

Nonsuicidal Self-Injury Among Gender Minority Populations:  
A Mixed Methods Investigation

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## ABSTRACT

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This dissertation research constitutes a mixed methods investigation of the phenomenon of nonsuicidal self-injury (NSSI) among transgender and gender nonconforming (TGNC) people. An integrative review of the current literature about NSSI among sexual and gender minority populations established that NSSI is reported at higher rates by sexual and gender minorities than by cisgender (nontransgender) and heterosexual populations. Additionally, TGNC people appeared to report higher rates of NSSI than cisgender sexual minorities. Among TGNC people, transmasculine spectrum people (i.e., gender identity is male, man, transgender man, transmasculine, genderqueer, nonbinary, etc., with female sex assigned at birth) reported higher rates of NSSI compared to transfeminine spectrum people (i.e., gender identity is female, woman, transgender woman, transfeminine, genderqueer, nonbinary, etc., with male sex assigned at birth). Guided by Meyer's (2003) minority stress model and Nock's (2009) model of NSSI, qualitative interviews were conducted with eighteen transmasculine individuals to understand what contributes to the higher rates of NSSI in this population. The qualitative data supported aspects of Nock's model as well as minority stress processes, and additionally revealed that NSSI may be related to transgender identity development processes. Aspects of Nock's model that were supported included risk factors for NSSI (adverse childhood experiences), intrapersonal and interpersonal vulnerability factors, and identification with the behavior. Minority stress processes related to stigma associated with transgender identity included the impact of nonconformity in appearance and behavior, nonconformity in identity with nonbinary

identified participants reporting additional stress, concealment of identity, and expectations of rejection. Transgender identity development stages of pre-coming out (confusion prior to understanding one's gender identity), coming out, and exploration (finding a community of similar peers) were also related to NSSI. This latter finding highlighted that, in addition to being a response to stigma and minority stress, NSSI may occur in the context of normal transgender identity development. Finally, a quantitative investigation was conducted to examine correlates of past-year NSSI among a diverse community-based sample of TGNC people. In the total sample ( $N = 332$ ), 53.3% ( $n = 177$ ) of participants reported having engaged in NSSI in their lifetime. Lifetime history of NSSI was more common among transmasculine spectrum compared to transfeminine spectrum participants (60.5% vs. 39.5%,  $p < 0.001$ ). Past 12-month NSSI was reported by 22.3% ( $n = 74$ ) of the sample and was not significantly different between transmasculine and transfeminine spectrum participants. Younger age and higher levels of felt stigma were associated with higher rates of NSSI, while transgender identity acceptance and congruence were protective factors. Together, the findings of this mixed method investigation provided new insights into the onset and maintenance of NSSI among TGNC people, informing the development of interventions to address the high rates of NSSI among gender minority populations. Implications for theory, clinical practice, provider education and training, health policy, and future research are discussed.

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## **Dedication**

This work is dedicated to transgender youth in recognition of their abundant resilience, and to allies of transgender people for the work they do on behalf of the community and their support of transgender around the world.

## **Chapter 1: Introduction**

In this chapter, the background and organization of this dissertation proposal will be presented. First, information regarding the prevalence of nonsuicidal self-injury (NSSI) and its impact on health outcomes is discussed. Second, what is known about NSSI among sexual and gender minority populations is examined. Third, the context for this dissertation study is described. Fourth, the theoretical framework that guides this study is presented. Lastly, the three separate manuscripts that address the dissertation's three specific research aims are summarized. This introductory chapter concludes with an overall goal of the proposed dissertation as well as its potential contributions to the scientific literature.

### **Nonsuicidal Self-Injury**

Nonsuicidal self-injury (NSSI), defined as intentional injury to the body's surface without intent to die such as cutting or burning the skin (American Psychiatric Association, 2013), is a pressing health problem among adolescents and adults (Brunner et al., 2014; Miller & Smith, 2008; Nock, 2012). The rate of hospitalization for self-injury among children and adolescents aged 5-20 in the United States (U.S.) increased from 4.3% to 13.2% between 1990 and 2000 (Olfson, Gameroff, Marcus, Greenberg, & Shaffer, 2005). Current prevalence for NSSI among community samples of adolescents is estimated at 18% (Muehlenkamp, Claes, Havertape, & Plener, 2012), and ranges from 4-21% among adults (Briere & Gil, 1998). NSSI is associated with mental health comorbidities such as depression, anxiety, substance abuse, and suicidality (Dougherty et al., 2009; Guertin, Lloyd-Richardson, Spirito, Donaldson, & Boergers, 2001; Hamza, Stewart, & Willoughby, 2012; Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006; Whitlock et al., 2013) and may increase the likelihood of suicide completion through habituation to increasing levels of pain (Joiner, 2005).

## **Nonsuicidal Self-Injury among Sexual and Gender Minority Populations**

Compared to their heterosexual counterparts, lesbian, gay and bisexual (LGB) individuals are at higher risk for depression, anxiety, alcohol and substance dependence, and are twice as likely to have attempted suicide (Haas et al., 2011; King et al., 2008). LGB youth, in particular, are at increased risk for depression and suicide, (Fergusson, Horwood, Ridder, & Beautrais, 2005; Marshal et al., 2011) and NSSI (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009). Data from large representative samples of adolescents show that sexual minority adolescents have 3.2 - 4.6 times the odds of self-injury compared to heterosexual adolescents (Bostwick et al., 2014; Reisner, Biello, Perry, Gamarel, & Mimiaga, 2014). Less is known about NSSI among transgender individuals, defined as those who identify as a gender different from their sex assigned at birth (Institute of Medicine, 2011). A chart review study of a clinical sample of gender nonconforming and transgender children and adolescents ( $N = 125$ , Mean age = 13.6, SD = 3.24) indicated that 24.0% had a history of NSSI (Skagerberg, Parkinson, & Carmichael, 2013). Among a clinical sample of transgender adults ( $N = 155$ , Mean age = 34.5 years, SD = 14.21), 36.8% reported self cutting behavior (Claes, Bouman, et al., 2015) while prevalence of NSSI in a community sample of transgender adults ( $N = 773$ , Mean age = 40 years, SD = 13.9) was 41.9% with the average age of most recent self-injury at 27.3 years (dickey, Reisner, & Juntunen, 2015). In a study of LGBT youth, transgender youth ( $n = 13$ ) had 14.8 times the odds of having engaged in self-cutting compared to their gay and bisexual male counterparts (Walls, Laser, Nickels, & Wisneski, 2010). Consistent with findings among nontransgender populations (Bostwick et al., 2014; Brunner et al., 2014; Whitlock et al., 2011), the prevalence of NSSI appears to be higher among transgender individuals assigned female (as opposed to male) at birth (Claes, Bouman, et al., 2015; Skagerberg et al., 2013). The heightened vulnerability to NSSI

found among LGBT populations appears to be related, at least in part, to interpersonal trauma and victimization related to nonconformity in sexual orientation and gender identity (Claes, Bouman, et al., 2015; House, Van Horn, Coppeans, & Stepleman, 2011).

### **Context for the Dissertation Study**

According to recent population size estimates, between 0.53% and 0.6% of adults in the United States identify as transgender or gender nonconforming (Flores, Herman, Gates, & Brown, 2016; Meyer, Brown, Herman, Reisner, & Bockting, 2017). This mixed-methods dissertation study used quantitative data from a currently on-going multisite longitudinal study of transgender identity development across the lifespan, “Project AFFIRM” (R01 HD079603, Walter Bockting, PI). The main outcomes of Project AFFIRM are mental health and wellbeing. The study conducts annual quantitative interviews with a sample of transgender and gender nonconforming participants stratified by age and gender in the metropolitan areas of New York, NY, Atlanta, GA, and San Francisco, CA.

A diverse sample of participants was composed through purposive, venue-based recruitment and quota sampling. Stratification factors used for recruitment included city, gender (male or female assigned at birth) and age group (adolescence, 16-20; emerging adulthood, 21-24; early adulthood, 25-39; mid adulthood, 40-60; or late adulthood, 60+). To avoid bias due to oversampling certain venue types or racial/ethnic groups, no more than 1/4 (25%) of participants were enrolled from any of the following six venue types: bars and clubs/non-bar establishments/outdoors, events (e.g., Pride festivals), groups (e.g., community groups), online (e.g., Facebook), transgender-specific care clinical sites, and other, including referral by a friend. The quantitative baseline interviewer-administered survey of Project AFFIRM included a

measure of NSSI and the study's conceptual framework was expanded to include NSSI as an outcome for the purposes of this dissertation.

### **Theoretical Framework**

Figure 1.1 presents the conceptual framework guiding this dissertation research, which is Meyer's minority stress model (Meyer, 2003) adapted to focus on NSSI as the health outcome and to include identity development as a moderating factor. According to the minority stress model, the heightened vulnerability of transgender people results from the added stress they experience due to the social stigma attached to their gender nonconformity (Hendricks & Testa, 2012). Minority stress processes range from external, objective events to more internal, subjective factors that affect mental health (Meyer, 2003). External events include actual experiences of rejection, discrimination, and violence (enacted stigma) (Bockting, Miner, Romine, Hamilton, & Coleman, 2013). Internalized stigma consists of subjective factors such as expectations of rejection (felt stigma), concealment of identity, and a negative appraisal of one's own transgender identity (internalized transphobia) (Hendricks & Testa, 2012). Studies have found support for the minority stress model among transgender populations using mental health as the outcome (Bockting et al., 2013; Nuttbrock et al., 2010). The minority stress model also posits that resilience factors may buffer the negative impact of minority stress on health outcomes. Indeed, evidence shows that perceived social support among transgender youth (Grossman, D'Augelli, & Frank, 2011) and peer support among transgender adults moderates the effect of enacted stigma on mental health (Bockting et al., 2013). In Figure 1.1, resilience factors and identity development are conceptualized as moderating the effects of stigma on the outcome

of NSSI.

