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SOCIAL JUSTICE IMPLICATIONS OF INCLUSIVE MEASURES OF
SEXUAL AND GENDER MINORITY POPULATIONS

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SOCIAL JUSTICE IMPLICATIONS OF INCLUSIVE MEASURES OF
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DEDICATION

This work is dedicated to the countless individuals who have lost their lives simply for being *queer*. In many instances, these individuals were unable to find hope in a hopeless environment. In the past decades, there has been growing support for diversity, inclusion, and equality across the globe. However, this sentiment is not always enough. It is lacking when those who are deemed *queer* do not see others like themselves in their own communities. When they see someone like themselves, they see a future, they set goals, and then they have hope.

My pain is not caused because I am gay. My pain is caused by how I was treated because I am gay.

– Eric James Borges, 2012

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ABSTRACT

The understanding of human sexuality has continued to expand, and has led to an increased understanding of the diversity comprising the sexual and gender minority population. Despite this broadened knowledge base, researchers continually assess sexuality by less-than inclusive means. As such, there are extensive variations in population estimates. The primary focus of this study is to explore the impact of expanding the assessment of SGM status. The secondary focus of this study is to explore how positive social institutions affect well-being through hope. Study participants ($N = 628$) completed an anonymous online questionnaire answering two series of items about sexuality as well as items assessing positive social institutions, hope, and flourishing. Results indicate a significant change ($p < .001$) in proportions of those identifying as sexual and gender minority based on two different assessment methods. Further, SEM results support that social supports drive hope ($\beta = .772, p < .001$; *BCa* 95% CI [.717, .820]) which, in turn, drives flourishing ($\beta = .476, p < .001$; *BCa* 95% CI [.348, .587]). Finally, the sexual and gender minority population report lower rates of social supports, hope, and flourishing compared to the cisgender/heterosexual population ($p < .001$). These findings suggest the importance of inclusively assessing sexuality and the role that social supports serve in building hope and flourishing, and that interventions need to be designed to address the lower levels of social supports in the sexual and gender minority population in order to impact levels of hope and flourishing.

Keywords: flourishing, hope, positive psychology, LGBTQ, sexual and gender minority, sexuality, social support.

CHAPTER I

INTRODUCTION

The only thing that they have to look forward to is hope. And YOU have to give them hope. Hope for a better world. Hope for a better tomorrow. Hope for a place to go to if the pressures at home are too great. Hope that all will be alright. Without *hope* not only the gays but the blacks, the seniors, the poor, the handicapped, the US's give up...

– Harvey Milk, 1978

In 1977, an openly gay man named Harvey Milk was elected to the San Francisco Board of Supervisors (Shilts, 1982). In countless speeches and interviews, Harvey Milk referenced the importance of hope to young people across America who faced discrimination based on their sexuality (Black & Morris, 2013). Nearly 20 years after the assassination of Harvey Milk, Snyder (1994) began emphasizing the importance of hope as a psychological construct. Despite the continued growth in research surrounding the psychological construct of hope, there is minimal research focusing on the importance of hope within sexual and gender minority (SGM)¹ populations (Riggle, Whitman, Olson, Rostosky, & Strong, 2008; Savin-Williams, 2008).

Over the past 20 years, research focusing on SGM populations has increased, furthering our understanding of sociodemographic factors such as population estimates (Gates, 2011; Gay and Lesbian Alliance Against Defamation [GLAAD], 2017) as well as a host of social and psychological difficulties faced by this population (Centers for

¹ Sexual and gender minority (SGM) as well as sexual, gender, and romantic minority (SGRM), and gender and sexual minority (GSM) are a few of the larger umbrella terms gaining widespread usage within the social sciences to illustrate the complex diversity relating to sex, gender, gender identity, gender expression, and sexual orientation.

Disease Control and Prevention [CDC], 2016; Greenwood et al., 2002; Hirsch, Cohn, Rowe, & Rimmer, 2016; McCabe, Hughes, Bostwick, West, & Boyd, 2009; McManama O'Brien, Putney, Hebert, Falk, & Aguinaldo, 2016; Messinger, 2011; Rice et al., 2015; Rothman, Exner, & Baughman, 2011). The primary focus of this study is to explore the impact of expanding the assessment of SGM status. The secondary focus of this study is to explore how positive social institutions affect well-being through hope. While much of the existing research focuses on social problems and negative aspects of well-being for those identifying as SGM, there has been less of a focus on positive aspects of this population such as social support, and hope (Vaughan et al., 2014; Vaughan & Rodriguez, 2014).

One domain of SGM research has focused on exploring how this population is defined and measured (Sell, 1996; 1997). Despite a broadened understanding of sexuality, many researchers continue to use a binary measure (i.e., LGBT² or heterosexual). Thus, one of the current problems within literature focusing on SGM populations is the narrow definition of the population. As a result, researchers may be underestimating the size of the population, omitting some groups of individuals altogether, or placing individuals in incorrect categories (Westbrook & Saperstein, 2015). By broadening definitions and expanding categories associated with SGM populations, interventions may better target this population. Such reframing also expands the capacity for exploring intergroup differences. This study explores the importance of accurately classifying individuals identifiable as SGM and the importance of positive social institutions as an antecedent of hope, which then impacts

² LGBT is a widely used acronym for lesbian, gay, bisexual, and transgender. Additionally, this acronym may be referred to as GLBT.

overall well-being. Within this study, use of the terms *sex*,³ *gender*,⁴ *gender identity*,⁵ *gender expression*,⁶ and *sexual orientation*⁷ follow the definitions recommended by the American Psychological Association (2012).

STATEMENT OF THE PROBLEM

Research regarding SGM populations within the social sciences has significantly grown over the past 20 years. However, due to the lack of competencies relating to lesbian, gay, bisexual, transgender, and queer (LGBTQ) populations, many professional programs within higher education continue to spend little time appropriately educating students about this population (Boroughs, Andres Bedoya, O’Cleirigh, & Safren, 2015; McCarty-Caplan, 2017). This limited understanding about sex, gender, gender identity, gender expression, and sexual orientation often convolutes research due to confusion of terminology (Westbrook & Saperstein, 2015) and disagreement on the constructs comprising human sexuality (Saewyc et al., 2004). Thus, there are potential inaccuracies relating to the size and make-up of the population, which can have lasting effects on the development of programs to aid this community, and to understanding the implications of discriminatory behaviors directed toward the community. In 2011, the Williams Institute (Gates, 2011) reported approximately 3.5% of American adults

³ “a person’s biological status . . . characterized as male, female, or intersex . . . [having a number of indicators] . . . including sex chromosomes, gonads, internal reproductive organs, and external genitalia” (American Psychological Association, 2012, p. 11).

⁴ “attitudes, feelings, and behaviors that a given culture associates with a person’s biological sex” (American Psychological Association, 2012, p. 11).

⁵ “one’s sense of oneself as male, female, or transgender” (American Psychological Association, 2012, p. 11).

⁶ “the way in which a person acts to communicate gender within a given culture. . . . A person’s gender expression may not be consistent with socially prescribed gender roles, and may not reflect his or her gender identity” (American Psychological Association, 2012, p. 11).

⁷ “the sex of those whom one is sexually or romantically attracted to” (American Psychological Association, 2012, p. 11).

identify as bisexual, lesbian, and gay (1.8% bisexual, 1.7% lesbian and gay) and approximately 0.3% identify as transgender. This equates to approximately 9 million Americans *identifying* as either bisexual, lesbian, gay, and/or transgender. The same study indicated approximately 8.2% or 19 million Americans reported having engaged in same-sex sexual activity and 11% or 26 million Americans have some degree of same-sex sexual attraction. The discrepancies between those self-identifying their sexual orientation or gender identity as bisexual, lesbian, gay, and/or transgender, and those who may or may not identify as such, but have had same-sex sexual activity or experience physical attraction to members of the same sex indicates the size of the SGM population is potentially larger than traditionally thought.

STATEMENT OF THE PURPOSE

This study has three aims. First, it aims to assess sexual identities comparing the standard binary method and a more inclusive method as suggested by the Williams Institute (2009) and Sell (1996). Assessing sexual identities using both methods allows for the direct comparison of proportions of the SGM population by assessment technique. Of note, in a pilot of this study using this method, the SGM population more than doubled from 19% to 44% (Bragg, Havig, & Munoz, n.d.). The second aim of this study is to explore the effects of positive social institutions as an antecedent of hope, which in turn drives flourishing. The third aim includes a comparison of the levels of positive social institutions, hope, and flourishing within both the SGM population and the cisgender⁸/heterosexual population. Demonstrating the potential underestimates of the size of the SGM population leads to the realization that the negative consequences

⁸ “A person whose sex assigned at birth and gender identify align” (Killermann, 2017, p. 260).

of forming a minority identity impact more individuals. With an increased population facing negative effects, attention must be turned to addressing said effects. By demonstrating the importance of social supports in building hope, and increasing overall flourishing, and that the SGM population has lower rates of social supports, hope, and flourishing, attention can be turned to designing interventions impacting social supports for the SGM population.

SIGNIFICANCE OF THE STUDY

Using standard assessment techniques, social scientists have already identified numerous adverse impacts of having formed a SGM identity (this is explored further in later sections). However, the focus on traditional measurements may contribute to an underestimate of the SGM population. Obtaining a more accurate count of the SGM population has the potential to inform the development, expansion, redesign, and funding of the many social services that target this population. Further, by examining the impact of positive social institutions, recommendations regarding building and strengthening social supports in the lives of those identifiable as SGM can be made.

RESEARCH QUESTIONS AND HYPOTHESES

The three research questions guiding this study are:

Research Question 1

Will there be a statistically significant increase in the reporting rate of sexual and gender minority status using a more inclusive method versus the traditional method?

Hypothesis 1

Queer theory would support the concept that allowing individuals more freedom to define themselves will lead to increased diversity. Therefore, the proportions of cisgender/heterosexual and sexual and gender minority individuals will be significantly different, with a greater proportion of SGM individuals identified based on the more inclusive method.

Research Question 2

Does the perception of positive social institutions in the form of social supports serve as an antecedent of flourishing mediated by their relationship with hope?

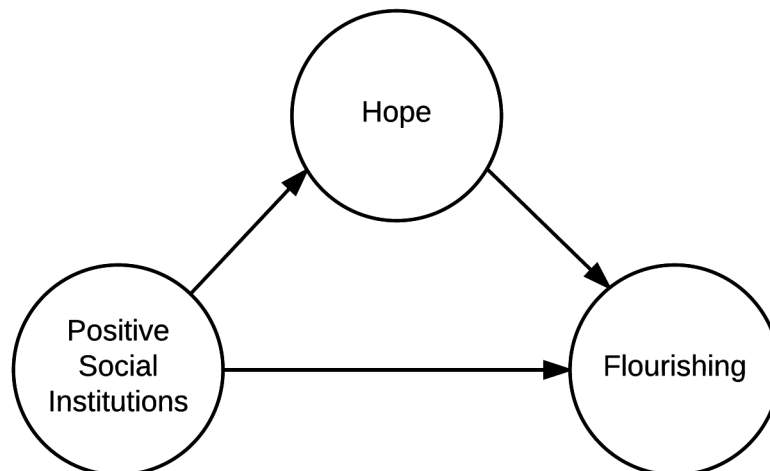


Figure 1. Proposed structural model.

Hypothesis 2

Per hope theory (Lopez, et al., 2012), other individuals will serve as pathways allowing for the formation of goals. Therefore, the perception of positive social institutions in the form of social supports will serve as an antecedent of flourishing mediated by hope.

Research Question 3A

Is there a significant difference in the levels of social support within the cisgender/heterosexual population compared to the SGM population?

Hypothesis 3A

Isolation and stigmatization, as supported by minority stress theory (Meyer, 1995; Meyer & Dean, 1998; Pearlin, 1982) will lead to SGM individuals reporting significantly lower levels of social support than cisgender/heterosexual individuals.

Research Question 3B

Is there a significant difference in levels of hope within the cisgender/heterosexual population and the SGM population?

Hypothesis 3B

Per hope theory's explanation that supportive environments lead to increases in hope (Lopez, et al., 2012), SGM individuals will report significantly lower levels of hope than cisgender/heterosexual individuals.

Research Question 3C

Is there a significant difference in the levels of flourishing within the cisgender/heterosexual population and the SGM population?

Hypothesis 3C

Due to lower levels of social support and hope, hope theory would suggest SGM individuals will report significantly lower levels of flourishing than cisgender/heterosexual individuals (Lopez, et al., 2012).

ORGANIZATION OF THE STUDY

Chapter 1 began with a brief overview of the growth in sexuality research including sex, gender, gender identity, gender expression, and sexual orientation. Following this was an exploration of the development of research relating to hope and the negative consequences of forming a minority sexual identity. This information included setting the importance for understanding the potential size of the SGM population, social and community interactions, the statement of the problem, the overall purpose and significance of the study, and the organization of the study.

The literature review forms the second chapter. There are three major sections within this chapter: (a) sexuality, including expansion of knowledge, measurement, and population estimates; (b) overall effects of sexuality on well-being, and (c) the use of positive psychology within the SGM population. The first section covers the concepts of biological sex, social construction of gender, gender identity, gender expression, and the components making up sexual orientation. The following two subsections explore how sexuality is assessed within the confines of research and the estimated size of the SGM population based on those assessments. The second section addresses how the knowledge base surrounding sexuality has expanded and continues to expand.

Following this is an examination of the literature regarding the effects on well-being for those who develop a minority sexual identity. Lastly is an overview of the positive psychological constructs of positive social institutions (social supports), hope, and flourishing.

Chapter 3 is an overview of the methodology used in the study. The methodology section includes an overview of the measures used, data collection, and

pertinent methods introduced. Of importance to this study is a clear explanation of the use of McNemar's test and the use of structural equation modeling. The results are presented in Chapter 4 and include all findings pertaining to potential changes in the size of the SGM population, results of the proposed structural model, and differences in social supports, hope, and flourishing in both populations. Lastly, Chapter 5 is a presentation of the potential implications of the findings, the study's limitations, and directions for future research relating to sexuality within the social sciences.

CHAPTER II

LITERATURE REVIEW

Should a young person feel that the environment tries to deny him too radically of all forms of expression which permit him to develop and integrate the next step, he may resist with the wild strength encountered in animals that are suddenly forced to defend their lives. For, indeed, in the social jungle of human existence, there is no feeling of being alive without a sense of identity.

– Erik Erikson, 1968

Sexual identity is but one component of an individual's identity (Saewyc et al., 2004). Research pertaining to sexuality has led to an increased understanding of its complexity. This includes multiple factors of sexual orientation, fluidity of sexual orientation, gender, and gender identity; and has resulted in varied terms used to categorize this population (Freidman et al., 2004; Katz-Wise, 2015; Sell, 1997). Sexual and gender minority population estimates are varied due to the differences in interpretation of sexual orientation and gender identity (CDC, 2016; Gates, 2011; GLAAD, 2017). Despite variations in population estimates, the constant of the SGM population having higher prevalence rates and proportions of negative impacts remains (Russell & Fish, 2016). This chapter will explore sexuality, assessment and categorization as SGM, expansion of sexuality, the effects of being labeled as SGM, and positive psychological constructs which may decrease these negative effects.

SEXUALITY

Sexuality is a combination of social experiences and attributes including sex, gender, gender identity, gender expression, and sexual orientation (Tolman et al., 2014). There is, however, disagreement among social scientists on how to best assess

sexuality. This disagreement specifically concerns what components to assess and how to assess them (Saewyc et al., 2004). There is a need for clear definitions of the primary constructs to assess sexuality. The usage of the words *sex*, *gender*, *gender identity*, *gender expression*, and *sexual orientation* within this study will adhere to the definitions from the American Psychological Association (APA; 2012).

Sex and *gender* are two terms that have become intertwined and often used synonymously with one another. However, the definition of these terms could not be more different. On the most basic level, the term *sex* refers only to the biology of the person in question. The APA (2012) defines sex as

a person's biological status and is typically characterized as male, female, or intersex (i.e., atypical combinations of features that usually distinguish male from female). There are a number of indicators of biological sex, including sex chromosomes, gonads, internal reproductive organs, and external genitalia. (p. 11)

This definition views *sex* as purely a biological process and not related to gender.

Therefore, sex should not be used interchangeably with the societal concerns of gender and gender conformity.

Routinely confused with the biological construct of *sex*, *gender* deals with the interpretation of what is socially acceptable behavior for someone of a particular sex.

The APA (2012) classifies *gender* as

the attitudes, feelings, and behaviors that a given culture associates with a person's biological sex. Behavior that is compatible with cultural expectations is referred to as gender-normative; behaviors that are viewed as incompatible with these expectations constitute gender non-conformity. (p. 11)

When considering gender (masculine and feminine behaviors), one should consider gender conformity and gender nonconformity. Traditionally, society places an emphasis on men as the masculine gender and women as the feminine gender

(Plummer, 1996; Troiden, 1988). As illustrated by the APA's definition of gender, gender conformity alludes to behaviors which are in line with what society believes are socially acceptable for a particular sex. Alternatively, gender nonconformity refers to behaviors not considered socially acceptable for a particular sex. To simplify, gender is focused on stereotypical behaviors associated with a particular biological sex, and therefore, there are variations in gender across cultures and time.

Not to be confused with gender, *gender identity* is the interplay between sex and gender itself. *Gender identity*, as defined by the APA (2012) is

one's sense of oneself as male, female, or transgender . . . when one's gender identity and biological sex are not congruent, the individual may identify as transsexual or as another transgender category. (p. 11)

With the understanding of gender identity as the perception of self, gender identity is no longer burdened by a person's biological sex or the confines of gender. Over time, every person develops a sense of who they are. This explains why gender identity is a separate construct from sex and gender. Therefore, there can be incongruity within the assigned taxonomy of an individual and how that individual identifies. As such, the APA included in their 2012 guidelines the fact that people may identify as transsexual, transgender, or other categories which do not fall within the traditional definitions.

With society's attempt to group individuals into predefined categories (e.g., LGBTQ) and to simplify language using SGM, there has been growing confusion as to the differences in some of these terms. For example, *gender expression*, not to be confused with gender identity, is defined by the APA (2012) as the

way in which a person acts to communicate gender within a given culture; for example, in terms of clothing, communication patterns and interests. A person's gender expression may or may not be consistent with socially prescribed gender roles, and may or may not reflect his or her gender identity. (p. 11)

This definition, at its core, refers to an individual's outward expression. Gender expression can be different from an individual's sex, gender, gender identity, and even sexual orientation. Therefore, with gender expression being a separate construct, an individual is free to express who they are in any manner regardless of any of the other aforementioned categories.

Variations in sexual orientation have been present throughout history, and there are varying degrees of acceptance of sexual orientation and their variations in cultures overtime (Foucault, 1979, 1985, 1986). The APA (2012) defines *sexual orientation* as

the sex of those to whom one is sexually and romantically attracted. Categories of sexual orientation typically have included attraction to members of one's own sex (gay men or lesbians), attraction to members of the other sex (heterosexuals), and attraction to members of both sexes (bisexuals). While these categories continue to be widely used, research has suggested that sexual orientation does not always appear in such definable categories and instead occurs on a continuum. . . . In addition, some research indicates that sexual orientation is fluid for some people. (p. 11)

Extensive studies have been conducted regarding sexual orientation. Some researchers have found that heterosexual and homosexual tendencies are negatively correlated (Kinsey, Pomeroy, & Martin, 1948; Kinsey, Pomeroy, Martin, & Gebhard, 1953), while others have indicated these variables operate independently of one another (Shively & De Cecco, 1977). Others have stated sexual orientation is static and never changing (Diamond, 2008), and others still have illustrated how sexual orientation is fluid and ever changing (Golden, 1996; Kinnish, Strassberg, & Turner, 2005; Kitzinger & Wilkinson, 1995; Weinberg, Williams, & Pryor, 1994). It is apparent consistently that sexual orientation deals exclusively with sexual and/or romantic attraction and within the confines of development, it does not occur instantaneously. Yet, sexual orientation is primarily assessed based solely on self-identification and not attraction or intimacy,

which suggests that such assessment does not provide a clear picture of the entire population (Freidman et al., 2004).

QUEER THEORY

Queer theory has the potential to enrich how social science researchers assess sexuality. As a poststructural critical theory, queer theory emphasizes the deconstruction of binary constructs, most notably related to elements of sexuality (Butler, 2006; Kosofsky Sedgwick, 2008). Queer theory is closely associated with feminist theories and provides for an examination of how social interactions, as opposed to biology, leads to continued propagation of heterosexuality (Tolman & Diamond, 2014). Tolman and Diamond built upon the prior theoretical models of the propagation of heterosexuality by using queer theory to challenge the traditional binary paradigms associated with sexuality (heterosexual–homosexual), gender (masculine–feminine), sex (male–female), what is natural and unnatural, and what is deemed normal or deviant. These binaries are created via conflicts of “scientific facts and natural facts” (Balzer Carr, Ben Hagai, & Zurbriggen, 2017, p. 667). Therefore, queer theorists are opposed to the concept of creating binaries which result in the notion that gender is a result of biology, and is equally dispersed among the sexes with males masculine, and females feminine (Warner, 1993).

Queer theory allows for the interpretation of how binary constructs, including sex and gender, lead to the legitimacy of said categories, resulting in increased social prestige and political power (Kosofsky Sedgwick, 2008; Warner, 1993). In binary relationships, more emphasis is placed on the primary construct (e.g. males) resulting in an understanding of what it means to be classified as such, with less emphasis on the

secondary construct (e.g. females) (Sullivan, 2003; Wilchins, 2004). Those who are assigned to the secondary construct are continually in search of meaning and routinely required to define the construct to outsiders. Regarding sexuality, society's acceptance of this binary structure leads to the widespread acceptance of *heteronormativity*.⁹ An aspect key in challenging the degree of heteronormativity found in present society is the use of queer theory. Queer theory's deconstructive nature does not stop with heteronormativity, but can also challenge other binary constructs including race (Sullivan, 2003; Wilchins, 2004).

EXPANSION OF SEXUAL IDENTITY

One aspect of identity development is developing a *sexual identity*, which includes both sexual orientation and gender identity. The traditional view is that sexual orientation is stable once developed (Bell, Weinberg, & Hammersmith, 1981; Money, 1988). However, recent research has suggested that sexual orientation does not always remain stable, and that for some, both sexual orientation and gender identity is *fluid* or evolving (Diamond, 2008; Katz-Wise, 2015; Ott, Corliss, Wypij, Rosario, & Austin, 2011). Moreover, researchers have demonstrated all individuals possess some degree of sexual fluidity regardless of their sexual orientation (Weinberg et al., 1994).

