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Ethan L. Haymovitz

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Committee: *(signatures on file)*

Curtis Proctor, Supervisor

Karen Rice

Heather Girvin

Minority Stress, Gender Nonconformity, and Disparities in Young Men's Mental Health

by

Ethan L. Haymovitz

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Dedication

This dissertation is dedicated to the most patient person I have ever known, my husband, Zack Chauvin.

Acknowledgements

This publication, if nothing else, has been an exercise in patience. I want to use this section to acknowledge a great number of great people who have put a great deal of patience forward in choosing to work with me on this endeavor. First, Curtis Proctor, my dissertation chair, has been wonderfully and unecessarily supportive, even after I sent him numerous snapchatted images of myself in frightening costumes Halloween of 2017. Your grace in the face of confusion and frustration is noble. You are fun, funny, and fabulous, and I hope to emulate that in my own teaching someday. Karen Rice, thank you, too, for putting up with my fickle behavior, and for guiding me on this academic journey. I very much admire your dedication, loyalty, and excellence in your work and strive to be like you sooner rather than later. Thank you for taking me by the hand and dragging me through that quarter when I was just about ready to drop out of the doctoral endeavor, again. And, of course, Heather Girvin, you are an incredible specimen of a human being; Thank you for encouraging me to take risks. I have been lucky to know you and so thankful you could help me cap this trip. Last, but never least, DJ – thank you for the ad hoc words of kindness and support – for talking me off the ledge, I consider you a member of the team, and want to thank you for the mentorship. Without you four, I wouldn't have made it. Thank you.

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Ethan L. Haymovitz

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Supervisor: Curtis D. Proctor

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Abstract

Research has demonstrated a relationship between sexual orientation and poor mental health outcomes among young adults (McLaughlin, Hatzenbuehler, Xuan, & Conron, 2012). However, gender nonconformity is highly correlated with sexual orientation among youth (Rieger & Savin-Williams, 2012), and may be a predictor of mental health concerns among young people, regardless of sexual identity or behavior (Bos & Sandfort, 2015). This study explores the possibility that gender nonconformity—as measured by the masculinity and femininity subscales of the Bem Sex Role Inventory (BSRI; Bem, 1974)—may help to explain the variance observed in depression and suicidality in the Center for Disease Prevention and Control’s National Longitudinal Study of Adolescent Health (Add Health). Hierarchical regression analysis on a sample of 7,167 men in Wave III of the study revealed that while self-reported sexual identity and romantic attraction did predict depressive symptoms, suicidal behavior could not be accounted for by these variables alone. Adding BSRI masculinity and femininity scores did not help account for the variance observed in depression or suicidality, either alone or in interaction with measures of sexual orientation. In order to evaluate the predictive power of the BSRI in determining mental health outcomes among gay and straight young adults, a more nuanced measure of lifetime sexual orientation is proposed. Also, a longitudinal approach is recommended for the inclusion of other outcome and possible explanatory variables, one that prioritizes other mental health outcomes like self-esteem and anxiety, in addition to predictors like subjective social status, parental educational attainment, and youth and adult urbanicity. Ramifications for social work research and leadership are discussed.

Chapter One: Introduction

LGB youth are at heightened risk for mental health issues relative to heterosexual peers because they face antipathy for transgressing the binary gender system (Jones, Robinson, Oginni, Rahman, & Rimes, 2017; la Roi, Kretschmer, Dijkstra, Veenstra, & Oldehinkel, 2016; Lourie & Needham, 2017; McLaughlin, Hatzenbuehler, Xuan, & Conron, 2012; Mitrani et al., 2017; Mustanski, 2015). Disparities in mental health appear across the lifespan, but their earliest manifestations seem to be concentrated during adolescence, presumably when young people begin to formulate their identities (Mustanski, 2015). Mental health difficulties are evidenced by higher rates of both internalizing and externalizing disorders (McLaughlin et al., 2012), such as depression (B. Everett, 2015), anxiety (Jones et al., 2017), substance abuse (Bouris et al., 2010; Keuroghlian, Shtasel, & Bassuk, 2014; McLaughlin et al., 2012; Needham, 2012; Oshri, Carlson, Kwon, Zeichner, & Wickrama, 2017; Amelia E Talley et al., 2016), and suicidality (Fish & Russell, 2017).

Sexual Orientation and Identity in Context

Epidemiological data indicates that LGB youth are three to four times more likely to meet the diagnostic criteria for an internalizing disorder and between two and five times as likely to meet criteria for an externalizing disorder (Fergusson, Horwood, & Beautrais, 1999). Additionally, nearly one-third of sexual minority youth have contemplated or attempted suicide (D'Augelli, Hershberger, & Pilkington, 2001; Fergusson et al., 1999).

LGB identification in adulthood is significantly correlated with tendencies to exhibit behavior that violates gender norms during childhood (Bos, de Haas, & Kuyper, 2016; Bos & Sandfort, 2015; Bosse & Chiodo, 2016; Pachankis & Bernstein, 2012; T. D. Steensma, Biemond, de Boer, & Cohen-Kettenis, 2011; Stief, 2017). Retrospective data consistently indicates that adult

gay male adults recall greater cross-gender (feminine) behaviors in play, activities, and attire than do heterosexual counterparts, while lesbians report greater involvement in cross-gender (masculine) behaviors and dress (Bailey & Zucker, 1995). In fact, Bailey and Zucker's meta-analysis of adult gay men and lesbians recalled significantly more gender nonconforming behaviors and interests than did heterosexual men and women was among "the largest effect sizes ever reported in the realm of sex-dimorphic behaviors" (Bailey & Zucker, 1995, p. 49). Although this reference is dated, contemporary research has supported these findings, especially to shape the exploration of its implications for mental health among otherwise cisgender individuals (Baams, Beek, Hille, Zevenbergen, & Bos, 2013; Bos et al., 2016; Bos & Sandfort, 2015; Coyle, Fulcher, & Trübtschek, 2016; DiDonato & Berenbaum, 2013; Li, Pollitt, & Russell, 2016; Martin et al., 2012; Oost, 2016; Rieger & Savin-Williams, 2012; Roberts, Rosario, Slopen, Calzo, & Austin, 2013; Skidmore, Linsenmeier, & Bailey, 2006; T. D. Steensma et al., 2011; Toomey, Ryan, Diaz, Card, & Russell, 2010).

Gender and Gender Nonconformity in Social Context

In many cultures, gender nonconformity is normalized and considered a valuable part of the diversity of human experience. For example, because poor peer relations drive the relationship between gender nonconformity and self- and parent-reports of emotional and behavioral problems among children with gender identity disorder (de Vries, Steensma, Cohen-Kettenis, VanderLaan, & Zucker, 2016), and because Dutch children with gender identity disorder exhibit fewer emotional and behavioral problems than do their Canadian peers (T. D. Steensma et al., 2014), it is safe to deduce that the Netherlands is more liberal than is America when it comes to attitudes towards gender nonconformity among boys.

The relationship between gender and sexual orientation in the United States, on the other hand, is complex and disputed. Here [in the U.S.], “anything can be gendered, for example: ships, clothing, sexual positions, pens, bowls, hand positions, head tilts, vocal inflections, body hair, and different sports...Because being gay is itself a transgression of the rules of gender, because those rules heavily disfavor femininity... punishments we exact for using the “wrong” words cross from the mundane to the fatal” (Wilchins, 2002; p. 25), ranging from hostility in the bathroom, public humiliation after gym class, assault, arrest, and even murder.

For those who live at its borderlands, such as gay and bisexual men, gender is a liability. That is because masculinity is a social status that is “hard won and easily lost” (Vandello & Bosson, 2013). Gender threats, or experiences that challenge one’s identity as a “real man” are consequential in the lives of all American men, whose masculinity is relatively more precarious than is femininity (Bosson & Vandello, 2011). Because manhood can depreciate in response to perceived situational shortcomings, gender threats are particularly stressful for men and often motivate them to restore their manhood by distancing themselves from non-heterosexuals and by demonstrating aggressive behaviors (Bosson, et al., 2009). As such, these experiences seem to predict the likelihood of threats of or actual violence against gay and bisexual men (Bosson, Weaver, Caswell, & Burnaford, 2012). In fact, studies have demonstrated that offering threatening feedback regarding scores on tests of “gender identity” may cause men to endorse more conservative social policies concerning LGBT people (Willer, 2005), express greater antipathy towards “effeminate” gay male actors (Glick, Gangl, Klumpner, & Weinberg, 2007), and aggress against fictional gay characters by forcing them to listen to white noise at higher volumes when they respond incorrectly to a word association task (Talley & Bettencourt, 2008).

This is perhaps why gender rights are fundamentally considered part of the contemporary gay agenda, as scholar and activist Wilchins suggests, “[I]t’s not so much a question of including transgender as of recognizing that gender has always been a part of a gay agenda and always will be” (Wilchins, 2002; p. 291).