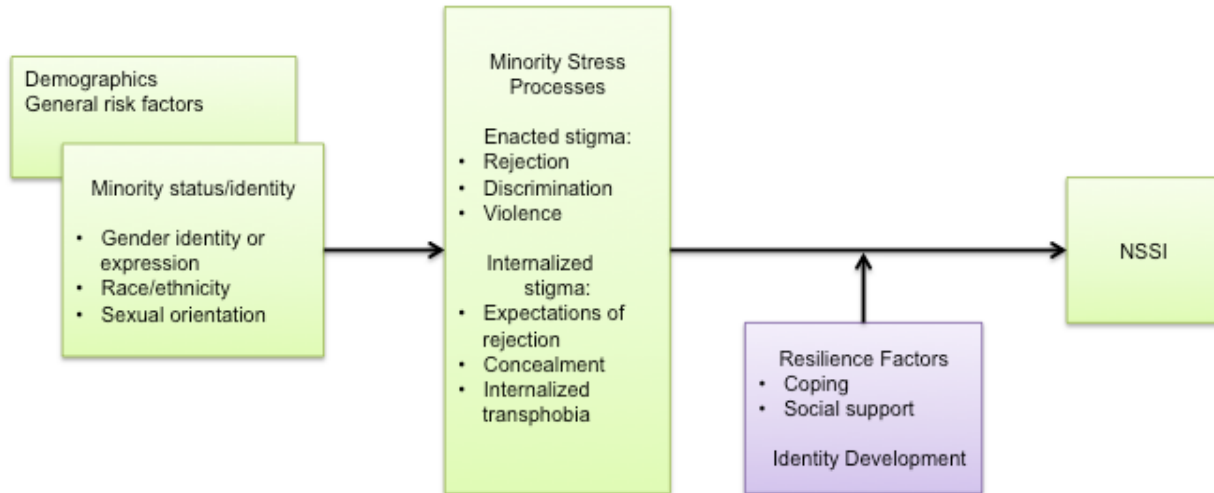


Figure 1.1. Theoretical framework: Minority stress model adapted to focus on NSSI as the health outcome of NSSI.

Nock’s integrated theoretical model of NSSI proposes that the behavior is caused and maintained by events that precede and follow it (Nock, 2010). From a functional perspective, reinforcing processes that maintain NSSI can be categorized as interpersonal or intrapersonal (Klonsky, 2007; Nock & Prinstein, 2004, 2005). Examples of intrapersonal functions include “to stop bad feelings” or “to feel something even if it is pain” (Nock & Prinstein, 2004). Examples of interpersonal functions include “to avoid other people or avoid doing something unpleasant” or “to gain attention or support” (Nock & Prinstein, 2004). Support for these functions of NSSI was found using confirmatory factor analysis of data collected from a psychiatric inpatient adolescent population (mean age = 14.8 years) (Nock & Prinstein, 2004). Evidence from community samples of adolescents and young adults supports both interpersonal and intrapersonal functions of self-injury (Klonsky, 2007; Muehlenkamp, Brausch, Quigley, & Whitlock, 2013; Nock, Prinstein, & Sterba, 2009). In a clinical sample of transgender adults who

had not yet socially transitioned or been treated with cross-sex hormones, interpersonal problems (such as difficulty with social relationships and higher levels of aggression) and psychological symptoms (such as anxiety and depression) were found to be associated with NSSI (Claes, Bouman, et al., 2015); these factors can be categorized as interpersonal and intrapersonal, respectively.

### **IRB Approval**

This study was approved by the New York State Psychiatric Institute/Columbia Psychiatry Institutional Review Board as a sub-study of Project AFFIRM (Protocol #7043).

### **Aims and Organization of Dissertation**

The three aims of this dissertation will be addressed in three separate manuscripts that are presented in Chapters 2-4 of this dissertation (Table 1.1.). Chapter 2 is an integrative review of NSSI among lesbian, gay, bisexual, and transgender (LGBT) populations, which was published by the *Journal of Clinical Nursing* in their special issue on LGBT health in 2015 (Jackman, Honig, & Bockting, 2016). Chapter 3 reports on qualitative interviews conducted with 18 transmasculine spectrum individuals recruited from the Project AFFIRM cohort about NSSI, and will be submitted to the *Journal of Counseling Psychology*. Chapter 4 presents the findings from the quantitative analysis of data from Project AFFIRM about rates and correlates of past-year NSSI, and will be submitted to *Suicide and Life-Threatening Behavior*. Collectively, these chapters provide a comprehensive picture of NSSI among a diverse sample of transgender individuals. The relationships illuminated in this dissertation between minority stress, identity development, and NSSI inform future interventions for this and other vulnerable underserved populations.



Table 1.1. Chapters of the Dissertation and Their Aims

<b>Chapter</b>	<b>Title</b>	<b>Aim(s)</b>	<b>Target Journal</b>	<b>Manuscript Co-Authors (in order of authorship)</b>
2	Nonsuicidal Self - Injury Among Lesbian, Gay, Bisexual and Transgender Populations: an Integrative Review	1. Synthesize the peer-reviewed, published research to examine the prevalence of NSSI among LGBT groups, to identify the LGBT subgroups at increased risk for NSSI, and to examine the risk factors associated with NSSI among LGBT populations.	<i>Journal of Clinical Nursing</i> (published)	K. Jackman, J. Honig, W. Bockting
3	What Contributes to Higher Rates of Nonsuicidal Self-Injury among Transmasculine Spectrum People?: A Qualitative Investigation	2. In a purposive sample of transmasculine spectrum people, examine NSSI, minority stress, and resilience using in-depth qualitative interviews.	<i>Journal of Counseling Psychology</i> (submitted)	K. Jackman, B. Edgar, A. Ling, J. Honig, W. Bockting
4	Correlates of Past-year Nonsuicidal Self-Injury in a Community Sample of Transgender and Gender Nonconforming People	3. Examine rates and correlates of past-year nonsuicidal self-injury among a community-based sample of transgender and gender nonconforming people.	<i>Suicide and Life-Threatening Behavior</i>	K. Jackman, C. Dolezal, B. Levin, J. Honig, W. Bockting

## **Conclusion**

The overall aim of the dissertation research was to improve our understanding of the factors contributing to the higher prevalence of NSSI among transgender and gender nonconforming people. Findings from this dissertation research are disseminated via presentations at scientific conferences and publication in peer-reviewed journals as detailed in Table 1.1. In addition to increasing our understanding of NSSI among transgender individuals, this study also contributes to the minority stress literature and literature about mental health disparities among vulnerable and underserved populations. This dissertation was the first to comprehensively explore the relationship between minority stress processes, identity development, and NSSI among gender minority populations.

## **Chapter 2: Nonsuicidal Self-Injury Among Lesbian, Gay, Bisexual, and Transgender Populations: An Integrative Review**

Chapter 2 of this dissertation addresses aim 1, to synthesize the peer-reviewed, published research to examine the prevalence, to identify the LGBT subgroups at increased risk for NSSI, and to examine the risk factors associated with NSSI among LGBT populations. To satisfy this aim, an integrative review of the literature was conducted between March 2015 and November 2015. The manuscript, included below, was published in the Journal of Clinical Nursing, special issue on LGBTI health, volume 25, issue 23-24 (DOI: 10.1111/jocn.13236).

### **Abstract**

**Aims/objectives.** To conduct an integrative review of nonsuicidal self-injury (NSSI) among lesbian, gay, bisexual, and transgender (LGBT) populations in order to better understand the prevalence, to identify the LGBT subgroups at increased risk for NSSI, and to examine the risk factors associated with NSSI among LGBT populations.

**Background.** NSSI, defined as intentional injury to the body's surface without intent to die, is a significant mental health concern among adolescents and adults. Mental health disparities in LGBT populations, including anxiety, depression, and suicidality, have been documented in the scientific literature with little focus on findings about NSSI.

**Design.** Integrative literature review of published quantitative and qualitative empirical research.

**Methods.** A literature search of eleven on-line databases was conducted of manuscripts published through April 2015. Keywords were used to identify articles about LGBT populations and NSSI.

**Results.** After screening by title, abstract, and full text, 26 articles were included in this review.

The literature synthesized demonstrates a consistent pattern of increased prevalence of NSSI among sexual and gender minority populations compared to heterosexual peers. This body of

literature indicates which subgroups of the LGBT populations appear to be at increased risk for NSSI and which specific factors contributing to vulnerability to NSSI among these populations. Conclusions. LGBT populations are at higher risk for NSSI compared to the general population. LGBT-specific and general risk factors appear to contribute to this heightened vulnerability. Relevance to clinical practice. Clinical nurses should screen for NSSI and for sexual and gender minority identity in all of their patients. Comprehensive assessment of LGBT patients presenting with NSSI may lead to identification of risk factors that can be addressed through nursing interventions. Nurse researchers and clinicians should take an active role in developing and implementing evidenced-based tailored interventions to reduce the higher vulnerability to NSSI among LGBT populations.

## **Introduction**

Nonsuicidal self-injury (NSSI), defined as intentional injury to the body's surface without intent to die (American Psychiatric Association, 2013), is a significant mental health concern among adolescents and adults (Brunner et al., 2014; Miller & Smith, 2008; Nock, 2012). Mental health disparities in lesbian, gay, bisexual, and transgender (LGBT) populations, including anxiety, depression, and suicidality, have been documented in the scientific literature (Chakraborty, McManus, Brugha, Bebbington, & King, 2011; Haas et al., 2011; Marshal et al., 2011). However, a synthesis of research findings about nonsuicidal self-injury among LGBT populations is lacking. This integrative review of the literature will contribute to the conceptualization of the problem (Torraco, 2005), provide a basis for further investigation, and inform nurses' clinical practice with LGBT populations who report NSSI.