A potential explanation for this fluidity is that sexual orientation is multifaceted and contains romantic and sexual attractions, self-identification of sexual orientation, and sexual activity (Institute of Medicine, 2011; Rosario & Schrimshaw, 2014). Further, the basis of sexual fluidity is that at least one component of sexuality changes over time (Diamond, 2008; Katz-Wise, 2015). Due to the recent increased

⁹ *Heteronormativity* is the process of normalizing gender conformity and heterosexuality (Herz & Johansson, 2015).

understanding of fluidity in sexual orientation and the complex and multifaceted nature of gender identity, it is important that researchers further explore these concepts.

Research, knowledge, and understanding of sexual orientation and identities continue to expand. The modern-day terms used are also a reflection of historical events, social context, and scientific knowledge and research. The traditional definition of *homosexuality* can be traced to 1892 when the term first appeared in the Oxford English Dictionary (Katz, as cited in Zosky & Alberts, 2016). From this point forward, the taxonomy used to describe nonheteronormative individuals began to evolve. The term *gay* was first used in in-group communication around the 1920s (Bronstema, 2004), and by the 1970s, the term was used more widely due to activist groups such as the National Gay Task Force (Jacobs, 1998). Similarly, the term *lesbian* emerged to define female homosexuality as a result of the feminist movement (Shapiro, 1990).

Some terms, such as *queer*, have also evolved to mean different things at different times. Traditionally, the term *queer* was used with a negative connotation to describe individuals as odd, peculiar, or non-normative (Bronstema, 2004). More recently, the term was reappropriated by members of the SGM community and now describes individuals whose gender flows on a continuum of masculinity and femininity or their sexual orientation falls outside of the traditional binary (Zosky & Alberts, 2016).

Multiple examples of the ways in which terms evolve and become used exist in social media. In 2014, Facebook shifted from the traditional 'gender' binary of male/female and included a "custom" option which included 56 options of gender and pronoun choices of he, she, or them (Bivens, 2015; Goldman, 2014). Additionally,

Oakley (2016) reviewed Tumblr pages to select individuals identifiable as either lesbian, gay, bisexual, transgender, queer, questioning, intersex, or asexual, resulting in 186 users. Oakley (2016) revealed that Tumblr users chose a variety of pronouns; 36.5% used they/them,¹⁰ 24.2 identified as transgender, 17.7% identified as genderfluid, 14.5% identified as genderqueer, and 9.7% as agender.

In summary, the terms used to describe sexual and gender identity continue to evolve. Preliminary evidence highlights the need for additional exploration of the terms and expansion of how SGM populations are counted, identified, and measured. Even with increases in knowledge regarding sexuality, implementation of assessment and categorization of SGM populations is fraught with challenges including the concept of fluidity (Westbrook & Saperstein, 2015) and what components of sexuality to include (Saewyc et al., 2015). Measurement of SGM populations may benefit from integrating this increased knowledge regarding sexuality, which may lead to increased representation within studies. Therefore, research examining new methods of assessing sex, gender, gender identity, gender expression, and sexual orientation is needed.

MEASUREMENT OF SEXUAL AND GENDER MINORITY POPULATIONS

Despite a broadening understanding of sexuality, survey instruments in the social sciences continue to rely on assessment methods that are less than inclusive. Researchers continue to define sexuality in binary categories of homosexual and heterosexual despite understanding the inherent complexity of the subject, or perhaps for ease of measurement by limiting the number of categories from which to choose. When these binary categories are used, the conflation of sex, gender, gender identity,

¹⁰ They/them are gender neutral pronouns used by gender nonbinary individuals in place of he/his or him/her.

gender expression, and sexual orientation occurs. Ample research has used the acronym LGBTQ, however doing so either lumps these individuals together in a nonhelpful way or researchers organize subjects using these categories, which may not be mutually exclusive of one another. Through using standardized definitions of sex, gender, gender identity, gender expression, and sexual orientation, separation of these categories begin to emerge (Bosse & Chiodo, 2016).

Despite a growing understanding of sexuality as multifaceted, researchers have advocated for the continued use of standardized questions to maintain continuity of research in longitudinal studies (Krosnick & Presser, 2010). A review of four of the largest social science surveys (the U.S. American National Election Study [ANES], Panel Study of Income Dynamics [PSID], General Social Science Survey [GSS], and National Longitudinal Survey of Youth [NLYS]; Westbrook & Saperstein, 2015) found frequent misuse of the constructs of sex and gender. For example, throughout reports from the ANES, PSID, GSS, and NLYS studies, the authors interchangeably used *sex* and *gender* in the same paragraph.

Further, many research methodology texts often conflate sex and gender. In *The Handbook for Social Work Research Methods*, the author states, “the call for gender-sensitive research has prompted researchers to make a clear distinction between sex and gender” (Thyer, 2010, p. 582). Despite this, the same textbook references gender as an example for nominal variables where “numbers are assigned to the categories (male = 1, female = 2)” (p. 53). The problem of conflating gender and sex within educational texts is widespread; gender is similarly used in another text as an example of a dichotomously coded variable of male and female (Warner, 2013, p. 1082).

Differentiating sex and gender becomes more difficult in research when the person making the determination is not the respondent. For example, in the American National Election Study, the interviewer assigns the respondent a sex/gender based on observation (Westbrook & Saperstein, 2015). In fact, Hillygus (2016) demonstrated in the most respected national election polls, the interviewer assigned gender (again conflated with sex) based on a combination of voice and the respondent's name. The difficulty in assessing sex and gender increases in regard to fluidity. The PSID, NLSY, and ANES either have stopped asking for respondents' sex or gender after the first year or carries this variable over year-to-year, assuming that these variables do not or may not change over time (Westbrook & Saperstein, 2015). By not ascertaining a respondent's sex and or gender at multiple points in time, researchers are conducting research not only in a heteronormative way, but also in a *cisnormative*¹¹ fashion (Bauer et al., 2009). While many of these surveys include measures of sexual identity, the categories are small and there is little uniformity in the categories used (Saewyc et al., 2004).

There are many potential explanations for these ongoing measurement issues. These include, but are not limited to disagreement on the definition and components of sexual orientation (Saewyc et al., 2004) or the need for shorter or more efficient surveys (Bittner & Goodyear-Grant, 2017; Sell, 1997). The most common measures of sexual orientation also vary in definitions of sexual experiences. For example, the Kinsey Scale (Kinsey et al., 1948) relies on "overt sexual experience" and "psychosexual relations," while the Klein Sexual Orientation Grid (Klein, Sepekoff, & Wolf, 1985)

¹¹ Similar to heteronormative, *cisnormative* refers exclusively to the normalization of gender conformity (Bauer et al., 2009).

relies on sexual attraction, behavior and fantasies, emotional and social preference, self-identification, and heterosexual or homosexual lifestyles; and the Sell Self Assessment (Sell, 1996) relies on sexual attraction, contact, and identity to assess elements of human sexuality. Overall, the most common assessment of sexuality remains asking how the individual identifies with the limited options of straight, gay, lesbian, and bisexual (Freidman et al., 2004).

With the ever-evolving understanding of the nature of human sexuality, researchers have begun to examine the need for and how to better assess sexuality in research studies. In a qualitative study of adolescents, Freidman et al. (2004) demonstrated a fundamental shift in the measurement of sexuality, and this work helps to understand these concepts further. The results indicated that the adolescents in this study did not view self-identification as a component of their sexuality. In fact, many of the participants indicated they did not use labels to define their sexuality.

Researchers from various disciplines have begun to advocate for the need to assess sexuality more inclusively. Such advocacy has ranged from utilizing more diverse categories within the typical standardized questions to differentiating between sex assigned at birth and gender identity currently (GenIUSS Group, 2014; Harrison, Grant, & Herman, 2011). This kind of expansion in the literature also highlights the need and movement for multiracial identification within the census (Schilt & Bratter, 2015). Previously, individuals who identified as multiracial were allowed only to mark one box, even though they were members of one or more of the racial categories (Saperstein, 2006; Spencer, 2003). Lobbying efforts starting in the 1990s led to

modifications to the census that changed the way race is measured, most notably allowing for participants to choose more than one box (Schilt & Bratter, 2015).

Internationally, some countries have expanded the measurement of sexual identity and gender. In 2011, Nepal added “third gender” to its census, and Australia allows individuals to declare as neither male nor female on government documents (Schilt & Bratter, 2015). Allowing for a broader group of categories to measure sexual orientation and identity accounts for variation and diversity, and “if not altered, surveys will continue to reproduce statistical representations that erase important dimensions of variation and likely limit the understanding of the processes that perpetuate social inequality” (Westbrook & Saperstein, 2015, p. 536).

The Williams Institute (2009) released recommendations on how researchers should assess sexuality in surveys. The basis for the proposed guidelines on assessing sexual orientation consists of three distinct factors: self-identification, sexual behavior, and sexual attraction. To accomplish this, questions must be asked in a series:

- Do you consider yourself to be: (heterosexual or straight; gay or lesbian; or bisexual)?
- In the past (time period), who have you had sex with? (males only; females only; both males and females; I have not had sex)
- People are different in their sexual attraction to other people. Which best describes your feelings? (only attracted to females, mostly attracted to females; equally attracted to females and males; mostly attracted to males; only attracted to males; not sure)

Integrating these recommendations in the assessment of sexual orientation will likely capture a broader variation of responses beyond the typical question: “Do you consider yourself to be: straight, gay, lesbian, or bisexual?”

There are similar research examples and scales assessing gender as well. Traditionally, gender is evaluated on a binary continuum from masculine to feminine (Magliozzi, Saperstein, & Westbrook, 2016). One deviation from the binary assessment of gender is the Bem Sex Role Inventory, in which individuals are assigned a masculine, feminine, or androgynous gender based upon cisnormative behaviors (Bem, 1974). In keeping with Bem, Magliozzi et al. (2016) retained the concept of orthogonal dimensions of gender but allowed respondents to self-identify their gender. This was accomplished by having respondents rate their level of femininity on a Likert scale, with masculinity assessed on a separate Likert scale. An additional element that can be added is having respondents report not only their perceived level of femininity and masculinity but also how society *perceives* their level of masculinity and femininity (Magliozzi et al., 2016). Combining the three components of sexual orientation, sex at birth, gender identity now, and both continuums of gender allows for study participants to define their sexuality in their own way.

SIZE OF SEXUAL AND GENDER MINORITY POPULATION

As of 2011, the Williams Institute reported approximately 3.5% of American adults identify as bisexual, lesbian, and gay (1.8% bisexual and 1.7% lesbian and gay) and approximately 0.3% identifying as transgender (Gates, 2011, p. 1). This equates to roughly 9 million Americans who *identify* as bisexual, lesbian, gay, and transgender. Further, this study indicated approximately 8.2% or 19 million Americans reported

having engaged in same-sex sexual activity and 11% or 25.6 million Americans have some degree of same-sex sexual attraction. The discrepancies between those identifying their sexual orientation or gender identity as lesbian, gay, bisexual, or transgender (9 million) and those having same-sex sexual contact (19 million) or physical attraction (25.6 million) indicate the potential size of the SGM population is larger than traditionally thought.

With sexuality being present throughout the lifespan, assessing sexuality within youth leads to various population estimates. The Youth Risk Behavior Survey (YRBS) conducted in 2015 asked Grade 9–12 students questions pertaining to risky behaviors and included a single question about sexual orientation (CDC, 2016). In this study, nationally 88.8% of students identified as heterosexual, 2% identified as gay or lesbian, 6% as bisexual, and another 3.2% were unsure of their sexual orientation. Of the 25 participating states, averages of heterosexual students ranged from 84.4 to 91.1%, lesbian and gay ranged from 0.8 to 4.4%, bisexual ranged from 4.8 to 8.1%, and 2.8 to 4.9% were unsure of the sexual orientation (CDC, 2016, pp. 5–6).

Comparing the YRBS estimates (CDC, 2016) results to the Williams Institute estimates (Gates, 2011) results in apparent differences. First, in the overall SGM group, there were more than twice as many adolescents (8% identifying as gay, lesbian, or bisexual) compared to the Williams Institute estimates of adults (3.5% identifying as gay, lesbian, or bisexual). Second, although the gay and lesbian populations were similar in size, the overall estimate of adolescents identifying as bisexual (6%) is more than three times that of adults reported by the Williams Institute (1.8%). Third, in the YRBS, 3.2% of the respondents indicated uncertainty about their sexual orientation (see

Table 1 for population estimates by study). It is unknown how many of these individuals will identify as gay, lesbian, or bisexual as they develop and mature. Further, while the YRBS reports higher percentages of SGM identifiable individuals, questions regarding gender identity were not included as in the Williams Institute study. Both studies risk underrepresenting the size of the SGM population by limiting the ways in which sexual and gender identity are assessed.

Table 1

Percentage Estimates of U.S. Population by Sexuality

	Williams Institute		YRBS		
	LGBT	Cisgender/Heterosexual	LGB	Heterosexual	Unsure
Self-Identify	3.5%	96.5%	8.0%	88.8%	3.2%
Lesbian/Gay	1.8%	-	2.0%	-	-
Bisexual	1.7%	-	6.0%	-	-
	Same Sex	Opposite Sex			
Sexual Activity	8%	92%	-	-	-
Physical Attraction	11%	89%	-	-	-

In a relatively novel approach, GLAAD (2017) examined sexuality by age group. Results indicated that approximately 12% of the national sample identified as falling within the LGBTQ continuum. However, these results vary by age group. Among those 18–34 years of age, 20% identified as falling within the LGBTQ continuum, as did 12% of 35–51-year olds, 7% of 52–71-year olds, and 5% of those over 72 years of age (p. 3). Within this study, 18–34-year olds had the highest rates of being noncisgender regardless of identifying as strictly heterosexual or not. In the GLAAD (2017) study, it was noted that increased visibility, societal understanding, and acceptance of sexuality have led to younger respondents more readily and openly

identifying within the SGM spectrum. Moreover, this study demonstrated the importance of taxonomy. Respondents in the GLAAD survey reported knowing individuals with a wide range of sexualities including 73% gay or lesbian, 29% bisexual, 16% transgender, 8% queer, 7% asexual, 6% pansexual, 5% gender fluid, 4% bigender, 3% genderqueer, 2% agender, and 9% unsure or questioning gender (p. 4).

EFFECTS ON WELL-BEING

Within the confines of sexuality, the concept of *normalizing* gender conformity and heterosexuality is often referred to as *heteronormativity* (Gordon & Silva, 2015; Herz & Johansson, 2015; Minton & McDonald, 1984; Warner, 1991). With heteronormative defining the group with increases in prestige and power, the marginalized group becomes labeled as queer. Legitimization of heteronormativity has led to the process and acceptance of labeling and separating individuals based upon binary categories (Sullivan, 2003; Wilchins, 2004). In doing so, these labels often do not adequately address the person and more frequently, regardless of the category being correct or not, leads to the development of a minority identity resulting in the individual facing the effects of minority stress.

Additionally, due to intersectionality, many of these individuals face even greater pressures due to multiple aspects of their identity coalescing (Cole, 2009; Crenshaw, 1991; Nielsen, 1990). One example of this would be someone who is born male, identifies as woman, and is transitioning, their sexual orientation is such that they are attracted to women (making them lesbian), and they identify as American Indian. In this example, there is someone giving up male privilege since they are transitioning, and they are labeled transgender, identify as lesbian, and are a minority in regard to race.

When this occurs, this individual faces not only stressors from each minority aspect of their identity, but a combination of these minority aspects coming together to make the whole person. This fact makes understanding sexual identities and the integral parts of those identities paramount to a just and equal society for every individual.

The effects of the formation of a minority sexual identity have been extensively studied and, as such, have been linked directly to social stress theory (also referred to as minority stress or gay-related stress; Meyer, 1995; Meyer & Dean, 1998; Pearlin, 1982). Social stress theory, at its core, explains the relationship between an individual's social environment and subsequent effects on mental and physical health (Merton, 1968). The correlations between the formation of a SGM identity and increased stressor from the environment are easily drawn. So much so that extensive research has been done looking at minority stress or gay-related stress (GRS) in this particular population (Lindley, Walsemann, & Carter, 2012; Rosario, Schrimshaw, Hunter, & Gwadz, 2002). This research has led to the definition of three processes of minority stress: (a) external stressful events, (b) chronic exposure to said stressor, and (c) internalization (Meyer, 1995; Meyer & Dean, 1998).

The direct correlation between these processes and the establishment of homophobia or heteronormativity are easily formulated after understanding GRS. Before going into the negative effects of GRS, it is important to point out that Allport (1979) posited minority status leads to some increased benefits including increased coping and resiliency. This suggestion of positive effects has been reinforced more recently and has shown minority status and/or stressors can lead to increased group solidarity affording some protections against the negative effects of GRS (Meyer,

2013). Even accounting for the positive benefits, the deleterious effects of GRS far outweigh any added benefit (Griffin & Bartholomew, 1994; Mickelson, Kessler, & Shaver, 1997).

Gay-related stress has been linked broadly as a predictor of negative health outcomes. Specifically, those having difficulty fully accepting their newly discovered sexuality have higher rates of avoidance and anxiety (Griffin & Bartholomew, 1994). This pattern of avoidance and anxiety by itself can be debilitating, but the effects of GRS do not stop at this level. Mickelson, Kessler, and Shaver (1997) linked decreased attachment and security (avoidance and anxiety) to higher than average rates of risk for depressive symptomology. Attachment and security issues along with depression are both readily treatable and manageable if resources are present. Studies have repeatedly shown members of the LGBTQ (more aptly referred to as SGM) community face higher rates of abandonment early in life from familial structures, resulting in a lack of supports needed to address these mental health issues adequately (Cochran, Stewart, Ginzler, & Cauce, 2002; Keuroghlian, Shtasel, & Bassuk, 2014).

With the expansion of knowledge surrounding sexual and gender minority populations, ample research has been conducted on the negative effects of forming such an identity. The size of the overall population negatively affected might be drastically underrepresented due to lack of inclusive measures of sexuality (Westbrook & Saperstein, 2015). The following discussion recounts a sample of the research showing the negative effects associated with a SGM identity including hopelessness, homelessness, drug and alcohol abuse, intimate partner violence, suicidal behavior, and childhood trauma.

HOPELESSNESS

Isolation, stigmatization, and feeling different have all been linked to decreased levels of hope and increased levels of hopelessness (Chang, Sanna, Hirsch, & Jeglic, 2010; Daniel & Goldston, 2012). Within the SGM population, hopelessness has been found to contribute more to suicidal behavior than depression (Grewal & Porter, 2007; Liu & Mustanski, 2012). Accordingly, an exploration of the levels of hope within the SGM population is needed. In a recent study, identifying within the LGBTQ spectrum was positively associated with hopelessness and negatively associated with trait hope and both subscales of agency and pathways (Hirsch et al., 2016). Additionally, SGM youth are at higher risk of hopelessness (McManama O'Brien et al., 2016). The CDC (2016) recently noted in a national sample of high school students 60.4% of those identifying as gay, lesbian, or bisexual and 46.5% of those not sure of their sexual orientation felt sad or hopeless, whereas only 26.4% of the heterosexual students and a combined 29.9% of the entire sample felt sad or hopeless. With the findings of lower levels of hope and higher levels of hopelessness in the SGM population, an understanding of hope theory is needed, as will be further addressed in a subsequent section.

HOMELESSNESS

Various reasons account for why individuals identifiable as SGM become homeless. *Homelessness*, defined by the U.S. Department of Housing and Urban Development (HUD; Henry, Cortes, Shivji, & Buck, 2014, p. 2), is when individuals “stay in places not meant for habitation” which includes locations such as abandoned dwellings, parks, vehicles, or on the streets. Additionally, HUD includes in this

definition individuals who are living in emergency shelters, transitional housing programs, or safe havens. As to why adolescents and young adults fitting within the SGM subgroup of the population face homelessness, one of the leading causes is being kicked out of their family home after coming out to their families (Durso & Gates, 2012; U.S. Interagency Council on Homelessness, 2015). Even those who are not kicked out may face homelessness. An estimated 20% of youth identifiable as SGM voluntarily leave home due to their family's disapproval or lack of acceptance of their sexuality (Durso & Gates, 2012; Rosario, Schrimshaw, & Hunter, 2012).

Regardless of the subgroup of the population, homelessness among adolescents and young adults is a large-scale problem that must be addressed. Figures vary in regard to the number of adolescents and young adults facing homelessness, with some estimates as high as 1.6 million (Rice et al., 2015). Research has begun to demonstrate individuals identifiable as SGM face the reality of homelessness at higher rates than their heterosexual peers (Corliss, Goodenow, Nichols, & Austin, 2011; Rice et al., 2013; Rice et al., 2012). In a study conducted by Durso and Gates (2012), approximately 30–45% of individuals served by homeless youth agencies identified as either gay, lesbian, bisexual, or transgender. Perhaps even more startling is the age range included in SGM homelessness research. Studies have demonstrated SGM homelessness may start as early as 10 years of age (Walls & Bell, 2011).

Despite facing homelessness at alarming rates and young ages, this population is often faced with the harsh reality of little hope and having even fewer resources. In a recent study conducted by Rice et al. (2015), youth identifiable as SGM were less likely to stay in homeless shelters than their heterosexual peers (8.13% compared to 14.9%

respectively). Moreover, this study demonstrated the SGM population has more than twice the rate of staying in public spaces rather than shelters compared to their cisgender/heterosexual peers (14.4% compared to 6% respectively), suggesting increased risk and safety concerns. As noted by Rice et al. (2015), two potential reasons as to why these individuals are not seeking assistance in shelters are the higher likelihood of not being accompanied by an adult leading to not knowing what services are available, and potential discrimination by the staff working in the shelters.

DRUG AND ALCOHOL ABUSE

Substance abuse is a problem reaching every demographic in the United States. According to the Substance Abuse and Mental Health Services Administration (SAMHSA; 2016), 1.3 million young people aged 12 to 17 had a substance use disorder in 2014. Examining the prevalence of substance abuse within the SGM population is confounded by how sexuality is measured (Green & Feinstein, 2012). Recent studies have begun observing higher rates of substance use disorders in the SGM population over the cisgender/heterosexual population (King et al., 2008; McCabe et al., 2009). Young individuals within the SGM population are also at greater risk of substance misuse. Researchers have indicated SGM youth have higher prevalence over their heterosexual peers regarding use of cigarettes (Corliss et al., 2013), alcohol use including binge drinking (Hatzenbuehler, Corbin, & Fromme, 2008; Marshal, Friedman, Stall, & Thompson, 2009), and illicit drug usage (Corliss et al., 2010; Newcomb, Birkett, Corliss, & Mustanski, 2014; Tucker, Ellickson, & Klein, 2008).

Race is also a factor in the prevalence of substance misuse within the SGM population. Several studies have demonstrated Black or African-American SGM have a

lower prevalence of substance misuse over Hispanic or Latino SGM individuals, with Caucasian SGM populations having the highest prevalence (Kipke et al., 2007; Traube et al., 2013; Wong, Weiss, Ayala, & Kipke, 2010). To further illustrate differences of substance misuse within the SGM population, one needs only to examine differences in prevalence between gay and MSM¹² populations to that of bisexuals. Studies have demonstrated that not only do gay men have a higher prevalence of substance misuse, but bisexual men and men who have sex with men have even higher rates than gay men (Newcomb, Birkett et al., 2014; Newcomb, Ryan, Greene, Garofalo, & Mustanski, 2014).

