and use of the internet will preclude some respondents, specifically targeting affinity groups should help to find and recruit older LGB adults. These groups serve individuals on the bases of general group membership and nearly all groups now maintain their lists digitally. Thus, this approach should improve on the typical underrepresentation by age found in most web surveys.

Measures

Race/Ethnicity: Racial/ethnic identity was measured as a mark-all-that-apply question, on a single question page. Categories included were: white; black; African-American; Asian; Hispanic; Native American; Middle Eastern; and something else (where text entry was requested). Data were collapsed into a three measure variable where 75 percent identified as white only, 5 percent identified as black/African-American only and 20 percent identified as multi-racial or of another race/ethnic category.

Age: Adults 18 years of age or older were eligible. Age was measured in six categories: 18-24; 25-34; 35-44; 45-54; 55-64; and 65 years of age or older. Most respondents were age 24-34 (61%). Respondents ages 18 to 24 made up 18 percent of the sample, 15 percent of the sample were 35 to 44 years of age, and 6 percent were age 45 or older. There is one unique benefit to a younger sample in that younger persons are more likely to disclose to friends, but also more likely to be perceived as growing up in a more tolerant and accepting society. Particularly as these findings are already not generalizable, this affords an opportunity to largely look at those in the later years of early adulthood, when they are highly likely to be seeking education, new employment opportunities and creating their identities with their families of origin and of choice.

Gender Identity: Gender identity was measured using a mark-all-that-apply (MATA) question. Categories included were: male; female; transgender male; transgender female; genderqueer; non-binary; and something else (where text entry was requested). It was transformed into a new variable for: female; male; non-binary (genderqueer, non-binary); transgender (both male and female); multiple gender identities; and something else. The sample skewed largely female (57%) and males were very underrepresented (17%). Non-binary identities made up 14% of the sample, multiple endorsements 7%, something else 5%, and transgender .2%.

Sexual Orientation: Sexual orientation[19] was measured using three operationalizations (self-identification, behavior and attraction) over three primary reference periods: 1 year, 5 years, and lifetime, although 18-24 year old respondents were only asked about the past year. Self-identification added a fourth reference period by asking how respondents presently self-identify. Asked using a MATA question format, self-identification response categories offered were: lesbian; gay; bisexual; questioning; queer; asexual; "straight, that is not gay"; "I prefer not to label my sexual orientation"; "I don't know."; and something else. Nearly half of respondents, 42 percent, selected multiple sexual orientation categories. A quarter (25 percent) endorsed gay/lesbian only, 13 percent queer, 9 percent identified as bisexual, and 11 percent chose one of the remaining categories (asexual, questioning, don't know, something else, and no label). Of those respondents who selected "something else" and entered a label, nearly all (98 percent) also endorsed an offered category.[20]

Attraction questions were asked using an established seven-item scale ranging from exclusively opposite sex to exclusively same-sex, with "don't know" and "other" options added.[21] Exclusively same-sex attraction for the past was reported by 33 percent of respondents. Five year and lifetime attractions had comparable endorsements. Behavior used the same scale as attraction, but also included "have not been intimate."

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[19] "Straight, that is not gay" was offered as one of the categories of sexual orientation but ultimately dropped from analysis as the focus of this paper is on sexual minorities and because the vast majority of straight respondents did not answer the disclosure questions.

[20] Offered responses included: pansexual, panromantic, grey-romantic, demisexual, homoromantic, polyamorous, sapiosexual, straight-presumed, and kinky.

[21] The scale was presented starting with opposite-sex, and there are suggestions of error attributed to speeding in several cases where someone consistently reported a gay/lesbian identity but on these attraction and behavior questions answered exclusively opposite sex.

Seventeen percent of respondents reported opposite-sex only behavior in the last year, while 45 percent reported same-sex only behavior for the same time period. Five percent reported that they had not been intimate in the last year. For both attraction and behavior, those that used the other category and entered text reported on the issues with answering this question because it was too binary and/or focused on the sex, rather than gender, of their partners. Data were then recoded to represent the initial seven point scale, but adding a meaningful zero to represent a lack of attractions or sexual behavior.

As this paper focused on contemporary reports of self-identification and disclosure only reports from the present (self-identification) or 1 year reference period (attraction and behavior) will be presented and analyzed. Additionally, sexual orientation and gender were transformed to produce a single variable representing both gender identity and sexual orientation (SOGI). The seven SOGI categories created were: lesbian female (28 percent); gay male (14 percent); bisexual female (19 percent); bisexual male (2 percent); other sexual orientation female (17 percent); other sexual orientation male (3 percent); and non-binary non-straight (18 percent). To be placed in a category, the respondent needed to select only one congruent endorsement (e.g. both male and gay) from each gender and sexual orientation identity category. Multiple endorsements or incongruent endorsements were categorized as non-binary, non-straight.

Congruency: Congruency was operationalized as the alignment between attraction and behavior patterns, yielding a dichotomous indictor. Gay men and lesbian women who reported mostly/exclusively same sex behavior were labeled congruent. Men and women who were bisexual or had other sexual orientations were labeled congruent if they selected anything other than mostly/exclusively same-sex attractions and behaviors.

Disclosure: Disclosure, the central component of the present work, measures the contexts and experiences of expressing one's sexual identity. Disclosure is measured referencing several key social settings including parents, siblings, extended family, friends/chosen social groups, work peers, work bosses, new professional settings and medical settings. Respondents were asked to report whether they have: not disclosed, may disclose, have disclosed to some, or disclosed to all. These questions were asked in two separate grid formats, separating parents and other categories into two grids.

A new measure, *disclosure,* was created with three categories "unlikely disclosers," "likely disclosers," and "active disclosers". Unlikely disclosers reported that they had not, and would likely not, disclose their sexual orientation to their parents or siblings. Likely disclosers reported that they had or would disclose to their parents, siblings, extended family, in social settings, with work peers and bosses. Active disclosers reported that they do disclose to parents, siblings, extended family, in social settings, with work peers and bosses.

Analysis

After omitting cases with missing data listwise, 1,078 unique respondents completed the survey. When possible, data transformations were minimal and predominantly included recoding variables for uniformity and calculating new variables to represent combined constructs, like gender and sexual orientation, as discussed above.

When all variables are categorical, such as race/ethnicity or category of social group for disclosure, preliminary analyses relied on Cramers' V. Disclosure type (dependent variable) was then predicted using multinomial logistic regression and accounting for attraction, behavior, SOGI, age, and race/ethnicity (independent variables).

Findings and Discussion

Descriptive Statistics

SOGI categories gay male, gay female or lesbian, and male or female bisexual categories, accounted for 63 percent of responses. Non-binary non-straight (18 percent) and other sexual orientation male/female (19 percent) responses account for over 35% of overall responses, suggesting a potential source for significant error if adequate categories are not offered to measure both gender identity and sexual orientation.