Theoretical Foundation

Disparities in the mental health of LGB youth, and particularly those who are gender nonconforming, may be understood within the framework of Meyer’s Minority Stress model, which came about in response to anachronistic conceptions of homosexuality as a mental disorder in itself (Meyer, 1995, 2013). Minority stress theory problematizes contemporary science for posing the wrong question: historically clinicians and researchers alike inquired whether same-sex orientation was a mental illness. To conceptualize stress for research purposes, researchers asked, do gays and lesbians exhibit higher rates of mental illness? But whereas this model of sexual identity only served to perpetuate stigma, minority stress theory posits that the environment of the minority individual must be examined. Thus, while questions continue to emerge regarding differences in mental illness and psychosocial stress between gay and straight individuals, today the prevailing assumption is that such differences are the result of minority stress, or the environmental or social stress that anyone would experience upon being regularly subject to prejudice and discrimination (Meyer, 1995).¹

Minority stress theory is derived from a collection of social psychological and sociological theories concerning stress, social identity, and self-categorization (Meyer, 2013). In explaining his theories, Meyer (2013) indicates that abundant empirical evidence supports the premise that

¹ In contemporary psychiatry, a similar debate is unfolding around the pathologization of childhood gender nonconformity in the form of “gender identity disorder of childhood” (GID), known as “gender dysphoria” as of DSM V. Given its close connection with adult sexual orientation, some experts speculate that GID is itself a means to continue to pathologize homosexuality absent a disorder directly associated with it as of DSM III (Green, 2010; Zucker and Spitzer, 2005).

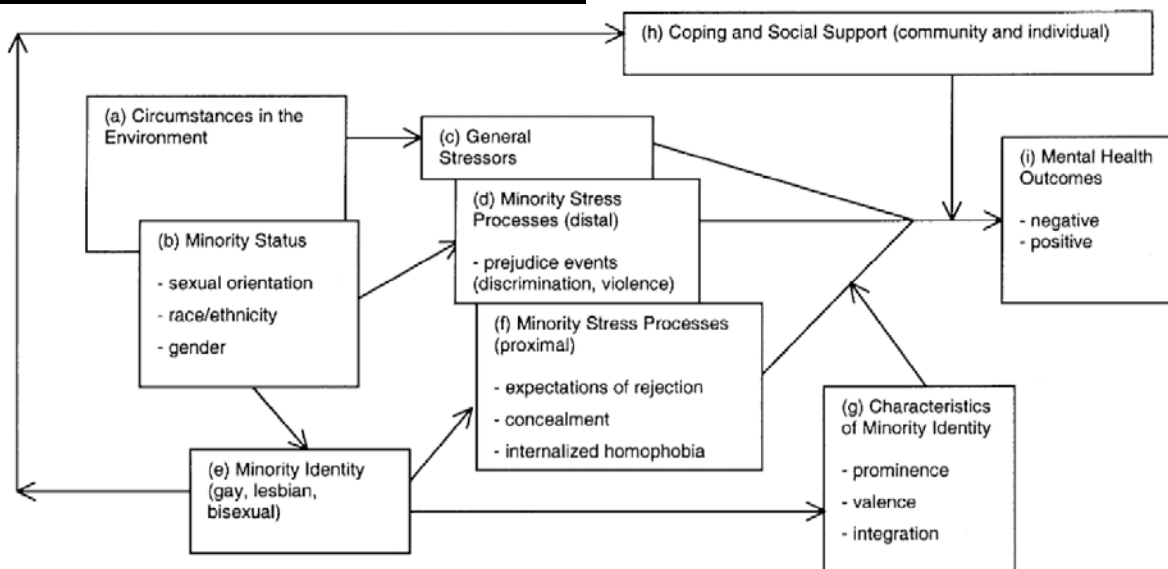
discrepancies between the ways in which society and individuals construct the self from social cues can cause health problems. Research that explicates social identity and stereotype threat theories demonstrate that the extent to which people associate themselves with specific social groups can shape their self-concepts as well as their emotional and even physiological reactions to various stimuli in the social environment (Bosson, Haymovitz, & Pinel, 2004; Croizet et al., 2004; Steele & Aronson, 1995).

Meyer, however, distinguished minority stress from other stress models in that it is: a) cumulative with the other stressors experienced by all people; b) chronic and stable; c) stemming from social processes, institutions, and structures that are larger than the individual him or herself. Furthermore, Meyer articulates four levels, ranging from macro to micro, at which this minority stress might operate: 1) external conditions, 2) vigilant expectation of such conditions, 3) internalization of such conditions and negative events, and 4) concealment of one's minority status in response. So, for example, a gay man might experience stress when subject to (1) regular offenses in the workplace, where "locker room talk" and concomitant homophobic slurs are bandied about casually. He might then experience further stress when he (2) prepares himself, perhaps unnecessarily, for the possibility of exposure to such everyday slights, and, (3) additionally, when he slowly but surely makes such epithets part of his self-talk. For example, "Why is your shirt so bedazzled? You look so...feminine". Finally, his wish to (4) remain in the closet can only yield additional internal conflict.

The pathway described in Meyer's (2013) minority stress model begins with (a) hostile environment, includes (c) cumulative stressors that would impact anyone, (d) explains how these stressors accumulate with prejudice-related events; and reveals that the upshot of minority stress processes, such as (f) expectations of rejection, concealment, and internalized homophobia, is a

direct impact on (i) mental health outcomes (p. 8). The present study examines the role that minority status and characteristics of minority identity (gender nonconformity, in this case) play in predicting mental health outcomes. Figure One illustrates the pathway.

Figure One: Meyer's Minority Stress Model



Empirical support for the minority stress model has been applied to both LGB youth (Goldbach & Gibbs, 2017) and adults and children who exhibit unconventional gender identities (Bos & Sandfort, 2015; Gordon & Meyer, 2007). Literature also shows that rejection sensitivity and subsequent concealment predicts mental health problems among gay men (Pachankis & Bernstein, 2012). And, minority stress has even been demonstrated to modulate hypothalamic-pituitary-adrenal (HPA)-axis functioning among sexual minority individuals compared to heterosexual individuals (Hatzenbuehler & McLaughlin, 2014).

Relevance to Social Work

From both cohort and longitudinal studies, research has suggested that men who exhibit the type of social anxiety that results from minority stress are more prone to depression, anxiety, sexual compulsivity (Rendina et al., 2017), and risk behaviors such as substance abuse and unsafe sex (Pachankis and Bernstein 2012).

At the micro level, social work clinicians and other mental health providers have been essential to dismantling the psychological and behavioral consequences of minority stress, such as the Project ESTEEM (Effective Skills to Empower Effective Men), a clinical intervention that leverages cognitive-behavioral therapy (CBT) to reduce minority stress and improve well-being among gay and bisexual men (Pachankis, Hatzenbuehler, Rendina, Safren, & Parsons, 2015). Researchers examining the impact of this 10-session protocol found a dramatic improvement in behavioral outcomes, including a reduction in alcohol misuse ($d = 1.03$), sexual compulsivity ($d = 0.76$), as well as increased condom use ($d = 0.93$). ESTEEM also demonstrated significant reductions in depressive symptoms ($d = 0.55$) and marginally significant improvements in anxiety ($d = 0.47$) among the gay and bisexual men in the sample.

At the mezzo level, social workers can also play a vital role in designing local school policies and developing safe spaces for gender and sexual minorities that discourage bullying against gender variant children and youth. This work is essential because students are less likely to be harassed for gender nonconformity if their school harassment policy includes sexual orientation and gender, their teachers intervene when negative comments are made, and their school has a Gay-Straight Alliance (Russell et al., 2006).

Also at the mezzo level, given their vulnerability to bullying and a host of mental health challenges as they age and that 84.2% of whom eventually identify as cisgender and gay (Steensma, 2013), gender variant children have been featured prominently in discussions of best practices to protect gay youth (Adelson & American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Quality Issues (CQI), 2012; Drescher & Pula, 2014; Rijn, Steensma, Kreukels, & Cohen-Kettenis, 2013).

At the macro level, the gender variant children support group at D.C.'s Children's National Medical Center was launched 15 years ago to support parents and offer a strengths-based alternative to stigmatizing narrative concerning "gender identity disorder of childhood" (Hill, Menvielle, Sica, & Johnson, 2010). The purpose of the project was to counter the then dominant paradigm that punished children exhibiting gender nonconforming behavior. Similar programs have proliferated across the country, and the result is that today, clinical interventions designed to "fix" these behaviors are considered tantamount to reparative therapies for homosexuality (Menvielle, 2012).