Higher rates in substance misuse have been linked to lack of social supports and discrimination, and for those identifying as bisexual or as MSM, this isolation and discrimination comes from both the cisgender/heterosexual population and the SGM population (Busseri, Willoughby, Chalmers, & Bogaert, 2008). The lack of support and increased prevalence of substance misuse is even seen in school-aged children. The recently published results of the 2015 YRBS illustrated this point (CDC, 2016). In Grade 9–12 students, gay, lesbian, and bisexual students and students unsure of their identity had higher prevalence of use of alcohol, hallucinogenic drugs, cocaine, ecstasy, heroin, methamphetamines, unauthorized prescription drug usage, inhalants, and other injectable drugs over their heterosexual peers (CDC, 2016). All the while, the SGM participants in the study reported higher rates of victimization and lower rates of safety while in school.

¹² MSM/MSW are acronyms used to describe “men who have sex with men and women who have sex with women, to distinguish sexual behaviors from sexual identities” (Killermann, 2017, p. 267).

INTIMATE PARTNER VIOLENCE

Intimate partner violence (IPV) is “physical violence, sexual violence, threats of physical violence or sexual violence, stalking and psychological aggression (including coercive tactics) by a current or former intimate partner” (Black et al., 2011, p. 37). Despite society’s widening acceptance of SGM individuals, there remains an issue in how IPV is viewed between same-sex individuals. Intimate partner violence within same-sex relationships is grossly underreported for many reasons including history of police violence, homophobia, and transphobia (Bornstein, Fawcett, Sullivan, Senturia, & Shiu-Thornton, 2006; Brown, 2008). With the SGM population being comprised of many different subgroups, the rates of IPV vary across the entire population. One study demonstrated that men in same-sex relationships had higher rates of IPV compared to heterosexual men, yet women in same-sex relationships had approximately the same rates as those in opposite-sex relationships (Greenwood et al., 2002). Another study found bisexual men and women had the highest rates of IPV, however, reported incidences were from the time they were in opposite-sex relationships (Messinger, 2011).

SUICIDAL BEHAVIOR

Suicide is a concern for every population, however age group and identity status affect the extent this impacts individuals. For instance, among individuals aged 10–24, suicide is the second leading cause of death only surpassed by unintentional injury (CDC, 2017). Additionally, sexuality plays a contributing factor in suicidal behavior. Examination of suicidal behaviors within the SGM population demonstrates differences within the population. Studies have found transgender youth have higher rates of

suicidal behavior over every other subset of this population (McManama O'Brien et al., 2016). One study specifically examining this issue demonstrated 45% of transgender youth have attempted suicide (Haas & Rodger, 2014). Within the YRBS (CDC, 2016), gay, lesbian, and bisexual students reported 42.8% had seriously thought about attempting suicide, 38.2% had made a suicide plan, and 29.4% had attempted suicide; compared to 14.8, 11.9, and 6.4% respectively within the heterosexual population. Moreover, a recent study found that same-sex sexual partners (used as a measurement of SGM status) have higher rates of suicidal behaviors within nonsupportive communities (Mathy, Cochran, Olsen, & Mays, 2011).

CHILDHOOD TRAUMA

Adverse childhood experiences (ACEs) include physical, sexual, and emotional abuses, neglect, exposure to domestic violence, mental illness within the familial setting, substance abuse, and incarceration (Anda, Butchart, Felitti, & Brown, 2010). Adverse childhood experiences have been linked to numerous outcomes related to health including autoimmune conditions, cancer, heart disease, depression, impulse control, anxiety, and risky health behaviors (Anda et al., 2006). With the far-reaching implications of ACEs on individual well-being, if a population has higher prevalence of ACEs, a public health crisis may arise. Understanding the potential public health crisis, the World Health Organization outlined how to use the ACE scale to assess the global impacts of childhood trauma on health (Anda et al., 2010). Sadly, research documents that SGM youth experience high levels of trauma (Balsam, Rothblum, & Beauchaine, 2005; Corliss, Cochran, & Mays, 2002; Rothman et al., 2011).

As with any issue impacting a society, childhood traumas have varying rates in different subsets of the population. Of importance to this study, numerous researchers have demonstrated higher rates of childhood trauma within the SGM population than within the cisgender/heterosexual population. In an examination of 75 different studies comprising of approximately 140,000 participants, SGM respondents had a higher prevalence of childhood sexual assaults (60–76%) compared to their cisgender/heterosexual peers (0–16% of men and 3–27% for women; Rothman et al., 2011). In examining emotional abuse, again SGM men and women had a higher prevalence (52.6 and 45.5% respectively) over cisgender/heterosexual men and women (36.5 and 37.2% respectively; Corliss et al., 2002). In yet another study, not only did the SGM population have a higher prevalence of childhood sexual abuse and emotional abuse, there was also a higher prevalence of exposure to domestic violence and neglect than their peers (Balsam et al., 2005).

POSITIVE PSYCHOLOGY WITHIN SEXUAL AND GENDER MINORITY POPULATIONS

As illustrated in the reviewed literature, the SGM population has higher rates of hopelessness, homelessness, drug and alcohol abuse, intimate partner violence, and childhood trauma. With the potential for underrepresentation of the SGM population, the actual prevalence of the reported negative effects are likely higher than reported in the literature. The overwhelming majority of research regarding SGM populations focuses on negative aspects and excludes positive aspects (Vaughan et al., 2014; Vaughan & Rodriguez, 2014). Therefore, integrating positive psychological theories

into research involving SGM populations is needed, specifically regarding the interaction of positive social institutions and hope.

The seminal works of positive psychology have stressed the importance of the three pillars of positive psychology. The first pillar is positive emotions. Seligman (2002) included in this category an individual's subjective experiences, which includes the past, present, and future. The second pillar according to Seligman (2002) is that of positive traits which includes character strengths and virtues. Finally, the third pillar according to Seligman is that of positive institutions which includes democracy, strong families, and free inquiry. The importance of this final pillar is summed up best with the words of Seligman (2003):

Sociology has languished in the same way as psychology; it has been mostly about disabling conditions, the “isms” racism, sexism, and ageism—and how the isms ruin lives. Even if we are able to get rid of all of those isms, we would still only be at zero. So, positive psychology and positive sociology need to ask, “What are the institutions that take human beings *above zero*?” (p. xvii)

POSITIVE SOCIAL INSTITUTIONS

Within this study, positive social institutions are theorized as both micro- and macro-level social supports. Elements comprising micro-level social supports include those supports coming from family, friends, and significant others. Support from this level is needed due to research indicating there is a relationship between micro-level supports and well-being (Decker, Dona, & Christenson, 2007; Flannery, Wieman, & Wieman, 1989; Kelly, Zuroff, Leybman, & Gilbert, 2012). Not only are supports coming from those closest to individuals important, but also support from the overall community to which one is a part is vital. As indicated by Herrero and Gracia (2007), there is an abundance of literature examining the benefits of micro-level supports,

however, macro-level supports are often overlooked. In assessing the effects social support on well-being for SGM populations, one must include both levels of support. Including both levels of support is pivotal due to the possibility an individual can have a great deal of support on the micro-level, and yet reside in a community with overt discrimination and oppression. Additionally, the inverse is also true: an individual may have very little micro-level support, but reside in a community with little discrimination. Therefore, clearly assessing both levels of support is needed to infer accurately the degree to which positive social institutions affect overall well-being.

Micro-Level Social Supports

Family, friends, and significant others are perhaps best suited for conveying the level of support needed during identity development, in particular for those developing a minority identity (Allen et al., 2006; Cowan & Cowan, 2006). Qualitative studies, such as one conducted by Doty, Willoughby, Lindahl, and Malik (2010), have indicated the greatest barrier to receiving needed social support is fear—fear of rejection based upon sexuality. However, this fear is not universal among all SGM youth. Ryan, Russell, Huebner, Diaz, and Sanchez (2010) demonstrated the sex of the SGM adolescent was not as great a predictor of rejection as was familial characteristics such as race, ethnicity, religious affiliation, and socioeconomic status.

Rejection from family and friends has been demonstrated to lead to increased rates of illegal drug use, depression, suicidal ideation, and suicide attempts (Kitts, 2005; Ryan, Huebner, Diaz, & Sanchez, 2009). Inversely, acceptance by family and friends is associated with decreased levels of internalized homophobia resulting in decreased rates of depression and suicidality (Ryan et al., 2010). With social supports clearly related to

the behaviors associated with flourishing, ensuring SGM adolescents have these levels of supports becomes even more paramount.

Macro-Level Social Supports

Individuals do not live in a vacuum. As such, interactions with their communities and the support of these communities play vital roles in development (Antonishak, Sutfin, & Reppucci, 2005). Given the negative consequences of a minority sexual identity, the community's climate and ability to address these concerns is crucial. *Community climate* refers to the levels of support within the community for SGM individuals (Oswald, Cuthbertson, Lazarevic, & Goldberg, 2010). Elements within the community that impact climate include the legal climate, political climate, religious climate, workplace climate, and school climate (Oswald & Holman, 2013). Herek (2009) demonstrated a community's climate directly impacts the formation of minority stress in relation to stigmatization. Further examination of a community's impact on well-being has shown a relationship where improved climate has a positive impact on the overall well-being of SGM populations (Meyer, 2003).

During the critical time for identity development, adolescence, a substantial portion of time is spent in educational institutions. The required amount of time spent in said institutions is not voluntary, and in many cases, these institutions are not supportive of aspects of the identities belonging to those persons they are entrusted to educate. Legislators have passed laws negatively impacting students with minority identities (NC HB2, AL State Code § 16-40A-2[c][8]; SC State Code § 59-32-30[5]), and have attempted to pass many more (OK SB1014, SB1323, HB1598, HB3044, and HB3049). Moreover, the CDC (2016) has catalogued the negative impacts SGM youth

experience in schools such as bullying, physical assaults and abuse, poorer academic performance, and attendance issues. To combat this, Gay-Straight Alliances (GSAs) have been designed to impact school climate in relation to SGM youth.

The presence of GSAs in educational institutions has grown since their inception in the 1980s (Fetner & Kush, 2008). The goal of GSAs is to instill in the school environment education, safety, support, counseling, activities, and leadership development related to SGM youth (Ioverno, Besler, Biaocco, & Grossman, 2016). Having these goals in mind, researchers have begun to study the effects of these programs on school climate, and the results have been promising. Regardless of participation levels, studies have started to demonstrate GSA decrease the rates of affective disorders, suicidal ideation, victimization, and hopelessness among SGM youth (Ioverno et al., 2016; Walls, Kane, & Wisneski, 2010). With GSAs' role in improving school climate—school climate being directly related to community climate, and community climate playing a role in social supports—understanding the relationship between all levels of support and overall well-being of SGM populations becomes even more crucial.

Today, individuals who are identifiable as SGM are not afforded full legal protections in many states including employment and basic housing rights (Human Rights Campaign [HRC], 2016). Although the fight for equality is progressing forward, there is much work to be done due to the lasting negative consequences of having a minority identity. In 2016, the Oklahoma legislature set a record for the number of pieces of proposed legislation deemed oppressive and discriminatory to the SGM population and, as such, was dubbed the “slate of hate” (Peters, 2016). With state and

often federal legislation allowing discriminatory behavior against a subset of the population, where are these individuals supposed to turn for support in their community?

In 2017, more than 130 pieces of legislation were introduced in 30 state legislatures that will negatively affect SGM individuals if passed (HRC, 2017). This legislation includes:

- 25 bills regarding single-sex restroom restrictions mirroring North Carolina's HB2,
- 14 bills supporting various forms of First Amendment and Religious Exemption clauses,
- numerous laws regarding not allowing someone to change their sex on birth documents,
- four bills overriding professional standards to allow for refusal of services,
- six bills allowing for the refusal to provide adoption and foster services, and
- eight bills regarding overriding laws set on the municipal level regarding discrimination (American Civil Liberties Union [ACLU], 2017).

Despite the approximate 130 pieces of proposed anti-LGBTQ legislation, over 60 bills were introduced in state legislatures regarding comprehensive nondiscrimination language while some bills excluded gender identity from the nondiscrimination language (ACLU, 2017).

With some legislators proposing affirmative legislation and others proposing discriminatory legislation, the HRC annually grades states' performance regarding equality. Within the 2016 State Equality Index Report, legislation was broken down as

either “good legislation” or “bad legislation” based on whether it was affirming and nondiscriminatory or whether it was discriminatory (Warbelow & Diaz, 2016). Topics covered include relationship recognition, parenting, nondiscrimination, hate crimes, youth laws, and health and safety. Of the 501 “good” laws that were proposed, 48 passed, with 5 of the 252 proposed “bad” laws passing. Additionally, the State Equality Index grouped states (and the District of Columbia) by listing them as high priority states where basic equality has not been achieved, states building equality, states solidifying equality, and states with innovative strategies on equality: 28 were rated as high priorities, followed by 7 building equality, 5 solidifying equality, and 11 innovating equality.

Minority stress theory coupled with the realization of anti-LGBTQ politics has led researchers to examine how this type of political action effects SGM populations. Russell and Richards (2003) identified anti-LGBTQ political action as resulting in five distinct stressors. The first is from encounters of homophobia (and transphobia) regarding loss of rights and limiting of rights based on the majority opinion within society. The next stressor is from divisions within the supportive community. As illustrated by Russell and Richards (2003), when individuals turn toward their supportive community, they are often faced with in-group discrimination based on race, ethnicity, and even sexual orientation and gender identity. The third stressor is from making sense of the danger. In this aspect, Russell and Richards refer to anti-LGBTQ politics challenging deeply held beliefs about society, which challenges the individual’s own world perspective, resulting in expressive anger toward the opposition. The fourth stressor is from supportive networks failing to witness the oppressive nature of anti-

LGBTQ politics. This stressor can best be demonstrated in instances where family members and friends directly support candidates who are proposing anti-LGBTQ legislation despite having a family member or friend who identifies as SGM. Finally, the fifth stressor is from internalized homophobia. Internalized homophobia in this regard is often a product of long fought campaigns where SGM individuals repeatedly hear negative and discriminatory language. As a result, this language is internalized and leads to negative mental health issues (Meyer, 2003; Puckett, Newcomb, Garofalo, & Mustanski, 2016).

In addition to the common stressors of everyday life, SGM individuals face increased stigmatization, loss of family and friends leading to isolation, and varied levels of support within their larger community. Understanding how many people comprise this population, the adverse effects associated with a minority identity, and what leads to these negative effects is instrumental in combatting these effects and developing a community supportive of all citizens.

HOPE

Hope theory, in its application, has the potential to make a lasting impact in the lives of those dealing with the development of a minority identity. As previously indicated, individuals who develop a minority sexual identity are fraught with negative consequences. Additionally, those developing these same identities are often without social supports from family networks often leading to complete isolation. Hope theory must be clearly understood due to hope having the inherent power of allowing individuals to transcend powerfully negative elements of their lives to reach a place of

optimal flourishing, which can in turn, address the societal and communal deficiencies faced by this population.

Hope is defined as “a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-orientated determination) and (b) pathways (planning of ways to meet goals)” (Snyder et al., 1991, p. 571). *Agency*, defined as “belief in one’s capacity to initiate and sustain actions” (Snyder et al., 1996, p. 321) is willpower or the ability to direct all the required energy needed to maintain movement in the direction of attaining said goal. This willpower, as you will, has the potential ability to mitigate many negative feelings of inadequacy or isolation felt by individuals within many populations, including SGM populations. Key to agency is the concept of goals. In working with SGM populations, goals may be limited, for example, due to the need to focus on survival secondary to isolation and various external sources of oppression. With having such limited goals, it is understandable that SGM individuals’ level of agency is low due to not seeing a future and being simply focused on surviving the day.

Pathways, defined as “belief in one’s capacity to generate routes” (Snyder et al., 1996, p. 321) refers to solutions to achieve the desired outcome. At first glance, pathways appear to be the first step of goal attainment in hope theory. If individuals can develop an adequate plan for reaching a goal, they will likely direct energy to accomplish said goal. This is not entirely correct; as Snyder and colleagues (1991) demonstrated agency and pathways are reciprocal and additive of one another. It takes pathways to build or increase agency; it also takes agency to increase the ability to make pathways. Again, key to the development of hope, whether focusing on agency or pathways, is the goals of the individual. Within the confines of those with SGM

identities, simply being able to visualize how to achieve improvements beyond what their lives are at the present moment can be a powerful leveling force.

Benefits of Hope

Individuals who are identifiable with having higher levels of hope more readily employ specific strategies of goal attainment and are generally able to find alternative solutions to achieving their goals when barriers are encountered (Irving, Snyder, & Crowson, 1998; Snyder, 1994, 1995, 1996, 2000, 2002; Snyder, LaPointe, Crowson Jr., & Early, 1998). Moreover, within the higher order construct of hope, agency has been linked with prediction of accomplishing one's goals (Feldman, Rand, & Kahle-Wroblewski, 2009). Knowing hope leads to increases in goal attainment can be beneficial when working with populations who are marginalized. Aside from the benefit of increased goals and attainment of said goals, higher levels of hope have been associated with increases in happiness and coping mechanisms, improved recovery from physical injuries, and decreases in distress and burnout (Bailey, Eng, Frisch, & Snyder, 2007; Bailey & Snyder, 2007; Gallagher & Lopez, 2009; Lopes & Cunha, 2008; Snyder, 1994). Additionally, higher levels of hope have been shown to increase healthy behaviors and adjustment in lifestyles secondary to diagnoses of diabetes, cancer, and HIV (Floyd & McDermott, 1998; Harney, 1990; Snyder, 2000; Snyder et al., 2000). Those whose identities have formed around minority groups often face the harshest of realities. Being able to foster hope with benefits as mentioned earlier will become a valuable tool in addressing minority stress and potentially role incongruence.

Building Hope

As alluded to, hope is a very powerful thing, but often the message delivering *hope* does not use the actual word. For instance, in response to the growing number of adolescent LGBTQ suicides, the It Gets Better Project was established in 2010 (Goltz, 2013). Since that time, more than 50,000 user-created videos have been viewed several million times (It Gets Better Project, 2013). These videos deliver the message that individuals may be in a place in their life where they feel they can no longer carry on, but one day things will change, and this change will be for the better. These messages come from powerful celebrity figures such as actors and actresses, musicians, politicians including past presidents, senators, and representatives, and also everyday citizens who have been in the same place as those viewing the messages. In the 7 years of this campaign, little research has been done linking it scientifically with reductions in SGM adolescent suicides, however preliminary anecdotal evidence from program participants indicates preliminary positive impacts. The relationship between hope and conflicts in identity development and flourishing thus warrants further examination.

To understand truly how to formulate interventions relating to hope theory, one must look toward positive psychology and more specifically *social supports*. Within research regarding social support, there is some disagreement as to what this term means. Shumaker and Brownell (1984) view social support as concerning the “exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient” (p. 13). A slightly differing opinion by Cohen and Syme (1985) indicates these transactions can be both positive and negative. Even with this differing of opinion regarding positive and

negative interactions, one overarching theme holds true in defining social supports, which is a transaction based on a relationship. This is applicable to hope theory for if positive social supports can be increased, they impact an individual's perception of pathways and correlate to a potential increase in perceptions of agency. Therefore, to build hope within communities facing widespread discrimination and oppression, the impetus must be on goal formation. In an attempt to become a hope-informed community, Thurston County Washington Prosecuting Attorney Jon Tunheim stated, "if one lacks concrete, tangible goals, they are unable to see a better future" (Personal communication with author, October 2016). Logically, if an individual fails to see a better future, the reasonable hypothesis would be such failure leads to an increase in adverse effects in that individual's long-term development and well-being.

FLOURISHING

Humanistic psychology is indicative of various elements of psychological needs including competence, relatedness, and self-acceptance; all of which lead to heightened states of psychological prosperity or *flourishing* (Ryan & Deci, 2000; Ryff, 1989; Ryff & Singer, 1998). According to Huppert and So (as cited in Seligman, 2011), flourishing is a state of well-being in which an individual must have all of the core features of flourishing (positive emotions, engagement, interest, meaning, and purpose) and three of the additional features (self-esteem, optimism, resilience, vitality, self-determination, and positive relationships). Due to the relationship of the aforementioned needs to flourishing, there has been exponential growth in research on positive psychology and the ability to capture and measure flourishing (Peterson & Seligman, 2004). With the increase in positive psychology focusing on flourishing, several studies have identified

elements of life affecting psychological well-being and overall psychological functioning. These elements include general interest and engagement leading to a better life (Csikszentmihalyi, 1990), purpose and meaning as central elements in flourishing (Ryff, 1989; Ryff & Singer, 1998; Seligman, 2002; Steger, Kashdan, & Oishi, 2008), and hope and optimism driving psychological functioning (Carver & Scheier, 2013; Peterson & Seligman, 1988; Snyder, 1994).

In recent years, there has been a groundswell of information intertwining flourishing within the confines of sociology and social psychology. Psychological prosperity or the support from others is inextricably linked with establishing social capital, which ultimately leads to heightened psychological prosperity (Brown & Ryan, 2003; Helliwell & Putnam, 2004; Putnam, 2000). This need for social support is a two-way street. Not only is there evidence suggesting individuals do better with greater social supports, researchers have also illustrated positive benefits to individuals' well-being when they pay explicit attention to giving support to others, leading to the adage of "it's better to give than to receive" (Brown & Ryan, 2003; Dunn, Aknin, & Norton, 2008).

With the aforementioned negative effects associated with a SGM identity, the links to flourishing become apparent. Psychologically speaking, hope, optimism, purpose, meaning, and interest and engagement are central to psychological well-being (Seligman, 2011). When an individual begins to form a minority identity, the aforementioned elements of psychological well-being are negatively affected. Additionally, on a sociological or social psychological footing, living in a society that places so much emphasis on an individual's need to fall within predefined social mores,

especially sexual ones, leads to the breakdown of social support networks for adolescents who are forming a SGM identity. Thus, many of the social supports needed for increased flourishing are not present in the lives of those who need them most.

With the importance of psychological well-being firmly established, the Flourishing Scale was designed with the intention of capturing the higher order construct of flourishing made up of both psychological and social elements (Diener et al., 2009). The scale aims to aid professionals to ascertain the levels of psychosocial well-being present within their clients. By having this ability to measure and evaluate flourishing readily, professionals can then hone in on the elements which can increase flourishing resulting in positive benefits to the client.