Congruency, defined as alignment between one's reported and coded self-identification, attraction and behavior, was evaluated for gay, lesbian and bisexual respondents. Congruency for other sexual orientations or gender identities could not be similarly evaluated because there is no established way of categorizing their reports outside of "non-binary." Gay and lesbian men and women were marked as congruent if they reported that their attractions and behaviors for the past year were exclusively or mostly (level 6 and 7 on the scale) with the same sex. Using this approach, lesbians would be considered congruent 58 percent of the time, while gay men would be identified as congruent more often—84 percent of the time. Bisexual men and women were marked as congruent if their attractions and behavior patterns for the last year were anything except exclusively opposite sex or exclusively same sex. Collapsed by gender, as bisexuality is often reported, 54 percent of self-identified bisexuals could be labeled congruent along with their attraction and behavior reports. Although this approach may seem reductive, the use of the last year reference point and collapsing categories offers an important opportunity to identify potential limitations for using attraction, behavior and self-identification as interchangeable markers of sexual orientation.

Table 5.1: Family Disclosure, Percent Might/Has Disclosed

	Mother/Step-Mother	Father/Step-Father	Siblings	Extended Family
Lesbian Female	89	84	91	82
Gay Male	91	84	90	78
Bisexual Female	57	44	61	52
Bisexual Male	76	71	76	76
Other SO Female	61	51	66	52
Other SO Male	59	63	68	50
Non-Binary Non-Straight	83	74	85	65
Cramer's V/ Association	.1983/weak	.2043/moderate	.3071/moderate	.1875/weak

Table 5.1 illustrates the disclosure experiences of various SOGI groups with their family members. For disclosure to mothers (including mothers and step-mothers) there is a moderate association (Cramer's V=.20) suggesting that disclosure between the SOGI groups differs somewhat. The association for fathers/stepfathers is similarly sized (V=.20). Overall, the vast majority of gay men and lesbian women have disclosed to their mothers and fathers (over 80 percent in each category). Interestingly, disclosure to fathers/stepfathers is lower than disclosure to mothers/stepmothers across nearly every group (V=.70), but the difference largely disappears when "might disclose" is included in

the analysis. This highlights perhaps the most important concern with using any measures of identity without disclosure. Even among the close family unit (parents and siblings) members of certain sexual minority groups appear far less likely to be enacting or making their identities known.

Social Disclosure

A moderate association emerges between SOGI categories and reports of disclosure in voluntary social settings such as with groups of friends, recreational sports leagues, and hobby groups (V=.22). In these social settings, individuals with gay or lesbian identities are almost certain to disclose with over 98 percent report disclosing or being very likely to disclose. Similarly, 95 percent of non-binary non-straight respondents report that they have or are very likely to disclose. Men and women who identify as bisexual or with other sexual orientations exhibit the most hesitation with disclosing in these types of voluntary social settings.

Approximately ten percent of bisexual women, and women with other sexual orientations, report that they have not and would not likely disclose. Their male counterparts are less likely to disclose than they are, reporting about 25 percent of the time that they would not disclose. This lack of disclosure even in chosen social settings should perhaps be the most concerning source of error. If these individuals fail to disclose even in voluntary social situations, we cannot presume that self-identification, attraction, or behavior experiences are any indication of lived experiences or disclosure in the workplace, family reunions, or other social settings. This highlights the need for contextualization in identity questions, particularly as they apply to bisexuals—a group that demographic estimates suggest is growing (Copen, Chandra and Febo-Vazquez 2016; See Chapter 4).

Workplace Disclosure

Disclosure in the workplace was considered in three separate ways: disclosure to work peers, disclosure to bosses, and disclosure in new professional settings (such as an interview or at a networking event) (see Table 5.2). There was a moderate association between membership in a SOGI category and disclosure at work (V=.21). Respondents of all SOGI groups were more likely to disclose to work peers (who may also be considered friends) when compared to bosses or in new professional settings. Only about 15 to 20 percent of individuals were very likely to disclose to their bosses and only 25 to 40 percent were very likely to disclose to their peers. As seems common knowledge in the business world, most job opportunities come via professional networks built outside of the office (e.g. getting coffee or in other social settings). If sexual minority individuals are practicing high levels of identity management, it may be an important consideration for contextualizing workplace outcomes, such as earnings.

Table 5.2: Percent Unlikely to Disclose in the Workplace

	Work Peers	Work Bosses	New Professional Settings
Lesbian Female	18	31	51
Gay Male	10	24	56
Bisexual Female	33	56	69
Bisexual Male	6	41	65
Other SO Female	42	56	64
Other SO Male	50	60	56
Non-Binary Non-Straight	18	31	47
Cramer's V/Association	.2114/moderate	.2137/moderate	.1250/weak

Medical Disclosure

Recent studies suggest that nearly 90 percent of sexual minority individuals are willing and ready to disclose their sexual orientations to healthcare professionals, if asked (Haider et al. 2017). The present work sought to understand what differences, if any, exist across SOGI groups. For gay men and lesbian women, only about 3 percent said they were unlikely to disclose, if asked, to their healthcare providers. About twice as many bisexual men and women said they were unlikely to disclose, approximately 6 percent each. Nonbinary, nonstraight individuals reported the same level of hesitation as bisexuals. However, men and women of other sexual orientations reported that they were unlikely to disclose 20% and 10% of the time, respectively. While these findings largely corroborate those of recent research (Haider et al. 2017), they shed light on the groups least likely to disclose, suggesting that bisexual and non-binary orientations may be a small but important source of measurement error.

Types of Disclosers

Disclosure can be summarized as a simple taxonomy of respondent types: *unlikely disclosers*, *likely disclosers*, and *always disclosers*. The association between SOGI group membership and disclosure reports is moderate (V=.25). Most gay and lesbian respondents (65-70 percent) can be categorized as likely to disclose their sexual orientation in most contexts, compared with only about 44 percent of bisexual women and 48 percent of NBNS individuals. Accordingly, bisexuals and those of other sexual orientations were categorized as *unlikely disclosers* more often, 56 and 52 percent, respectively, compared with 30 percent of gay and lesbian respondents. Finally, a third of bisexual men were characterized as *always disclosers* compared with 5 percent of bisexual women, 4 to 5 percent of gay men and lesbians, and 2 percent of those of other sexual orientations. These representations across disclosure categories offer an important summation of the potential differences between and among SOGI group members and again highlight the potential sources of concern or error for researchers seeking to measure sexual orientation on the importance of context.

Predicting Disclosure: Key Findings

A multinomial logistic regression model was estimated to predict types of disclosure (*always disclosers*, *likely disclosers* [reference category], and *unlikely disclosers*). The key explanatory variables considered were self-identification (lesbian female [reference category], gay male, bisexual, non-binary non-straight) and race/ethnicity (white, non-white). Attraction and behavior are included as continuous independent variables. The model was significant (X^2=365.3, p<.001) and will be retained (see Table 5.3). Given their difficulty of interpretation in a multinomial logistic regression, I will present and discuss the key categorical explanatory variables as predicted values.