NSSI has been the focus of increasing research and clinical attention in the past decade. Research advances include the development of an integrated theoretical model of self-injury

(Nock, 2009) and the construction and validation of several instruments to measure NSSI quantitatively (Borschmann, Hogg, Phillips, & Moran, 2012). In 2013, NSSI was added to the *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition (DSM-5) (American Psychiatric Association, 2013) which provides the classification of mental health concerns used for diagnostic purposes by health professionals in the United States (U.S.). NSSI is an emerging field of research and clinical interest as reflected by its placement in the DSM-5 section entitled Conditions for Further Study in Section III: Emerging Measures and Models. The DSM-5 proposed criteria include:

- 1.) Intentional self-injury on five or more days within the past year consisting of damage to the surface of the body of a sort likely to induce bleeding, bruising, or pain (e.g., cutting, burning, stabbing, hitting, excessive rubbing), with the expectation that the injury will lead to only minor or moderate physical harm (i.e., there is no suicidal intent),
- 2.) The expectation to obtain relief from negative feelings, resolve an interpersonal difficulty or induce positive feelings, and
- 3.) The self-injury is associated with either interpersonal problems or negative feelings right before the self-injury, or preoccupation with self-injury that is difficult to control, or both of these (American Psychiatric Association, 2013).

Support for these diagnostic criteria was provided by a study of clinicians and expert researchers on NSSI (Lengel & Mullins-Sweatt, 2013). The most common forms of NSSI are cutting the skin, banging or hitting parts of the body, and burning the skin (Klonsky, 2007). NSSI is associated with mental health comorbidities, such as depression, anxiety, substance abuse, and suicidality (Dougherty et al., 2009; Nock et al., 2006). However, evidence indicates

that NSSI and suicidality are separate but related phenomenon rather than variations in severity of the same behavior (Wichstrom, 2009).

The increased attention to NSSI has come at a time when health disparities among LGBT populations compared to heterosexual counterparts are becoming better understood by researchers and clinicians. The 2011 Institute of Medicine (IOM) report, entitled *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*, highlighted the health disparities of sexual and gender minority populations (Institute of Medicine, 2011). Following the call for increased attention to health disparities among LGBT populations in this report, the U.S. federal government's Healthy People 2020 goals were revised to include a goal related to LGBT health with the objective to increase identification of LGBT people within health-related databases (U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, n.d.). Efforts to identify and address disparities in the health of LGBT populations are hampered by current reporting systems, which do not systematically collect data related sexual orientation or gender identity.

As clinical and research attention to NSSI continues, it is important to understand whether the mental health disparities experienced by LGBT populations include NSSI. Additionally, understanding risk factors specific to the LGBT population will aid clinicians to intervene more effectively when implementing patient-centered care, contributing to positive health outcomes for their LGBT patients.

## **AIMS**

By integrating quantitative and qualitative research findings about NSSI among LGBT populations, the aims of this review are to better understand the prevalence, to identify the LGBT

subgroups at increased risk for NSSI, and to examine the risk factors associated with NSSI among LBGT populations.

### **Note on terminology and conceptualization of sexual orientation and gender identity**

The abbreviation LGBT (lesbian, gay, bisexual, and transgender) serves as an umbrella term for sexual and gender minority populations. The abbreviation LGB will be used in cases where studies included only lesbian, gay, and bisexual participants. Sexual minority populations consist of people who do not identify their sexual orientation as heterosexual. This includes people who identify as lesbian, gay, bisexual, queer, asexual, or pansexual, among other terms. Gender minority populations include people who do not identify their gender as congruent with the sex they were assigned at birth (i.e., the sex recorded on their birth certificate). This includes people who may describe themselves as transgender, transsexual, gender nonconforming, female-to-male (FTM), male-to-female (MTF), or genderqueer. Additionally, some gender minority individuals may identify their gender as simply male or female but differently from the sex they were assigned at birth. Furthermore, utilizing an intersectional framework, some individuals may have both a sexual minority and a gender minority status, for example, a transgender man who is attracted to men and identifies as gay. The term cisgender (non-transgender) refers to individuals whose gender identity is congruent with their sex assigned at birth.

An important distinction for understanding sexual orientation and gender identity is the difference between a binary or continuum model. In a binary conceptualization of sexual orientation, individuals are attracted to one gender, either men or women. In a continuum understanding of sexual orientation, individuals may be attracted to more than one gender, and may choose identity terms such as bisexual, pansexual, or queer. In a binary conceptualization of

gender identity, individuals identify as either a man or a woman. In a continuum understanding of gender, individuals may identify with gender identity options outside of man or woman, such as genderqueer, bigender, agender, or gender fluid (Kuper, Nussbaum, & Mustanski, 2012). A continuum understanding of sexual orientation and gender identity is more comprehensive since it includes binary options as well as nonbinary options, which are becoming increasingly common for self-identification, particularly among younger individuals.

## **Methods**

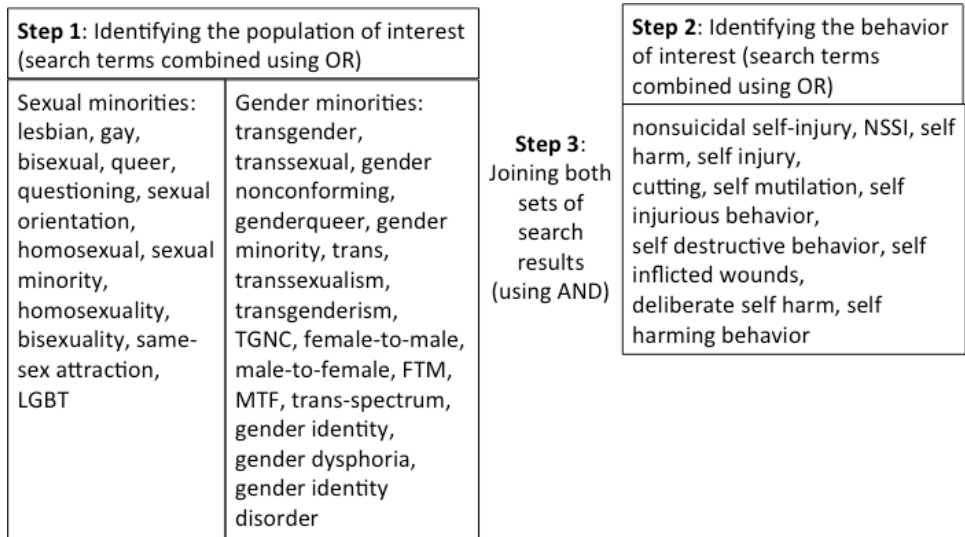
A literature search was conducted of manuscripts published through April 2015. No starting date limit was applied to the search. The databases searched were: Ovid Medline, PsycINFO, Allied and Complementary Medicine, and through the EBSCO platform: Cumulative Index to Nursing and Allied Health Literature (CINAHL), Education Resource Information Center (ERIC), Gender Studies Database, LGBT Life with Full Text, Social Sciences Full Text, Social Work Abstracts, SocINDEX with Full Text, and Violence & Abuse Abstracts.

The literature search was conducted in three steps (Figure 2.1). First, articles about the population of interest were identified using the key word search terms joined by the Boolean operation “or” of lesbian, gay, bisexual, transgender, transsexual, queer, questioning, gender nonconforming, genderqueer, sexual orientation, gender identity, gender dysphoria, homosexual, sexual minority, gender minority, trans, transsexualism, transgenderism, homosexuality, bisexuality, TGNC, female-to-male, male-to-female, FTM, MTF, LGBT, trans-spectrum, same-sex attraction, gender identity disorder. Second, the behavior of interest was identified using the key word search terms joined by the Boolean operation “or” of nonsuicidal self-injury, NSSI, self harm, self injury, cutting, self mutilation, self injurious behavior, self destructive behavior, self inflicted wounds, deliberate self harm, self harming behavior. Finally, these two sets of



search results were combined using the Boolean operation “and” with the goal of yielding a set of records containing articles about NSSI among sexual and gender minority populations.

Figure 2.1. Steps of keyword literature search



Next, the articles resulting from the search described above were imported into Endnote, version X6 for Macintosh. Following removal of duplicate articles in Endnote, articles were screened for inclusion by title, then abstract, then full text. Important features of the final set of articles were summarized in a matrix using Excel. Information gleaned from the articles was iteratively compared to draw conclusions about this body of literature.

Inclusion criteria for this review were published empirical studies that used an operational definition of NSSI that did not contradict the proposed criteria in the DSM-5. Therefore, operationalizations of self-injury that included ingestion of substances, self-poisoning, or self-injury regardless of suicidal intent were excluded from this review. Evidence suggests that behavior with nonsuicidal intent is a distinct phenomenon from suicidal behavior (Hamza et al., 2012; Preyde et al., 2014) as well as from self-injury of an indirect nature such as reckless or risky behavior (St. Germain & Hooley, 2012).