SUMMARY

The SGM population is faced with numerous negative outcomes at rates higher than their cisgender/heterosexual peers. Looking at this problem through the binary lens so frequently applied to sexual identity, those who are cisgender and heterosexual fare better than their SGM counterparts. Currently, assessments within social science research tend to limit how an individual may identify as SGM by only assessing one aspect of sexual orientation (Bittner & Goodyear-Grant, 2017; Saewyc et al., 2004; Sell, 1997), routinely conflating the constructs of sex and gender (Westbrook & Saperstein, 2015), viewing sexuality as binary (Bivens, 2015), and/or failing to realize sexuality can change over time (Westbrook & Saperstein, 2015). Without a consensus on how to measure sexuality within social science research, variations in assessments of SGM population size will likely continue. If more inclusive measures are implemented in the assessment of sexuality within research, the increased diversity may lead to increases in

the overall size of the SGM population. This means that the grave outcomes concerning well-being previously discussed are actually experienced by a larger subset of the overall population than currently indicated in the literature.

One potential way to address these grave outcomes is through positive social institutions. Having support networks at both the micro- and macro-level might allow SGM adolescents to identify their inherent strengths, and has the potential to lead to increases in well-being. Self-identification of these strengths is accomplished by showing individuals the inherent strength and value they each have. Finding strength and value where they once saw nothing that was of importance to society leads to the realization they can accomplish more than they previously thought, and as a result, spurs the development of these goals to drive them forward through life.

CHAPTER III

METHODS

PARTICIPANTS AND PROCEDURE

Recruitment efforts for this study targeted participants over 18 years of age. Completed surveys from respondents who did not meet the minimum age requirement were not excluded from data analysis, however such individuals were not actively recruited. Regarding upper age parameters of the study, there was no age limit due to sexual identity, social supports, hope, and flourishing remaining present throughout the lifespan. Additionally, there were no specific recruitment criteria in place pertaining to sex, gender, gender identity, sexual orientation, race, or ethnicity. Therefore, every person ($N = 628$) completing the survey contributed to the overall analysis conducted. A breakdown of participant demographics is illustrated in Table 2. Demographic data relating to sexuality are not displayed in this table due to multiple assessment techniques. Demographic data relating to sexuality is instead reported in the results section.

Table 2

Participant Demographics

Demographic Characteristic	<i>N</i> = 628
Age	
Minimum	16
Maximum	78
Mean	36.04 (<i>sd</i> = 13.26)
Family of Origin	
White	475
Hispanic	20
Black or African-American	21
Asian	23
American Indian	10
Some Other Race Not Listed	17
Multiple	62
Country of Birth	
United States	490
Outside the United States	137
No Answer	1
Country of Current Residence	
United States	497
Outside the United States	131
Education	
Less Than High School	7
Diploma/GED	21
Some College	97
2-year Degree	45
4-year Degree	212
Professional Degree	183
Doctoral Degree	63
Income (U.S. Dollars)	
< \$10,000	107
\$10,000–\$19,999	68
\$20,000–\$29,999	61
\$30,000–\$39,999	88
\$40,000–\$49,999	74
\$50,000–\$59,999	67
\$60,000–\$69,999	37
\$70,000 –\$79,999	30
\$80,000–\$89,999	13
\$90,000–\$99,999	15
\$100,000–\$149,999	43
\$150,000 <	21
No answer	4

Upon receiving approval from the University of Oklahoma Institutional Review Board (IRB), primary data collection was conducted via Qualtrics' online software. This allowed for participants to be in control of their level of anonymity and afforded a heightened degree of privacy for answering sensitive questions about sexual identity. The initial recruitment method consisted of snowball sampling utilizing a shareable Facebook post soliciting study participants that included a link to the online survey. Participants and nonparticipants both shared the post via any means which allowed the survey link to remain intact and increased the visibility of the recruitment advertisement. Building on the shareable post, various community partners including Oklahomans for Equality, the LGBT Center of Hampton Roads, and Parents, Families, and Friends of Lesbians and Gays (PFLAG) New York City posted on their social media links to the electronic survey. The IRB approval letter and recruitment materials are presented in their entirety in Appendices A and B.

MEASURES

The online survey consisted of demographic questions including age, family of origin, level of education, geographic location, and income-level. These were followed by various questions assessing sex, gender identity, and sexual orientation in both the standard format and in a more inclusive way. Additionally, predetermined scales were included in the survey consisting of the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farelly, 1988), the Perceived Community Support Questionnaire (PCSQ; Herrero & Gracia, 2007), the Adult Hope Scale (Snyder et al., 1991), and the Flourishing Scale (Diener et al., 2009). A full list of the items included in the survey is provided in Appendix C.

SEXUALITY

Traditional Assessment

Due to the first research question pertaining to increased diversity in SGM populations if assessed more inclusively, respondents were asked two series of questions to assess sexual identity. The first, in line with standard social science research methodologies, was to assess respondents' sex (male or female) and their sexual orientation (straight, gay, lesbian, bisexual; Savin-Williams, 2006). To assess what populations are excluded from traditional social science research, the second set of questions required significant expansion.

More Inclusive Assessment

Based upon the recommendations set forth by the Williams Institute (2009), sex, gender identity, and sexual orientation were assessed for every participant based upon five questions. The first question, "what is/was your assigned sex at birth" assessed the participants' biological sex with the options of male, female, and intersex. This was followed by the question "what is your gender identity" with options including man/boy, woman/girl, transman, transwoman, gender nonbinary, gender fluid, Two-Spirit, and other not listed please specify. Lastly, was the assessment of sexual orientation. Three distinct components of sexual orientation were assessed: (a) self-identification ("do you consider yourself to be...?"), (b) sexual intimacy ("in the past five years, whom have you had sexual relations with?"), and (c) physical attraction ("in terms of your physical attraction, which best describes you?"). The question regarding self-identification was followed by an extensive list of options including "other not listed, please specify," with both questions eliciting responses for sexual relations and

physical attraction having answers ranging from exclusively male to exclusively female, and none or neither dependent on question. A complete breakdown of sexual identity-related questions and answers is found in Appendix C.

POSITIVE SOCIAL INSTITUTIONS

Multidimensional Scale of Perceived Social Support

One of the two factors comprising the construct of positive social institutions was micro-level social supports measured by the Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al. (1988). The MSPSS has three distinct factors and assesses overall social support by a summation of the scores. The three measured factors consist of statements assessing support from family members, friendships, and significant others. Twelve statements make up the MSPSS and are answered on a 7-point Likert scale ranging from “very strongly disagree” (1) to “very strongly agree” (7). Example statements include “there is a special person who is around me when I am in need,” “my family really tries to help me,” and “my friends really try to help me.” Scoring of the MSPSS is calculated by either summing the scores of all questions with higher scores indicative of higher degrees of social support, or by summing the scores of the individual factors with higher scores indicative of higher levels of familiar support, friend support, and support from significant others.

The factors of the MSPSS are as follows. The first factor includes specific questions measuring support coming from familiar relationships and includes items such as “I get the emotional help and support I need from my family.” The second factor measures support from friendships and includes questions such as “I can count on my friends when things go wrong.” The final domain measures support coming from

significant others and includes questions like, “there is a special person in my life who cares about my feelings.” Studies have indicated acceptable factor reliability with alphas ranging from 0.81 to 0.90, 0.90 to 0.94, and 0.84 to 0.92 respectively (Zimet, Powell, Farley, Werkman, & Berkoff, 1990).

For overall scoring, there is a maximum score of 84 and, for the subscales, there is a maximum score of 28 in each factor. The MSPSS has demonstrated over time it has high levels of reliability ($\alpha = 0.88\text{--}0.94$; Stanley, Beck, & Zebb, 1998; Zimet et al., 1988). A complete breakdown of MSPSS items can be found in Appendix C. Within this study, the multidimensional scale of perceived social support had good reliability ($\alpha = .939$). Overall, there was a minimum score of 12 and maximum score of 84, with a mean score 65.46; $sd = 14.85$ (see Table 3 for a breakdown of scale reliability and scoring). A complete list of items within the multidimensional scale of perceived social support can be found in Appendix C.

Perceived Community Support Questionnaire

The second factor making up the proposed construct of positive social institutions was macro-level social supports as measured by the Perceived Community Support Questionnaire (PCSQ) developed by Herrero and Gracia (2007). The PCSQ also has three distinct factors and assesses overall social support at this level via a summation of the score. The components measured by the PCSQ include community integration, community participation, and use of community organizations. A total of 14 statements are used to assess these factors with answers on a 5-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5). Examples of statements

include “I identify with my community,” I take part in some social or civic groups in my community,” and “I could find people that would help me feel better.”

The factors of the PCSQ are as follows. The first factor includes specific questions measuring belongingness and identification with a community and includes items such as “my opinions are valued in my community.” The second factor measures involvement and participation within the community and includes items such as “I take part in social activities in my community.” The final domain measures support from groups and organizations and includes items like, “I would find a source of satisfaction for myself.” Studies have indicated acceptable factor reliability with alphas ranging from 0.75 to 0.76, 0.84 to 0.85, and 0.87 to 0.88 respectively (Herrero & Gracia, 2007).

Scoring of the PCSQ is done via summation of the individual scores with higher scores indicative of higher level of social support at this level. Additionally, summation of the score from questions at each factor indicates the level of support at that factor. The overall PCSQ maximum score is 70 and the individual factors maximum scores are 20 for the community integration subscale and 25 for both the community participation and community organization subscales. The PCSQ has been used in various populations and has demonstrated high levels of reliability ($\alpha \geq 0.86$; Herrero & Gracia, 2007). A complete breakdown of PCSQ items can be found in Appendix C. The perceived community support questionnaire performed well within this study in terms of reliability ($\alpha = .831$). Overall, there was a minimum score of 14, maximum score of 70, and a mean score of 46.13; $sd = 8.4$ (see Table 3 for breakdown of scale reliability and scoring). A complete list of items within the perceived community support questionnaire can be found in Appendix C.

HOPE

The proposed mediator in the structural model was hope measured by the Adult Hope Scale (AHS). The AHS was developed by Snyder et al. (1991) and assesses levels of hope via two factors: agency and pathways. The AHS consists of 12 statements (four for agency, four for pathways, and four filler questions) on an 8-point Likert scale ranging from “definitely false” (1) to “definitely true” (8) and includes statements such as “there are lots of ways around any problem” and “I energetically pursue my goals.” Scoring of the AHS is completed by either summing overall scores with higher scores indicative of higher levels of hope or by summing the scores of the individual factors with higher scores indicative of higher levels of agency or higher levels of pathways. Within this study, the filler questions were removed making the maximum AHS score 64 with each subscale having a maximum score of 32. The AHS has demonstrated over time it has high levels of reliability ($\alpha = 0.82$; Hellman, Pittman, & Munoz, 2013). The adult hope scale met reliability standards within this study ($\alpha = .909$). Overall, the minimum score was 8, the maximum score was 64, and the mean score was 50.51; $sd = 9.23$ (see Table 3 for breakdown of scale reliability and scoring). A complete list of items in the adult hope scale can be found in Appendix C.

FLOURISHING

The dependent variable within this study was an assessment of participants’ overall global sense of well-being, in this case, flourishing. The Flourishing Scale was developed by Diener et al. (2009) and consists of eight statements on a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Scoring of the Flourishing Scale is conducted by simply summing the scores from each statement with

higher scores indicating higher levels of flourishing, with a maximum score of 56.

Examples of Flourishing Scale statements include “I lead a purposeful and meaningful life” and “I am a good person and lead a good life.” The Flourishing Scale has been demonstrated in previous studies to be a reliable self-assessment of well-being ($\alpha = 0.86$; Diener et al., 2009). In this study, the flourishing scale performed well in regard to reliability ($\alpha = .918$). Overall, the minimum score was 8, maximum score was 56, and the mean score was 45.72; $sd = 8.04$ (see Table 3 for breakdown of scale reliability and scoring). A complete list of flourishing items can be found in Appendix C.

Table 3

General and Study Specific Scale Performance

Scales	General Performance			Performance within Study		
	Min	Max	α	Mean	sd	α
MSPSS	12	84	.84 – .92	65.46	14.85	.939
Family	4	28	.81 – .90	20.66	6.32	.941
Friends	4	28	.90 – .94	21.89	5.36	.950
Significant Others	4	28	.83 – .98	22.95	6.26	.967
PCSQ	14	70	$\geq .86$	46.13	8.40	.831
Community Integration	5	25	.75 – .76	17.75	3.99	.860
Community	5	25	.84 – .85	15.52	3.80	.888
Participation						
Community	4	20	.87 – .88	12.86	2.47	.768
Organizations						
Flourishing	8	56	$\geq .86$	45.72	8.04	.918
Hope	8	64	$\geq .82$	50.51	9.23	.909
Agency	4	32	.71 – .76	25.00	5.39	.868
Pathways	4	32	.62 – .80	25.51	4.54	.860

Note. MSPSS = Multidimensional Scale of Perceived Social Support; PCSQ = Perceived Community Support Questionnaire.

ANALYSIS

RESEARCH QUESTION 1

The first question focused on whether there was a statistically significant increase in the reporting rate of SGM status using the more inclusive assessment over the standard method. To assess differences in these methods, participant responses were recoded into two dichotomous variables: sexuality standard assessment and sexuality more inclusive assessment. The two categories within this variable consist of cisgender/heterosexual and sexual and gender minority. The traditional method consists of the single standard question with answers of straight, gay, lesbian, and bisexual. In recoding this variable into one of the two dichotomous variables, responses of straight were recoded as cisgender/heterosexual and gay, lesbian, and bisexual were recoded as SGM. The single factor recoding procedure is demonstrated in *Figure 2*.

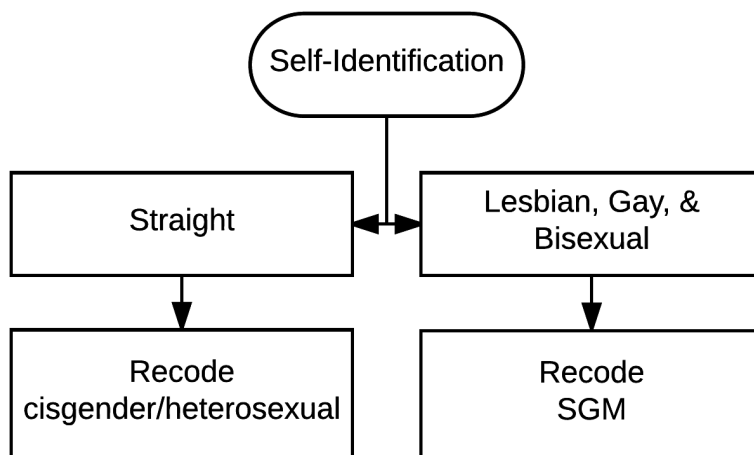


Figure 2. Sexuality standard assessment recoding procedure.

Recoding the variable of sexuality more inclusively was a lengthy process due to multiple factors assessing sexuality. The first step was examining the responses to “sex assigned at birth” and “gender identity now.” Individuals who indicated their gender

identity as different from the one society traditionally assigns to their sex at birth were coded as SGM with all others remaining uncoded. The second step was to assess “self-identification.” Participants identifying their sexual orientation as anything other than straight were recoded as SGM. The third step was to examine the responses to the question about sexual activity for those uncoded. In this step, any participant who indicated having had sexual activity with any person other than exclusively opposite sex or no sexual activity was recoded as SGM. The final step was to review the responses for physical attraction for the participants yet to be recoded. Participants indicating any physical attraction other than exclusively opposite sex were recoded as SGM. All remaining participants not recoded as SGM were then recoded as cisgender/heterosexual resulting from (a) their sex assigned at birth matching the typical gender identity for that sex, (b) self-identifying as straight, (c) having had sexual activity exclusively with the opposite sex or they have not had sex, and (d) having physical attraction exclusively to the opposite sex.

Of note, collapsing sexuality into the binary construct of cisgender/heterosexual and SGM is counter to queer theory. This can be avoided by assessing gender identity, self-identification of sexual orientation, sexual orientation based on sexual history, and sexual orientation based on attraction all as individual factors. Subsequently, this allows for all factors to be reported separately demonstrating the diversity within the SGM population (as illustrated in the results section). However, in comparing changes in proportions of cisgender/heterosexual and SGM individuals based upon the standard assessment technique to that of a more inclusive assessment technique, the categories

needed to be collapsed. A full breakdown of the more inclusive assessment recoding procedure is demonstrated in *Figure 3*.

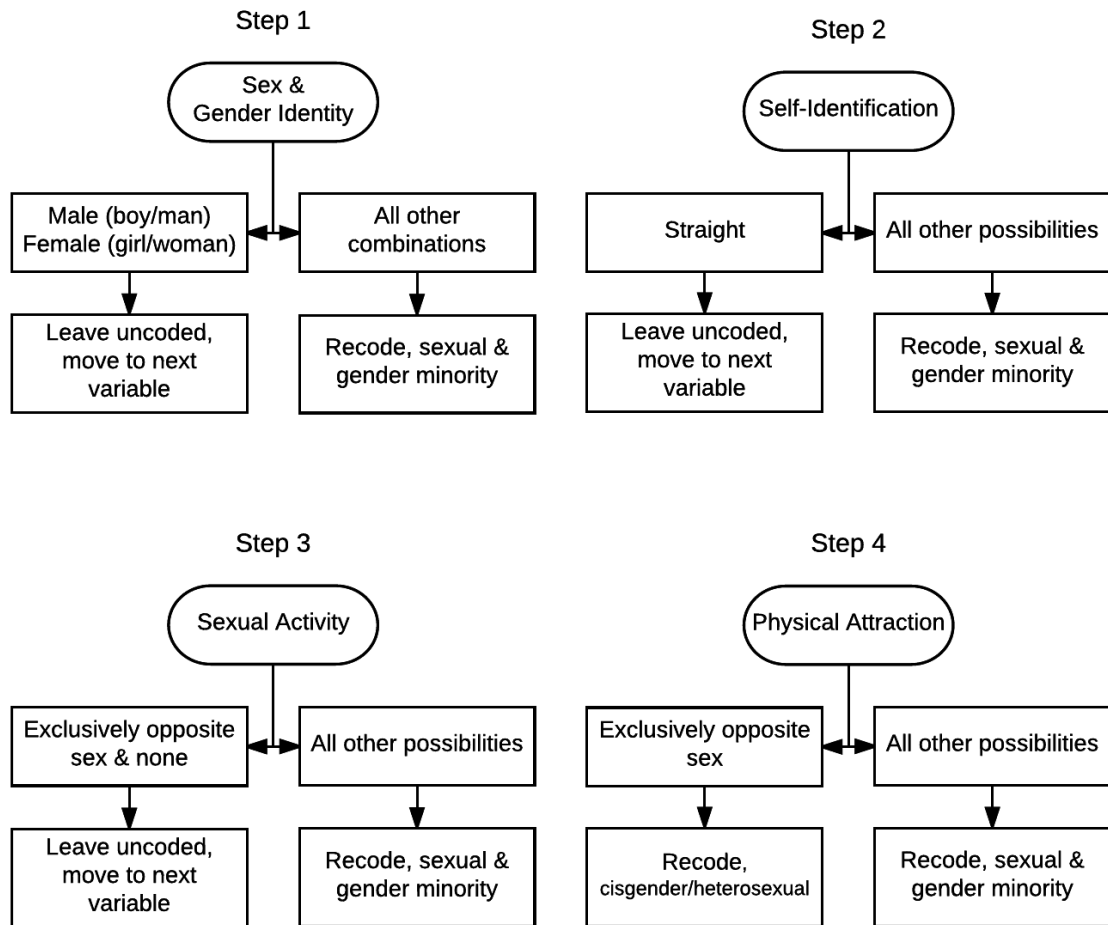


Figure 3. More inclusive sexuality assessment recoding procedure.

To ascertain whether changes in the proportions of those classified as either cisgender/heterosexual or SGM were significant from standard assessment to the more inclusive assessment method, a χ^2 test was performed. However, to examine differences in proportions between multiple dichotomous dependent variables, an alternative to the χ^2 test was needed. Therefore, McNemar's test was chosen. McNemar's test is employed on a 2x2 contingency table, similar to the χ^2 test of independence, however this is done when examining two points in time, two

independent samples, single sample with several responses, or single sample with two or more dichotomous items (McNemar, 1947; Wild & Seber, 1993). Calculation of McNemar’s test is as follows:

$$\chi^2 = \frac{(B-C)^2}{B+C},$$

where B = the number of individuals identifiable as cisgender/heterosexual in the standard assessment method and as SGM in the more inclusive assessment method, and C = those identifiable as SGM in the standard assessment method and identifiable as cisgender/heterosexual in the more inclusive method. An example of the McNemar’s test contingency table for this study is illustrated in Table 4.

Table 4

McNemar’s Test Contingency Table

	More Inclusive Assessment		Row Total
	Cisgender/Heterosexual	SGM	
Standard Assessment			
Cisgender/Heterosexual	a	b	$a + b$
SGM	c	d	$c + d$
Column Total	$a + c$	$b + d$	n

Based upon the calculation of χ^2 statistic in accordance with McNemar’s test, a significance level was calculated for a change in proportions on the two dichotomous variables (McNemar, 1947; Wild & Seber, 1993), in this case cisgender/heteronormative and SGM based upon differing methods of assessment. This technique allowed for testing of the following hypothesis:

$$P_{1-standard} = P_{2-more\ inclusive}$$

There are three assumptions that must be met in order to use McNemar’s test (McNemar, 1947); the first being that there must be one nominal variable with two

connected groups. The second is that the two groups must be mutually exclusive. Finally, the sample used must be a random sample.

RESEARCH QUESTION 2

The next question explored concerned the relationship between positive social institutions, hope, and flourishing. In particular, it focused on whether the perception of positive social institutions in the form of social supports served as an antecedent of flourishing mediated by participants' relationship with hope (as illustrated in *Figure 4*). As previously illustrated, research has indicated SGM populations face more adversity and higher rates of negative consequences to overall well-being than their cisgender/heterosexual counterparts.

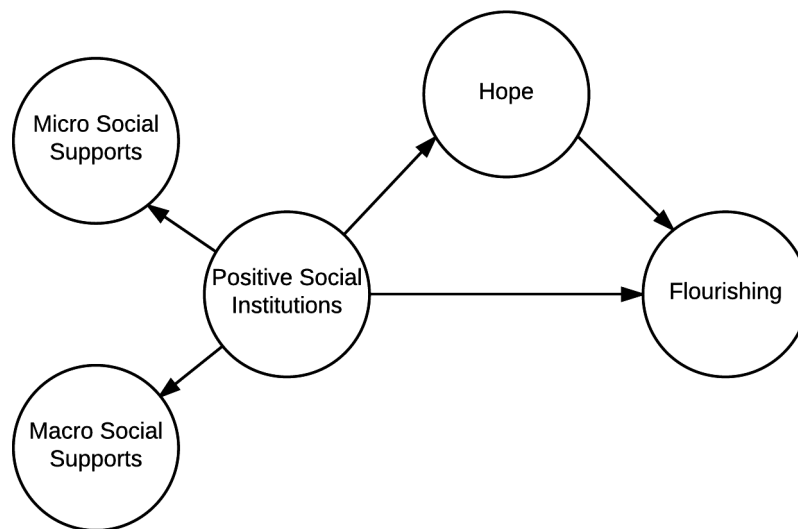


Figure 4. General model tested.