The relationship between minority stress, gender nonconformity, and sexual orientation has not been lost on social work researchers and policymakers seeking to reduce stigma and its detrimental impact on physical and mental health. Given that civil unions have a positive impact on the mental health and wellbeing of same-sex oriented individuals (Everett, Hatzenbuehler, & Hughes, 2016; Quinn & Meiners, 2013), social work leaders have called for protections by way of changes in public policy. Everett, et al. (2016) found that same-sex marriage laws in Illinois reduced stigma consciousness, levels of perceived discrimination, and depressive symptoms. Anti-bullying laws, too, have had a powerful positive impact on the mental health of LGBT youth (Hatzenbuehler, Flores, Cavanaugh, Onwuachi-Willig, & Ramirez, 2017). It therefore holds that such laws, along with others promoting non-discrimination and protecting the bathroom rights of gender nonconforming individuals, might be beneficial across the globe.

Chapter Two: Literature Review

What follows is a review of the literature on atypical gender development, sexual orientation, and sexual fluidity, as well as the relationship between these variables, demographics, and mental health across the lifespan. Specifically, the adverse mental health effects of minority stress on outcomes such as depression and suicidality are examined. According to minority stress theory, the social stress of stigma and discrimination is cumulative (Meyer, 1995, 2013). Therefore, certain demographic factors may serve as protective buffers or serve to amplify risk for mental health problems among sexual minority men.

Conceptual Definitions

Sexual orientation and gender nonconformity are multidimensional constructs that have been operationalized in a variety of ways in research. Sexual orientation is a person's inner experience of sexuality and gender nonconformity may reflect an outward, behavioral manifestation of the former, as the two constructs are highly related (Rieger, Linsenmeier, Gygax, & Bailey, 2008; Rieger, Linsenmeier, Gygax, Garcia, & Bailey, 2010; Rieger & Savin-Williams, 2012; Valentova, Rieger, Havlicek, Linsenmeier, & Bailey, 2011). As many, but not all gay people recall from childhood and exhibit high levels of present gender nonconformity, the correlation between the two is not one-to-one (Gangestad, Bailey, & Martin, 2000).

Sexual Orientation refers to the extent to which a person's sexual attraction, identity, and behavior align with their biological sex, not necessarily sex at birth (Pardo, 2008). For example, if a transgender female is exclusively aroused by, attracted to, identifies as a "lesbian", and engaged in sexual activities with females, her sexual orientation is that she is attracted to members of the same biological sex. Each of these three dimensions is distinct from one another and may be defined as follows.

Attraction identifies the target(s) of one's sexual interests. It refers to the extent to which a person derives pleasure from stimuli from one sex, the other, or both. This dimension of sexual orientation is distinct from arousal, in that men seem to be aroused by those whose sex is consistent with their self-reported attraction, whereas women may be aroused by either sex, regardless of self-reported attraction (Chivers, 2017; Diamond, 2017).

Identity. A person identifies as "gay" or "lesbian" when he or she is exclusively aroused by, attracted to, sexually intimate with members of the same biological sex. A "straight" person is exclusively aroused by, attracted to, sexually intimate with, and identified as solely interested in members of the opposite sex. Those who identify as "bisexual" tend to demonstrate patterns of arousal, attraction, and sexual behavior that are not consistent with this binary model, such that the target of interest may be different for each one of these dimensions (Gangestad et al., 2000). Furthermore, sexual behavior need not be contingent upon sexual identity. Indeed, research suggests that it rarely is (Diamond, 2017; R. Savin-Williams, 2017)). For instance, many men who have sex with men do not identify as gay or bisexual. Likewise, not all straight-identified women have sex exclusively with men; many have sexual encounters with both men and women (Diamond, 2017).

Gender Nonconformity. The extent to which one's gender expression conforms or does not conform to the patterns of behavior designed based on a binary understanding of biological sex may be influenced by biological factors, social factors, or both (DiDonato & Berenbaum, 2013; Martin et al., 2012), but it is beyond the scope of this study. For the purposes of the present research, gender nonconformity may be operationalized as stereotype-inconsistent behavior on continua related to one or both of masculinity and femininity, as in Bem's (1974) conceptualization of the Bem Sex Role Inventory (BSRI) or the Personal Attributes Questionnaire (PAQ), which

measures femininity-expressivity and masculinity-instrumentality (Gurung, 2009). It may alternatively be thought of in terms of the extent to which one engages in play and activities, and maintains peer groups and appearances that are typical of the opposite sex (Bailey & Zucker, 1995).

Gender nonconformity may also be thought of as simply one's general understanding of oneself being similar to or different from members of the same sex; conformity with this type sense of gendered self is associated with resilience, whereas a sense of being nonconforming to social expectations of one's natal sex is associated with risk among children (Egan & Perry, 2001) and adults (DiDonato & Berenbaum, 2011).

Demographics

A number of standard demographic variables may serve as additive risk or protective factors in the pathway from sexual orientation to mental health outcomes. Racial and ethnic minorities who are also sexual minorities may be discriminated against for their minority status both within and outside of the gay community; for instance, some gay bars refuse entry to and offer substandard service to African Americans (Han, 2007), and research suggests that gay and bisexual men exhibit significant levels of racism that oscillate between rejection and objectification in dating and relationships (Phua & Kaufman, 2003; Wilson et al., 2009). In ethnic minority communities, anti-gay attitudes may result in concealment of sexual minority status (Malebranche, Fields, Bryant, & Harper, 2009). Indeed, people of color are less likely to be out to their parents than are White counterparts (Groves, Bimbi, Nanin, & Parsons, 2006). Down to the physiological level, it is known that this sort of stress "gets under the skin" (Hatzenbuehler, 2009), as research has demonstrated that Black gay men exhibit higher levels of nighttime salivary cortisol—a sign of heightened hypothalamic-pituitary-adrenal axis sensitivity—relative to White gay men, which

may be detrimental to physical and mental well-being (Cook, Juster, Calebs, Heinze, & Miller, 2017).

Other demographic variables that might influence the relationship between sexual orientation, gender nonconformity, and mental health include education and socioeconomic status. Research suggests that higher socioeconomic status (SES) may be associated with decreased psychological distress (Reynolds & Ross, 1998). Education may play a special role, exerting a protective effect against mental health problems independent of other dimensions of SES (Miech & Shanahan, 2000).

Sexual orientation

The proposed study accounts for the fluidity of sexual orientation demonstrated by many youth involved in the National Longitudinal Study of Adolescent Health in theory and in analytic structure. This is because, by many estimates, not the least of which includes a count pulled from the Add Health data set, “mostly straight” men far outnumber those who identify as gay or bisexual.

Recent polling by the US government recorded that among 18-to-24-year-olds, 6 percent marked their sexual attractions as ‘mostly opposite sex.’ That’s over 15 million young men residing in the US. Yet, when these young men are forced to choose either straight or bisexual as a sexual identity, about three-quarters marked straight because, for them, bisexual, even if it is understood as ‘bisexual-leaning straight,’ is too gay to accurately describe their identit[ies]. Under such constraining conditions, these young men were left with no place to truthfully register their sexuality, thus forcing them to be less than honest. (Savin-Williams, 2017; p. viii).

This is perhaps because times have changed; apparently, younger generations are especially likely to endorse beliefs about sexuality existing on a continuum relative to older generations (Savin-Williams, 2017).

A number of authors have argued that the fluidity of sexual orientation observed within the Add Health data set is nothing more than an artifact of poor survey construction (Katz-Wise, Calzo, Li, & Pollitt, 2015; Li, Katz-Wise, & Calzo, 2014; R. C. Savin-Williams & Joyner, 2014b); G. Ream, personal communication, September 5, 2017). Savin-Williams and Joyner identified that between 50% and 80% of non-heterosexual youth from Wave I of the study seem to “disappear” by Waves II, III, and IV. Upon examination of differences between those who are consistently gay with those who disidentify with homosexuality in later waves, by way of 48 paired-samples t-tests, the authors demonstrated that the disidentified were more likely to be involved with delinquent activities, like cigarette- and marijuana-smoking, heavy drinking, and school-skipping. The youth were also found to be more depressed and suicidal. Savin-Williams and Joyner (2014) suggested that these individuals were actually a group of “mischievous” pranksters intentionally trying to damage the study.

However, Li et al. (2014) countered their conjecture by suggesting that the youth may have been inconsistent non-heterosexuals, largely bisexual in orientation, who “went back into the closet”, as Savin-Williams and Joyner (2014) themselves speculated. Bisexuality is a more stigmatized and less desirable identity than is heterosexuality (R. C. Savin-Williams & Joyner, 2014a), so it is not far-fetched to believe that the youth were more likely to assume a completely heterosexual identity in their later years. Li, et al. (2014) also argue that this seeming “discrepancy” might be better explained by minority stress theory (Meyer, 2013; Meyer, 1995), which posits that the disparities observed in mental health across sexual minority populations is a result of

discrimination; that is, the “delinquent” group may be especially prone to discrimination because it is reflected in their behavior. If a critic were inclined to find an alternative explanation to the argument that this phenomenon is strictly the result of agentic factors, the working hypothesis is that such discrepancies have manifested as a result of higher levels of internalized homonegativity.