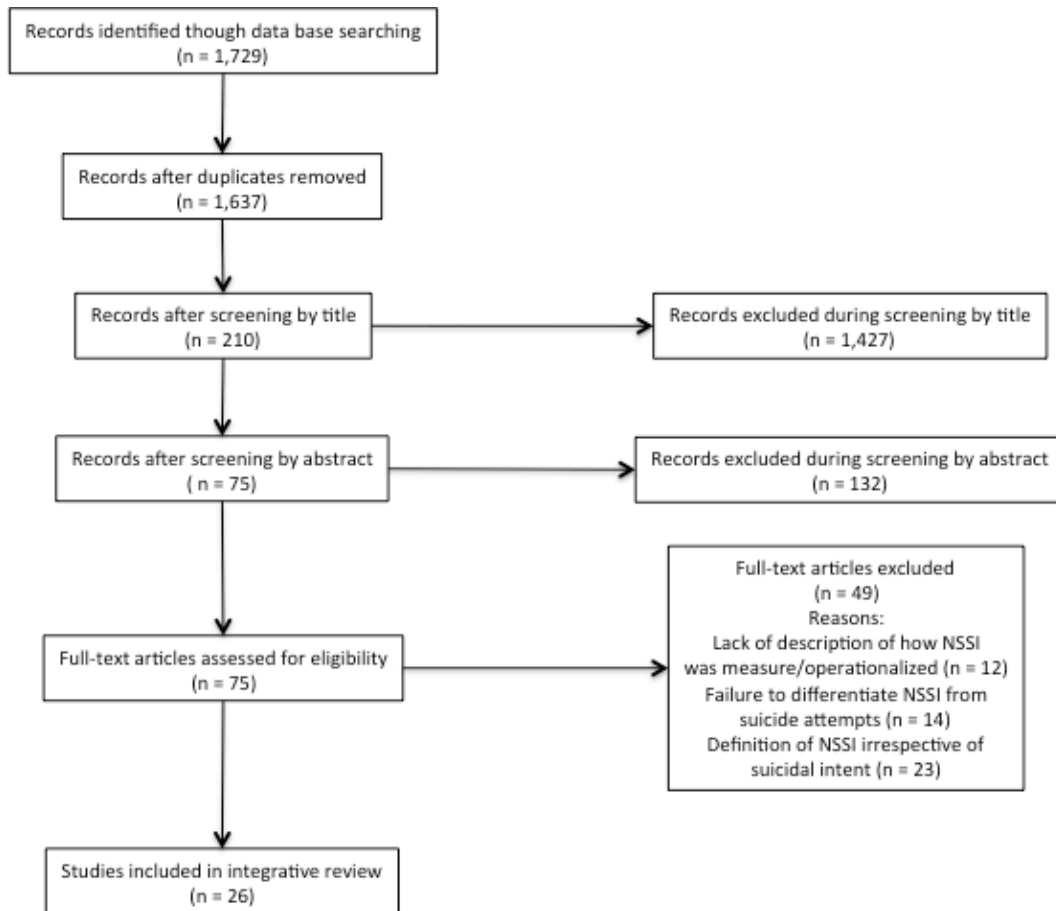
Exclusion criteria included use of a definition of NSSI that was inconsistent with the DSM-5 proposed criteria. Studies were also excluded if no clear description of the definition of NSSI or measure of NSSI was provided because it could not be determined whether the operationalization was consistent or not with the DSM-5 criteria. Studies that examined self-injury in a specific population not related to sexual and gender minorities were also excluded, such as self-injury in the context of developmental delay, autism spectrum disorder, borderline personality disorder, or incarcerated populations. There were no exclusion criteria based on date of publication. While there are no well-established criteria for quality appraisal of studies in an integrative review (Whittemore, Chao, Jang, Minges, & Park, 2014) and no articles were excluded for reasons of quality, the quality of the evidence and implications for conclusions from this review is addressed in the discussion section.

## **Results**

The search strategy described above resulted in a total of 1,729 articles (Figure 2.2). After removal of duplicates, 1,637 articles remained. These articles were screened by title, which resulted in exclusion of 1,427 articles. Common reasons for exclusion at this stage included articles that were not empirical studies, various uses of the word “cutting” (ribbon cutting, cake cutting, budget cutting), focus on ritual female genital mutilation, or the use of “trans” referring to chemical molecular structure. The number of articles remaining after screening by title was 210. Screening by abstract resulted in exclusion of 132 articles for reasons including focus on self-injury but no mention of LGBT groups, self-injury by poisoning, unpublished dissertations, self-injury due to psychosis, exclusive focus on self-injury in a specific population such as incarcerated individuals, people with borderline personality disorder, or people with developmental delay or autism spectrum disorder. The number of articles

remaining after screening by abstract was 75. During screening by full text, articles were excluded for reasons such as not differentiating self-injury from suicide attempts, lack of operational definition of self-injury used in the study or failure to describe how self-injury was measured, or definition of self-injury irrespective of suicidal intent. The final sample of articles included in this integrative review is 26.

Figure 2.2. Flow diagram of results of literature search and screening process



## **Findings from large-scale population studies**

Eleven studies involving large population-based surveys reported findings about NSSI and LGBT populations. The sample sizes of these studies range from 889 (Kidd, White, & Johnson, 2012) to 89,199 (Lytle, De Luca, & Blosnich, 2014). Findings from the Youth Risk Behavior Survey, National College Health Assessment, and Boston Youth Survey, as well as three large-scale college-based random samples are reported below.

The Youth Risk Behavior Survey (YRBS) is a biennial survey of adolescents in the U.S. conducted by the Centers for Disease Control and Prevention (CDC). It provides data representative of students attending high schools in grades nine through 12 (Centers for Disease Control and Prevention, 2013). State, local, tribal, and territorial agencies that conduct the YRBS may modify the survey within certain parameters by adding or deleting questions and the CDC provides a list of optional questions for consideration (Centers for Disease Control and Prevention, 2014). Therefore data about NSSI was collected only in some jurisdictions that chose to include this question. Assessment of sexual orientation has recently been added to the YRBS, however, to date, items about gender identity have not been included. Three different sets of Youth Risk Behavior Survey data analyzed in three studies showed that sexual minority youth report significantly higher rates of NSSI compared to heterosexual youth (Bakken & Gunter, 2012; Bostwick et al., 2014; Reisner et al., 2014). Analysis of data from the Delaware YRBS and a sample of 72,691 youth in 14 YRBS jurisdictions provided support for an interaction between gender and sexual orientation with sexual minority females at increased risk of NSSI compared to sexual minority males.

The National College Health Assessment (NCHA) is a survey about health-related topics conducted by the American College Health Association of students at colleges and universities in

the U.S. In a national sample of U.S. college students (N = 11,046), lesbian/gay students and bisexual students reported significantly higher rates of NSSI compared to heterosexual students (Blosnich & Bossarte, 2012). Additionally, the interaction between sexual orientation and gender was found to be significant such that sexual minority women had higher odds of NSSI compared to sexual minority men. Bisexual students reported the highest prevalence of self-injurious behavior compared to both gay and lesbian students and heterosexual students indicating they represent the highest risk group in this sample (Blosnich & Bossarte, 2012). Across all race/ethnicities, LGB students reported significantly higher rates of self-injury than heterosexual peers (Lytle et al., 2014). Among women, lesbian and bisexual women were significantly more likely to report self-injury compared to heterosexual females (Kerr, Santurri, & Peters, 2013).

Three studies reported on large random samples of college students in the U.S. These studies found that NSSI is more common among sexual minority respondents than among heterosexual respondents, with students who reported bisexual identity or questioning their sexual orientation at highest risk (Serras, Saules, Cranford, & Eisenberg, 2010; Whitlock, Eckenrode, & Silverman, 2006; Whitlock et al., 2011). Furthermore, there was an interaction such that the relationship between sexual orientation and self-injury was confined mostly to females.

The Boston Youth Survey (BYS) is a biennial survey of students in grades nine through 12 attending public schools in Boston, Massachusetts. The survey used a two-stage stratified random sampling technique. Two studies analyzed data from this survey to draw conclusions about NSSI among LGBT youth populations (Almeida et al., 2009; Kidd et al., 2012). LGBT adolescents reported significantly higher rates of NSSI compared to heterosexual adolescents (Almeida et al., 2009). Additionally, sexual minority boys had much higher odds of NSSI

compared to heterosexual boys. A large part of this difference was found to be due to discrimination on the basis of LGBT identity, demonstrating that this factor strongly mediates the relationship between LGBT identity and NSSI among boys (Almeida et al., 2009).

In summary, eleven studies with large samples of participants ranging in age from 13 to 25 years demonstrated that LGBT populations are at increased risk for NSSI compared to heterosexual populations. These studies identified higher risk for NSSI among female as compared to male sexual minorities. Analysis of data from college and university age participants also showed that bisexual individuals and individuals who are questioning their sexual orientation are at highest risk for NSSI. The vast majority of these studies restricted their analysis to sexual minorities and where gender minorities were included in the sample, independent findings about NSSI among this subgroup were not reported.

### **Findings from studies specifically designed to compare LGB to heterosexual populations**

Three studies examined differences in NSSI between LGBT and heterosexual populations using matched cohort research designs (Balsam, Beauchaine, Mickey, & Rothblum, 2005; Deliberto & Nock, 2008; Sornberger, Smith, Toste, & Heath, 2013). These studies found that NSSI is more common in LGB participants with bisexual participants at particularly high risk. In fact, one study found that only bisexual individuals and individuals who were questioning their sexual orientation had higher odds of engaging in NSSI than heterosexual counterparts (Sornberger et al., 2013). In contrast to the findings from large-scale population surveys, these studies did not find a significant interaction between gender and sexual orientation and thus did not support the notion that female sexual minorities are at increased risk of NSSI. Similar to the large-scale population surveys, gender identity was not included in data collection and analysis, so there are no results available about NSSI among gender minority populations from these

studies.

### **Findings from exclusively LGBT samples**

The literature search for this review identified four studies of exclusively LGBT populations that reported findings about NSSI. These studies provide insights into differential vulnerability to NSSI by LGBT subgroup and information related to specific risk and resilience factors for NSSI in these groups. Of note, three of these four studies limited the assessment of NSSI to intentional self-cutting which may result in lower prevalence estimates since self-injurious behaviors include of a wide range of actions in addition to self-cutting.

Two of these studies reported on data gathered from an on-line survey of LGBT youth. In the sample of 265 LGBT youth (ages 13-22 years), where 4.9% identified as transgender, 47.2% of respondents reported engaging in intentional cutting behavior in the past year (Walls et al., 2010). Compared to gay and bisexual males, lesbian and bisexual females had three times the odds and transgender individuals (a combined group of both female and male assigned at birth) had 14.8 times the odds of engaging in cutting behavior in the past year. Factors significantly associated with increased odds of cutting included harassment at school due to sexual orientation or gender identity, homelessness, depression, suicide attempt, and level of openness about sexual orientation or gender identity. Older age and knowing a safe adult with whom one can talk about sexuality and gender were protective factors. Further analysis of the survey data from the subgroup of participants who reported cutting (n = 131) investigated motivations for this behavior (Nickels, Walls, Laser, & Wisneski, 2012). The most frequently reported motivation for cutting was to experience “an emotional release” (72.5% of participants) and the second most commonly reported motivation for cutting was “in order to feel something” (51.9%). Over three quarters of participants endorsed two or more motivations for cutting.