Table 5.3: Multinomial Logistic Regression (n=1,078); Coefficients Reported (SE)

	Unlikely Disclosers	Always Disclosers
SOGI Category		
Gay Male	.43 (.27)	-.14 (.51)
Bisexual	0.38† (.22)	.75† (.40)
NBNS	-0.02 (.20)	-.59 (.45)
Non-white	.76 (.18)***	-.54 (.46)
Attraction	-0.13*** (.04)	.02 (.08)
Behavior	-0.31*** (.03)	-.15* (.06)
Age	-0.47*** (.10)	-.10 (.18)
Constant	1.58*** (.25)	-1.69** (.54)
Chi2	—	365.32***
N	—	1,078

Both attraction and behavior are associated with a higher likelihood of being a l*ikely discloser*, as compared to an *unlikely discloser*, with each unit increase toward exclusively same-sex behavior (-.31, p<.001) or same-sex attraction (-.13, p<.001) predicted to decrease the likelihood of being an *unlikely discloser*. Each unit increase in same-sex attraction is associated with a decreased likelihood of being an *always discloser* compared to being a *likely discloser* (-.15, p<.05) when considering attraction, but no significant difference emerges for same-sex behavior.

Among non-white respondents, the predicted propensity of non-white lesbian females to be *likely disclosers* (.52) does not differ from their predicted propensity to be *unlikely disclosers* (.46). Similarly, the propensity of non-white NBNS respondents to be *likely disclosers* (.52) does not differ from their propensity to be *unlikely disclosers* (.47). Gay males have a higher propensity to be *unlikely disclosers* (.59) than *likely disclosers* (.39, p<.001). Bisexuals have a higher propensity to be *unlikely disclosers* (.57) than *likely disclosers* (.39, p<.001). Non-white respondents in each SOGI group have significantly lower predicted propensities to be *always disclosers* compared to their likelihoods of being *likely disclosers* or *unlikely disclosers*.

Among white respondents (Figure 5.1), the patterns observed are the inverse of the non-white group. The predicted propensity of non-white lesbian females to be *likely disclosers* (.56) is significantly higher than their propensity to be *unlikely disclosers* (.39, p<.001). The predicted propensity of non-white NBNS (Figure 5.2) to be *likely disclosers* (.58) is significantly higher than their propensity to be *unlikely disclosers* (.39, p<.001). White respondents in each SOGI group have significantly lower predicted propensities to be *always disclosers* compared to their likelihoods of being *likely disclosers* or *unlikely disclosers*.

Predicting Disclosure: Discussion and Take-Aways

These findings raise the concern of how to understand identity, attraction, behavior and disclosure, if even the most congruent individuals (those whose self-identification, attraction and behavior align) are not predicted to always disclose their sexual orientation. While there are not always significant differences between *likely disclosers* and *unlikely disclosers* across SOGI groups, consistent significant differences do emerge when comparing *always disclosers* to either *unlikely disclosers* or *likely disclosers*, for both white and non-white respondents. This suggests that researchers can likely approach (in most cases) likely and unlikely disclosers in similar ways, but that always disclosers should be considered to have important differences from their counterparts.

While unique racial groups are not directly considered here (they are collapsed for these analyses), these findings suggest that considering race/ethnicity may be important when studying SOGI identities. Within the white and non-white groups we see several significant and important differences emerge, such as the lower predicted propensity of non-white gay men to be *likely disclosers*. This finding supports the assertions in the literature that minority racial/ethnic and minority SOGI identities interact in important ways, often surpassing disclosure, as compared to whites.

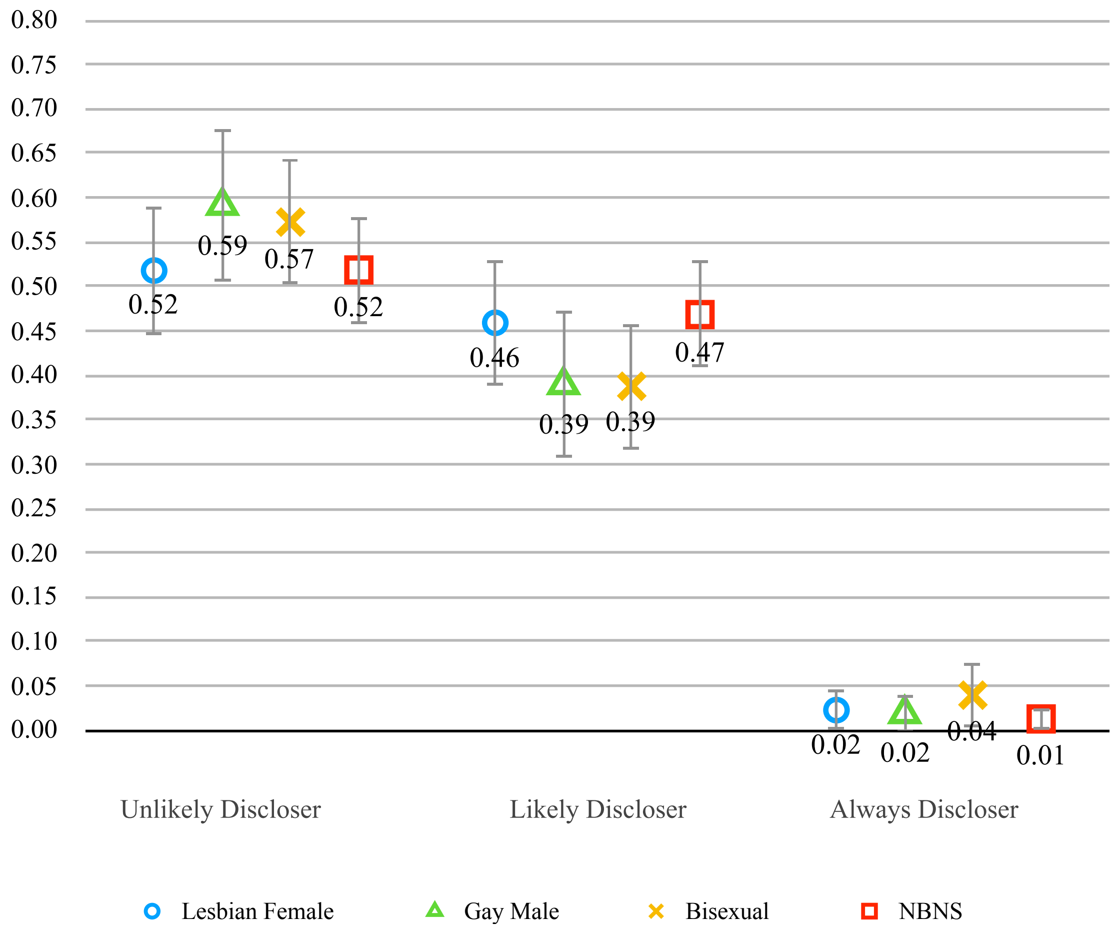
While further research is needed to better investigate these patterns, these data suggests that specific SOGI group membership may not be the most important factor in understanding differences. Rather, other key factors must be considered such as race/ethnicity and disclosure practices must be included in the consideration as they offer both potentially important and significant explanations. One such example for future research would be to compare white and non-white respondents directly, whereas they are only considered in parallel here, to see if predicted differences for a single SOGI group (e.g.

gay males) among non-white and white respondents holds true when looking between the groups.