Gender Nonconformity

Gender-atypical behavior induces a negative self-concept as early as the preschool years (Egan & Perry, 2001), and likely begins to foment self-doubt at around age eight, when children begin to notice themselves as different from peers, begin to make comparisons of themselves to others, and internalize shame and guilt (Rijn et al., 2013). Children are accepting of gender-conforming peers and respond poorly to those whose behavior, appearance, or traits are not sex-typed (Ruble, Martin, & Berenbaum, 2007). This preference only increases with age (Carter & McCloskey, 1984). By the time adolescence hits, gender-atypical behavior, traits, and interests are monitored, condemned, and sanctioned (de Vries et al., 2016; Ewing Lee & Troop-Gordon, 2011; Washburn-Ormachea, Hillman, & Sawilowsky, 2004). At this point, concerns about safety and security in the social environment become paramount (Rieger & Savin-Williams, 2012).

Adults’ retrospective reports of gender nonconformity reveal a similar thread; those who recall greater sex-atypical behavior are also more likely to recall greater victimization in school and at younger ages, especially males (Landolt, Bartholomew, Saffrey, Oram, & Perlman, 2004; Toomey et al., 2010). Likewise, studies that explore LGB adolescents’ gender nonconformity find that those who expressed sex-atypical behaviors experience more victimization than their sex-typical peers (Pilkington & D’Augelli, 1995). Inquiry into the lives of heterosexuals also find that those adults who are more unconventional with respect to gendered hobbies and activities experience poorer psychological well-being relative to those who are more conventional (Rieger

& Savin-Williams, 2012). In the latter study, gender nonconformity performed even better as a predictor of psychological well-being than did sexual orientation.

There have been several attempts to further explain the nature of the association between childhood gender nonconformity and poor mental health by way of mediating factors, such as peer relations. For example, in research conducted with participants across gender identity clinics in Canada and the Netherlands, de Vries and colleagues (2013) find that poor peer relations is the strongest predictor of behavioral and emotional problems among gender dysphoric adolescents, as measured by parent- and self-reports on the Child Behavior Checklist and Youth Self-Report. Notably, this research also revealed cross-national differences, with Netherlanders exhibiting less psychological distress than did North Americans (de Vries et al., 2016). This is consistent with the minority stress model in that it suggests that cultural factors may also influence the extent to which nonconformity is considered acceptable and that these environmental factors are at some point internalized.

Perhaps most significantly, upon examination of peer relationships at school, Bos and Sandfort (2015) found that gender nonconformity moderated—but did not mediate—the association between sexual orientation and peer relationships, suggesting that while schools are least safe for gender-nonconforming LGB adolescents, they are also unsafe for gender nonconforming heterosexual youth. This is likely because of the common perception that the gender nonconforming targets are themselves LGB. The decreased sense of psychological well-being they experience relative to their gender-conforming peers might also be the result of gender nonconformity serving as a significant stressor independent of sexual orientation.

Depression

One meta-analysis demonstrated that the risk of depression among sexual minorities ranged from 1.54 to 2.58 higher than for straight individuals (King et al., 2008). It may be the case that masculinity, but not femininity, predicts depression (Kopper & Epperson, 1996). Specifically, gender conformity may be protective against depression among men (Elpern & Karp, 1984), meanwhile, the same may be associated with elevated depression among the college educated (Gibson, Baker, & Milner, 2016). Nevertheless, harassment due to gender nonconformity mediates the association between sexual minority status and depression (Martin-Storey & August, 2016). Recalled childhood gender nonconformity even seems to be associated with elevated depressive symptomatology among adults (Alanko et al., 2009).

Furthermore, gay and bisexual men's risk for HIV relative to that of their heterosexual counterparts is well-known to the public. Despite representing only 2% of the population, men who have sex with men account for 56% of those living with an HIV diagnosis and 63% of new infections in the U.S. (Mitrani et al., 2017). Depression in of itself only further elevates the likelihood of engaging in behaviors that increase risk for acquiring HIV infection (Mitrani et al., 2017). Gay and bisexual men are, therefore, in a double bind, as they are also at heightened risk for depression (Cochran, Mays, & Sullivan, 2003; Li et al., 2016), especially at the time of coming out (Everett, 2015). Over time, early and stable disclosure of gay and bisexual identity has been associated with heightened depression among males, but is also associated with more rapid recovery (Jager & Davis-Kean, 2011).

Suicidality

According to one systematic review of the literature on mental health disparities among sexual minorities, "a majority of studies report elevated risks for...suicide attempts or suicides, as adolescents or adults, from many geographic regions, and with varied dimensions (behaviour,

attraction, identity), especially in more recent and higher quality studies” (Plöderl & Tremblay, 2015, p 367). In one such study by the same author, Austrian gay and bisexual male adults demonstrated higher risk of current suicidal ideation and lifetime suicide attempts as operationalized in three different ways (Plöderl & Fartacek, 2005). Such findings were revealed as early as the 1990s (D’Augelli et al., 2001; Hershberger & D’Augelli, 1995), and are particularly acute for gender variant youth, manifesting throughout the life course and through adulthood (Rijn et al., 2013). In another study, nearly half of the sample (42%) of sexual minority youth had “sometimes or often thought of suicide”, with one third reporting at least one attempt (D’Augelli et al., 2001). Participants suggested that suicidal feelings and attempts were because of their sexual orientation, especially after first learning of same-sex feelings or disclosure to others. Others reported that family members, too, attempted suicide upon the disclosure of their orientation, and 75% indicated that close friends have died by suicide (D’Augelli et al., 2001).

Conclusions

Sexual minority status is a risk factor for a host of negative social, behavioral, and mental health outcomes among young men (McLaughlin et al., 2012; Plöderl & Tremblay, 2015), presumably by way of the minority stress that results from discrimination (Meyer, 1995, 2013) at the hands of peers and adults. Bisexual men, those changing their sexual identity, and men of color are at particular risk (Everett, 2015; Li, Katz-Wise, & Calzo, 2014; Lourie & Needham, 2017; Mitrani et al., 2017; Moskowitz, Stein, & Lightfoot, 2013; Oshri et al., 2017; Plöderl & Tremblay, 2015). Likewise, gender nonconformity is a known risk factor, perhaps regardless of sexual orientation (Adelson & American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Quality Issues (CQI), 2012; Baams, Beek, Hille, Zevenbergen, & Bos, 2013; Bos et al., 2016; Bos & Sandfort, 2015; Calzo et al., 2014; Coyle, Fulcher, & Trübutschek, 2016;

D'haese, Dewaele, & Van Houtte, 2016; Gordon & Meyer, 2007; Jones et al., 2017; Landolt et al., 2004; Li et al., 2016; Martin-Storey & August, 2016; Oost, 2016; Rieger & Savin-Williams, 2012; Roberts et al., 2012; Toomey et al., 2010; van Beusekom et al., 2016). Additional research may be warranted to disentangle gender nonconformity from sexual orientation in the onset of these disparities and to help to tease apart the role that minority stress plays in their development.

Research Question(s)

With the above relationships between sexual orientation and gender nonconformity in mind, the purpose of this study is to explore how sexual orientation and gender nonconformity—measured by way of the Bem Sex Role Inventory (BSRI)—interact to predict mental health outcomes among youth who participated in the Center for Disease Prevention and Control's National Longitudinal Study of Adolescent Health (Add Health). However, given challenges to the validity and reliability of the BSRI with respect to the behavior of women, specifically (Chung, 1995; Donnelly & Twenge, 2017), the present research is limited to an examination of the phenomenon in question among young men. Given the tendency of men to regulate the presentation of stigmatized features of sexual minority identity (Meyer, 2013; Pachankis & Bernstein, 2012), such a comparison may reveal a stronger relationship between gender nonconformity and mental health.

Chapter Three: Methodology

This chapter describes the National Longitudinal Study of Adolescent Health (Add Health), the sample from which the data set for this study was drawn, and the analytical model proposed to examine the hypotheses relevant to the research.

Design

This study is a secondary analysis of a data set from Add Health, a longitudinal examination of the experiences of a nationally representative sample of middle- and high-school-aged adolescents, starting in 1994-1995 (Mullan Harris, 2013), who were interviewed into adulthood, through ages 32. Data have been examined by more than 6,000 investigators; won over 400 grant awards; resulted in over 1,300 peer-reviewed publications and more than 2,000 conference presentations, 15 books, 80 book chapters; and produced over 320 doctoral dissertations and masters' theses (Mullan Harris, 2010). Entering its fifth wave of recruitment, the study continues to explore the lives of participants into their forties.

Add Health involves a nationally representative sample that explored the causes of health and health-related behaviors of adolescents and their outcomes in adulthood. The study utilizes a multi-survey, multi-wave, interdisciplinary design and direct measurement of the social context of adolescent life and its effects on health (Mullan Harris, 2010). Ethnic oversamples have yielded an “unprecedented diversity in race and ethnicity in a representative population of adolescents”, including high rates of immigrant youth participation (Mullan Harris, 2010; p. 8).