In a national sample of 1,126 LGBT people (age 18-80 years, mean age 37.6 years) where 14.6% of respondents identified as transgender, 21% of the entire sample reported a history of engaging in self-injury (House et al., 2011). Compared to gay and bisexual males, lesbian and bisexual females had 2.9 times higher odds and transgender participants had 3.8 higher odds of reporting NSSI. No significant difference in NSSI between female sexual minorities and transgender individuals was found. Age was significantly associated with NSSI such that people at younger ages were more likely to report NSSI. No significant difference in NSSI by racial minority status was found. Both interpersonal trauma and experiences of discrimination based on sexual minority status were significantly associated with increased odds of NSSI. Further analysis of the data from the 164 transgender participants revealed that compared to transgender people who reported currently living as a man or woman, those who reported currently living as “other” (e.g., “androgynous” or “sometimes male and sometimes female”) had the highest rates of NSSI.

In a longitudinal study of 246 LGBT youth (ages 16-20 years) who were followed at 5 time points at 6-month intervals, 15.4% of participants reported self-cutting in the past 6 months at some point during the study (Liu & Mustanski, 2012). Factors significantly associated with NSSI were female gender, childhood gender nonconformity, LGBT-based victimization, suicide attempt history, sensation-seeking, and hopelessness, demonstrating that LGBT-specific factors as well as general factors contribute to risk for NSSI. LGBT victimization was associated with a 2.5-fold increased risk of NSSI in this population.

Across these studies investigating NSSI among exclusively LGBT samples, several patterns emerged. Transgender individuals reported higher rates of NSSI, particularly when compared to male sexual minorities, with gender minorities who identify outside of a binary



model of gender at highest risk. These studies also revealed some LGBT-specific risk factors for NSSI, including LGBT-based harassment, discrimination and victimization, as well as concealment of one's LGBT identity.

### **Findings from qualitative studies**

Three qualitative studies explored the phenomenon of NSSI among LGBT populations further illuminating factors specific to these populations. Interviews with 16 sexual minority females who reported self-injury explored the meaning of self-injury in their lives and the potential relationship between self-injury and their sexual minority identity (Alexander & Clare, 2004). Themes related to sexual orientation and self-injury included invisibility and invalidation on the basis of their sexual orientation. Invalidation was reported particularly in interactions with health care providers who "implied their self-injury rose from confusion about their sexual identity" (Alexander & Clare, 2004, p. 76). Participants reported delaying accessing health care services out of concern of being judged for being lesbian/bisexual or that the services would not be appropriate for them. This included engaging in self-injury that was not so severe as to require medical intervention in order to avoid interacting with health care providers. Feeling different due to their sexual orientation was related to self-injury and the sense of feeling different was further compounded by self-injury, which also required concealment. Being bullied or targeted for harassment due to their sexual orientation was among the reasons participants cited for the onset of self-injury.

Self-injury was also seen as a way of coping, a way of staying alive rather than self-destruct. Reported functions of self-injury included self-punishment, release of painful emotions, communicating distress, bringing oneself back to reality, numbing of emotional distress, and an effort to feel better. The process of identifying as lesbian or bisexual in the end was seen as a

relief and a source of pride and strength, however, the stress of living in a heterosexist and homophobic society was perceived as contributing to self-injury. This study indicated that a combination of individual and societal factors likely contributes to self-injury among lesbian and bisexual women.

A study of 69 young people who participated in focus groups and interviews explored the connections participants made between their LGBT identities and self-injury operationalized as self-cutting (Scourfield, Roen, & McDermott, 2008). Two understandings of causation arose from the data about the relationship between LGBT identity and self-injury. First, someone might self-injure as a form of self-punishment because they are not happy with their sexual orientation. Second, participants reported that bullying or victimization by peers could motivate one to self-injure. Both of these reasons were interpreted as reactions to homophobia but with different “blaming strategies” on the part of the individual. In the first case, the blame is directed inward with the impression that a sexual minority identity is worthy of punishment. The second strategy involves blaming others and a possible abdication of a sense of agency.

Finally, in a study of sexual minority individuals (N = 84) conducted in Japan, which involved formal, in-depth interviews, participant observations and informal interviews, the most commonly reported type of behavior was cutting on the wrists or arms, even though a wide variety of other methods was also reported (DiStefano, 2008). Reasons for self-injurious behavior included bullying by peers, the stress of concealing one’s sexual orientation, and poor familial relationships.

### **NSSI among gender minority populations**

Five studies conducted specifically with transgender and gender nonconforming participants investigated prevalence and correlates of NSSI among these groups. Three studies

gathered data via chart reviews of clinic-based samples of transgender and gender nonconforming adolescents. Prevalence rates of NSSI among these clinical samples range from 17-24% (Reisner et al., 2015; Skagerberg et al., 2013; Spack et al., 2012). Regarding sex assigned at birth, two studies, one with adolescents and one with adults, found that natal females are significantly more likely than natal males to engage in NSSI (Claes, Bouman, et al., 2015; Skagerberg et al., 2013). Additionally, self-injury was more common among adolescents (over age 12) compared to children (under age 12) (Skagerberg et al., 2013).

In an on-line convenience sample of transgender adults (mean age 40.4 years), 41.9% reported a lifetime history of NSSI. Individuals who reported a genderqueer or nonbinary gender identity or reported a queer sexual orientation reported higher levels of NSSI than the average for the entire sample (dickey et al., 2015). The findings of this study also showed that among transgender individuals, self-injury may continue well into adulthood since the mean age of most recent self-injury was 27.3 years (standard deviation 11.6 years).

In a gender clinic-based sample (mean age 34.5 years), 36.8% of participants reported engaging in self-cutting. In this study, this behavior was significantly more common among transgender men than transgender women (Claes, Bouman, et al., 2015). There was a significant correlation among transgender women between NSSI and having experienced physical abuse related to being transgender (Claes, Bouman, et al., 2015). The mean age of participants who reported engaging in NSSI was 27 years, which was significantly younger than the group who did not report self-injury.

## **Factors affecting NSSI among LGBT populations**

### **Race/ethnicity**

There is conflicting evidence about the effects of race/ethnicity on NSSI among LGBT populations. Walls (2010) and House (2011) found no differences in NSSI by race in their LGBT sample. Evidence from large-scale population surveys found racial/ethnic minority status may be protective against NSSI among some racial/ethnic groups (Blosnich & Bossarte, 2012; Bostwick et al., 2014), with the exception of one study that found higher risk of NSSI for all racial/ethnic minority groups, with participants identifying as multiracial and “other” race at highest risk (Lytle et al., 2014).

### **Age**

A number of studies of adolescents and adults found that younger age was a risk factor for NSSI (Claes, Bouman, et al., 2015; House et al., 2011; Walls et al., 2010). One study comparing children and adolescents found that adolescence is a period of higher vulnerability to NSSI (Skagerberg et al., 2013). However, NSSI is not limited to younger people. For example in samples of transgender adults, NSSI was found to continue into adulthood with the average age of last self-injury at 27.3 years (dickey et al., 2015).

### **LGBT subgroups**

Current evidence from large-scale population studies suggests that bisexual identified individuals may be at higher risk for NSSI compared to gay and lesbian individuals (Balsam et al., 2005; Blosnich & Bossarte, 2012). Transgender individuals are also found to be at higher risk for NSSI, particularly when compared with sexual minority males (House et al., 2011). Additionally, transgender individuals who define their gender identity outside of the binary gender schema appear to be at increased risk of NSSI compared to individuals who identity within the male/female binary (dickey et al., 2015; House et al., 2011). Support also exists for a significant interaction effect between gender and sexual orientation such that female sexual minorities are at

higher risk of NSSI compared to male sexual minorities (Bakken & Gunter, 2012; Blosnich & Bossarte, 2012; House et al., 2011; Walls et al., 2010), although some studies failed to find evidence of a significant interaction between gender and sexual orientation in terms of NSSI (Balsam et al., 2005; Sornberger et al., 2013).

Table 2.1. Summary of findings by aim.

<b>Prevalence of NSSI among LGBT populations</b>	<ul style="list-style-type: none"> <li>• Lesbian, gay, and bisexual: 5-47%</li> <li>• Transgender and gender nonconforming: 17-42%</li> <li>• Heterosexual: 3-15%</li> </ul>
<b>LGBT subgroups at increased risk of NSSI</b>	<ul style="list-style-type: none"> <li>• Nonbinary identified sexual minority populations, e.g., bisexual, queer</li> <li>• Nonbinary identified gender minority populations, e.g., genderqueer</li> </ul>
<b>Risk factors for NSSI specific to LGBT populations</b>	<ul style="list-style-type: none"> <li>• Harassment, victimization, and discrimination due to sexual orientation or gender identity</li> <li>• Concealment of sexual orientation or gender identity</li> <li>• Invalidation by others of sexual orientation or gender identity</li> <li>• Societal heterosexism and homophobia</li> </ul>

## Discussion

The literature synthesized in this integrative review demonstrated a consistent pattern of increased prevalence of NSSI among sexual and gender minority populations compared to heterosexual and cisgender comparison groups (Table 2.1). Additionally, this body of literature indicates that LGBT subgroups who appear to be at increased risk are people who do not identify within the sexual orientation binary (e.g. bisexual individuals or people who are questioning their sexual orientation) or the gender binary (e.g. genderqueer individuals). A variety of factors such as the pervasiveness in society of gender and sexual binary systems, the lack of nonbinary role models, and reduced community connectedness of these individuals may contribute to their

vulnerability to stress and to higher rates of NSSI. Future research should explore risk and resilience to NSSI among LGBT subgroups separately since the current evidence suggests there are differential patterns of vulnerability.