Overall, when considering discloser types, several key considerations stand out. The first is that very few respondents are predicted to be *always disclosers*, regardless of SOGI group (less than 5 percent across most SOGI groups). Next, in all cases, there are significant differences between *always disclosers* on the one hand and *unlikely disclosers* and *likely disclosers* on the other. The final key takeaway considers that the differences between discloser groups appears to be more significant than the differences between SOGI groups. As discloser groups are based on disclosing across specific social contexts, this strongly supports the need for providing context and disclosure when measuring sexual identity. For example, a “yes” answer to “Do you identify as LGBT?”, cannot be properly linked to displaying or disclosing that identity in all social contexts, as nearly nobody does. So while the researcher may have measured one’s self-identity, they haven’t measured whether that identity is displayed in key settings, such as with family, in the workplace, or in the doctor’s office.

Figure 5.1 Predicted likelihood of discloser type by SOGI category for white respondents

Figure 5.2. Predicted likelihood of discloser type by SOGI category for non-white respondents



Conclusions and Future Directions

These findings suggest that both context and measurement play an important role is estimating the sexual minority population. Across social contexts, only about five percent of respondents are predicted to be *always disclosers*. About 30 percent of gay males and lesbian females are predicted to be best categorized as *likely disclosers*, while 47 to 58 percent of bisexuals and NBNS individuals are predicted to be best categorized as *likely disclosers*. While they may potentially disclose in a survey setting (they did here), that disclosure is not translating into their everyday lives and experiences. This source of potential measurement error should be taken into consideration when conceptualizing sexual minority measurement.

Taken together, these findings suggest that survey measures of attraction, behavior, self-identification, and disclosure may not be adequate operationalizations of sexual orientation. Moreover, these data suggest that disclosure is never a given, and disclosure in one situation does not guarantee disclosure in another. Because nearly all respondents reported differences in disclosure practices across context, researchers should strive to provide context in their questions on sexual orientation to improve measurement. For example, adding context (e.g, "How do you self-identify in your workplace?" or "How do you self-identify in your doctor's office?") ensures consistent interpretation across respondents, leading more reliable and valid measures.

There are several limitations to this work. First, inferences cannot be extended to a general population. I used a convenience sample for whom SOGI identities are likely to be highly salient, who were already connected socially enough to receive the invitation to participate and willing to disclose enough to answer these questions. They almost certainly do not represent those who are less socially connected, less connected to SOGI or race/ethnicity groups, or generally "more closeted." If among even the "most out" and most socially connected a large group of non-disclosers exists, it may very likely be higher among the general population. The various SOGI groups are also not equally distributed, with some drastically underrepresented (such as gay males). Ultimately, these findings help to highlight social areas where individuals are less likely to disclose, but any generalizable conclusions require the use of representative sampling methods.

Perhaps the most important takeaway from this work should be that researchers should consider disclosure as a necessary fourth measure of sexual orientation to ensure accurate measurement, which can be accomplished by simply offering a contextualization for identity questions. For example, rather than sampling asking "How do you identify your sexual orientation?", the researcher could say "Thinking about interactions with your immediate family (parents, siblings, spouse), how do you identify your sexual orientation?". This will increase cognition of the question and ensure the answer provided matches the data sought by the researcher, as it appears from these findings that the answer to a basic question without context may very likely vary across racial/ethnic and SOGI groups.

CHAPTER 6

CONCLUSION

Research Objectives and Approach

This work attempted to better understand how sexual minorities self-identify in various social contexts, and how to accurately measure sexual orientation in research. This was accomplished in three parts: (1) a meta-synthesis of population based sexual orientation data from between 1985-2014; (2) cognitive interviews with 27 participants testing sexual orientation and disclosure questions; and (3) conducting a survey on sexual orientation with a community based sample.

A systematic review, including this meta-synthesis, allows for collecting, integrating, and analyzing results from various studies while also considering individual study design characteristics and their effects on effect size estimates (Borenstein et al. 2009). This work includes the consideration of study design characteristics, including which sexual orientation questions were asked (attraction, behavior, or self-identification), interviewer presence, and allows for a more comprehensive understanding of how and why estimates vary. This overview affords a strong baseline understanding of the state of the research estimates on sexual orientation.

Cognitive interviewing is commonly used in survey research to understand how targeted audiences (with similar attributes to the greater population of interest) comprehend, process, and respond to survey questions (Willis 2005). I used it here to understand the disclosure practices of sexual and multiple minority individuals and as a tool for evaluating survey questions to be used in the next stage of this research. Particular attention is paid to the respondent's difficulty understanding the question or recalling the information needed to answer it; this allows the question to be improved before including it in a production survey. Previous work on sexual identity development and disclosure suggests that respondents are able to place events in time, but little research has been done to better understand how the respondents recall the information necessary to answer these questions.

The survey research was a foundational study to test the measures of sexual orientation (self-identification, attraction and behavior) for congruency across the operationalizations. The LGB population is hard-to-sample, paying particular focus to the potentially sensitive or stigmatizing nature of the information sought on sexual orientation identity and disclosure, resulting in the use of a community based sample, that has been demonstrated to be effective in this population (Kreuter et al. 2008; Heckathorn 1997; Galupo et al. 2014; Bazarsky 2011).

Key Take-Aways From the Literature

Sexual orientation has been conceptualized to include from one to three elements: self-identification, behavior, and attraction (Berg and Lein 2006; Black et al. 2000; Brooks and Quina 2009; Gates 2014). Estimates of the lesbian, gay and bisexual (LGB) population range widely, from one to ten percent, and up to 21 percent, suggesting imprecision with the measurement (Dahlhamer et al. 2014; Sell et al. 1995; Laumann et al. 1994; Billy et al., 1993). The wide variation in estimates of this important demographic characteristic results from two primary factors. First, sexual identity questions are not routinely included in large nationally representative surveys. This omission increases the range of estimates by requiring greater reliance on non-representative surveys that are conducted without the resources typically afforded to large scale surveys. Second, the constructs used to measure sexual identity are often imperfect indicators because indicators do not necessarily correlate or measure as intended.