Schools provided rosters of students enrolled, from which the pool of participants were sampled to participate in the in-home interviews, which took place across all four waves. Written, informed consent was then again obtained from the parent or guardian and each participant. A computer-assisted personal interview with a researcher, and audio, computer-assisted, self-

interview was then administered. Questions with more sensitive information (e.g., sexual partners, attraction, etc.) were self-administered (University of North Carolina Population Center, 2010).

Seventy-nine percent of the schools; or 132 urban, suburban, and rural schools, varying in size from fewer than 100 to over 3,000 students in 80 communities; responded positively to the invitation to participate. Over 90,000 students completed the in-school questionnaires and 20,745 completed the in-home interviews at Wave I. At Wave II, in 1996, 14,738 of the original adolescents responded (a response rate of 88.2%). By the time the youth reached ages 18-26 at Wave III, 15,197 young adults remained involved, the equivalent of a 76% response rate; and by Wave IV, when the original participants were between the ages of 24 and 32, 15,701 (76%) of the original youth were re-interviewed (Mullan Harris, 2013). Responses for this study were derived strictly from the 7,167 males participating in Wave III of data collection.

Data Collection

The Add Health data are available for public use. However, the socially-sensitive variables of interest to this study are only available through an additional, restricted-access data set which must be purchased for an \$850 fee. This fee was generously covered by an award from the Millersville University Student Grants for Research and Creative Activity. Security protocols involved a legal contract between the University and University of North Carolina Population Center, and included specifications regarding the hardware, software, and procedures for data entry, analysis, and reporting that could be used with this data set.

Procedure

The raw data were received from the Carolina Population Center, home to the Center for Disease Prevention and Control's National Longitudinal Study of Adolescent Health. The data set was delivered on a set of compact disks (CDs) containing SAS files for Wave III. The data on the

CDs, per the security protocols mandated by the Carolina Population Center, were loaded onto a secure network server by Millersville University's IT Department with access granted only by this dissertation's researcher and dissertation chair.

Using Alteryx, a visual programming-based data manipulation tool, the files were merged into an SPSS data file and organized using participant ID as key. All 8,030 participants who identified as biological females at Wave III were excluded from the dataset. The final data set consisted of the following variables, further described in the next section:

- ID
- Age
- Race (Hispanic, White, Black, Native, Asian American)
- Highest Level of Education Achieved
- Attraction to Men
- Sexual Identity
- Center for Epidemiological Studies Depression Inventory (CES-D, 9 items)
- Suicide Ideation/Attempts in the last 12 months
- Bem Sex Role Inventory Masculinity Scores (BSRI Masculinity)
- Bem Sex Role Inventory Femininity Scores (BSRI Femininity)

Measures

Because BSRI scores were only available for Wave III participants, this study focuses exclusively on outcome variables available in Wave III. The following section shows and operationally defined Add Health variables used for this study. Variables are grouped according to the sequence by which they were entered into a hierarchical regression model for analysis, and included in full in Appendix A.

Outcome variables

Depression

Depression was measured by way of a composite score constructed from the short-form, nine-item version of the Center for Epidemiological Studies Depression Scale (CES-D) used in Wave III, which was developed for use in general population samples. It has demonstrated

adequate reliability, with a Cronbach's α of 0.79 (Radloff, 1977), and has been used in numerous studies exploring the correlates of depressive symptoms among adolescents (McLaughlin et al., 2012). This scale can be found in Appendix B.

Suicidality

Questions concerning prevalence of suicidality will involve a composite of two questions regarding ideation and attempts in Wave III. Participants were asked whether they had seriously thought about committing suicide in the 12 months prior to each wave, and how many times they actually attempted suicide in those 12 months; they received a score of "0" if they never considered it and never attempted; "1" if they endorsed attempting suicide once, "2" if twice, "3" if three or four times, and "4" if suicide was attempted five or more times. Answers ranged from 0 (never) to 4 (five or more times). The original questions are included in Appendix C.

Predictor Variables

Sexual Orientation

In this study, the predictor variable of *sexual orientation* was measured by way of same-sex attraction and identity, as measured by Add Health questions regarding whether participants have been attracted to members of the same sex in the past and how participants identify (e.g., "100% homosexual", "mostly homosexual", "bisexual", and so on). More specifically, the following measures were used.

Sexual Attraction

The question from the Add Health data that asked "Have you ever been attracted to a male" was used as the measure for sexual attraction. It was coded as "0" for No and "1" for Yes. Note that the variable was constructed for the Add Health data as a "dummy variable" without

having to modify it for this study.

Sexual Identity

The question from the Add Health data that asked “Please choose the description that best fits how you think about yourself” was used as the measure for sexual identity. It was coded at “1” for 100% heterosexual, “2” for mostly heterosexual, “3” for bisexual, “4” for mostly homosexual, and “5” as 100% homosexual. When this variable was used as a predictor solely (and not used to create an interactive term – see Analysis section), it was recoded as “0” for 100% heterosexual, “1” for mostly heterosexual, “2” for bisexual, “3” for mostly homosexual, and “4” as 100% homosexual in order to create a quasi-ratio level variable for regression analysis.

Gender Nonconformity

The Bem Sex Role Inventory (BSRI) was used by Add Health officials in Wave III to measure masculinity and femininity (Bem, 1974). This index was constructed to evaluate the extent to which individuals exhibit psychological androgyny (both masculine and feminine traits), the features of either gender, or of neither. The development of this tool was nothing short of revolutionary in the mid-Seventies, as psychologists had historically believed that gender existed a dimorphic spectrum prior to its invention (Starr & Zurbriggen, 2017). Bem was famous for popularizing the notion that the psychological flexibility that came with androgyny was actually beneficial to mental health. But the BSRI seems to have fallen victim to its own success, as the survey instrument was designed to be flexible, it appears to have lost predictive power over time.

Thanks to the Feminist Movements, the last forty years have seen a shift in women’s attitudes towards gender (Bryant, 2003; Donnelly et al., 2016) so dramatic that the tool has been rendered obsolete (Starr & Zurbriggen, 2017). One meta-analysis found that women’s femininity scores decreased significantly between 1993 and 2012, and that endorsement of masculine traits

like assertiveness has steadily increased since 1974 (Donnelly & Twenge, 2017). Unlike gender identity among women, however, men's scores on both scales of masculinity and femininity have remained stable (Donnelly & Twenge, 2017). Studies exploring the construct validity of the BSRI among gay and heterosexual men suggest strong psychometric properties, replicating those appearing in the original user's manual (Chung, 1995). For full BSRI, see Appendix B.

For the purposes of this study, gender nonconformity was measured by way of: 1) masculinity scores on the Bem Sex Role Inventory (BSRI) and 2) femininity scores on the BSRI. The BSRI short form contains 30 items and can be found in Appendix D. The short form has greater internal consistency than and is highly correlated with the original BSRI ($r = .90$) because items demonstrating low item-total correlations were eliminated (Holt & Ellis, 1998). The reliability alphas of the original format were generally high (Masculinity $\alpha = .86$; Femininity $\alpha = .82$), and, within a sample of 28 males and 28 females, the BSRI demonstrated high test-retest reliability (Masculinity $r = .90$; Femininity $r = .90$) (Holt & Ellis, 1998). Responses are on a Likert-type scale ranging from 1 ("never or almost never true") to 7 ("always or almost always true").

Demographic Characteristics

Age

Each wave of the Add Health contained a calculated age for the participant expressed in terms of whole numbers. This study used this variable rather than calculating the participants' ages based on month, day, and year of birth.

Hispanic Ethnicity

The Add Health data contained a question that asked "Are you of Hispanic origin" coded as "0" for no and "1" for yes. Note that the variable was constructed for the Add Health data as a "dummy variable" without having to modify it for this study.

Race

The Add Health data contained four, separate questions that asked participants if they were White, Black/African American, American Indian/Native American, and Asian. Each were coded as “0” for no and “1” for yes. This study constructed a composite variable from these four so as to code “0” as White and “1” as non-White (i.e. Black/African American, American Indian/Native American, or Asian).

Education

Wave III of the Add Health data contained a question of “what is the highest grade or year of regular school did you complete” with seventeen codes for the number of years of education; this study recoded these years into a dummy variable in which “0” was high school or less and “1” was beyond high school. The following table shows this convention:

Table 1: Coding for Education Variable

Add Health Code	Education	Dummy Code
6	6 th grade	0
7	7 th grade	0
8	8 th grade	0
9	9 th grade	0
10	10 th grade	0
11	11 th grade	0
12	12 th grade	0
13	1 year of college	1
14	2 years of college	1
15	3 years of college	1
16	4 years of college	1
17	5 or more years of college	1
18	1 year of graduate school	1
19	2 years of graduate school	1
20	3 years of graduate school	1
21	4 years of graduate school	1
22	5 or more years of graduate school	1

Hypotheses

Using the above variables and measures, the following hypotheses are proposed:

1. Gender non-conformity will significantly predict depression over Sexual attraction and/or sexual identity and demographic characteristics
2. Gender non-conformity will significantly predict suicidality over Sexual attraction and/or sexual identity and demographic characteristics

Chapter Four: Analysis

This chapter describes the sample in further detail, the tests used to examine assumptions of normality and independence, and articulates the process by which variables were loaded onto a hierarchical regression model to test hypotheses, as well as the results that followed.