Transgender and gender nonconforming individuals in particular appear to be at increased risk of NSSI compared to cisgender sexual minority groups. Since changes in gender role and transition may take place at any age, there may be an increased age range of vulnerability to NSSI across the lifespan in this population. Some evidence suggests that NSSI among transgender people may follow a different developmental trajectory than among cisgender people at least with regards to age of onset and duration of NSSI (dickey et al., 2015). This could be related to the stress and subsequent adjustment during the process of coming out and making a gender role transition. Longitudinal studies of transgender identity development are needed to explore periods of vulnerability to mental health problems, including NSSI, and processes of resilience at various stages of development.

This review did not exclude any studies on the basis of quality due to the goal of integrating a wide range of findings to arrive at a comprehensive understanding of NSSI among LGBT populations. The main limitation of the literature in this field is the lack of standardized measurement of NSSI. The majority of studies discussed in this review used a single item dichotomous measure of presence or absence of NSSI, typically within the last 12 months with the exception of some studies assessing lifetime prevalence or prevalence in the last 6-months. Very few studies used comprehensive assessment tools designed to measure various facets of NSSI including frequency, type, severity, duration, motivations and functions. A single item measure of NSSI may be useful as an initial screen to identify individuals who may need additional, more comprehensive assessment to inform targeted and tailored interventions (Nixon,

2009). While data from single item measures has played an important initial role in illuminating the disparity in NSSI found among LGBT populations, for research to progress in the direction of intervention development, a more complete understand of NSSI among LGBT populations, consistent with the DSM-5 criteria, is needed. This type of data can be gathered by using available assessment tools, several of which have been validated and have good psychometric properties (Borschmann et al., 2012).

Three out of the four studies examining NSSI among exclusively LGBT samples restricted their operationalization of NSSI to intentional self-cutting behavior. Although cutting is one of the most common methods of self-injury, studies have found that various methods of self-injury are commonly reported and individuals frequently engage in more than one method of NSSI (Whitlock et al., 2006). Restricting assessment of NSSI to cutting behavior is therefore likely to lead to underreporting of NSSI and incomplete understanding of the scope of the problem. Comprehensive assessment of self-injurious behaviors should include various methods of self-injury in order to accurately detect these behaviors.

Another limitation of this field is the sampling methodology of the reviewed studies. Many studies used non-representative sampling techniques, such as convenience or snowball sampling. Among studies with transgender participants, clinic based samples were commonly used which may overestimate the prevalence of mental health concerns, including NSSI. Among studies that did use a representative sample, measurement of NSSI was nearly universally restricted to a single item assessment with the exception of Whitlock et al. (2011). This study used the Nonsuicidal Self-Injury Assessment tool, which asks questions about various characteristics of NSSI including motivations for engaging in the behavior. Conversely, most studies that used a more comprehensive measure of NSSI employed sampling techniques, such

as convenience or snowball sampling that may lead to bias and reduced generalizability of the findings.

### **Limitations of this review**

The operationalization of self-injury in accordance with DSM-5 criteria may have led to exclusion of some articles that could have provided additional insights about this phenomenon. The broader conceptualization of self-injury, sometimes referred to as “deliberate self harm” (King et al., 2008) is more common outside of the U.S., so the inclusion criteria for this review may lead to bias toward exclusion of findings from research conducted outside of the U.S. Additionally, the lack of a formal quality assessment of the articles means that the evidence is of varying levels of quality and is therefore challenging to compare and integrate. As discussed above, the main problems in quality of the studies included are related to external validity due to the sampling strategies used and internal validity due to variations in the measurement of NSSI.

### **Conclusions**

Integration of evidence from various sources demonstrated that there is higher prevalence of NSSI among sexual and gender minority populations compared to heterosexual and cisgender populations. Populations at particularly high risk for NSSI may include people who identify outside of binary systems of gender identity and sexual orientation. Factors contributing to vulnerability for NSSI among LGBT populations include LGBT-specific victimization, discrimination, and harassment; stress related to concealment of sexual or gender minority identity; invalidation by others (including healthcare providers) of the individual’s sexual orientation or gender identity; and societal heterosexism and homophobia. Further research must be conducted using psychometrically validated instruments that assess NSSI in a comprehensive manner in order to better understand the scope of this important public health problem, to inform



targeted evidence-based interventions for NSSI among subgroups of the LGBT populations, and to enhance patient-centered culturally competent clinical care.

### **Relevance to Clinical Practice**

Working on the front lines of healthcare, nurses are likely to encounter LGBT patients and patients who engage in NSSI in a wide variety of clinical settings, such as emergency departments, primary care practices, pediatric clinics, schools, residential treatment settings, outpatient mental health clinics, and inpatient psychiatric units. Clinical nurses should screen for both NSSI and sexual orientation and gender identity in their patients with the knowledge that LGBT populations are at higher risk for NSSI due to stressors related to their minority sexual orientation or gender identity in addition to the general stressors that affect the entire population (Meyer, 2003).

Some screening questions are included in standardized psychosocial assessments for adolescents such as HEEADSSS (Klein, 2014), which consists of questions in the domains of home, education and employment, eating, activities, drugs, sexuality, suicide/depression, and safety. The most recent version of this assessment tool contains a screening question about sexual orientation (“Are you interested in boys? Girls? Both? Not yet sure?”) and a question about self-injurious behavior (“Have you ever had to hurt yourself [by cutting yourself, for example] to calm down or feel better?”). To inquire about gender identity, nurses can ask: Can you tell me about your gender? Do you see yourself as a girl/woman, boy/man, or in some other way? While some of these questions are already recommended in adolescent health assessments, they should also be routinely included in health assessments of adults.

Comprehensive assessment of LGBT patients presenting with NSSI may lead to identification of risk factors, which can be addressed through nursing interventions. Some risk

factors identified in this integrative review include victimization and harassment based on sexual or gender minority identity, stress related to concealment and/or invalidation of identity. Nurses working in school settings can advocate for school programs to reduce bullying and promote acceptance of diversity in sexual orientation and gender identity. They may also support school-based organizations that provide a safe space for gender and sexual minority students and their allies, such as Gay-Straight Alliances. Nurses can encourage LGBT individuals to seek out LGBT-specific peer support groups or community organizations. Engaging in leadership roles or advocacy work around LGBT issues is one way for sexual and gender minority individuals to take pride in their identity and overcome external invalidation (Jones & Hillier, 2013).

It is recommended that nurse researchers and clinicians take an active role in developing and implementing evidence-based interventions to reduce the higher vulnerability to NSSI among LGBT populations. Nurses have been integral team members in delivering interventions in treatment studies targeting NSSI (Ougrin et al., 2011; Wood, Trainor, Rothwell, Moore, & Harrington, 2001). Nurses' first-hand experience and knowledge of their LGBT patients who report NSSI will be essential in informing interventions tailored to address the specific vulnerabilities to NSSI found among these populations.

In summary, given the higher prevalence of NSSI among LGBT populations, particularly among female and nonbinary subgroups, it is imperative that nurses in clinical settings implement universal screening for NSSI and engage in frank discussions about sexual orientation and gender identity with their patients. By using appropriate screening questions and listening nonjudgmentally to their patients, nurses can gather the information needed to implement tailored interventions or refer to LGBT competent resources to reduce NSSI and address the factors associated with increased vulnerability and resilience.

## **Chapter 3: What Contributes to Higher Rates of Nonsuicidal Self-Injury among Transmasculine Spectrum People?: A Qualitative Investigation**

### **Introduction**

Transgender and gender nonconforming (TGNC) people, whose gender identity differs from their sex assigned at birth (Institute of Medicine, 2011), are estimated to make up 0.53% of the U.S. adult population (Meyer et al., 2017). TGNC people experience significant health disparities compared to non-transgender people (Institute of Medicine, 2011). In a national survey of TGNC adults, 40% of TGNC participants reported a life-time history of suicide attempt compared to 4.6% of the general U.S. population (James, 2016). A nation-wide survey of TGNC adults found higher rates of depression (44%) and anxiety (33%) as compared to community norms (Bockting et al., 2013). Other health disparities include substance abuse (Hotton, Garofalo, Kuhns, & Johnson, 2013), cigarette smoking (Conron, Scott, Stowell, & Landers, 2012), HIV infection (Herbst et al., 2008), and nonsuicidal self-injury (NSSI) (Clark et al., 2014; Connolly, Zervos, Barone, Johnson, & Joseph, 2016; Jackman et al., 2016).

Given the public health importance of pursuing health equity in disadvantaged groups, sexual and gender minorities, which includes TGNC people, were recently designated a health disparities population for NIH research (Pérez-Stable, 2016). The minority stress model is a theoretical framework used to conceptualize health disparities experienced by sexual and gender minorities (Hendricks & Testa, 2012; Meyer, 2003). This model posits that health disparities are due to the additional chronic stress of living with a societally stigmatized identity. The minority stress model was postulated for sexual minority populations (lesbian, gay, and bisexual people) (Meyer, 2003) and later adapted for TGNC people (Hendricks & Testa, 2012). According to the model, the processes by which stigma contributes to additional stress beyond what is experienced

by the general population occur on a continuum from distal to proximal. At distal levels, observable events such as harassment, violence, or discrimination contribute to expectations of rejection, which lead to proximal processes such as concealment of minority identity and internalized stigma, known as internalized transphobia when referring to TGNC populations. Emerging evidence supports the minority stress model among TGNC populations in describing deleterious effects on health outcomes as well as resilience factors including the moderating or protective effects of peer support, family support, and identity pride (Bockting et al., 2013; Jackman, Dolezal, & Bockting, 2017; Pflum, Testa, Balsam, Goldblum, & Bongar, 2015; Rood et al., 2016; Tebbe & Moradi, 2016).