Gordon and Silva (2015) define sexual orientation as "a combination of attraction, behaviors, thoughts, feelings, and fantasies" and sexual identity as "the label we attach to ourselves to indicate to others our sexual orientation” (2015:500). This indication to others is also known as “coming out” or disclosure. The decision to disclose or which social identity to use as “primary” is highly contextualized, and may hinge on identity, behavior, or desire (Goode-Cross 2013; Fausto-Sterling 2007). While sexual orientation is an inherent characteristic of the individual, its realization and disclosure is a process that occurs throughout the life course (Minton and McDonald 1984; Kitzinger and Wilkinson 1995; Colman, 1982; Fassinger and Miller, 1996). Disclosure follows an expected script within situations. Although individuals cannot control to which sex they are attracted, they can choose which label they apply to themselves and with whom they share it (Gordon and Silva 2015; Hammock, Thompson and Pilecki 2009; Katz 1995; Diamond 2003, 2005).

Conclusions and Contributions to the Field

Having considered 34 identified studies, conducted between 1985-2014, the meta-synthesis resulted in population estimates ranging from 3.6 percent to 5.9 percent—depending on indicator—-with an overall population proportion estimate of 4.9 percent. Thinking about the multi-faceted approach to sexual orientation, estimates based on self-identification (4.4 percent) and behavior (5.0 percent) are similar, measurement heterogeneity was, as expected, highly significant.

The cognitive interviews yielded several key themes. First, this data suggests a single measure (i.e. "Are you out to close friends and family?") would not be interpreted in the same way by all respondents. Second, that disclosure as a stand-alone act is incongruous with discussion. The final theme is inconsistent disclosure that does not perfectly correlate with self-identity, often to the surprise of the participant.

The second major finding suggests that patterns of disclosure as reported by participants in these cognitive interviews identify that questions such as "Are you out?" would almost certainly yield one of two responses. The first, a general response, would answer a different question "Are you out *at all?*". Alternatively, respondents may be left asking themselves "What does this question mean? Do they mean am I out at work? To my parents? To my congregation?" and substituting contexts for themselves, another outcome likely to be undesirable to the researcher.

Third, three typologies of disclosers emerged: Unlikely, Likely and Always. Looking to social contexts, 5 to 15 percent of cases are Always Disclosers in any given setting and about 30 percent of gay men and lesbians are best categorized as Unlikely

Disclosers. While these findings suggest that the majority of individuals do disclose at least sometimes (70 percent), the key takeaway should be that when seeking to better understand sexual minorities, or generate an accurate measurement, need to consider the 30 percent who are unlikely to disclose. While they may disclose in survey settings, they are not disclosing in most other settings. Researchers should take this under consideration when developing measures and context for identity questions.

A fourth core theme emerging from this work centers on the intersection of sexual orientation and racial/ethnic identity. When considering race/ethnicity in predicting disclosure, non-whites were predicted to differ significantly from their white counterparts, by disclosing less frequently. Across gay and lesbian groups, those who are non-white are significantly more likely to be unlikely disclosers than their white counterparts. So in addition to considering the contexts of identity and disclosure, researchers must also consider the important differences in measurement concerns by race/ethnicity.

Limitations of the Work and Future Directions

The primary limitations of this work are the web-based recruitment strategies that solicited most of the participants and the inherent requirement of already being connected to SOGI or racial/ethnic groups to learn of this work. Relying so heavily on web-based recruitment strategies strongly suggests that these findings might be observed in the general population of SOGI minorities who are web-connected, but up to 25 percent of the general population may not have reliable access to the internet (Gallup 2014). These individuals are likely to differ significantly from those who are web-connected. Future research should focus on recruitment strategies that target this subset of the population. The second limitation of recruiting so heavily through SOGI and racial/ethnic social groups (again largely online) may be more difficult to address. While referral sampling strategies may work, future research should seek to better understand the similarities and differences of SOGI minorities who are, or are not, socially connected to other SOGI minorities. While several respondents in the cognitive interviews suggested minimal ties to SOGI groups, all had at least some connection - almost certainly making them very different from those very 'closeted' or otherwise disconnected from other SOGI individuals.

A key avenue for future research should seek to better understand how racial/ethnicity identities intersect with the development and disclose of sexual orientation identities across settings. Specifically, future research should further examine whether measurement of such an intersectional identity with one question requires greater cultural sensitivity, wording decisions or other factors to increase validity and reliability. Minority participants in the cognitive interviews provided some initial suggestions for these differences induing identity management, concealment, safety, and lack of acceptance/tolerance as key reasons for not disclosing. This anticipated hostile reaction to identities has been well documented in the literature, so adding to this body of work form both a measurement and intersectional perspective will substantially benefit the field. (Goode and Good-Cross 2009; Bowleg 2008; Ford et al. 2007).

Ideally, future research would utilize probability based samples to either validate or challenge these findings. While these findings corroborate previous studies, the limited focus on probability based sampling frames makes it difficult to make predictions about the general population with any confidence. Regardless of the sample used, future work should attempt to focus on several key components. First, consider and test various options for measurement, specifically the impact of adding a context to measurement questions. Second, acknowledge that being 'always out' is unlikely across groups for sexual minorities, even if individuals think of themselves as being fully 'out'. For others who acknowledge they are not 'always out', the context (i.e. at the doctor's office, with bosses) substantially alters how they think about and answer the question on their identities.

Several themes were identified during the course of this project that have not yet been considered. This serves as both a limitation for this work and paths for future research. These include the differences between the various terms often associated with sexual orientation such as 'sexual identity', 'sexual orientation', 'sex', 'gender', and 'intimacy'. Beyond examining how these terms are understood and employed, research should focus on better understanding how various interpretations (again, that vary by race/ethnicity) influence reports of sexual attraction, behavior, sexual orientation, sexual identity and disclosure.

BIOGRAPHICAL SKETCH OF AUTHOR

Justine A. Bulgar-Medina earned her Bachelor of Arts degree in Sociology and Political Science from Northeastern University in Boston, Massachusetts in 2007. She earned her Master of Arts degree in Sociology from the University of New Hampshire in 2013. This dissertation is presented in partial fulfillment of the requirements for the degree of Doctor of Philosophy at the University of Massachusetts Boston in the field of Sociology. During her Ph.D. program, Justine also completed the Graduate Certificate in Survey Methodology through the Sociology Department and the Center for Survey Research at the University of Massachusetts Boston. This certificate requires coursework in applied statistics, survey methodology, sampling, questionnaire design and analysis.

Following completion of the doctoral program, Justine joined the Statistics and Methodology Department at NORC @ the University of Chicago as a Research Methodologist III, and Northwestern University's Masters of Public Policy program as affiliated graduate faculty. Justine's research interests and expertise include social identity, sexual orientation and gender identity, survey methodology, research methods, and measurement error.