Covariance-Based Structural Equation Modeling

The proposed relationship between variables was modeled using covariance-based structural equation modeling. In general, structural equation modeling is a merging of various regression models (Bollen & Hoyle, 2012; Brown & Moore, 2012;

Kline, 2005). Moreover, regression is combined with factor analysis and path analysis into one statistical procedure (Hair, Anderson, Tatham, & Black, 1998; Hoyle, 2012). Additionally, CB-SEM includes measurement error as a part of the estimation of parameters, whereas path analysis assumes there is no error within the measurement of variables (Kline, 2005). Therefore CB-SEM was chosen as the analytic technique most appropriate for the proposed model to be tested.

All covariance-based structural equation model (CB-SEM) calculations performed were completed using SPSS Version 24 (IBM Corp., 2016) and the AMOS add on (Arbuckle, 2013). Utilization of the reference variable approach for each factor generated parameter estimates. The reference variable approach is accomplished when an unstandardized coefficient of one item from each factor is constrained to 1 (Bollen, 1989).

Goodness of Fit

The proposed model's quality of explanation of the observed variables was evaluated using "goodness of fit" indices. Those used within this study included: (a) the Tucker Lewis Index (TLI), (b) Standardized Root Mean Square Residual (SRMR), (c) the Root Mean Square Error of Approximation (RMSEA), and (d) χ^2 . Acceptable levels for the aforementioned fit indices are as follows:

- TLI has a lower bound lower bound of $\geq .90$ for an adequate fit and $\geq .95$ indicating an excellent fit (Bentler, 1992; Hu & Bentler, 1999);
- SRMR has a threshold of $\leq .08$ indicating an adequate fit of the model (Hu & Bentler, 1999);

- RMSEA has an upper threshold of $\leq .08$ indicating an adequately fitting model, and a lower threshold of $\leq .06$ which indicates the model has excellent fit (Browne & Clarke, 1993; Hu & Bentler, 1999); and
- $\chi^2 p > .05$. Known in the assessment of χ^2 is the fact of sensitivity to sample size which results in many instances of $p > .05$ despite other indices suggestive of adequate or excellent fit (Kline, 2005).

Effects and Mediation

Per the suggestions of Danner, Hagemann, and Fiedler (2015), bootstrapping (Efron & Tibshirano, 1986) was utilized to examine the indirect effects of the theorized model in addition to the aforementioned “goodness fit indices.” Testing of mediation is accomplished by evaluating the size of the effect an independent variable (X) employs on a dependent variable (Y) indirectly through a mediating variable (M). In the testing of theorized directional relationships, mediation analysis is commonly employed (Hayes, 2013).

Zhao et al. (2010) laid out two types of nonmediation, direct-only and no-effect, with three types of mediation: complimentary, competitive, and indirect-only. The first type of nonmediation, direct-only, alludes to the direct effect being significant and the indirect effect being non-significant. The next type, no-effect, refers to just that, both direct and indirect effects are non-significant. The first type of mediation is complimentary mediation and is indicative of both the direct and indirect effects being of the same direction and statistically significant. Second is competitive mediation, which entails both direct and indirect effects of opposing directions and both being

significant. Lastly is indirect-only and this indicates only the indirect effect is significant.

Regarding degree of mediation, each of the aforementioned types has differing levels. It is important to understand both competitive and complimentary equates to partial mediation with indirect-only indicating full mediation. To assess mediation in this manner, the Zhao et al. (2010) recommended procedure is followed. First the paths from X to M and M to Y are assessed via bootstrapping. If this is non-significant, the next step is to determine which type of nonmediation is present (direct-only or no-effect). If X to M and M to Y are determined to be significant, the next step is to assess X to Y . Determination of the significance of X to Y indicates whether the mediation is indirect-only or further analysis is warranted. If X to Y is significant, the relationship between X to M , M to Y , and X to Y is evaluated for direction of relationship. Dependent upon direction, the mediation is determined to be either complimentary or competitive (as illustrated in Figure 5).

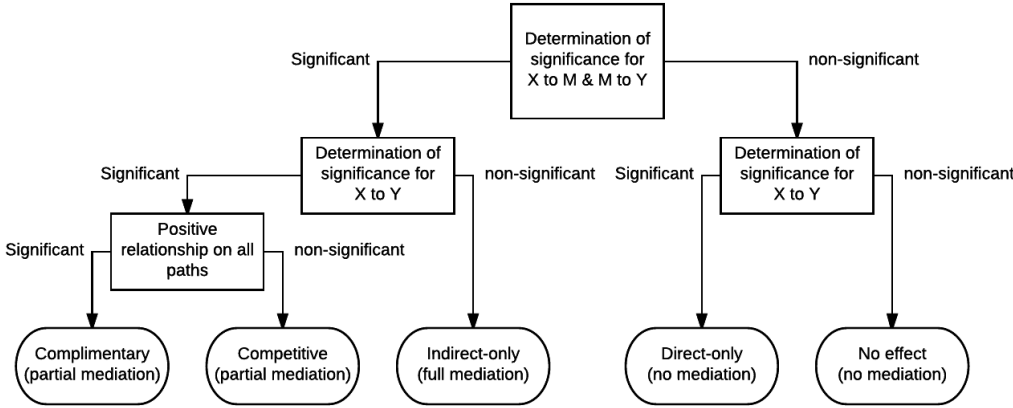


Figure 5. Mediation analysis.

In bootstrapping, a series subsample is drawn with replacement from the overall sample. Following this, every subsample is used in the estimation of values for the proposed model. This resampling technique is replicated a multitude of times, with $N = 10,000$ as a recommendation (Hayes, 2013). The values from the aforementioned bootstrapped samples allow for the calculation of standard errors for their respective parameters. Those standard errors are then used to construct a 95% confidence interval (CI) of said parameter in the population. Of note, when the bootstrapped generated 95% CI does not contain 0, the parameter is considered statistically significant (Hayes, 2013).

Model Identification

Before analysis, the ratio of parameters to be estimated was compared to the number of data points. According to Bentler and Chou (1987), the model must have fewer estimable parameters than data points. Per the covariance matrix (see Appendix D, Table D-1) there were 903 data points, with 42 parameters to be estimated (see *Figure 6*), which exceeds the criterion of more data points than estimable parameters. The following formula was used to calculate the unique data points:

$$p^* = p(p + 1)/2,$$

whereas p = the number variables, and p^* = the data points. Therefore:

$$p^* = \frac{42(42+1)}{2} = 903.$$

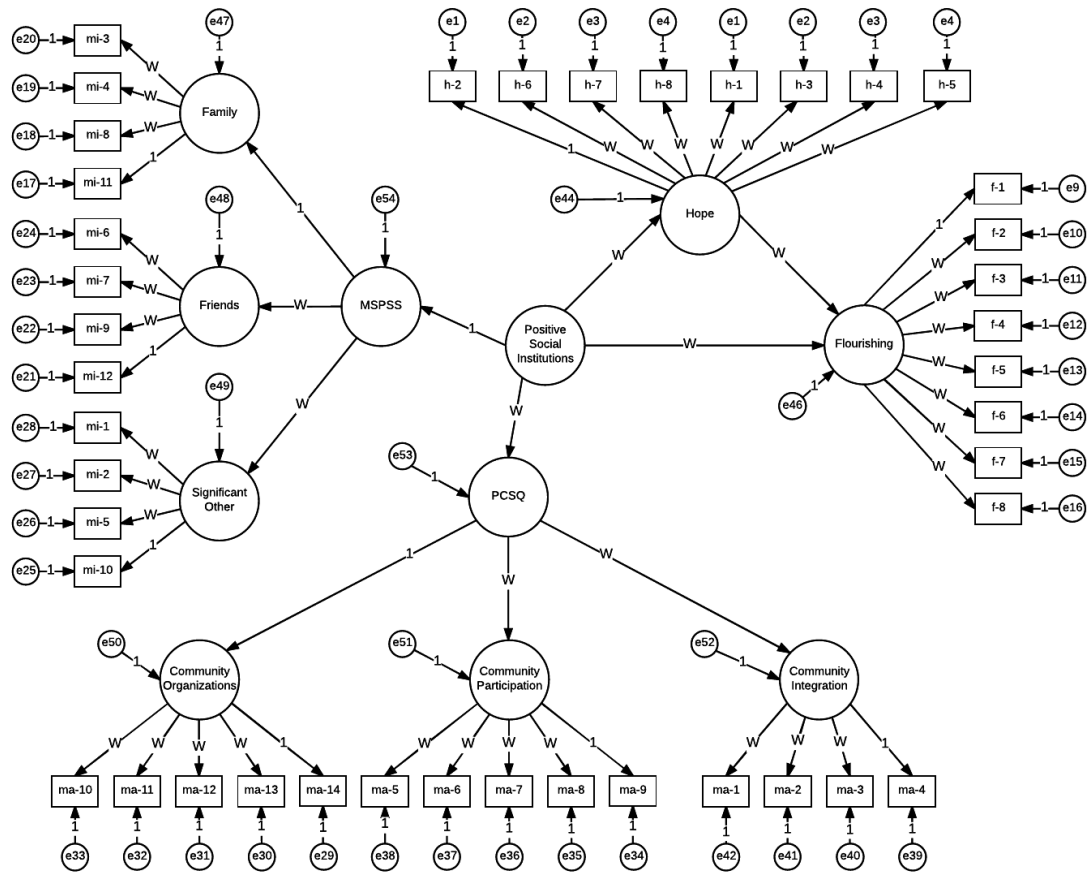


Figure 6. Complete proposed structural model. W indicates estimable parameters; 1 denotes constrained relationship.

Within this study, the model was overidentified, as indicated by having less estimable parameters than data points, and was based upon degrees of freedom (*df*). If the inverse is true, the model becomes untestable. This is a result of underidentified models producing p-values too low due to unreliable statistics (Bentler & Chou, 1987). Additionally, model identification relies on having more than one manifest variable per latent construct, and assigning a *scale* to each latent variable. To satisfy the scaling condition of identification, the reference variable approach was followed. This

approach utilizes assigning an unstandardized coefficient (1) to one item within each factor (Bollen, 1989).

Sample Size and Power

Determining the sample size required for structural equation modeling has been widely debated (Wolf, Harrington, Clark, & Miller, 2013). Therefore, multiple techniques were utilized to ensure an adequate sample was attained. Using sample size power calculations reported Kim (2005), a minimum sample size would be 53.19 for the desired power of .80 and significance level of .05. However, Marsh, Balla, and McDonald (1988) indicated that samples less than 200 are unstable to estimate parameters within structural equation modeling. According to Bentler and Chou (1987), there should be a ratio of 5:1 responses to distinct parameters. In this study, there were 95 distinct parameters to be estimated, therefore the adequate sample size would be $N = 485$. Based upon both guidelines, the sample of this study exceeded the minimum requirements needed for CB-SEM.

To examine the model's ability to capture the proposed effects in the population, the methods reported by MacCallum, Browne, and Sugawara (1996) were followed. In a model with $df = 808$ and a sample size of 586, the model's power (1.00) exceeded the threshold reported by Cohen (1988). Additionally, bootstrapping was used to test the indirect effects of the model, thereby further strengthening the model's overall generalizability (Efron & Tibshirano, 1986).

Missing Data

In the structural equation model, the sample was reduced from the original $N = 628$ to $N = 586$, eliminating participants with extensive missing data (entire scales) in

one of the utilized scales measuring social supports, hope, and flourishing. Prior to removing the 42 participants with missing data, AMOS software (Arbuckle, 2013) was utilized to calculate the missing values via Full Information Maximum Likelihood (FIML) estimation. However, upon running FIML, the resulting data were no longer normally distributed. The factor likely leading to the problem associated with normality was that the data were not missing at random. The 42 participants removed from this analysis had at least one scale completely missing either due simply to not answering or abandoning the survey. The most direct corrective procedure to follow was case-wise deletion leading to the reduction of sample size. Since the reduced sample size still met the required minimum sample size, the 42 participants were removed from further analysis.

Normality Assumption

Prior to evaluating the CB-SEM model, the assumption of normality was assessed in SPSS Version 24 (IBM Corp., 2016). Following the guidelines illustrated by Kline (2016), normality was indicated in terms of skewness and kurtosis by values less than 3 and 10 respectively. Within this study, scores on all measures met the criteria of univariate normality with skewness below 2 and kurtosis below 5.

Model Estimation

In order to find the best solution for each parameter of a given model, the process of estimation was followed. Maximum likelihood estimation is widely used (Kline, 2016). However, maximum likelihood estimation is highly dependent upon multivariate normality (Kline, 2016). Of note, Diamantopoulos and Siguaw (2005) illustrated that maximum likelihood estimation is still reliable with minor violations to

normality. Therefore, model estimation within this study was conducted utilizing maximum likelihood estimation.

RESEARCH QUESTION 3

The third question within the study dealt with the differences in the levels of the positive psychological constructs of positive social institutions, hope, and flourishing. To ascertain if there was a difference, and if so the degree of significance, three independent samples t-tests were performed. The grouping variable for the independent samples t-tests was the newly recoded variable of more inclusive sexuality (cisgender/heterosexual and SGM), with the test variables of self-reported perceived levels of social support, hope, and flourishing. Prior to running the t-tests, all assumptions of dependence, normality, and homogeneity were met. Additionally, to control for Type I errors due to running multiple t-tests, a Bonferroni correction was employed (Warner, 2013). The Bonferroni procedure was accomplished as follows:

$$PC_{\alpha} = EW_{\alpha} / k,$$

where, EW_{α} is test-wise α , set at .05, and k is the number of significance tests conducted. Therefore, the resulting significance level was

$$.05/3 = .017.$$

CHAPTER IV

RESULTS

RESEARCH QUESTION 1

Question 1 pertained to the potential impact of moving from the traditional assessment of sexuality within the confines of research to a more inclusive method. Specifically, the question was whether there was a statistically significant increase in the reporting rate of SGM status when using a more inclusive method versus the standard method.

STANDARD ASSESSMENT

All respondents were asked the standard sexuality assessment question of “which best describes you” with possible answers of heterosexual (straight), homosexual (gay or lesbian), and bisexual. Of the 628 respondents, 420 identified as straight, 98 identified as gay or lesbian, and 109 identified as bisexual. A complete breakdown of sexual orientation by sex assigned at birth (male and female) based upon this question is displayed in Table 5.

Table 5

Sexuality by Sex – Standard Assessment

Sexual Identity Label	N = 628	(100%)
Overall		
Straight	420	(66.9%)
Gay or Lesbian	98	(15.6%)
Bisexual	109	(17.4%)
Missing	1	(0.1%)
Males	136	(21.7%)
Straight	72	(52.9%)
Gay	45	(33.1%)
Bisexual	19	(14.0%)
Female	490	(78.0%)
Straight	348	(71.0%)
Lesbian	53	(10.8%)
Bisexual	89	(18.2%)

In the assessment of sexuality, inclusivity and increases in diversity should be welcomed. However, as noted, in order to assess the potential impact of shifting from the traditional assessment techniques to more inclusive techniques, the categories from the standard assessment technique needed to be collapsed allowing for comparisons with the inclusive assessment. The categories of straight, gay, lesbian, and bisexual were therefore collapsed into cisgender/heterosexual (straight) and SGM (lesbian, gay, and bisexual). Following the recoding procedure set forth in Chapter 3, 420 participants were coded as cisgender/heterosexual, with 207 coded as SGM (displayed in Table 6). This resulted in approximately 33% of participants identifiable as SGM and just under 70% as cisgender/heterosexual.

Table 6

Sexual and Gender Minority Status – Standard Assessment

SGM Status	N = 628 (100%)
Overall	
Cisgender/Heterosexual	420 (66.9%)
Sexual and Gender Minority	207 (33.0%)
Missing	1 (0.1%)

Note. One participant did not answer the sexuality question.

MORE INCLUSIVE ASSESSMENT

Numerous questions were used to assess sexuality within the confines of this study including sex assigned at birth, gender identity now, self-identification of sexuality, sexual activity, and physical attraction. The following is a breakdown of demographics based upon a more inclusive assessment technique.

Sex Assigned at Birth

In the more inclusive assessment of sexuality, respondents were first asked “what is/was your sex assigned at birth?” The first noticeable difference in this question and “what is your sex?” is the concept of sex being assigned and that it is not necessarily an obvious or given fact. The more noticeable difference in this question is with the answer choices. The customary male and female options are joined by a third option of intersex. Intersexuality is often overlooked, yet intersex births (not XX or XY) occur at a rate of 1:1,666 (Blackless et al., 2000). Despite survey drop out, the results indicate that intersex is a valid option within surveys resulting in increases in the sexual diversity of the participants (as illustrated in Table 7).

Table 7

Sex Assigned at Birth – More Inclusive Assessment

Sex	N = 628	(100%)
Male	125	(19.9%)
Female	465	(74.0%)
Intersex	1	(0.2%)
Unanswered	37	(5.9%)

Gender Identity

Participants were given the clarifying text of “gender identity refers to one’s sense of oneself as male, female, or transgender,” followed by the question of “what is your gender identity?” Options for this question included man, woman, gender queer, gender nonbinary, gender fluid, transman, transwoman, and other not listed, please specify. Study participants indicated a wide range of gender identities including 86.4% identifying as man or woman (this does not account for those whose gender identity is not aligned with the one traditionally assigned to their sex), 5.1% identifying as gender queer, gender nonbinary, or gender fluid, and 1.1% identifying as transgender (either transman or transwoman). A full breakdown of gender identity can be found in Table 8. Of note, within this study, more participants identified with a nonbinary identity (gender queer, gender nonbinary, or gender fluid) than those identifying as transgender. Those indicating other not listed indicated a gender identity label in conjunction with gender (masculine/feminine).

Table 8

Gender Identity – More Inclusive Assessment

Gender Identity	N = 628	(100%)
Man	117	(18.6%)
Woman	426	(67.8%)
Gender Queer, Gender Nonbinary, Gender Fluid	32	(5.1%)
Transman	4	(0.6%)
Transwoman	3	(0.5%)
Other Not Listed	7	(1.1%)
Missing	39	(6.2%)

Sexual Orientation – Self-Identification

Self-identification is but one method to assess sexual orientation. The results of this type of assessment also vary depending on the population assessed (GLAAD, 2017).

Within this study, participants were asked “do you consider yourself” straight, gay or lesbian, bisexual, asexual, or other not listed please specify. Results varied across the sexes with approximately 50% of males and 67% of females identifying as straight. Of note, in both males and females, more individuals identified as bisexual than gay or lesbian. Additionally, 3.5% of females identified as asexual and a combined 8.9% of males and females identified their sexual orientation as something besides the listed options. These included but are not limited to demisexual,¹³ bisexual/questioning, fluid,¹⁴ queer, pansexual,¹⁵ and I don’t have a label. A full breakdown of self-identification of sexual orientation by sex is illustrated in Table 9.

¹³ Having “little to no capacity to experience sexual attraction until a strong romantic or emotional connection is formed with another individual, often within a romantic relationship” (Killermann, 2017, p. 261).

¹⁴ Describes “an identity that may shift over time between or within the mix of the options available” (e.g., man and woman, bi and straight; Killermann, 2017, p. 262).

¹⁵ “A person who experiences sexual, romantic, physical, and/or spiritual attraction for members of all gender identities/expression” (Killermann, 2017, p. 267).

Table 9

Sexual Orientation Self-Identification by Sex – More Inclusive Assessment

Sexual Orientation	N = 628	(100%)
Males		
Straight	64	(51.2%)
Gay	44	(35.2%)
Bisexual	14	(11.2%)
Asexual	0	(0%)
Other Not Listed	3	(2.4%)
Females		
Straight	310	(67.1%)
Lesbian	39	(8.4%)
Bisexual	68	(14.7%)
Asexual	16	(3.5%)
Other Not Listed	30	(6.5%)
Missing	40	(6.4%)

Sexual Orientation – Sexual Activity

As illustrated by GLAAD (2017), sexual activity and physical attraction are more indicative of sexual orientation than labels for younger generations. As such, participants were asked “in the past 5 years who have you had sex with?” with options on a Likert-scale ranging from exclusively male to exclusively female and an option indicating they had not had sex. Results indicate that 43.2% of male and 21.7% of female respondents had engaged in same-sex sexual activity in the past 5 years. A complete breakdown of sexual activity by sex can be found within Table 10.

Table 10

Sexual Orientation Sexual Activity by Sex – More Inclusive Assessment

Sexual Activity	N = 628	(100%)
Males		
Exclusively Males	38	(30.4%)
Mostly Males	6	(4.8%)
Equally Males and Females	3	(2.4%)
Mostly Females	7	(5.6%)
Exclusively females	58	(46.4%)
I Have Not Had Sex	13	(10.4%)
Females		
Exclusively Males	298	(64.5%)
Mostly Males	35	(7.6%)
Equally Males and Females	12	(2.6%)
Mostly Females	13	(2.8%)
Exclusively females	40	(8.7%)
I Have Not Had Sex	64	(13.9%)
Missing	41	(6.5%)

Sexual Orientation – Physical Attraction

To account for those who had not engaged in same-sex sexual activity in a specified timeframe, physical attraction was also assessed. Respondents were asked to respond to the question, “people are different in their sexual attraction to other people. Which best describes your feelings?” Options were again provided on a Likert-scale ranging from exclusively attracted to males to exclusively attracted to females, an option of attracted to neither, and unsure. Approximately 57% of males and 60% of females expressed some degree of same-sex physical attraction (as illustrated in Table 11).

Table 11

Sexual Orientation Physical Attraction by Sex – More Inclusive Assessment

Physical Attraction	N = 628	(100%)
Males		
Exclusively Attracted to Males	31	(24.8%)
Mostly Attracted to Males	16	(12.8%)
Equally Attracted to Males and Females	5	(4.0%)
Mostly Attracted to Females	19	(15.2%)
Exclusively Attracted to Females	52	(41.6%)
Attracted to Neither	1	(0.8%)
Unsure	1	(0.8%)
Females		
Exclusively Attracted to Males	176	(38.2%)
Mostly Attracted to Males	155	(33.6%)
Equally Attracted to Males and Females	52	(11.3%)
Mostly Attracted to Females	44	(9.5%)
Exclusively Attracted to Females	25	(5.4%)
Attracted to Neither	4	(0.9%)
Unsure	5	(1.1%)
Missing	42	(6.7%)

In assessing sexuality in a more inclusive manner, an increase in diversity of the population was observed. First, in assessing sex assigned at birth, intersex was added as an option, which allowed individuals to indicate a third-sex option. Second, by asking about gender identity, the diversity expanded by allowing for the identification of those who were nonbinary and transgender. Finally, with assessing sexual orientation in three methods (self-identification, sexual activity, and physical attraction) this increase in diversity was further expanded. As a result, there were obvious differences in the proportions of those who were SGM and those who were not dependent on the assessment method. An overall breakdown of SGM status via the more inclusive manner is illustrated in Table 12.