NSSI refers to intentional direct harm to the body's surface without intent to die (Nock, 2010). NSSI is increasingly a focus of clinical and research attention as indicated by its inclusion in the most recent edition of the *Diagnostic and statistical manual of mental disorders* (5th ed.) (DSM-5) in the section Conditions for Further Study (American Psychiatric Association, 2013). The DSM-5 proposes criteria for NSSI disorder, which describe the frequency, duration, severity, and motivation of the behavior. This study investigates NSSI behavior, not specifically the proposed diagnostic criteria for NSSI disorder in the DSM-5. Among the general population, the most common form of NSSI is cutting the skin using a knife or razor, typically on the forearms or legs. Other common types of NSSI include burning, picking, or scraping the skin, or hitting oneself (Nock, 2009). The onset of NSSI is usually around age 12-14 (Nock, 2010). NSSI appears to be increasingly common as evidenced by rising numbers of adolescents presenting to emergency departments and being treated for self-inflicted injuries (Cutler, Flood, Dreyfus, Ortega, & Kharbanda, 2015; Olfson et al., 2005). Data from several large samples of adolescents and young adults show that NSSI is more common among girls than boys (Bakken & Gunter,

2012; Bostwick et al., 2014; Whitlock et al., 2011; Zubrick et al., 2015). Although NSSI was traditionally considered pathognomonic of borderline personality disorder (American Psychiatric Association, 2013), evidence shows that it is common in clinical samples alongside a wide range of mental health disorders as well as in community samples (Lloyd-Richardson, Perrine, Dierker, & Kelley, 2007; Nock, 2010). NSSI predicts suicide attempts more strongly than either depression, anxiety, impulsivity or borderline personality disorder (Klonsky, May, & Glenn, 2013).

Although NSSI is recognized as a health disparity among TGNC populations (Jackman et al., 2016; Marshall, Claes, Bouman, Witcomb, & Arcelus, 2015), research aimed at understanding what contributes to this disparity is limited. The increased risk for self-injurious behaviors among individuals with gender dysphoria (i.e., distress related to incongruence between gender identity and sex assigned at birth) is reported to begin at a young age (Aitken, VanderLaan, Wasserman, Stojanovski, & Zucker, 2016). The most common type of NSSI among TGNC people appears to be cutting, and there is some evidence that TGNC individuals may be more likely to harm gendered body parts, such as breasts or genitals they feel do not align with their gender identity (Skagerberg et al., 2013). Transmasculine spectrum individuals are more likely to engage in NSSI than transfeminine spectrum individuals, and individuals with nonbinary gender identities (e.g., genderqueer, bigender, gender fluid) appear to be especially vulnerable (Claes, Bouman, et al., 2015; dickey et al., 2015; House et al., 2011; Skagerberg et al., 2013). Among TGNC people, NSSI has been found to be associated with body dissatisfaction, lack of support from family members, and psychopathology (Claes, Bouman, et al., 2015). Lacking in these studies is a qualitative description of NSSI among TGNC people and the perspectives of TGNC individuals about what contributes to this behavior in their own

words. Our current limited knowledge necessitates foundational qualitative research to explore the mechanisms of NSSI in this population. Such research will generate additional hypotheses to test in quantitative investigations and vital information about the factors contributing to NSSI to inform future intervention development.

### Theoretical Framework

This study is guided by Nock's theoretical model of NSSI (Nock, 2009) and the Meyer's minority stress model (Hendricks & Testa, 2012; Meyer, 2003). Nock's theoretical model of NSSI proposes that self-injurious behavior is maintained by its regulation of an individual's affective experience or social situation. The model describes risk factors for NSSI such as adverse childhood experiences and genetic predisposition. The model proposes that interpersonal and intrapersonal vulnerability factors affect one's response to stressful situations. NSSI-specific vulnerability factors, including the social learning hypothesis, self-punishment hypothesis, social signaling hypothesis, pragmatic hypothesis, pain analgesia hypothesis, and implicit identification hypothesis are proposed to explain why some people engage in this behavior while others in similar circumstances do not. The theoretical model of NSSI suggests that combined predisposing, interpersonal, intrapersonal, and NSSI-specific factors may result in NSSI.

As discussed above, the minority stress model demonstrates how the chronic stress of stigma and discrimination due to sexual and/or gender minority status or identity negatively affects health outcomes. The minority stress model also proposes resilience factors including coping and social support that may contribute to better health. Together, these two models formed the theoretical basis that guided the study design, data collection, and analysis.

This study explores factors that contribute to higher rates of NSSI among transmasculine spectrum individuals (i.e., people with a gender identity that is man, male, transgender man,

genderqueer, or nonbinary and who were assigned female sex at birth) and sought to address the following research questions:

1. What NSSI behaviors do transmasculine spectrum people report?
2. What contributes to higher rates of NSSI among transmasculine spectrum people?
3. How is NSSI related to participants' transgender identity?
4. How does NSSI relate to resilience in this group?

### **Methods**

This study was approved by the Institutional Review Board of the New York State Psychiatric Institute/Columbia Psychiatry.

### **Participants**

Eighteen transmasculine spectrum participants were recruited from the cohort of an existing longitudinal study of transgender identity development, "Project AFFIRM." The existing cohort was established using venue-based recruitment followed by quota sampling in three major metropolitan areas in the United States. Recruitment venues were in six categories: bars and clubs/non-bar establishments/outdoors, events (e.g., Pride festivals), groups (e.g., community groups), online (e.g., Facebook), transgender-specific care clinical sites, and other, including referral by a friend. Health clinics included those with transgender-specific care, yet excluded clinics primarily focused on mental health care, as mental health and wellbeing were the main outcomes of the longitudinal study. Quotas were based on age and sex assigned at birth while maximizing racial and ethnic diversity.

Eligibility for the current study was defined by: 1) gender identity of man, male, transgender man, genderqueer, nonbinary, or another identity; 2) female sex assigned at birth; (3) age between 16 and 39 years old; 4) reported having engaged in NSSI; and 5) fluent in English.

Participants were purposively sampled so that half the sample consisted of people who reported NSSI within the last year and the other half reported a history of NSSI, but none within the last year.

### **Instrument**

Through an iterative process, a semi-structured interview guide was developed, informed by the theoretical frameworks for this study, the minority stress model (Hendricks & Testa, 2012; Meyer, 2003) and Nock's integrated theoretical model of NSSI (Nock, 2009). Domains included descriptions of NSSI (e.g., How did you harm yourself? What did you use? Where on your body?), functions of NSSI (e.g., How did you feel before you harmed yourself? How did you feel afterwards? What did you do afterwards? Did anyone ever find out about what happened?), resilience (e.g., In moments when you thought about hurting yourself have you ever thought about doing something else instead?), and relationship of NSSI to TGNC identity (e.g., Do you think being transgender may be related to self harm for you? If so, in what ways?).

### **Procedure**

Potential participants who reported NSSI during the baseline quantitative interview of Project AFFIRM and met the additional qualitative study's eligibility criteria were contacted using their preferred method (phone or email), which they had specified upon initial screening for Project AFFIRM. Additionally, some participants were recruited in person at the end of their participation in the Project AFFIRM baseline interview. The purpose and procedures of the substudy on NSSI were explained. For participants who met eligibility criteria and who agreed to participate in the study, a qualitative interview was scheduled at a time that was convenient to them.



Individual, qualitative interviews were conducted in person by the first author in the offices of an academic medical center in a major metropolitan area in the United States. After participants completed the informed consent process, interviews were conducted according to the semi-structured interview guide described above. Interviews were conducted in English. All interviews were audio-recorded and transcribed. Participants were compensated \$50 in cash. Interviews were conducted between August 2016 and January 2017. Interviewing continued until data saturation was reached. The length of interviews ranged from 33 to 92 minutes. There were no adverse events arising from any of the interviews. Had any adverse events occurred as a result of the interviews an emergency protocol was in place, which involved consultation with a mental health clinician at the study site and referral for follow up at various levels based on evaluation of the participant. Possible referrals included community-based resources and support groups, referral to the participant's own mental health provider or initiating treatment with a mental health provider, or transportation to the nearest emergency department in the case of imminent risk of harm to self.

Throughout the interview process, the interviewer recorded field notes and reflections following each interview and discussed those with members of the research team. Peer debriefing with members of the research team who were not actively involved in the interviewing or analysis took place throughout the period of time the interviews were being conducted to enhance credibility of the research findings. Interviews were transcribed after they were conducted, so the interviewer read the transcripts to identify themes emerging from the interviews. These themes subsequently informed later interviews through modifications to the interview guide in order to further probe topics arising from earlier interviews. This iterative

process allowed us to determine when data saturation was reached when no new information was emerging from the interviews on the topics covered in the interview guide.

### **Data Analysis**

Directed content analysis (Hsieh & Shannon, 2005) was conducted using Dedoose, version 7.5.9, a web-based qualitative analysis software (Dedoose, 2017). Three researchers started by independently reading one transcript at a time to create and assign codes, which they then discussed in team meetings with the purpose of identifying themes and subthemes arising from the transcripts. Subsequently, codes were grouped into categories reflecting themes and subthemes. These steps were repeated several times in an iterative process. Once the codebook was finalized, the entire data set was coded accordingly. AL and BE each coded half of the transcripts and KJ coded a portion overlapping both of the halves. Coding took place independently and questions arising during the coding process were discussed in biweekly team meetings where discrepancies were discussed until consensus was achieved. Using Dedoose's testing function, we assessed interrater agreement which resulted in Kappa = 0.82. Analysts kept an audit trail of decisions made during the creation of the codebook and the process of coding interviews to enhance dependability.