APPENDIX

A. ADDITIONAL FIGURES (CHAPTER 3)

FIGURE 1: Proportion Estimates (Inclusive of all Studies)

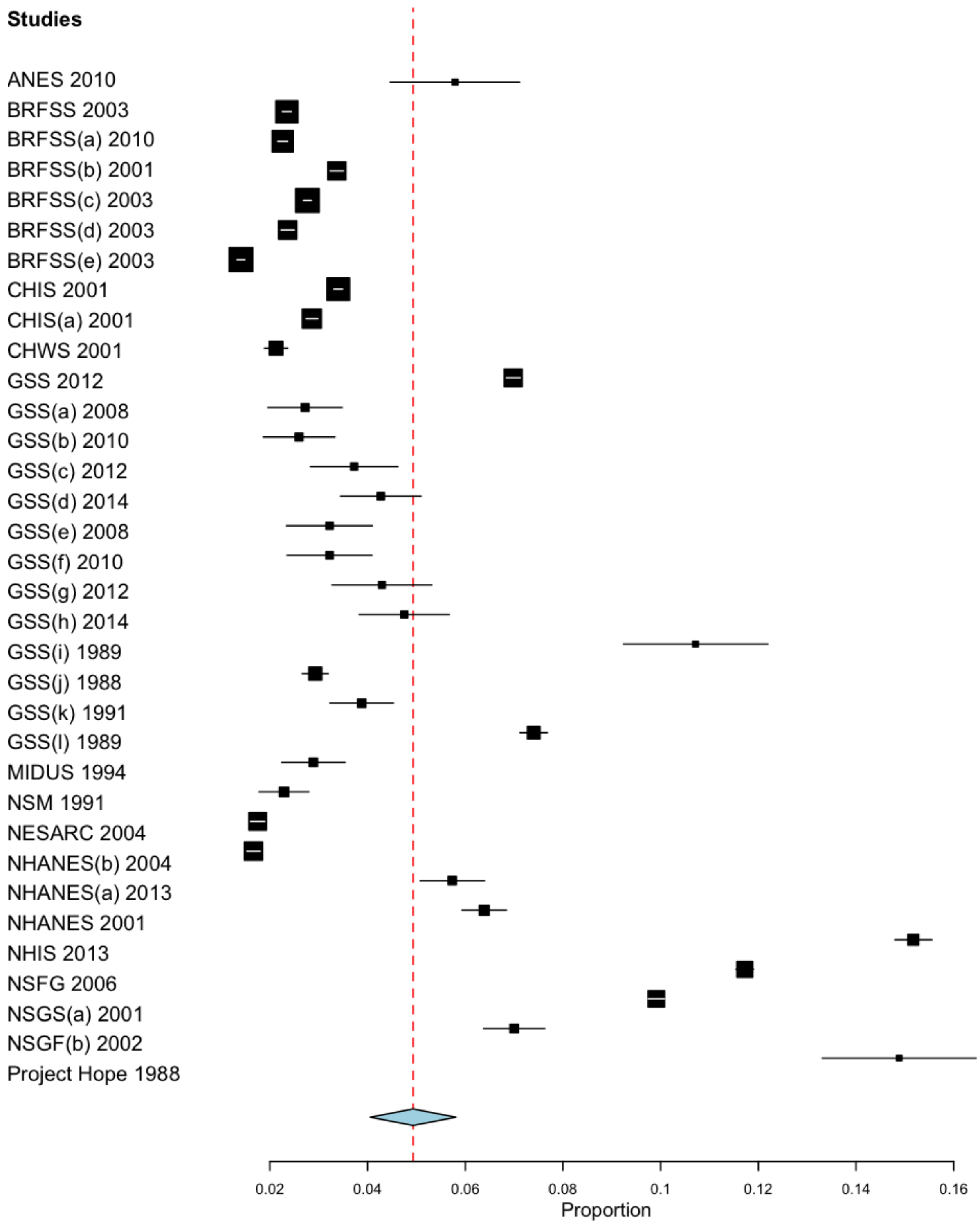


FIGURE 2: Self-Identification Proportion Estimates

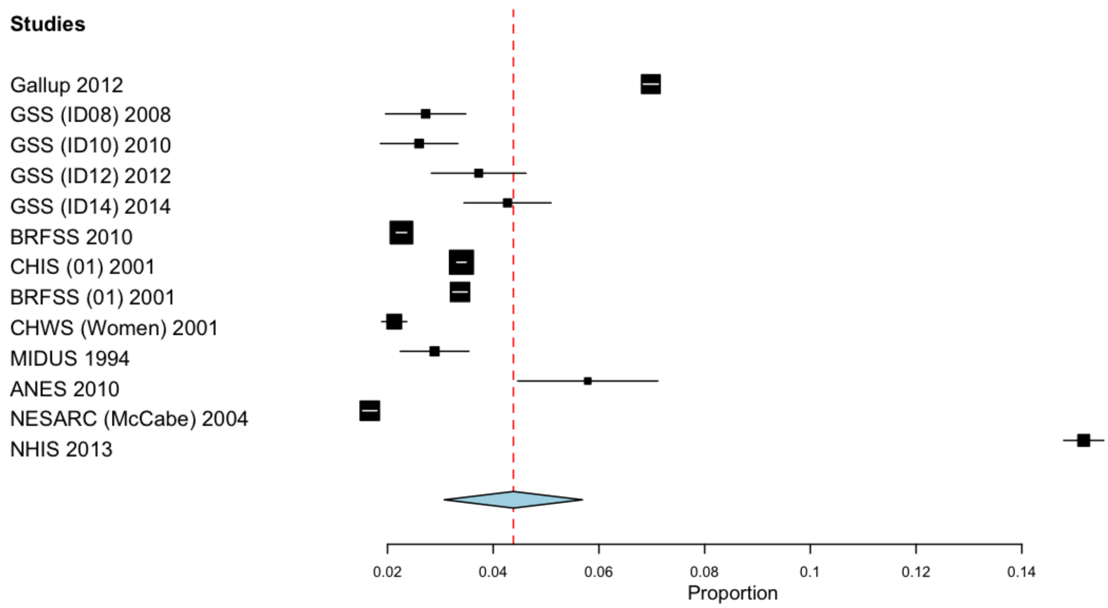


FIGURE 3: Behavior Proportion Estimates