Table 12

Sexual and Gender Minority Status – More Inclusive Assessment

Sex and Gender Minority Status	N = 628	(100%)
Sex Assigned at Birth		
Cisgender/Heterosexual	590	(93.9%)
Sexual and Gender Minority	1	(0.2%)
Missing	37	(5.9%)
Gender Identity		
Cisgender/Heterosexual	540	(86.0%)
Sexual and Gender Minority	49	(7.8%)
Missing	39	(6.2%)
Sexual Orientation – Self-identification		
Cisgender/Heterosexual	372	(59.2%)
Sexual and Gender Minority	217	(34.6%)
Missing	39	(6.2%)
Sexual Orientation – Sexual Activity		
Cisgender/Heterosexual	356	(56.7%)
Sexual and Gender Minority	155	(24.7%)
No Sexual Activity	77	(12.3%)
Missing	40	(6.4%)
Sexual Orientation – Physical Attraction		
Cisgender/Heterosexual	228	(36.3%)
Sexual and Gender Minority	353	(56.2%)
Unsure About Physical Attraction	6	(1.0%)
Missing	41	(6.5%)
Overall		
Cisgender/Heterosexual	227	(36.1%)
Sexual and Gender Minority	364	(58.0%)
Missing	37	(5.9%)

MCNEMAR’S TEST

Ascertaining whether there were changes in proportions of those identifiable as SGM and cisgender/heterosexual in the standard assessment (33% and 66.9% respectively) versus the more inclusive assessment (58% and 36% respectively)

required a McNemar’s test to be conducted. In order to run McNemar’s test, the number of groups in both assessment techniques needed to be equal. Therefore, participants who were unable to be coded as either heteronormative or SGM in either assessment were removed from the analysis. As a result, $N = 590$ for this analysis and all assumptions were met.

The first step within this analysis was to create the contingency table representing heteronormative and SGM status based upon both assessment methods. This is presented in Table 13.

Table 13

Sexuality Assessment McNemar’s Test Contingency Table

	More Inclusive Assessment		Row Total
	Cisgender/Heterosexual	SGM	
Standard Assessment			
Cisgender/Heterosexual	227	170	397
SGM	0	193	193
Column Total	227	363	590

Due to one of the cells being lower than 25, an alternative formula was needed to calculate McNemar’s test. Therefore, the recommendations set forth by Edwards (1948) were followed to approximate the binomial exact p-value.

$$\chi^2 = \frac{(|B - C| - 1)^2}{B + C} \quad ; \quad \frac{(|170 - 0| - 1)^2}{170 + 0} = 168.01 \quad ; \quad \chi^2 = 168.01$$

In a 2x2 contingency table, the $df = 1$ ($(2 - 1)(2 - 1) = 1$), resulting in a critical value of 3.84 ($\alpha = .05$). Therefore, with $\chi^2 = 168.01$, the null hypothesis was rejected in favor of the alternative hypothesis; the changes in proportions were statistically significant. Of the 590 participants who answered all sexuality questions, an exact McNemar’s test determined that there was a statistically significant change in the proportions of

cisgender/heterosexual and SGM status based upon the two assessment techniques, $p < .001$.

RESEARCH QUESTION 2

Question 2 examined the relationship between positive social institutions (social supports), hope, and flourishing. More specifically, it examined whether social support served as an antecedent of hope, thereby driving flourishing. In order to test this relationship, structural equation modeling was employed. The following section presents the results of the tested model.

MODEL TESTING

Structural equation modeling analysis was based on the data received from 586 participants using AMOS Version 22 (Arbuckle, 2013) over 42 questions covering 4 different Likert scales measuring social supports, hope, and flourishing. Maximum likelihood estimation was chosen over other techniques to meet the requirements of multivariate normality. (See *Figure 7* and Table 14 for model results.)

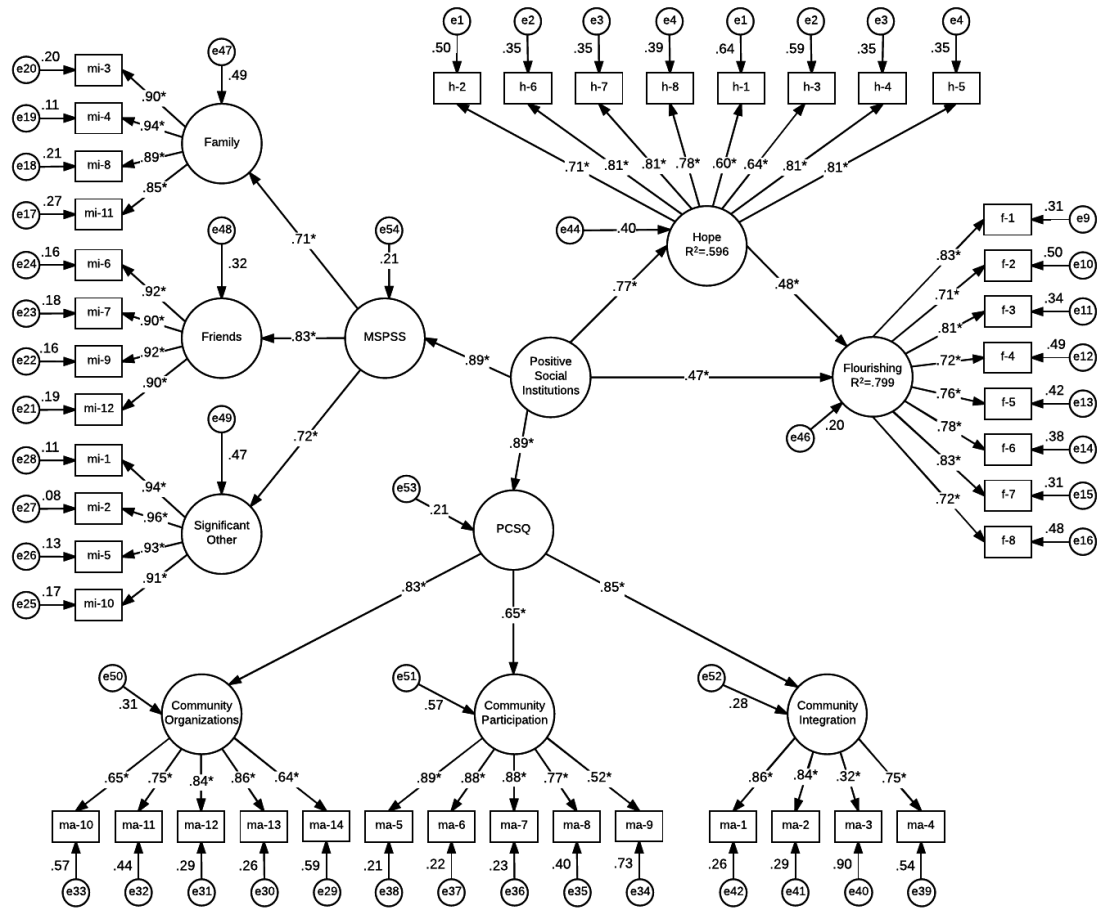


Figure 7. Results for the structural model equation. * denotes significant at $p < .001$.

Model Fit

In examining fit indices, chi-square is accepted widely as mandatory in reporting results despite its sensitivity to sample size and model sophistication, and in some instances, is argued to be no longer useful in acceptance or rejection of models (Schermelleh-Engel, Moosbrugger, & Müller, 2003; Vandenberg, 2006). As suspected, with the complexity of the proposed model, the results indicated this model was “different” from the overall population ($\chi^2 = 2574.969$; $df = 808$; $p < .001$). As per the standard approaches of SEM, other fit indices were examined beyond that of chi-square. Examination of TLI (.910), RMSEA (.058), and SRMR (.059) indicated that on an

individual basis, each of these fit indices exceeded the minimum requirements illustrating acceptable fit. Additionally, the two-index strategy having a RMSEA < .06 and an SRMR < .09 is yet another indicator of acceptability in model fit (Hu & Bentler, 1999). Based upon goodness of fit indices, the model appears to have good fit with the provided data. (See Table 14 for complete breakdown of fit indices.)

Table 14

Model Goodness of Fit with Heuristics

Goodness of Fit	This Study	Requirements
TLI	0.910	> .09
RMSEA	0.058	.01, .05, .08
SRMR	0.059	< .08
X2	2574.969; $df = 808, p < .001$	$p > .05$

Effects

After establishing the quality of fit indices for the model, next came path analysis. The hypothesis was that positive social institutions would serve as a driver of hope and thereby drive flourishing. Perceived levels of positive social institutions, modeled as micro- and macro-level social supports, was related positively to levels of hope ($\beta = .772$) and predictive of higher levels of flourishing ($\beta = .473$). Additionally, hope was predictive of increased flourishing ($\beta = .476$). In the tested model, it was hypothesized that hope would mediate the relationship between social support and flourishing. The results indicated a positive indirect relationship between social support and flourishing via hope ($\beta = .368$). Additionally, the exogenous variable of social support was a robust predictor of hope, accounting for nearly 60% of hope's variance ($R^2 = .596$). Examination of the overall model demonstrated that social supports and hope together accounted for nearly 80% of flourishing's variance ($R^2 = .799$). Table 15

provides an overview of direct, indirect, and total effects in both standardized and unstandardized formats, as well as values for R^2 .

Table 15

Standardized and Unstandardized Effects

	β		B		R^2
	Social Support	Hope	Social Support	Hope	
Direct					
Hope	.772		.915		.596
Flourishing	.473	.476	.618	.525	
Indirect					
Hope					
Flourishing	.368		.480		
Total					
Hope	.772		.915		
Flourishing	.841	.476	1.099	.525	.799

To examine the significance and stability of the aforementioned effects, bootstrapping ($N = 10,000$) was employed. Bootstrapping results indicated that the direct relationships between social supports and hope ($\beta = .772, p < .001; BCa\ 95\% CI [.717, .820]$) and flourishing ($\beta = .473, p < .001; BCa\ 95\% CI [.345, .611]$) were both statistically significant. Additionally, the direct relationship of hope on flourishing was statistically significant ($\beta = .476, p < .001; BCa\ 95\% CI [.348, .587]$). Finally, the examination of the indirect relationship of social support on flourishing was statistically significant ($\beta = .368, p < .001; BCa\ 95\% CI [.276, .454]$). The bootstrapped results are displayed in Table 16.

Table 16

Standardized and Unstandardized Bootstrapped Effects

	β		B		R^2
	Social Support	Hope	Social Support	Hope	
	β [95% CI]	β [95% CI]	B [95% CI]	B [95% CI]	
Direct					
Hope	.772 [.717, .820]		.915 [.769, 1.111]		.596
Flourishing	.473 [.345, .611]	.476 [.348, .587]	.618 [.456, .811]	.525 [.381, .667]	
Indirect					
Hope					
Flourishing	.368 [.276, .454]		.480 [.351, .632]		
Total					
Hope	.772 [.717, .820]		.915 [.769, 1.111]		
Flourishing	.841 [.761, .898]	.476 [.348, .587]	1.099 [.961, 1.265]	.525 [.381, .667]	.799

Note. All values were significant at $p < .001$.

Mediation

The hypothesized relationship was that hope would serve as a mediator between the construct of social support and flourishing. Per the recommendations of Zhao et al. (2010), complimentary mediation occurs when the path from X (social supports) to Y (flourishing) remains significant, while the paths from X to M (hope) and M to Y are also statistically significant. As illustrated through path analysis and examining the direct, indirect, and total effect sizes, the tested model supported the hypothesis of hope serving as a complimentary mediator between social support and flourishing.

RESEARCH QUESTION 3

Having examined the effects of assessing sexuality in a more inclusive manner as well as the structural relationship of positive social institutions, hope, and

flourishing, attention then turned to connecting these two aspects. With the potential of the SGM population being larger than previously thought, and the understanding of how social supports impact levels of hope thereby impacting flourishing, the 3rd question needing answered was whether the levels of social support, hope, and flourishing differed in the cisgender/heterosexual and SGM populations.

POSITIVE SOCIAL INSTITUTIONS

Two measures were used to assess positive social institutions (social supports): the MSPSS and the PCSQ. As previously mentioned, both scales had adequate reliability as did the proposed higher order construct of global social supports. An independent sample t-test was conducted to explore the differences in levels of global social supports with a grouping variable of SGM status based upon the more inclusive method. Taking into account multiple t-tests were being run simultaneously, a Bonferroni correction was applied indicating $p < .017$ would be significant. The results indicated there was a significantly higher degree of perceived social supports in the cisgender/heterosexual population ($M = 115.30, sd = 1.22$) than the SGM population ($M = 109.33, sd = 1.17$), $t = 3.39 (589), p < .001, d = .29$.

HOPE

As previously mentioned, the Adult Hope Scale was used to assess participants' levels of hope, and had adequate reliability. An independent sample t-test was conducted to explore the differences in levels of overall hope with the grouping variable of SGM status based upon the more inclusive method. Taking into account multiple t-tests were being run simultaneously, a Bonferroni correction was applied indicating $p < .017$ would be significant. The results indicated there were significantly higher mean

scores in the cisgender/heterosexual group on hope (52.67, $sd = 8.18$) compared to the SGM group (49.32, $sd = 9.59$), $t = 4.36$ (589), $p < .001$, $d = .38$.

FLOURISHING

As indicated previously, the Flourishing Scale was used to assess respondents' levels of well-being and had adequate reliability within the study. An independent sample t-test was conducted to examine the differences in flourishing with the grouping variable of SGM status based upon the more inclusive method. Taking into account multiple t-tests were being run simultaneously, a Bonferroni correction was applied indicating $p < .017$ would be significant. The results indicated there was a significantly higher level of flourishing reported in the cisgender/heterosexual group (47.48, $sd = 7.05$) than the SGM group (44.77, $sd = 8.48$), $t = 4.021$ (589), $p < .001$, $d = .35$.

SUMMARY

Queer theorists assert that there are many ways an individual may identify. Of importance in this research is how individuals identify their sexuality. As such, it is important to give individuals an exhaustive list of possibilities. There should be options allowing individuals to answer questions even if a correct option is not listed, and questions should be asked assessing the various constructs within sexuality. Building on a queer theory perspective, a more inclusive assessment of sexuality increased the measured diversity within this study from 33% sexual and gender minority to 58%. This increase in diversity led to a statistically significant shift in proportions of SGM status as hypothesized, resulting in the SGM population transforming into the majority population within this study.

The second research question examined the relationship between positive social institutions (measured as social supports), hope, and flourishing. Using a positive psychological framework, specifically a hope theory perspective, it was hypothesized that positive social institutions, both micro and macro, would serve as pathways to goal achievement. Based on the model tested, the results indicated that this model is not significantly different from the overall population. Therefore, evidence exists indicating that increased social supports does serve as a driver of hope, ultimately driving overall flourishing.

Finally, the connection between the potentially increased size of the SGM population and the role of social supports was explored in a series of t-tests examining the differences in the levels of social supports, hope, and flourishing across both cisgender/heterosexual and SGM populations. After taking into account the Bonferroni procedure, the results indicated that the SGM population reported lower levels of social support, hope, and flourishing compared to the cisgender/heterosexual population. Considering the potential increase in the size of the SGM population, there is evidence supporting the concept that social support drives hope and flourishing, and the SGM population has lower levels of social support, hope, and flourishing. This has significant impacts for research, positive psychology, and the overall well-being of the SGM population, as discussed in the following chapter.

CHAPTER V

DISCUSSION

I know that you cannot live on hope alone, but without it, life is not worth living. And you . . . And you . . . And you . . . Gotta give em hope.

– Harvey Milk, 1978

This research was driven by three distinct questions. The first asked whether there would be a statistically significant increase in the reporting rate of SGM status using a more inclusive method versus the traditional method. The hypothesis, supported by queer theory, was that by allowing individuals to define themselves, there would be a statistically significant increase in the SGM population based on the more inclusive assessment. The second question explored the relationship between positive social institutions, hope, and flourishing. With a foundation in hope theory, the hypothesis was that positive social institutions would serve as pathways of hope leading to increases in overall well-being. Connecting the first two research questions was the final question, which examined whether there would be a difference in the level of social supports in the SGM population and the cisgender/heterosexual population. The hypothesis was that the SGM population would have lower levels of social support than the cisgender/heterosexual population. With the relationship of hope and flourishing to social supports, it was also hypothesized that the SGM population would ultimately have lower levels of hope and flourishing.

OVERVIEW OF THE PROBLEM

In order to assess sexuality and the effects of sexuality on well-being, one must clearly understand key constructs comprising sexuality. Following the definitions set

forth by the APA (2012), there is a clear separation between sex, gender, gender identity, and sexual orientation. Additionally, there is a growing understanding that sexual orientation is more complex than previously thought (Bivens, 2015; Diamond, 2008; Katz-Wise, 2015; Oakley, 2016; Rosario & Schrimshaw, 2014), and that younger age groups view labels as less important than actual sexual activity (GLAAD, 2017). Despite understanding the complexity of sexuality, many researchers continue to rely on oversimplified assessments of sexuality within research. Reliance on these simplistic assessments of sexuality has produced vast differences in the reporting of the size of the SGM population (CDC, 2016; Gates, 2011; GLAAD, 2017).

Understanding the negative impacts of minority sexuality status on well-being becomes even more paramount with the consideration of variations in the population estimates. In repeated studies, the SGM population has demonstrated high rates of hopelessness (CDC, 2016; Hirsch et al., 2016; McManama O'Brien et al., 2016), homelessness (Rice et al., 2015), drug and alcohol abuse (CDC, 2017), intimate partner violence (Greenwood et al., 2002; Messinger, 2011), suicidal behavior (CDC, 2016; McManama O'Brien et al., 2016), and childhood trauma (Balsam et al., 2005; Rothman et al., 2011), among other issues. The CDC (2016) demonstrated that for Grade 9–12 students, those identifying as lesbian, gay, or bisexual had higher prevalence on 16 of the 18 violence-related risk factors. In attempting to infer the size of the population impacted by these negative health consequences, one must understand how sexuality is assessed. Using the standard assessment of sexuality can lead to underrepresentation of SGM individuals in the overall population, leading to the assumption that less individuals face these negative impacts on well-being.

Positive psychology is based on three pillars: (a) positive experiences, (b) positive individual traits, and (c) positive institutions (Seligman, 2002). Since the publication of *Positive Psychology: An Introduction* (Seligman & Csikszentmihalyi, 2000), studies focusing on positive psychological constructs in general have increased. However, there has been less focus on positive institutions and limited focus on positive psychology within the SGM population (Vaughan et al., 2014). This has been demonstrated in a series of articles highlighting the shortfall in studies of positive psychology within the SGM population, along with the rationale for why it is important to begin examining positive psychology within this population (Vaughan et al., 2014; Vaughan & Rodriguez, 2014).

Within positive psychology are two distinct constructs: hope and flourishing. *Hope* is defined as “a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-orientated determination) and (b) pathways (planning of ways to meet goals)” (Snyder et al., 1991, p. 571). *Flourishing*, according to Huppert and So (as cited in Seligman, 2011, pp. 5–29) is a state of well-being in which an individual must have all of the core features of flourishing (positive emotions, engagement, interest, meaning, and purpose) and three of the additional features (self-esteem, optimism, resilience, vitality, self-determination, and positive relationships). Serving as a catalyst for hope and flourishing is positive social institutions. In this study, positive social institutions were defined on both a micro- and macro-level. On the micro-level was participants’ relationships with family, friends, and significant others, and on the macro-level was community organization, participation within the community, and integration with the community. Bound by hope theory, increased

presence of positive social institutions served as pathways for hope leading to heightened states of flourishing.

OVERVIEW OF THE METHODS

After receiving IRB approval, an online link to the survey was posted on Facebook and disseminated by various community partners including Oklahomans for Equality, the LGBT Center of Hampton Roads Virginia, and PFLAG New York City. At the time of analysis, 628 individuals had participated from diverse geographic regions and with a mean age of 36-years and of diverse familiar origins. The study consisted of standard demographic questions, traditional assessment of sexuality, a more inclusive assessment of sexuality, the MSPSS, PCSQ, the Adult Hope Scale, and the Flourishing Scale. All of these scales have been tested extensively demonstrating high degrees of reliability and validity in the United States and internationally (Diener et al., 2009; Hellman et al., 2013; Herrero & Gracia, 2007; Stanley et al., 1998; Zimet et al., 1988).

In order to assess changes in the proportions of SGM status based upon the standard assessment and the more inclusive assessment, a McNemar's test was employed. McNemar's test is similar to a chi-square test, except it examines two points in time, two independent samples, a single sample with several responses, or a single sample with two or more dichotomous items (McNemar, 1947; Wild & Seber, 1993). Then, to assess the relationship among the variables of positive social institutions, hope, and flourishing, covariance-based structural modeling was employed using AMOS Version 22 (Arbuckle, 2013). In general, CB-SEM follows a logical progression of data preparation, model specification, model identification, model estimation, model testing,

model modification (if needed), and model interpretation (Kline, 2016). Lastly, a series of independent t-tests were run to assess differences in levels of social supports, hope, and flourishing across the cisgender/heterosexual and SGM minority population. Due to running multiple t-test simultaneously, a Bonferroni correction was employed to decrease the likelihood of Type I errors (Warner, 2013). In this instance, the Bonferroni correction reduced the p-value from .05 to .017.

OVERVIEW OF THE FINDINGS

Upon visual inspection of the provided data on sexuality, there were startling differences in the proportions of cisgender/heterosexual and SGM populations based upon method of assessment. Using the standard assessment technique yielded 420 (66.9%) cisgender/heterosexual participants and 207 (33%) SGM participants. The more inclusive method yielded startling different results. Not only did the SGM population increase to 364 (58%) participants, they became the majority. Based upon the results of McNemar's test, the changes in proportions based on the two techniques were statistically significant ($p < .001$). Using the more inclusive method allowed individuals to identify as intersex, transman/transwoman, gender queer, gender fluid, gender nonbinary, demisexual, pansexual, queer, fluid, as well as for the separation of self-identification from sexual activity and physical attraction. Ultimately, increasing the ability for participants to identify clearly who they were resulted in the overall increase of those who could be identified as SGM.

Preparing and analyzing a complex structural equation is a lengthy process, but the results yielded from this undertaking can truly be transformational. Upon initial inspection of model fit, the requirements for chi-square were not met ($\chi^2 = 2574.969$; df

= 808; $p < .001$). As reported by other researchers, this test should be treated as a ‘smoke detector’ indicating something might be wrong, but not necessarily the presence of a ‘fire’ (Hooper, Coughan, & Mullen, 2008; Kline, 2005). Therefore, additional fit indices should be evaluated. Reviewing additional fit indices demonstrated the overall fit of the model was acceptable and supported that this model was not different from the population. These indices include TLI = .910, RMSEA = .058, and SRMR = .059.