Descriptive Analyses

Overall, there were 7,167 cases used for the analyses. Notably, the male participants were approximately 22 years old, on average, primarily non-Hispanic (82.9%), White (67.7%) heterosexuals (94.3%) who had a high school education (35.4%). The two mental health outcome variables showed expected distributions, with few participants exhibiting high scores on the CES-D or any suicidal behavior. Table Two displays descriptive statistics, measures of central tendency, and measures of dispersion (respectively) analyses for all the variables in this study.

Table 2. Demographics for male participants of Wave III (N = 7,167)

Characteristic	Category	n	%
Education	Less than high school	1040	14.5
	High school	2532	35.4
	College	622	8.7
	Beyond college	110	1.5
Hispanic Ethnicity	No	5927	82.9
	Yes	1226	17.1
Race	White	4787	67.7
	Black/African American	1520	21.3
	Asian American	657	9.2
	Native American	426	5.9
Sexual Attraction (to a Male)	No	6724	94.4
	Yes	397	5.6
Sexual Identity	100% Heterosexual	6684	94.3
	Mostly Heterosexual	217	3.1
	Bisexual	49	0.7
	Mostly Homosexual	50	0.7
	100% Homosexual	89	1.3
Suicidality	None/Did not think about it	6848	98.7
	Once	56	0.8

	Twice	19	0.3
	Three or Four Times	7	0.1
	Five or More Times	6	0.1
	Mean	Range	s.d.
Age	22.06 years	18-21 years	1.776
CES-D Depression Score	7.567	0-27.0	2.764
Suicidality	0.34	0-4	0.785
BSRI Masculinity	4.89	1.0-7.0	0.973
BSRI Femininity	5.40	1.0-7.0	1.072

Statistical Test Assumption Analyses

Multiple regression requires two assumptions of predictor variables be met: 1) independence and 2) normal distribution. First, correlation matrices and collinearity diagnostic tests of the Variance Inflation Factor (VIF) were conducted for each of the predictor variables related to each of the two outcome variables. Results showed no perfect correlation among any two predictor variables above 0.66, which is acceptable, as “the independent variables may be very highly intercorrelated, so long as they are not perfectly collinear” (Achen, 1982; p. 35). All VIFs were within acceptable benchmarks (less than 10) of independence (Fields, 2017) for both depression and suicidality. Table Three shows the Variable Inflation Factors (VIF) between all predictor variables.

Table 3: Collinearity Statistics (VIF) for Predictor Variables

Age	1.008
Hispanic	1.020
Race	1.007
Education	1.009
Romantic Attraction to a Male	1.818
Sexual Identity	1.823
BSRI Masculinity	1.036
BSRI Femininity	1.038

The second assumption of normal distribution was fulfilled because enough independent observations had been collected to follow the *Central Limit Theorem*, which stipulates that, “the sum of independent observations having any distribution whatsoever approaches a normal distribution as the number of observations increases” and “sums of 50 or more observations approximate to normality” (Field, 2015, p. 224). Since, this study collected data from 7,167 different research participants, this assumption was met. As can be seen in Figures 2 & 3, the third and fourth assumptions of homoscedasticity and linearity were met, suggesting that the variances at each level of the predictor variable were stable and linear.

Figure 2

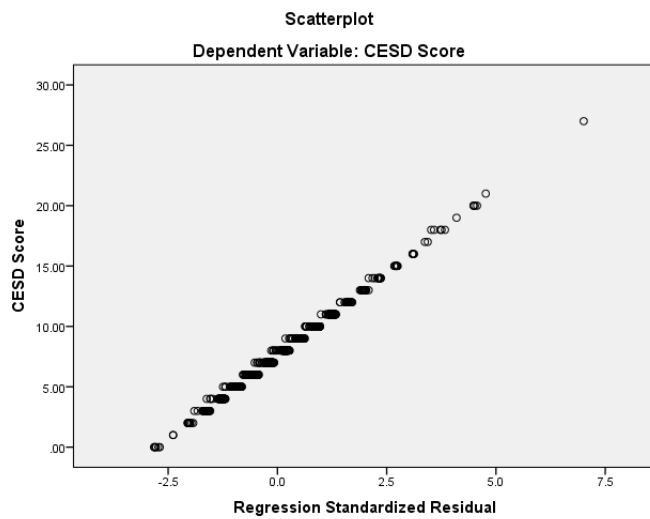
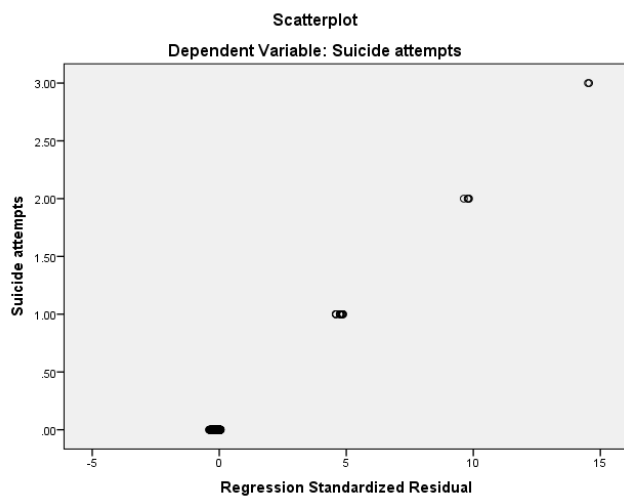


Figure 3



Reliability Analysis

The CES-D short form consisted of 9 items and a Cronbach's α of .479. This is lower than the studies that have demonstrated that CES-D alphas falling between 0.79 and 0.84 (Radloff, 1977).

Multiple Regression Analysis

For regression analyses, the variables of education and race were recoded to produce dummy variables such that participants were coded as having achieved a secondary education (1) or not, and as being white (1) or not. Additionally, the sexual identity variable was recoded to create a "quasi-ratio" variable, such that "100% homosexual" was coded as a '4', "mostly homosexual" was coded as '3', "bisexual" as '2', "mostly heterosexual" was coded as '1', and "100% heterosexual" was coded as '0'.

Hypothesis One (Depression)

A hierarchical multiple regression analysis was conducted to find the significant predictors of the mental health outcome variable of depression using pair-wise exclusion of missing data. For Block One of the regression analysis, the following variables were entered simultaneously: age, education (recoded as a dummy variable for which 0 = high school or below, 1 = beyond high school), Hispanic identity (recoded as a dummy variable for which 0 = no, 1 = yes), and non-Caucasian racial identity (recoded as a dummy variable for which 0 = no, 1 = yes).

For Block Two, the following variables were entered simultaneously: sexual attraction (recoded as a dummy variable for which 0 = no, 1 = yes), sexual identity (recoded to create a pseudo-ratio variable for which 0 = 100% heterosexual, 1 = mostly heterosexual, 2 = bisexual, 3 = mostly homosexual, and 4 = 100% homosexual).

Only Sexual attraction ($\beta = 0.538$, $SE = 0.194$, $t = 2.776$) and Sexual identity ($\beta = 0.191$, $SE = 0.080$, $t = 2.384$) were significantly related to depression scores, $F(6, 6979) = 7.605$, $p = .000$. The multiple correlation coefficient was 0.081, indicating approximately 0.6% of the variance in depression was accounted for by Sexual attraction and Sexual identity. Therefore, Hypothesis One was supported. Table Four displays the statistical figures of the F test and beta coefficients for Hypothesis One.

The analysis for the above Hypothesis One was replicated, but the following variables were added to Block Three alternately: BSRI Masculine Raw Score, and BSRI Femininity. That is, the BSRI Masculine Score was entered in Block Three, and the models were examined. The BSRI Masculine Score was deleted and replaced by the BSRI Femininity Score in Block Three and re-examined.

Neither adding the BSRI Masculinity Scale, $F(7, 1681) = 1.631$, $p = .122$, nor Femininity Scale, $F(7, 1682) = 1.836$, $p = .076$, scores in Block Three increased the variance explained by the model. Therefore, Hypothesis Three was not supported. Table Four displays the F test but, since the model did not statistically predict depression, the beta coefficients are not listed.