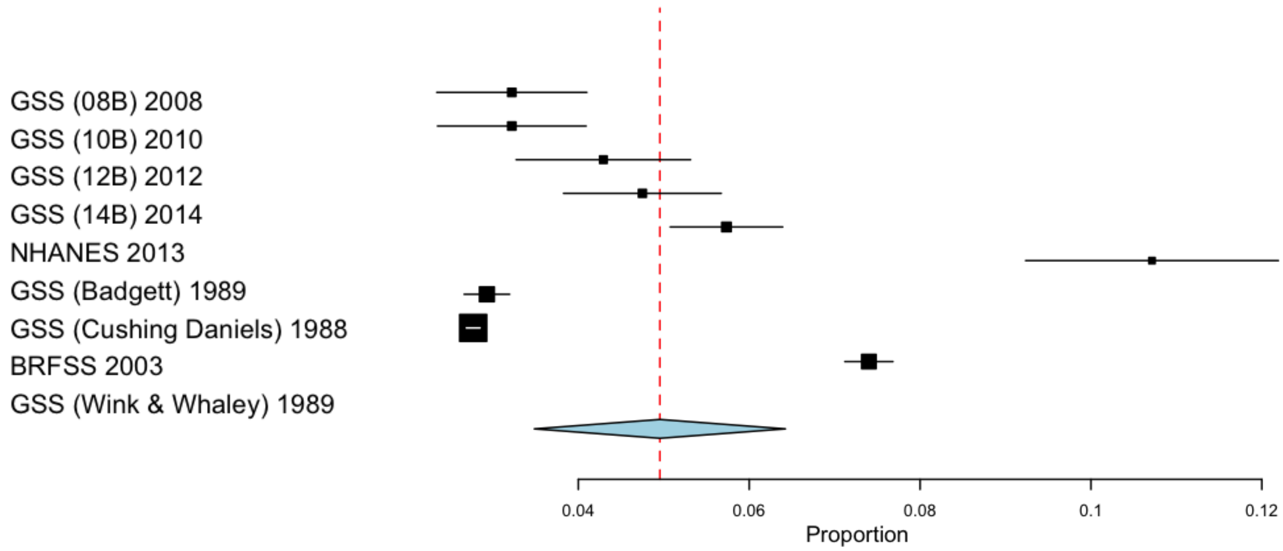


FIGURE 4: All Three Measures

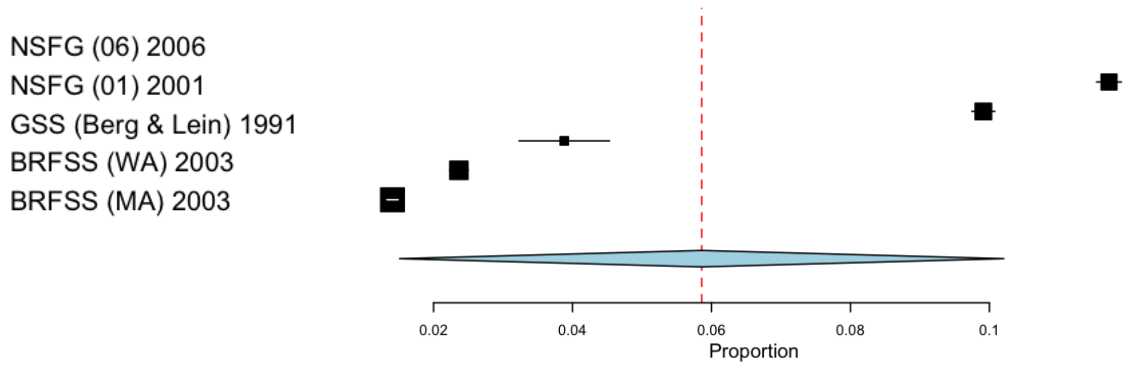


FIGURE 5: Identity & Behavior

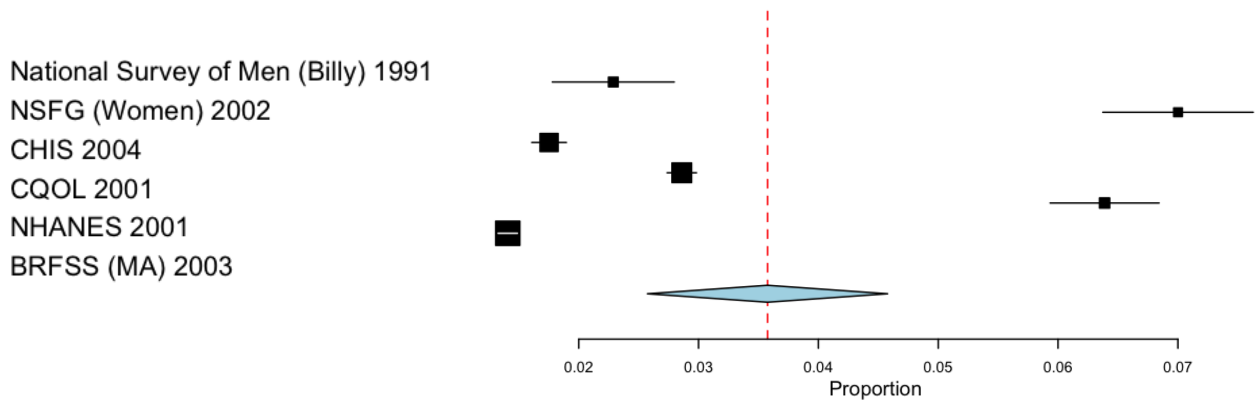


FIGURE 6: Limited to No Effect: Self-Administered Questions