To evaluate the relationships between the variables, the direct, indirect, and total effects were examined. Based upon the bootstrapped results, the direct relationship of social support on hope ($\beta = .772, p < .001; BCa\ 95\% CI [.717, .820]$) and flourishing ($\beta = .473, p < .001; BCa\ 95\% CI [.345, .611]$), as well as the direct relationship of hope on flourishing ($\beta = .476, p < .001; BCa\ 95\% CI [.348, .587]$) were all statistically significant. Lastly, the indirect relationship from social supports to flourishing ($\beta = .368, p < .001; BCa\ 95\% CI [.276, .454]$) was also statistically significant. In the tested model, the exogenous variable of social support was a robust predictor of hope, accounting for nearly 60% of hope’s variance ($R^2 = .596$). Examination of the overall model demonstrated that social supports and hope together accounted for nearly 80% flourishing’s variance ($R^2 = .799$). These findings support the hypothesis that social supports serve as driver of flourishing, mediated by hope. In this instance, hope served as a complimentary mediator of the relationship between social supports and flourishing.

Finally, the examination of differences in the levels of social supports, hope, and flourishing were examined between the cisgender/heteronormative and sexual and gender minority populations. After employing the Bonferroni correction, the results

indicated that the SGM population had statistically lower levels of social support, hope, and flourishing ($p < .001$ on all t-tests). The results of this study supported the hypotheses that more inclusive assessment techniques increase diversity, that social supports drive hope and flourishing, and that the SGM population has lower levels of social support, hope, and flourishing compared to the cisgender/heterosexual population.

IMPACT OF FINDINGS

The demonstrated support of the proposed hypotheses has potential impacts on numerous domains. The first being the impact of assessing sexuality in more inclusive ways. Over time, researchers' understanding of human sexuality has evolved and led to changes in assessment. These changes have included the work of Kinsey (1948; 1953), Shively, and De Cecco (1977), to the work of Sell (1996; 1997), and the recommendations of the Williams Institute (2009). These changes in assessment have paralleled society's understanding of the complexity of human sexuality and the constructs making up human sexuality including sex, gender, gender identity, sexual orientation, and gender expression. Currently, there is a debate as to what elements should be assessed regarding sexual orientation. Despite advancements in measurement as evidenced by this study, researchers routinely assess sexuality only in the confines of sexual orientation, and limit that to self-identification based on few categories. The lack of inclusivity calls into question the construct validity of the traditional assessment of sexuality.

The impacts of sexuality to overall well-being are continually researched, with findings illustrating high rates of hopelessness (McManama O'Brien et al., 2016),

homelessness (Corliss, Goodenow, Nichols, & Austin, 2011; Rice et al., 2013; Rice et al., 2012), drug and alcohol abuse (King et al., 2008; McCabe et al., 2009), suicidal behavior (McManama O'Brien et al., 2016; CDC, 2016), and childhood trauma (Rothman et al., 2011). With varied SGM population estimates, the overall size of the population impacted by these higher rates also fluctuates. Drawing from queer theory and allowing individuals the freedom to define their lives outside of the binary increases the diversity within the SGM population. This therefore increases the size of the population facing negative impacts relating to this identity.

Numerous domains within society may be greatly impacted by this increased understanding of who comprises the SGM population and the overall size of the population. How can public health practitioners identify the specific needs of subgroups of the population when they are not certain who these individuals are, or the size of population? Social service providers regularly attempt to address social injustices. In order to address these social injustices, professionals need to know if there are differences within minority groups. This knowledge is paramount to ensure that programs and strategies to address these injustices are not only designed with cultural humility in mind, but also to address the correct population in need.

Addressing social injustices, in particular within the SGM population, then begins to impact policy and legislation. Within the layers of state and federal governments are programs designed to meet the social welfare needs of the community. Over the years, there have been calls for financial responsibility pertaining to social welfare programs (Bernecker, 2016; Hansen, Bourgois, & Drucker, 2014). Yet, rarely are the sources of the social injustices leading to the need for welfare programs

addressed. Having greater prevalence of hopelessness, homelessness, drug and alcohol abuse, intimate partner violence, suicidal behavior, and childhood trauma among a much larger SGM community, programs and policies should be geared toward addressing the issues leading to these negative consequences. In the long run, addressing these issues may reduce long-term spending and improve the overall health of the community. Rather than addressing these issues in a positive manner, legislative bodies exacerbate the negative consequences experienced by SGM populations by continually bringing forth anti-LGBTQ legislation.

Following this concept of anti-LGBTQ legislation leading to negative effects on a potentially larger population, positive psychology becomes increasingly relevant. According to Seligman (2003), positive institutions contain supportive relationships as well as democracy itself. Within the current study, positive social institutions were modeled using both micro-level supports (friends, family, and significant others) and macro-level supports (community organizations, community integration, and community participation). The results clearly supported the hypothesis that increases in social supports will increase individual hope, thereby improving overall flourishing.

This concept of macro-level supports impacting well-being begins to bring to the forefront the concept of how a public policy can psychologically impact the lives of citizens in both a positive and negative way. Research relating to identity politics, in particular anti-LGBTQ politics, is not new, however in the realm of positive psychology, the findings presented in this study are unique. Demonstrating the relationship between social support, hope, and flourishing, and that subsets of the population (in this case the SGM population) have lower rates of all three, begins to

illustrate how using positive psychology may be beneficial in addressing global social injustices.

Using the positive psychological framework, social injustices can be examined in relation to legislation, policies, programs, and community development, playing a significant role in hopeful thinking. This hopeful thinking may, in turn, improve overall well-being by allowing individuals to make goals, identify multiple pathways to accomplish those goals, and increase their internal motivation to achieve those goals. Those living in communities with legislation and policies negatively impacting minority groups, and organizations and communities not accepting of individuals outside of the binary, may not see a future for themselves. Without this sense of a future, they may, in turn, have limited goals and pathways for advancing those goals, and subsequently devote even less energy to achieving the goals they do have. This may negatively impact their well-being, leading to the aforementioned negative health and social concerns.

LIMITATIONS OF THE STUDY

A potential limitation in this study was the use of online samples or Internet-based research. It is important to understand, regarding Internet sampling, that there is the potential for samples to be biased by not being representative, therefore affecting the generalizability of the results. To account for this, one must ensure enough demographic data are gathered to compare the sample to the overall make-up of the population in question. With developing technology, Internet-based services and social media platforms have potentially changed the landscape for social science research. Rife et al. (2016) indicated several benefits to using Facebook for social science

research, of which, having access to the sheer number of Facebook users and their ability to share information leading to viral sharing are of importance to this research. Skita and Sargis (2006) examined the use of Internet-based research and found in 1,401 APA journal articles from 2003–2004, 22 published articles took advantage of the Internet. The problem, however, is traditional social science researchers remain skeptical of the use of new techniques and often question the generalizability of said research.

In attempts to address generalizability, researchers have begun to compare traditional research methodologies with newer forms, such as the use of Facebook. Gosling et al. (2004) compared studies published in the *Journal of Personality and Social Psychology* and found those using Internet sampling produced greater diversity in respect to gender, socioeconomic status, geography, and age over studies using traditional methods. In an additional study, a large sample acquired from the Internet was compared to the overall make-up of the United States, and was found to be representative (Rentfrow, Gosling, & Potter, 2008). More recently, Casler, Bickel, and Hackett (2013) demonstrated that online samples performed similarly to in-lab participants, and that the online samples were more diverse and in some instance superior.

Next is a limitation concerning nonexperimental designs in testing mediation; this includes cross-sectional designs. Maxwell and Cole (2007) illustrated that due to the potential of biased parameter estimates in cross-sectional designs, there are limitations in the analysis and interpretation of mediation in said designs. Therefore, with the employment of a cross-sectional design, there are limitations in the inference of

mediation within this model to the overall population. Further exploration of the role positive social supports has on hope and flourishing should be further explored in a longitudinal study.

Finally, a limitation within this study falls within the confines of assessment of sexuality, specifically, the questions pertaining to sexual activity and physical attraction. With advances in understanding of human sexuality and queer theory, assessing sexuality becomes complex, particularly in regard to those individuals whose gender identity or attraction to others is outside of the binary. For those individuals, there can be increased difficulty in answering the questions of sexual orientation via sexual activity and physical attraction.

An unidentified participant reached out to express their delight in options outside of the binary and the freedom to specify their identity if the correct one was not listed. However, they struggled with the sexual activity and physical attraction question. In relation to sexual activity, the problem was there was no way to indicate sexual relationships with someone who is intersex. Additionally, in relation to physical attraction, there was no clear way to indicate attraction to those who are gender nonbinary, such as skoliosexuals.¹⁶ To address this concern, an option could be easily added to both questions of “*other please specify*”. By omitting this answer on both questions, the diversity within the SGM population was potentially reduced within this study. Ultimately, if sexuality is being assessed, there should be an answer for each question allowing for individuals to not only indicate “*other not listed*”, but then specify who the ‘other’ is.

¹⁶ “being primarily sexually, romantically and/or emotionally attracted to some genderqueer, transgender, transsexual, and/or non-binary people” (Killermann, 2017, p. 270).

FUTURE RESEARCH DIRECTIONS

To understand the complexity of sexuality, continued research is needed. Specifically, adding ‘other please specify’ to the question of sexual activity and physical attraction could increase the diversity even further. Additionally, other aspects could be included in the assessment including gender. Of interest for future research would be the extent to which gender (masculinity and femininity), more aptly gender nonconformity, influences levels of individual social support. This would allow for a deeper understanding of how ‘passing’¹⁷ has benefits, and the consequences for those unable to ‘pass.’ Research of this type has the potential to advance understanding on where society is in terms of accepting sexualities and identities that are outside of the binary norm dependent on gender conformity.

In relation to positive social institutions, further research is needed to establish the extent to which social supports impact hope, specifically how both micro- and macro-level supports individually impact agency and pathways. This research would illustrate where interventions need to be developed (on the micro- or macro-level) to make impacts on the specific factors of agency or pathways. This may help practitioners to identify the domain of greatest influence when working with clients. Ultimately, with the limited amount of positive psychological research focused on the SGM population, future directions of research combining both SGM populations and positive psychology have limitless possibilities.

¹⁷ “1. Transgender people “being accepted as”, or able to “pass for,” a member of their self-identified gender identity (regardless of sex assigned at birth without being identified as transgender. 2. An LGB/queer individual who is believed to be or perceived as straight” (Killermann, 2017, p. 267).

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APPENDIX A:
INSTITUTIONAL REVIEW BOARD APPROVAL



Institutional Review Board for the Protection of Human Subjects
Approval of Initial Submission – Exempt from IRB Review – AP01

Date: March 23, 2017

IRB#: 7894

Principal Investigator: Jedediah Eugene Bragg

Approval Date: 03/23/2017

Exempt Category: 2

Study Title: Social Justice Implications of Inclusive Measures of Sexual and Gender Minority Populations

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research study and determined that it meets the criteria for exemption from IRB review. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:

- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Request approval from the IRB prior to implementing any/all modifications as changes could affect the exempt status determination.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Notify the IRB at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or irb@ou.edu.

Cordially,

A handwritten signature in blue ink that reads 'Fred Beard'.

Fred Beard, Ph.D.
Vice Chair, Institutional Review Board

APPENDIX B

RECRUITMENT MATERIAL

**Social Justice Implications of
Inclusive Measures of Sexual and Gender Minority Populations
Jedediah Bragg, MSW
*IRB # 7894***

Social science has long conducted research within the LGBTQ population. The majority of these studies rely on identifying this population in ways that have not kept up with society's understanding of sexuality. As such, my doctoral research examines how more inclusive measures of sexuality impact the overall size of the LGBTQ population. The second portion of this study examines how social supports drive individuals' level of hope, resulting in increased levels of well-being.

- **Description of study procedures**

All individuals agreeing to participate will be directed to an anonymous online survey with questions pertaining to standard demographics (age, education, family origin), traditional assessments of sexuality (sex and sexual orientation), hope, flourishing, social supports, and finally more inclusive measures of sexuality. **All individuals** regardless of sexual identity are needed for this study.

- **Qualifications to participate**

To participate in this study individuals should be at a minimum of 18 years of age. Again, there are no requirements pertaining to sexual identity to participate. **All individuals** are encouraged to participate regardless of how you identify.

- **Length of participation (time involved)**

The survey takes approximately **15** minutes to complete.

- **PI contact information**

If you have any questions please contact:

Jedediah Bragg, MSW

j.e.bragg@ou.edu

Link to Survey:

https://outartsandsciences.co1.qualtrics.com/jfe/form/SV_eRk8l6XWYWdqmCF

The University of Oklahoma is an equal opportunity institution.

APPENDIX C

COMPLETE SURVEY FOR STUDY

Sexual Identity and Social Connectedness

Online Consent to Participate in Research Would you like to be involved in research at the University of Oklahoma? I am Jedediah Bragg from the Anne and Henry Zarrow School of Social Work and I invite you to participate in my research project entitled Social Justice Implications of Inclusive Measures of Sexual and Gender Minority Populations. This research is being conducted online. You must be at least 18 years of age to participate in this study. Please read this document and contact me to ask any questions that you may have BEFORE agreeing to take part in my research. What is the purpose of this research? The purpose of this research is to explore the impacts of assessing sexuality in a more inclusive manner and how social supports effect overall well-being. How many participants will be in this research? About 1,000 people will take part in this research. What will I be asked to do? If you agree to be in this research, you will be asked to complete an online survey. How long will this take? Your participation will take approximately 15 minutes. What are the risks and/or benefits if I participate? There are no risks and no benefits from being in this research. Will I be compensated for participating? You not be reimbursed for your time and participation in this research. Who will see my information? In research reports, there will be no information that will make it possible to identify you. Research records will be stored securely and only approved researchers and the OU Institutional Review Board will have access to the records. Do I have to participate? No. If you do not participate, you will not be penalized or lose benefits or services unrelated to the research. If you decide to participate, you don't have to answer any question and can stop participating at any time. Who do I contact with questions, concerns or complaints? If you have questions, concerns or complaints about the research or have experienced a research-related injury, contact me at

Jedediah Bragg, MSW
j.e.bragg@ou.edu

or

Julie Miller-Cribbs, PhD
jmcribbs@ou.edu
918-660-3378

You can also contact the University of Oklahoma – Norman Campus Institutional Review Board (OU-NC IRB) at 405-325-8110 or irb@ou.edu if you have questions about your rights as a research participant, concerns, or complaints about the research and wish to talk to someone other than the researcher(s) or if you cannot reach the researcher(s). Please print this document for your records. By providing information to the researcher(s), I am agreeing to participate in this research.

This research has been approved by the University of Oklahoma, Norman Campus IRB.

IRB Number: 7894

Approval date: 03/23/2017

- I agree to participate
- I do NOT agree to participate

Condition: I do NOT agree to participate Is Selected. Skip To: End of Survey.

1. What is your age?

2. What categories describe you best (select all that apply)

- White For example German, Irish, English, Italian, Polish, French, etcetera.
- Hispanic, Latino, or Spanish origin For example Mexican or Mexican American, Puerto Rican, Cuban, Salvadoran, Dominican, Colombian, etcetera.
- Black or African American For example African-American, Jamaican, Haitian, Nigerian, Ethiopian, etcetera.
- Asian For example Chinese, Filipino, Indian, Vietnamese, Korean, Japanese, etcetera.
- American Indian For example Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Nome Eskimo Community, etcetera.
- Middle Eastern or North African For example Lebanese, Iranian, Egyptian, Syrian, Moroccan, Israeli, Palestinian, etcetera.
- Native Hawaiian or Pacific Islander For example Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, Marshallese, etcetera.
- Some other race, ethnicity, or origin not listed _____

The following questions will assess sexuality in the traditional manner. Answer the questions to the best of your ability with the choices available.

3. What is your sex?

- Male
- Female

4. Which best describes you?

- Heterosexual [straight]
- Gay or Lesbian
- Bisexual

5. In which country were you predominately raised? (up to your 18th birthday)

Display This Question:

If List of Countries; United States of America Is Selected

6. In which state were you predominantly raised? (up to your 18th birthday)

7. In which country do you currently reside?

Display This Question:

If List of Countries; United States of America Is Selected

8. In which state do you currently reside?

Display This Question:

If 50 States, D.C. and Puerto Rico; Oklahoma Is Selected

9. What county do you live in?

10. What best describes your level of education?

- Less than high school
- High school diploma / GED
- Some college
- 2 year degree
- 4 year degree
- Professional degree
- Doctorate

11. What is your annual income?

- Less than \$10,000
- \$10,000 - \$19,999
- \$20,000 - \$29,999
- \$30,000 - \$39,999
- \$40,000 - \$49,999
- \$50,000 - \$59,999
- \$60,000 - \$69,999
- \$70,000 - \$79,999
- \$80,000 - \$89,999
- \$90,000 - \$99,999
- \$100,000 - \$149,999
- More than \$150,000

12. Below are 8 statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item by indicating that response for each statement.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I lead a purposeful and meaningful life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My social relationships are supportive and rewarding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am engaged and interested in my daily activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I actively contribute to the happiness and well-being of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am competent and capable in the activities that are important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good person and live a good life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am optimistic about my future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People respect me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Read each item carefully. Using the scale shown below, please select the answer that best describes YOU.

	Definitely False	Mostly False	Somewhat False	Slightly False	Slightly True	Somewhat True	Mostly True	Definitely True
I can think of many ways to get out of a jam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I energetically pursue my goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are lots of ways around any problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can think of many ways to get the things in life that are important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when others get discouraged, I know I can find a way to solve the problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My past experiences have prepared me well for my future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been pretty successful in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I meet the goals that I set for myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. The following questions assess your perceived level of support from family members, friends, and significant others.

	Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree
There is a special person who is around when I am in need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a special person with whom I can share joys and sorrows.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My family really tries to help me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get the emotional help and support I need from my family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a special person who is a real source of comfort to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My friends really try to help me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can count on my friends when things go wrong.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can talk about my problems with my family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have friends with whom I can share my joys and sorrows.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a special person in my life who cares about my feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My family is willing to help me make decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can talk about my problems with my friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. The following questions relate to your integration with your community, participation in your community, and use of organizations within your community.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
I identify with my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My opinions are valued in my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Few people in my community know who I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like my community is my own.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I collaborate in organizations and associations in my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take part in activities in my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take part in some social or civic groups in my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I respond to calls for support in my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't take part in socio-recreational activities in my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I could find people that would help me feel better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would find someone to listen to me when I feel down.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would find a source of satisfaction for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be able to cheer up and get in a better mood.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would relax and easily forget my problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following questions are designed to allow you to define your own sexuality in various areas including biological sex, gender identity, self-identified sexual orientation, your sexual attraction, your physical attraction, your gender, and your level of openness to individuals in your life.

16. What is/was your sex assigned at birth?

- Male
- Female
- Intersex

Gender identity refers to one's sense of oneself as male, female, or transgender.

17. What is your gender identity?

- Man
- Woman
- Genderqueer, gender non-binary, gender fluid
- Transman
- Transwoman
- Other not listed (please specify) _____

18. Do you consider yourself to be:

- Straight
- Gay or Lesbian
- Bisexual
- Asexual
- Other not listed [fill in the box] _____

19. In the past 5-years who have you had sex with?

- Exclusively Males
- Mostly males
- Equally males and females
- Mostly females
- Exclusively females
- I have not had sex

20. People are different in their sexual attraction to other people. Which best describes your feelings.

- Exclusively attracted to males
- Mostly attracted to males
- Equally attracted males and females
- Mostly attracted to females
- Exclusively attracted to females
- Attracted to neither
- Unsure

Gender refers to attitudes, feelings, and behaviors that a given culture associates with a persons' biological sex.