Table 4: Hypothesis One (Depression)

Source (F-test)	SS	df	MS	F	p
Regression	86.999	7	12.428	1.631	.122
Residual	12811.298	1681	7.621		
Total	12898.297	1688			

R = .082, R² = .007

Source (F-test)	SS	df	MS	F	p
Regression	97.886	7	13.984	1.836	.076
Residual	12808.053	1682	7.615		
Total	12905.938	1689			

R = .087, R² = .008

Hypothesis Two (Suicidality)

The analysis for the Hypothesis Two was replicated, but the following variables were added to Block Three alternately: BSRI Masculine Raw Score, and BSRI Femininity. That is, the BSRI Masculine Score was entered in Block Three, and the models were examined. The BSRI Masculine Score was deleted and replaced by the BSRI Femininity Score in Block Three and re-examined.

Neither adding BSRI Masculinity, $F(7, 1660) = 1.373, p = .213$, nor Femininity, $F(7, 1659) = 1.418, p = .197$, scores in Block Three increased the variance in depression explained by the model. Therefore, Hypothesis Four was not supported. Table Five displays the F test but, since the model did not statistically predict suicidality, the beta coefficients are not listed.

Table 5: Hypothesis Two (Suicidality)

Source (F-test)	SS	df	MS	F	p
Regression	.399	7	.057	1.373	.213
Residual	68.881	1660	.041		
Total	69.280	1667			
R = .076, R ² = .006					
Source (F-test)	SS	df	MS	F	p
Regression	.412	7	.059	1.418	.194
Residual	68.826	1659	.041		
Total	69.238	1666			
R = .076, R ² = .006					

Chapter 5: Discussion and Conclusions

This chapter reviews the findings of the study with respect to the available literature, examines the strengths and limitations of the work, and locates the conclusions within a larger body of work in the field of social work literature, providing recommendations for future examination.

Findings

The hypotheses driving this study assumed that gender nonconformity, as measured by the BSRI, would help to explain additional variance in regression models that delineate the

relationship between sexual orientation and mental health outcomes like depression and suicidality. Although measures of sexual identity and sexual attraction provided some significant explanatory value to depression and suicidality in the data set, adding the BSRI Masculinity and Femininity Scales did not provide any more explained variance for either mental health variable. Furthermore, the Masculinity and the Femininity subscales of the BSRI provided essentially no different predictive ability when considered interacting with sexual identity than just considering the sexual attraction alone.

Findings in Relation to Theory and Literature

Given the abundance of theory and empirical evidence indicating that young people—and especially men—experience minority stress as a result of their experiences with gender nonconformity above and beyond that of their experience of atypical sexual identity andromantic attraction, some criticism of the BSRI as a measure of gender nonconformity is warranted. Perhaps the more “nurturing” personality predicted by the BSRI does not cause a young man to stand out in a crowd enough to elicit ridicule and humiliation of the nature articulated by the Minority Stress Model. Indeed, according to its own originator, the BSRI has been labeled “more a personality index than a behavioral composite” (R. Savin-Williams, 2017; personal communication). A better *behavioral* index of gender nonconformity for Add Health, which has performed more consistently with empirical knowledge about gender and mental health among sexual minorities, has been the gender diagnosticity approach, but it can only be performed over several waves.

The gender diagnosticity method examines the degree to which individuals can be observed engaging in behaviors, demonstrating personality traits, or appearing to others in the style of dress of the same or opposite sex. This innovation in understanding of gender nonconformity was developed by Lippa and Connelly (1990)), and the approach applies statistical weights to responses

that discriminate men from women, depending on the probability that this difference can be observed among members of the target sex and in themselves. Thus, traits and behaviors determine the statistical likelihood that an individual is male ($1 - p_{\text{male}} = \text{probability of being female}$) based on the extent to which each is more likely to characterize males' self-reports of themselves.

The most recent attempt to determine the degree to which males and females behave in a gender nonconforming manner as calculated as a ratio—probability of being a boy—was deployed on the Add Health data set by Fleming and colleagues (2017). For Fleming et al. (2017), gender nonconforming behaviors include those performed by an individual (e.g., cooking) and states of being (e.g., being happy). This approach to “diagnosing gender” in the Add Health data set was most recently deployed to examine the extent to which health risk behaviors are more prevalent over time among young men who conform to behavioral expectations about their gender than those who do not (Wilkinson, Fleming, Halpern, Herring, & Harris, 2018). Findings indicate that the odds of alcohol use, binge drinking, and cigarette and marijuana usage increase dramatically to the extent that a young man conforms to his gender, without respect to sexual orientation.

Strengths and Limitations of the Study

A result of the fact that BSRI scores were only recorded in Wave III, this study was limited to a cross-sectional model, while the Add Health data set has much more to offer researchers. A longitudinal study, by design, Add Health assumes no intervention and therefore is non-experimental, but it is a times series design. Time series design enables researchers to examine data by modeling predictive characteristics, but also to test theory by way of assuming causal relationships between one data point and another (Pickup, n.d.). Predictive models can also be used for testing theory by way of aligning causal predictions from theory with estimated model parameters (Pickup, n.d.). Therefore, the time series design is appropriate for analyzing the impact

of presumed predictive variables (e.g., sexual orientation, gender nonconformity) on other variables to be leveraged as mental health outcomes. It is possible that further attention to self-esteem or anxiety—in addition to, or in an index with—depression or suicidality may have yielded greater statistical significance.

Inclusion of additional mental health outcomes in the regression model may be possible—and advisable—in future research. For example, although men typically score higher than women on measures of self-esteem (DiDonato & Berenbaum, 2013), when compared to those who are gender conforming, gender atypical men who perceive themselves as such have lower self-esteem, self-worth, and social competence, in addition to higher levels of both internalizing and externalizing disorders (DiDonato & Berenbaum, 2013; Egan & Perry, 2001). Sexual minority youth exhibit lower self-esteem (Galliher, Rostosky, & Hughes, 2004; Hatzenbuehler, 2009; Jones et al., 2017; Meyer, 1995). For sexual minority adolescents, victimization contributes to this sense of psychological malaise (Birkett, Newcomb, & Mustanski, 2015; Galliher et al., 2004). According to Hershberger et al. (1995), low self-esteem mediates the relationship between victimization and poor mental health, in general, and according to Plöderl et al. (2005), controlling for self-esteem mitigates the relationship between sexual minority status and suicidality. Presumably, those sexual minorities who are the most gender nonconforming are also most likely to experience peer rejection and low self-esteem in athletic domains (Calzo et al., 2014).

Likewise, anxiety is almost universally found to be higher in samples of LGB youth and adults than among their heterosexual peers, and it is often measured as general psychological distress, along a dimension that includes self-esteem and sometimes depression (Birkett et al., 2015; Hatzenbuehler, 2009; Hershberger & D’Augelli, 1995; Jones et al., 2017; Plöderl & Tremblay, 2015). Alanko et al. (2009) found that recalled childhood gender nonconformity played

a role in increased anxiety and depression, wherein the correlation was strongest among sexual minorities. Also among sexual minorities, recalled childhood gender nonconformity was found to at least partly account for a higher prevalence of post-traumatic stress disorder (Roberts, Rosario, Corliss, Koenen, & Austin, 2012). One cross-sectional study of Dutch adolescents revealed that gender nonconforming sexual minority youth reported greater levels of social interaction anxiety (van Beusekom, Baams, Bos, Overbeek, & Sandfort, 2016), an effect mediated by homophobic victimization, particularly among boys. Gay and bisexual men also exhibit more panic attacks and general psychological distress than do heterosexuals (Cochran et al., 2003). Peer rejection and rejection from fathers may mediate the association between gender nonconformity and attachment anxiety (Landolt et al., 2004).

Given the operation of minority stress, research has demonstrated that situational factors can give rise to state-based anxiety; experimental research has demonstrated that the mere acknowledgement that one is experiencing circumstances under which one might be perceived as a pedophile is enough to cause gay and bisexual men to exhibit significant levels of behavioral anxiety (Bosson et al., 2004). Situations like these are how minority stress gets “under the skin” and contribute to heightened levels of trait-anxiety over time (Hatzenbuehler, 2009).

Other demographic variables that might influence the relationship between sexual orientation, gender nonconformity, and mental health include urbanicity, education, and socioeconomic status; the problem remains that like the predictor and outcome variables, demographics must be accounted for at each point in time during a longitudinal study for frame of reference.

Research has demonstrated that rural communities are host to greater levels of violence and harassment targeting LGBT youth in schools than are suburban or urban communities

(Kosciw, Greytak, & Diaz, 2009). However, other research by Galliher and colleagues (2004) found that urbanicity interacted with sex and sexual attraction in explaining depressive symptoms in the Add Health data set in an unexpected manner; specifically, the researchers demonstrate that young men who are exclusively attracted to the same sex exhibit greater depressive symptoms than sexual majority peers in urban communities and no difference manifests in rural or suburban settings (Galliher et al., 2004).