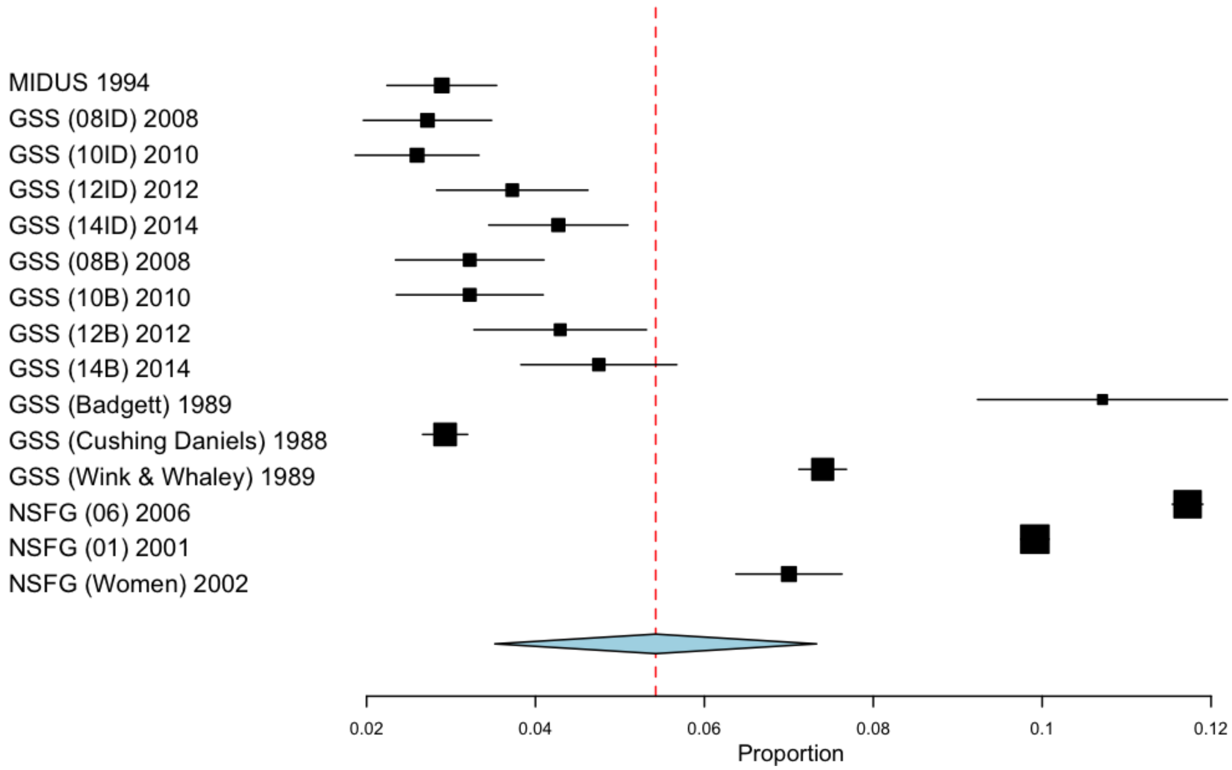


FIGURE 7: Potential Interviewer Effect: Interviewer Administered or Present

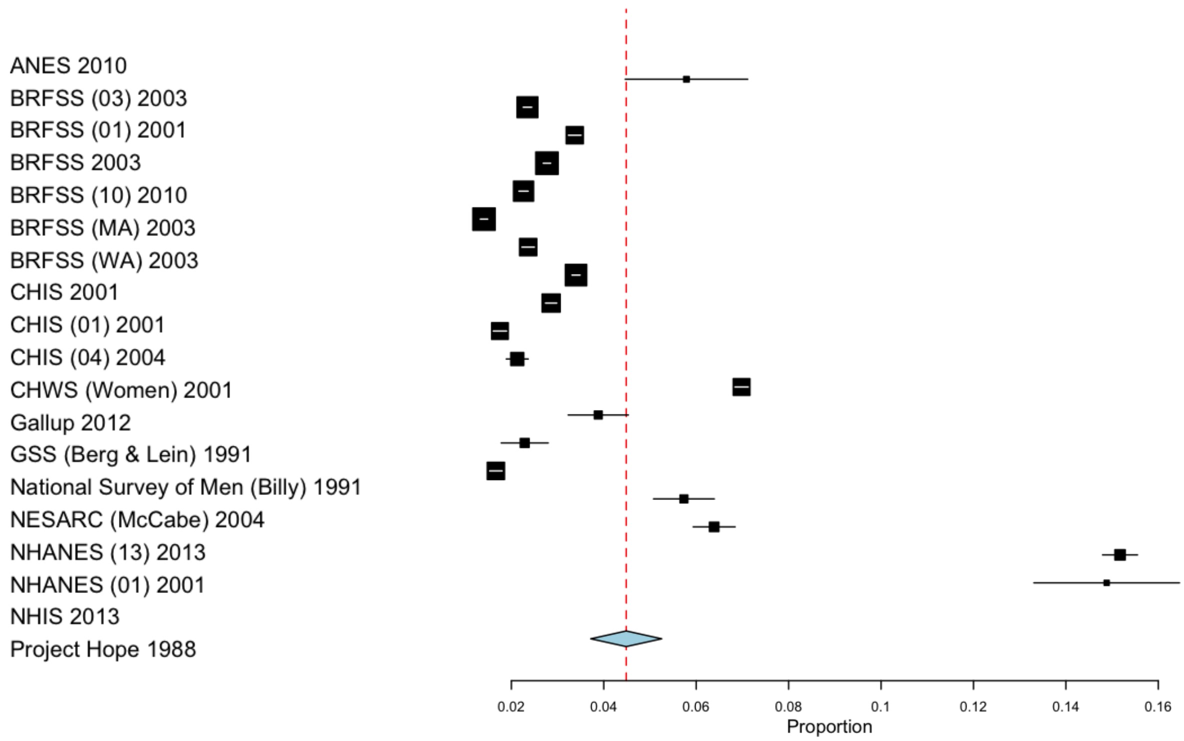
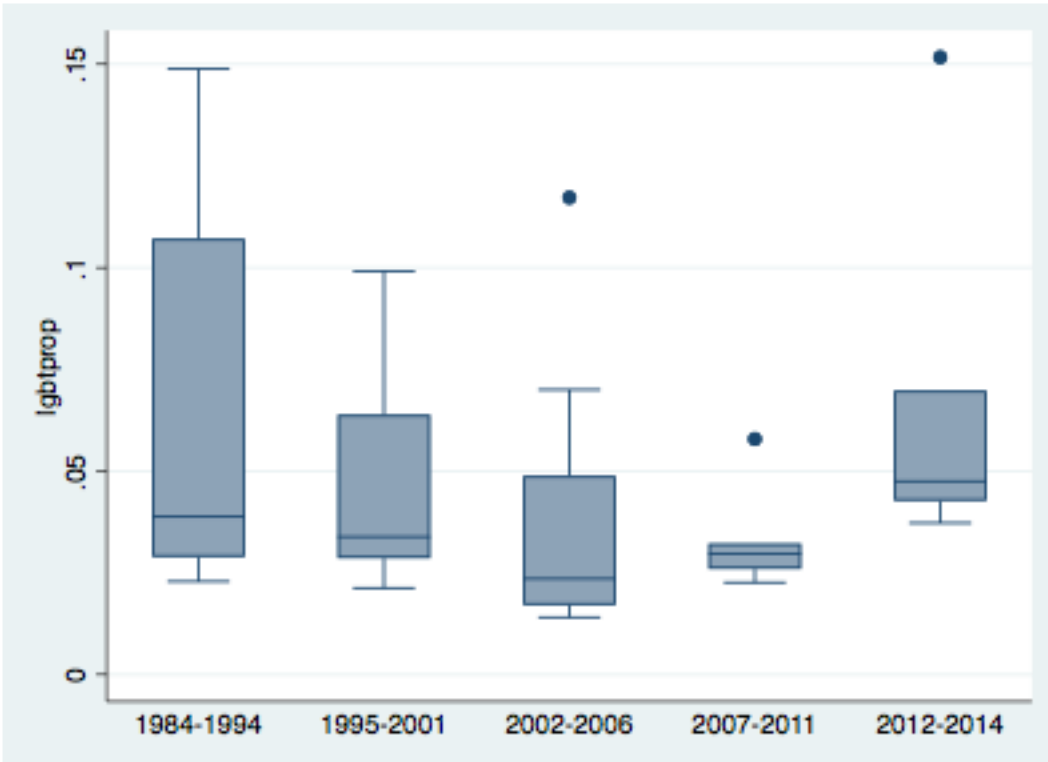


FIGURE 8: LGB Proportion by Year



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