21. In general, how do you see yourself? (Please answer on both scales)

	Not at All							Very	
Feminine	0	1	2	3	4	5	6	7	
Masculine	0	1	2	3	4	5	6	7	

22. In general, how do most people see you? (Please answer on both scales)

	Not at All							Very	
Feminine	0	1	2	3	4	5	6	7	
Masculine	0	1	2	3	4	5	6	7	

23. How would you rate your level of expression of your sexual identity? (Select 0 if not applicable)

	N/A	Not at All							Completely
	0	1	2	3	4	5	6	7	
Open with your children	0	1	2	3	4	5	6	7	
Open with siblings	0	1	2	3	4	5	6	7	
Open with parents	0	1	2	3	4	5	6	7	
Open with extended family	0	1	2	3	4	5	6	7	
Open with coworkers	0	1	2	3	4	5	6	7	
Open with your boss	0	1	2	3	4	5	6	7	
Open with neighbors	0	1	2	3	4	5	6	7	
Open with friends	0	1	2	3	4	5	6	7	

Table D-1

Covariance Matrix

	PCSQ 1	PCSQ 2	PCSQ 3	PCSQ 4	PCSQ 5	PCSQ 6	PCSQ 7	PCSQ 8	PCSQ 9	PCSQ 10	PCSQ 11	PCSQ 12	PCSQ 13	PCSQ 14
PCSQ1	0.988													
PCSQ2	0.673	0.852												
PCSQ3	0.319	0.295	1.313											
PCSQ4	0.661	0.568	0.337	1.040										
PCSQ5	0.638	0.630	0.418	0.648	1.493									
PCSQ6	0.618	0.566	0.410	0.598	1.120	1.357								
PCSQ7	0.551	0.544	0.377	0.535	1.154	1.099	1.489							
PCSQ8	0.560	0.532	0.247	0.518	0.920	0.851	0.959	1.241						
PCSQ9	0.308	0.307	0.499	0.310	0.639	0.658	0.673	0.469	1.341					
PCSQ10	0.392	0.375	0.122	0.394	0.404	0.388	0.357	0.369	0.167	0.986				
PCSQ11	0.455	0.460	0.175	0.460	0.452	0.430	0.370	0.413	0.259	0.688	1.087			
PCSQ12	0.431	0.411	0.099	0.381	0.443	0.383	0.396	0.380	0.162	0.488	0.590	0.874		
PCSQ13	0.441	0.402	0.055	0.368	0.377	0.332	0.313	0.334	0.174	0.462	0.590	0.673	0.874	
PCSQ14	0.420	0.388	0.080	0.396	0.320	0.326	0.328	0.288	0.191	0.377	0.494	0.498	0.621	1.138
MSPSS1	0.535	0.505	0.138	0.518	0.454	0.369	0.380	0.433	0.119	0.525	0.710	0.580	0.573	0.509
MSPSS2	0.554	0.528	0.118	0.513	0.493	0.437	0.434	0.486	0.157	0.547	0.708	0.617	0.612	0.531
MSPSS5	0.555	0.505	0.175	0.526	0.476	0.412	0.381	0.472	0.109	0.581	0.724	0.602	0.576	0.528
MSPSS10	0.508	0.521	0.101	0.526	0.503	0.389	0.365	0.471	0.136	0.537	0.717	0.612	0.580	0.497
MSPSS6	0.547	0.539	0.171	0.557	0.496	0.419	0.453	0.486	0.215	0.623	0.741	0.552	0.569	0.507
MSPSS7	0.609	0.621	0.198	0.634	0.547	0.476	0.486	0.527	0.257	0.700	0.812	0.581	0.625	0.542
MSPSS9	0.614	0.616	0.213	0.625	0.614	0.531	0.544	0.526	0.273	0.709	0.836	0.629	0.647	0.556
MSPSS12	0.609	0.600	0.221	0.610	0.567	0.498	0.500	0.513	0.209	0.684	0.837	0.569	0.632	0.560
MSPSS3	0.470	0.479	0.013	0.495	0.381	0.389	0.263	0.284	0.005	0.569	0.587	0.587	0.561	0.478
MSPSS4	0.627	0.607	0.087	0.610	0.512	0.474	0.337	0.451	0.090	0.616	0.724	0.666	0.684	0.659
MSPSS8	0.645	0.615	0.183	0.662	0.604	0.554	0.464	0.468	0.113	0.665	0.838	0.758	0.723	0.670
MSPSS11	0.476	0.490	0.054	0.504	0.479	0.405	0.347	0.339	0.078	0.553	0.581	0.585	0.546	0.527
F8	0.452	0.478	0.021	0.440	0.377	0.386	0.332	0.374	0.101	0.351	0.475	0.436	0.506	0.467
F7	0.556	0.553	0.132	0.581	0.608	0.556	0.495	0.521	0.254	0.535	0.614	0.615	0.683	0.697
F6	0.418	0.388	0.036	0.357	0.361	0.336	0.266	0.330	0.070	0.316	0.425	0.442	0.515	0.443
F5	0.360	0.332	0.086	0.358	0.334	0.356	0.295	0.335	0.042	0.292	0.321	0.422	0.412	0.329
F4	0.449	0.399	0.061	0.358	0.463	0.494	0.476	0.473	0.150	0.359	0.467	0.464	0.474	0.344
F3	0.602	0.566	0.136	0.557	0.531	0.503	0.514	0.528	0.215	0.410	0.511	0.542	0.567	0.569
F2	0.590	0.521	0.131	0.541	0.488	0.414	0.423	0.461	0.213	0.534	0.649	0.593	0.592	0.494
F1	0.587	0.531	0.108	0.487	0.557	0.515	0.472	0.543	0.211	0.464	0.527	0.552	0.602	0.562
H5	0.533	0.479	0.093	0.493	0.568	0.535	0.552	0.548	0.153	0.474	0.569	0.647	0.661	0.643
H4	0.503	0.484	0.266	0.541	0.551	0.495	0.471	0.477	0.255	0.394	0.480	0.496	0.527	0.504
H3	0.314	0.313	0.137	0.362	0.400	0.359	0.363	0.342	0.149	0.283	0.290	0.376	0.379	0.343
H1	0.362	0.295	0.192	0.431	0.393	0.363	0.378	0.362	0.177	0.249	0.259	0.336	0.312	0.323
H8	0.636	0.572	0.130	0.553	0.528	0.548	0.447	0.545	0.128	0.467	0.541	0.658	0.634	0.687
H7	0.637	0.678	0.168	0.650	0.584	0.596	0.495	0.608	0.185	0.552	0.624	0.678	0.739	0.744
H6	0.643	0.600	0.160	0.652	0.658	0.654	0.586	0.620	0.221	0.571	0.667	0.737	0.724	0.746
H2	0.503	0.491	0.306	0.487	0.476	0.402	0.385	0.447	0.285	0.416	0.517	0.576	0.532	0.465

Condition number = 228.691; Eigenvalues: 33.040 6.937 5.128 4.747 3.105 2.395 1.602 1.549 1.374 1.066 1.056 1.003 .901 .815 .792 .784 .746 .668 .652 .608 .594 .566 .543 .499 .480 .456 .430 .414 .387 .382 .373 .340 .320 .308 .278 .268 .254 .247 .200 .192 .162 .144; Determinant of sample covariance matrix = .000

CORRELATION AND COVARIANCE MATRICES

APPENDIX D

Table D-1

Covariance Matrix Continued

	MSPSS 1	MSPSS 2	MSPSS 5	MSPSS 10	MSPSS 6	MSPSS 7	MSPS S9	MSPSS 12	MSPSS 3	MSPSS 4	MSPSS 8	MSPSS 11	F8	F7
PCSQ1														
PCSQ2														
PCSQ3														
PCSQ4														
PCSQ5														
PCSQ6														
PCSQ7														
PCSQ8														
PCSQ9														
PCSQ10														
PCSQ11														
PCSQ12														
PCSQ13														
PCSQ14														
MSPSS1	2.713													
MSPSS2	2.440	2.582												
MSPSS5	2.297	2.293	2.604											
MSPSS10	2.319	2.304	2.394	2.768										
MSPSS6	1.128	1.118	1.120	1.068	1.810									
MSPSS7	1.271	1.234	1.198	1.192	1.688	2.116								
MSPSS9	1.269	1.339	1.329	1.302	1.632	1.728	2.149							
MSPSS12	1.233	1.213	1.249	1.183	1.595	1.697	1.867	2.178						
MSPSS3	1.152	1.046	1.014	0.951	1.048	1.097	1.047	1.064	2.489					
MSPSS4	1.389	1.342	1.281	1.220	1.126	1.282	1.203	1.185	2.363	3.084				
MSPSS8	1.347	1.321	1.240	1.264	1.191	1.356	1.363	1.388	2.206	2.749	3.398			
MSPSS11	1.173	1.125	1.073	1.082	1.020	1.128	1.088	1.094	2.055	2.232	2.312	2.669		
F8	0.770	0.745	0.726	0.760	0.712	0.766	0.730	0.679	0.745	0.967	0.938	0.733	1.348	
F7	1.054	1.039	1.000	0.994	0.866	0.947	0.900	0.922	1.017	1.150	1.188	1.073	1.041	2.130
F6	0.749	0.728	0.731	0.754	0.600	0.623	0.639	0.602	0.606	0.770	0.760	0.632	0.776	1.063
F5	0.610	0.649	0.619	0.610	0.551	0.581	0.602	0.534	0.592	0.682	0.697	0.601	0.662	0.960
F4	0.725	0.793	0.744	0.726	0.688	0.715	0.714	0.643	0.658	0.690	0.699	0.618	0.717	0.937
F3	1.002	0.992	0.899	0.894	0.832	0.946	0.850	0.818	0.831	0.995	0.975	0.856	0.871	1.334
F2	1.085	1.088	0.994	1.004	1.158	1.254	1.200	1.181	0.963	1.070	1.121	0.982	0.758	1.129
F1	0.967	1.000	0.928	0.936	0.776	0.841	0.779	0.733	0.845	0.964	0.944	0.838	0.886	1.432
H5	0.843	0.859	0.871	0.781	0.787	0.828	0.810	0.690	0.825	0.939	1.002	0.837	0.921	1.174
H4	0.844	0.823	0.794	0.760	0.688	0.682	0.697	0.649	0.733	0.872	0.900	0.756	0.737	1.168
H3	0.528	0.526	0.529	0.496	0.509	0.485	0.530	0.519	0.552	0.556	0.609	0.577	0.509	0.769
H1	0.468	0.489	0.529	0.420	0.443	0.448	0.507	0.438	0.448	0.481	0.489	0.417	0.465	0.686
H8	0.988	1.007	0.996	0.918	0.861	0.899	0.915	0.921	0.849	1.087	1.132	0.926	0.982	1.419
H7	1.203	1.201	1.146	1.066	0.989	1.049	1.005	1.055	1.125	1.288	1.253	1.177	1.147	1.537
H6	1.130	1.111	1.064	0.999	0.972	1.001	0.990	0.977	1.019	1.143	1.154	0.986	0.929	1.409
H2	0.749	0.709	0.694	0.679	0.570	0.629	0.606	0.588	0.615	0.786	0.809	0.617	0.752	1.183

Condition number = 228.691; Eigenvalues: 33.040 6.937 5.128 4.747 3.105 2.395 1.602 1.549 1.374 1.066 1.056 1.003 .901 .815 .792 .784 .746 .668 .652 .608 .594 .566 .543 .499 .480 .456 .430 .414 .387 .382 .373 .340 .320 .308 .278 .268 .254 .247 .200 .192 .162 .144; Determinant of sample covariance matrix = .000

Table D-1

Covariance Matrix Continued

	F6	F5	F4	F3	F2	F1	H5	H4	H3	H1	H8	H7	H6	H2
PCSQ1														
PCSQ2														
PCSQ3														
PCSQ4														
PCSQ5														
PCSQ6														
PCSQ7														
PCSQ8														
PCSQ9														
PCSQ10														
PCSQ11														
PCSQ12														
PCSQ13														
PCSQ14														
MSPSS1														
MSPSS2														
MSPSS5														
MSPSS10														
MSPSS6														
MSPSS7														
MSPSS9														
MSPSS12														
MSPSS3														
MSPSS4														
MSPSS8														
MSPSS11														
F8														
F7														
F6	1.264													
F5	0.780	1.123												
F4	0.812	0.736	1.434											
F3	0.947	0.843	0.921	1.813										
F2	0.742	0.706	0.812	1.099	1.732									
F1	1.018	0.904	0.999	1.326	1.081	1.928								
H5	0.869	0.841	0.923	0.967	0.710	1.047	2.164							
H4	0.767	0.755	0.699	0.884	0.626	0.987	1.426	1.865						
H3	0.505	0.556	0.543	0.640	0.402	0.639	1.128	1.114	1.663					
H1	0.480	0.606	0.518	0.467	0.345	0.575	1.127	0.999	0.904	1.652				
H8	0.959	0.986	0.846	1.245	0.938	1.379	1.391	1.262	0.856	0.806	2.579			
H7	1.032	1.003	0.912	1.278	1.081	1.527	1.412	1.353	0.995	0.808	1.931	2.704		
H6	0.940	0.978	1.096	1.195	0.947	1.315	1.592	1.374	0.982	0.964	1.587	1.812	2.591	
H2	0.718	0.784	0.762	0.999	0.717	1.062	1.147	1.251	0.774	0.831	1.451	1.330	1.306	2.179

Condition number = 228.691; Eigenvalues: 33.040 6.937 5.128 4.747 3.105 2.395 1.602 1.549 1.374 1.066 1.056 1.003 .901 .815 .792 .784 .746 .668 .652 .608 .594 .566 .543 .499 .480 .456 .430 .414 .387 .382 .373 .340 .320 .308 .278 .268 .254 .247 .200 .192 .162 .144; Determinant of sample covariance matrix = .000

Table D-2

Correlation Matrix with Means and Standard Deviations

	PCSQ 1	PCSQ 2	PCSQ 3	PCSQ 4	PCSQ 5	PCSQ 6	PCSQ 7	PCSQ 8	PCSQ 9	PCSQ 10	PCSQ 11	PCSQ 12	PCSQ 13	PCSQ 14
PCSQ1	1													
PCSQ2	0.734	1												
PCSQ3	0.280	0.279	1											
PCSQ4	0.652	0.603	0.289	1										
PCSQ5	0.525	0.559	0.299	0.520	1									
PCSQ6	0.533	0.526	0.307	0.504	0.787	1								
PCSQ7	0.454	0.483	0.269	0.430	0.774	0.773	1							
PCSQ8	0.506	0.517	0.193	0.456	0.676	0.656	0.705	1						
PCSQ9	0.268	0.288	0.376	0.262	0.452	0.487	0.477	0.364	1					
PCSQ10	0.397	0.409	0.107	0.389	0.333	0.335	0.295	0.334	0.145	1				
PCSQ11	0.439	0.478	0.146	0.433	0.355	0.354	0.290	0.356	0.215	0.664	1			
PCSQ12	0.464	0.476	0.092	0.400	0.388	0.352	0.347	0.364	0.150	0.525	0.606	1		
PCSQ13	0.474	0.466	0.052	0.386	0.330	0.305	0.275	0.320	0.161	0.498	0.605	0.769	1	
PCSQ14	0.397	0.394	0.065	0.364	0.246	0.262	0.252	0.243	0.154	0.356	0.444	0.499	0.623	1
MSPSS1	0.327	0.332	0.073	0.308	0.226	0.192	0.189	0.236	0.062	0.321	0.413	0.376	0.372	0.290
MSPSS2	0.347	0.356	0.064	0.313	0.251	0.233	0.221	0.272	0.085	0.343	0.423	0.411	0.407	0.310
MSPSS5	0.346	0.339	0.095	0.320	0.241	0.219	0.193	0.262	0.058	0.363	0.430	0.399	0.382	0.307
MSPSS10	0.307	0.339	0.053	0.310	0.247	0.200	0.180	0.254	0.070	0.325	0.413	0.394	0.373	0.280
MSPSS6	0.409	0.434	0.111	0.406	0.302	0.267	0.276	0.324	0.138	0.467	0.528	0.439	0.452	0.354
MSPSS7	0.421	0.462	0.119	0.427	0.308	0.281	0.274	0.325	0.152	0.485	0.536	0.427	0.459	0.350
MSPSS9	0.422	0.455	0.127	0.418	0.343	0.311	0.304	0.322	0.161	0.487	0.547	0.459	0.472	0.356
MSPSS12	0.415	0.441	0.131	0.405	0.315	0.290	0.277	0.312	0.122	0.467	0.544	0.413	0.458	0.356
MSPSS3	0.299	0.329	0.007	0.308	0.198	0.211	0.137	0.161	0.003	0.363	0.357	0.398	0.380	0.284
MSPSS4	0.359	0.374	0.043	0.340	0.238	0.232	0.157	0.231	0.044	0.353	0.395	0.406	0.417	0.352
MSPSS8	0.352	0.361	0.087	0.352	0.268	0.258	0.206	0.228	0.053	0.363	0.436	0.440	0.419	0.341
MSPSS11	0.293	0.325	0.029	0.302	0.240	0.213	0.174	0.186	0.041	0.341	0.341	0.383	0.357	0.302
F8	0.391	0.446	0.016	0.372	0.266	0.285	0.234	0.289	0.075	0.304	0.392	0.401	0.466	0.377
F7	0.383	0.411	0.079	0.391	0.341	0.327	0.278	0.320	0.150	0.370	0.404	0.451	0.500	0.448
F6	0.374	0.373	0.028	0.311	0.263	0.257	0.194	0.264	0.054	0.283	0.363	0.420	0.490	0.370
F5	0.342	0.339	0.071	0.332	0.258	0.288	0.228	0.284	0.034	0.277	0.290	0.426	0.416	0.291
F4	0.377	0.361	0.045	0.293	0.316	0.354	0.326	0.355	0.108	0.302	0.374	0.415	0.423	0.270
F3	0.450	0.456	0.088	0.406	0.323	0.321	0.313	0.352	0.138	0.306	0.364	0.431	0.451	0.396
F2	0.451	0.429	0.087	0.403	0.303	0.270	0.263	0.314	0.139	0.408	0.473	0.482	0.481	0.352
F1	0.425	0.414	0.068	0.344	0.328	0.318	0.278	0.351	0.131	0.336	0.364	0.425	0.464	0.379
H5	0.365	0.353	0.055	0.329	0.316	0.312	0.308	0.335	0.090	0.324	0.371	0.471	0.480	0.410
H4	0.370	0.384	0.170	0.388	0.330	0.311	0.283	0.314	0.161	0.290	0.337	0.388	0.413	0.346
H3	0.245	0.263	0.093	0.275	0.254	0.239	0.231	0.238	0.100	0.221	0.216	0.312	0.314	0.250
H1	0.283	0.248	0.131	0.329	0.250	0.242	0.241	0.253	0.119	0.195	0.193	0.280	0.259	0.235
H8	0.398	0.386	0.071	0.338	0.269	0.293	0.228	0.304	0.069	0.293	0.323	0.439	0.422	0.401
H7	0.389	0.446	0.089	0.388	0.291	0.311	0.247	0.332	0.097	0.338	0.364	0.441	0.481	0.424
H6	0.402	0.404	0.087	0.397	0.335	0.349	0.298	0.346	0.119	0.357	0.397	0.490	0.481	0.435
H2	0.342	0.360	0.181	0.324	0.264	0.234	0.214	0.272	0.167	0.284	0.336	0.418	0.385	0.295
Mean	3.370	3.220	3.230	3.034	3.060	3.270	3.090	3.220	2.880	3.470	3.580	3.780	3.710	3.210
SD	0.995	0.924	1.147	1.021	1.223	1.166	1.221	1.115	1.159	0.994	1.044	0.936	0.936	1.067

Table D-2

Correlation Matrix with Means and Standard Deviations Continued

	MSPSS 1	MSPSS 2	MSPSS 5	MSPSS 10	MSPSS 6	MSPSS 7	MSPSS 9	MSPSS 12	MSPSS 3	MSPSS 4	MSPSS 8	MSPSS 11	F8	F7
PCSQ1														
PCSQ2														
PCSQ3														
PCSQ4														
PCSQ5														
PCSQ6														
PCSQ7														
PCSQ8														
PCSQ9														
PCSQ10														
PCSQ11														
PCSQ12														
PCSQ13														
PCSQ14														
MSPSS1	1													
MSPSS2	0.922	1												
MSPSS5	0.864	0.884	1											
MSPSS10	0.846	0.862	0.892	1										
MSPSS6	0.509	0.517	0.516	0.477	1									
MSPSS7	0.530	0.528	0.510	0.492	0.863	1								
MSPSS9	0.526	0.569	0.562	0.534	0.828	0.810	1							
MSPSS12	0.507	0.511	0.524	0.482	0.803	0.791	0.863	1						
MSPSS3	0.443	0.413	0.398	0.362	0.494	0.478	0.453	0.457	1					
MSPSS4	0.480	0.476	0.452	0.418	0.477	0.502	0.467	0.457	0.853	1				
MSPSS8	0.444	0.446	0.417	0.412	0.480	0.506	0.505	0.510	0.759	0.849	1			
MSPSS11	0.436	0.429	0.407	0.398	0.464	0.475	0.454	0.454	0.797	0.778	0.768	1		
F8	0.403	0.399	0.388	0.393	0.456	0.454	0.429	0.396	0.407	0.474	0.438	0.387	1	
F7	0.438	0.443	0.424	0.409	0.441	0.446	0.421	0.428	0.442	0.449	0.442	0.450	0.615	1
F6	0.404	0.403	0.403	0.403	0.397	0.381	0.387	0.363	0.342	0.390	0.367	0.344	0.595	0.648
F5	0.350	0.381	0.362	0.346	0.387	0.377	0.388	0.342	0.354	0.367	0.357	0.347	0.538	0.621
F4	0.368	0.412	0.385	0.365	0.427	0.410	0.407	0.364	0.348	0.328	0.317	0.316	0.516	0.536
F3	0.452	0.459	0.414	0.399	0.460	0.483	0.430	0.412	0.391	0.421	0.393	0.389	0.557	0.679
F2	0.500	0.515	0.468	0.459	0.654	0.655	0.622	0.608	0.464	0.463	0.462	0.456	0.496	0.588
F1	0.423	0.448	0.414	0.405	0.415	0.417	0.383	0.358	0.386	0.395	0.369	0.369	0.550	0.706
H5	0.348	0.364	0.367	0.319	0.398	0.387	0.376	0.318	0.356	0.364	0.370	0.348	0.539	0.547
H4	0.375	0.375	0.360	0.335	0.375	0.343	0.348	0.322	0.340	0.363	0.357	0.339	0.465	0.586
H3	0.248	0.254	0.254	0.231	0.294	0.259	0.280	0.273	0.271	0.246	0.256	0.274	0.340	0.408
H1	0.221	0.237	0.255	0.197	0.256	0.240	0.269	0.231	0.221	0.213	0.206	0.199	0.312	0.366
H8	0.374	0.390	0.384	0.343	0.398	0.385	0.389	0.389	0.335	0.385	0.382	0.353	0.527	0.605
H7	0.444	0.454	0.432	0.390	0.447	0.438	0.417	0.435	0.434	0.446	0.413	0.438	0.601	0.640
H6	0.426	0.429	0.409	0.373	0.449	0.427	0.419	0.411	0.401	0.404	0.389	0.375	0.497	0.600
H2	0.308	0.299	0.292	0.276	0.287	0.293	0.280	0.270	0.264	0.303	0.297	0.256	0.439	0.549
Mean	5.680	5.780	5.740	5.790	5.440	5.380	5.580	5.470	5.480	5.090	4.810	5.290	5.660	5.620
SD	1.649	1.608	1.615	1.665	1.346	1.456	1.467	1.477	1.579	1.758	1.845	1.635	1.162	1.461

Table D-2

Correlation Matrix with Means and Standard Deviations Continued

	F6	F5	F4	F3	F2	F1	H5	H4	H3	H1	H8	H7	H6	H2
PCSQ1														
PCSQ2														
PCSQ3														
PCSQ4														
PCSQ5														
PCSQ6														
PCSQ7														
PCSQ8														
PCSQ9														
PCSQ10														
PCSQ11														
PCSQ12														
PCSQ13														
PCSQ14														
MSPSS1														
MSPSS2														
MSPSS5														
MSPSS10														
MSPSS6														
MSPSS7														
MSPSS9														
MSPSS12														
MSPSS3														
MSPSS4														
MSPSS8														
MSPSS11														
F8														
F7														
F6	1													
F5	0.655	1												
F4	0.603	0.580	1											
F3	0.626	0.591	0.571	1										
F2	0.501	0.506	0.515	0.620	1									
F1	0.652	0.614	0.601	0.709	0.591	1								
H5	0.525	0.539	0.524	0.488	0.367	0.513	1							
H4	0.500	0.522	0.427	0.481	0.348	0.520	0.710	1						
H3	0.349	0.407	0.352	0.369	0.237	0.357	0.595	0.632	1					
H1	0.332	0.445	0.337	0.270	0.204	0.322	0.596	0.569	0.545	1				
H8	0.531	0.580	0.440	0.576	0.444	0.619	0.589	0.575	0.413	0.390	1			
H7	0.558	0.575	0.463	0.577	0.500	0.669	0.584	0.603	0.469	0.382	0.731	1		
H6	0.519	0.573	0.569	0.552	0.447	0.588	0.672	0.625	0.473	0.466	0.614	0.684	1	
H2	0.433	0.501	0.431	0.503	0.369	0.518	0.528	0.621	0.407	0.438	0.612	0.548	0.550	1
Mean	5.900	6.000	5.820	5.480	5.690	5.620	6.140	6.350	6.560	6.480	6.040	6.200	6.500	6.320
SD	1.125	1.061	1.198	1.348	1.317	1.390	1.472	1.367	1.291	1.287	1.607	1.646	1.611	1.477