Research also suggests that higher socioeconomic status (SES) may be associated with decreased psychological distress (Reynolds & Ross, 1998). Education may even play a special role, exerting a protective effect against mental health problems independent of other dimensions of SES (Miech & Shanahan, 2000). Another important component of SES that has yet to be examined among sexual minority youth is subjective social status (SSS), or, “a person’s belief about his location in a status order” (Davis, 1956; p. 154), but this was only examined in Wave IV. A meta-analysis of 133 studies including over 5 million respondents demonstrated that SSS is associated with many measures of physical health, but especially self-reports of depression ($z = .249$), psychological well-being ($z = .192$), and mental health ($z = .189$) (Quon & McGrath, 2014).

Implications for Future Research

In this study, measures of sexual orientation were limited to romantic attraction and sexual identity at one point in time, but sexual arousal, behavior, and identity patterns change over the life course. A better measure might have leveraged the longitudinal nature of the Add Health data set to produce a variable like *lifetime sexual orientation*, which could be measured by way of a cumulative score based on same-sex attraction and identity across all four waves of the study. That is, participants with opposite-sex attractions across all four waves would be coded as “0”, and for every wave on which a same- or dual-sex attraction is reported, a score of “1” will be accumulated.

So, respondents who report attraction to same- or both-sexes across two waves will receive a score of 2”, and so on until “4”.

This method continues by assigning an additional score of “1” for any same-sex orientation reported in response to the prompt concerning sexual identity exclusively in Waves III and IV, “please choose the description that best fits how you think about yourself”. Possible responses include: 100% heterosexual; mostly heterosexual, but somewhat attracted to the same sex; bisexual; mostly homosexual, but somewhat attracted to the opposite sex; and 100% homosexual. With this in mind, for every response that is *not* 100% heterosexual, an additional “1” point is assigned. Thus, for the purposes of this study, *lifetime sexual orientation* will involve a score based on a composite of sexual attraction and identity, ranging from 0 = “exclusively heterosexual” to 6 = “exclusively homosexual” (see Table Ten).

Table 6: “Lifetime Sexual Orientation” Composite Score based on Sexual Attraction and Sexual Identity across All Waves

	Attraction				Identity		Lifetime Composite Score
	WAVE I	WAVE II	WAVE III	WAVE IV	WAVE III	WAVE IV	
	Same or Both Sexes	Same or Both Sexes	Same or Both Sexes	Same or Both Sexes	Gay or Bisexual	Gay or Bisexual	
Exclusively Heterosexual	0	0	0	0	0	0	0
Mostly Heterosexual	0	0	0	0	0	1	1
Somewhat Heterosexual	0	0	0	0	1	1	2
Bisexual	0	0	0	1	1	1	3
Somewhat Homosexual	0	0	1	1	1	1	4
Mostly Homosexual	0	1	1	1	1	1	5
Exclusively Homosexual	1	1	1	1	1	1	6

This method of calculating a cumulative sexual orientation score is empirically justified by the intermediate degree to which childhood gender nonconformity is recalled by adults when sexual orientation is measured as a spectrum, rather than as a dichotomous variable. In such instances, gender nonconformity falls somewhere between a lower measure of nonconformity recalled by straight individuals and a higher measure recalled by gay men and lesbians (Dunne, Bailey, Kirk, & Martin, 2000).

Conclusion and Considerations for Social Workers

This study demonstrates a relationship between sexual orientation and depressive symptoms. Future researchers may be wise to take up the cause of investigating the utility of the BSRI, perhaps as a standalone or in concert with other measures of gender nonconformity like gender diagnosticity, to help explain a number of the negative outcomes associated with life as a sexual minority in a heterosexist world. It is possible that including existing measures of discrimination, and other mental health outcomes and even behavioral signs of distress (e.g., risky drug and alcohol use and sexual behavior) might further illustrate the relationship between minority stress and the health disparities observed among LGB people.

The evidence is abundant that young gay and bisexual men are in dire need of the assistance of social work professionals; not only those in clinical positions, but those in leadership, too. In an era in which the President of the United States has created an agency dedicated to preserving the “freedom” of those who wish to discriminate in their secular commercial affairs with LGBT people: banning transgender people from military service; submitting amicus briefs to the Supreme Court on behalf of businesses that wish to deny service to same-sex couples; and creating a division of the U.S. Department of Health and Human Services known as the “Division of Conscience and Religious Freedom”, which supports healthcare providers’ rights to deny care to individuals whose choices they deem inconsistent with their religious beliefs; one can only wonder why more social workers have not already taken up the rainbow flag in the fight against regression to the mean amidst all of the social progress made for LGBT people made just several years ago.

Perhaps most importantly, it is essential that social workers reconsider the fundamental assumptions of a gender binary that underlie scales like the Bem Sex Role Inventory, as well as the whole body of literature on gender nonconformity, in general. To suggest that one can exist in ways that are inconsistent with conventional notions of gender implies that there is a conventional notion with which people must be consistent to begin with; this is highly problematic, especially from a social work perspective. Social workers should take up the helm in reconceptualizing the meaning of gender in one's personal development, and ensure that everyone, no matter their gender expression, feels accepted for who they are in their social environment.

Appendix A

Variables Included in the Study

Name	Type	Operationalization	Possible Responses	Chronbach's (α) or Receiver Operating Characteristic	References
Race	Demographic	Responses to: What is your race? Check all that apply	White, African American, Hispanic, Asian/Pacific Islander, Other	N/A	(Hatzepanahelis, McLaughlin, & Xuan, 2012)
Hispanic Identity	Demographic	Response to: Are you Hispanic?	Yes or No	N/A	
Educational Achievement	Demographic	Response to: What is the highest level of education that you have achieved to date?	8 th grade education or less to professional education (ordinal scale of 1-13)	N/A	(Respress, et al., 2014; Respress, 2010)
Romantic Attraction to a Male	Predictor	Have you ever had a romantic attraction to a male?	Yes or No	N/A	N/A
Sexual Identity	Predictor	Please choose the description that best fits how you think about yourself	Exclusively Heterosexual; Mostly Heterosexual; Somewhat Heterosexual; Bisexual; Somewhat Homosexual; Mostly Homosexual; Exclusively Homosexual	N/A	N/A
Masculinity Score on Bem Sex Role Inventory	Predictor	Cumulative Score on: Defends own beliefs; Independent; Assertive; Aggressive; Strong personality; Self-sufficient; Has leadership abilities; Willing to take risks; Dominant; Willing to take a stand	1 to 7	α = 0.86	(Chung, 1995)
Femininity Score on Bem Sex Role Inventory	Predictor	Cumulative Score on: Tender; Sympathetic; Sensitive to needs of others; Understanding; Compassionate; Eager to soothe hurt feelings; Warm; Affectionate; Loves children; Gentle	1 to 7	α = 0.82	(Chung, 1995)
Depression	Outcome	Scores on CES-D: I was bothered by things that usually don't bother me; I felt that I could not shake off the blues even with the help of my family or friends; I had trouble keeping my mind on what I was doing; I felt depressed; I felt hopeful about the future; I felt fearful; I was happy; I felt lonely; I felt sad	0 to 7	α = 0.84	(Hatzepanahelis, McLaughlin, & Xuan, 2012; Radloff, 1977)
Suicidality	Outcome	During the past 12 months, how many times did you attempt?	0 to 6 or More Times	N/A	(Marshal et al., 2013)

Appendix B

Center for Epidemiological Studies-Depression Scale (Short Form)

Rarely or none of the time	Some or a little of the time	Occasionally or a moderate amount of time	All of the time
(less than 1 day)	(1 - 2 days)	(3 - 4 days)	(5 - 7 days)

1. I was bothered by things that usually don't bother me.
2. I felt that I could not shake off the blues even with the help of my family or friends.
3. I had trouble keeping my mind on what I was doing.
4. I felt depressed.
5. I felt hopeful about the future.
6. I felt fearful.
7. I was happy.
8. I felt lonely.
9. I felt sad.

Appendix C

Suicidality Composite

None/ Never thought about it	Once	Twice	Three or Four Times	Five or More Times
0	1	2	3	4

During the past 12 months, did you ever seriously think about committing suicide?

During the past 12 months, how many times did you actually attempt suicide?

Appendix D

Bem Sex Role Inventory (BSRI Short Form)

Rate each item, on a scale from 1 (never or almost never true) to 7 (almost always true).

1. Defends own beliefs
2. Independent
3. Assertive
4. Strong personality
5. Self-sufficient
6. Has leader abilities
7. Willing to take risks
8. Dominant
9. Willing to take a stand
10. Aggressive
11. Tender
12. Sympathetic
13. Sensitive to needs of others
14. Understanding
15. Compassionate
16. Eager to soothe hurt feelings
17. Warm
18. Affectionate
19. Loves children
20. Gentle
21. Conscientious
22. Unpredictable
23. Reliable
24. Jealous
25. Sincere
26. Secretive
27. Adaptable
28. Conceited
29. Tactful
30. Conventional

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