### **Findings**

Table 1 presents the sociodemographic and identity characteristics of the sample that participated in the qualitative interviews about NSSI. The mean age was 24.9 years old (SD = 5.43, range 17-38). The sample was diverse in race/ethnicity and gender identity. The sample included people who identified as male, transgender man, gender nonconforming, transmasculine, bigender, genderqueer, nonbinary, gender creative, and gender fluid. Several participants reported more than one of these identity terms. Nearly half of the participants were

students and half reported annual personal income less than \$12,000. Participants reported varied educational levels; half of the sample reported less than college level education and half reported having completed college or graduate level education.

In this section, we first present findings that describe NSSI behavior, motivations, and relationship to other harmful behaviors reported by the participants. Next, we discuss findings as they relate to the theoretical models that guided this study. Finally, we present findings about the relationship of NSSI to transgender identity development (Bockting & Coleman, 2016), which emerged during the data analysis portion of the study. This model of transgender identity development proposes five stages: pre-coming out, coming out, exploration, intimacy, and identity integration. This theory is grounded in Erikson's stages of psychosocial development. It describes the process of transgender identity development in the context of social stigma about gender nonconformity.

### **Description of NSSI Among Transmasculine Spectrum People**

The most common age of onset of NSSI in this sample was 12-14 years old, while the range of onset age was 4-19 years old. Most participants reported learning about NSSI from a friend or peer who engaged in self-injurious behavior. The most common form of NSSI reported in this sample was cutting on the arms using a razor or other sharp instrument, such as scissors or the end of a paperclip. The majority of participants reported engaging in two or more methods of NSSI including scratching the skin, hitting oneself, hitting a wall with a body part such as hand or head, burning the skin, pulling hair, and picking or biting one's fingers to the point of drawing blood. Participants reported self-injury to various body parts, including some body parts they chose due to gender dysphoria, which included thighs, chest/breasts, stomach, or hips; no participant reported self-injury to their genitals.

Participants reported a number of measures to prevent infection and reduce harm, such as using sharp blades, bandaging wounds, cleaning the skin before and/or after NSSI using water, hydrogen peroxide, or alcohol, or applying an antibiotic cream. None of the participants reported sharing tools for NSSI, which suggests little risk of transmission of blood-borne infections.

Describing how he engages in NSSI by cutting, one participant reported:

I keep everything really sterile. Like, once I sense the blade is getting, like, dull I'll make sure to, like, replace it with a sharper blade so that I have more control and I don't have to press harder so there's, like, less chance of going too deep and, like, hitting something. Um, and I always disinfect everything. Um, I try to put bandages on everything but that's hard because, um, those are, like, expensive and stuff and I don't really have, like, access to, like, a big supply of bandages. (Participant #1, age 21)

Most participants described multiple motivations for NSSI with the most commonly reported motivation being to cope with intense or overwhelming feelings of anxiety, anger or sadness. Other commonly reported motivations included for distraction or redirection, coping with feeling “numb,” “detached”, or dissociated, for interpersonal reasons (“be cared for” or express pain to others), self-punishment, or to avoid suicide. One participant reported engaging in NSSI because it felt like a masculine form of self-expression. Participants reported a wide range of emotional states for the context in which they self-injured, such as depressed, anxious, or angry. Frequently the emotional state in which participants self-injured was described as aversive using terms, such as “upset,” “overwhelmed,” or “stressed.”

All participants except one reported engaging in other types of health risk behaviors in addition to NSSI. These were described as “things that weren't straight up self-harm but were like self-harm intent” (Part. #11, age 38). The most commonly reported behaviors were excessive alcohol consumption, misuse of medications (prescribed and over-the-counter), smoking cigarettes, or eating disorder behaviors. Other less directly harmful behaviors included forgetting

to eat, not showering, not caring for one's body, putting oneself in dangerous or risky situations, or overexercising to the point of feeling pain. Some participants talked about repetitive negative self-talk which one participant termed "emotional self-harm" (Part. #13, age 33) or putting oneself in situations that were emotionally unhealthy, which another participant termed "emotional masochism" (Part. #4, age 27).

Participants expressed that these other harmful behaviors served a similar purpose to the NSSI behaviors. In fact, while the interview guide did not initially ask about other harmful behaviors, participants so frequently brought these up themselves in the initial interviews, that the interviewer probed this topic in later interviews in order to better understand the relationship between various types of harmful behaviors from the participants' point of view. Participants expressed the belief that these behaviors occur on a continuum and serve similar functions for them in terms of emotion regulation and coping with stressful circumstances.

Many participants described a pattern of behavior characterized by use of various methods of NSSI, both directly injurious to the body's surface and other harmful behaviors such as substance misuse or eating disorder behavior. Some participants compared NSSI to a drug, described feeling "high" from engaging in NSSI, or used language expressing building tolerance as one would to a drug.

But when I cut, um, it wasn't the same relief as when I first started cutting. I actually felt really bad that I cut. I actually regretted it instantly. And then when I saw that it wasn't benefitting me the same way as it did when I first started...I was like, "Ok, now I can't do this." Because it's kind of like a high. It's, it's, you go searching for that same feeling...that you got the first time and when it's not, you, you, I don't know, I guess you try other things and I didn't want to try other things so... (Part. #9, age 21)

## **Themes from Nock's Model of NSSI**

**Adverse early life experiences.** Most participants in this study reported adverse early life experiences including physical, emotional, and verbal abuse from parents or other adults. Other home- and family-related stressors were also commonly reported, including divorce, child custody disputes, single-parent families, loss of family members due to divorce or death, and changing residences frequently. Finally, several participants reported family history of mental health disorders or substance abuse.

**Intrapersonal and interpersonal vulnerability factors.** Participants reported difficulty understanding and expressing their emotions, known as alexithymia. Alexithymia refers to the inability to regulate and communicate emotions and to distinguish them from physical sensations that may accompany intense emotions (Norman & Borrill, 2015). Participants reported using NSSI as a way to express emotions in physical ways or to avoid expressing their emotions. They also reported that NSSI was a way to translate aversive emotional states into physical pain, which they found to be relieving. Reporting on the effects of NSSI by punching himself in the face, a participant stated:

Afterwards I think I felt like not why did you do that because I know why, but like why because I don't like to do it and I don't want to do it, but, at the same time, like feeling a different feeling, like feeling the pain or even feeling the endorphin of like I just got hit sort of thing, like taking it off of the mental thing and putting it into the physical realm kind of took my mind slightly off of what I was feeling. (Part. #4, age 27)

Another participant suggested that TGNC people might be especially prone to NSSI due to body-related gender dysphoria:

I think that it makes a lot of sense as a trans person who can feel like their body isn't correct or right or, like, that there are parts of it that aren't right. It can feel like a really good thing to, like, take that anger out on your body in these physical ways. (Part. #14, age 24)

**Implicit identification hypothesis.** One NSSI-specific vulnerability factor proposed by Nock’s model suggests that engagement in NSSI may be reinforced by identification with this behavior (Nock, 2009). Participants were negotiating a process of identity formation in the context of societal stigma about their gender nonconformity as well as scarce resources and support, and some seemed to have incorporated NSSI as part of their identity. Expressing that NSSI is an enduring part of their self-concept, one participant said: “It’s [NSSI is] a part of me. I don’t imagine it will change. Even if I don’t do it I’ll probably be thinking about it” (Part. #11, age 38).

### **Themes Related to Minority Stress**

**Gender nonconformity.** Participants experienced criticism and hostility from family members and other adults about gender nonconforming behavior and appearance, which in many case, compounded their experiences of early life adversity. Participants spoke about being criticized for the way they dressed, the way they acted, their hairstyle, their interests, or their physical appearance. The pressure to conform to gendered expectations for their sex assigned at birth often started in childhood and increased as they entered adolescence. As early as age 6, in this participant’s case, he spoke about being told that his interests were not considered appropriate for his assigned gender:

So I liked typically boy things but when I did express it I was told that that’s not what girls do. I remember just keeping quiet about a lot of things that I naturally gravitate towards because I knew it wasn’t right.

(Part. #13, age 33)

Often participants reported that they had been more accepted as “tomboys” as children, but as they approached puberty, parents and other adults who believed they should start dressing and acting in a more feminine manner increasingly criticized their gender expression: “Like, ‘Okay, like, the tomboy thing was cute but now you need to femme up’” (Part. #8, age 27). This

participant goes on to describe how as a teenager they (pronouns in the text are pronouns used by participants for themselves) preferred to wear “baggy pants and baggy shirts.” However, a friend’s mother who did not approve of that style of dress took them to a clothing store to buy women’s clothing:

And, um, I could not leave until I bought a pair of woman’s jeans. And it was...like, I remember, like, just...like, I felt like I wanted to cry and, like, vomit simultaneously because I just, like, didn’t feel comfortable in, like, really tight pants. (Part. #8, age 27)

One participant described his mother’s reaction to his masculine gender presentation when he was a teenager:

It was just a lot of things like she would never outright say, ‘You seem queer.’ It was just ‘You don’t look pretty.’ One time there was an instance where I thought that I could get away with buying a suit for a family event instead of wearing a dress. And she just absolutely freaked and it was like ‘You know people talk about you. They think you’re confused.’ (Participant #16, age 23)

Even into adulthood, participants reported experiencing pressure to dress in ways that were considered consistent with their sex assigned at birth. This participant described how the staff at a community center pressured them to dress in a more feminine manner.

I’ve had staff say something to me like... a staff said that I should dress more feminine because that’s how God wants me to dress and I was telling them that I don’t like when guys bother me or cause me issues, like, “Well that’s just who they are. That’s how God wants things to be,” and stuff so. I had an issue with that too. (Part. #5, age 33)

**Concealment and expectations of rejection.** Many participants reported concealment of their gender minority identity and concealment of NSSI. Factors that led to concealment often included rejection or denial after initial coming out experiences, which led to expectations of future rejection. Discussing the effect of rejection by his mother on his decision not to come out to others and on onset of NSSI, one participant reported:



I saw my mom responded to how I came out to her so I didn't really want to tell anybody, whether that was a teacher or a counselor or friends. Cause I was, like, well if the person that loves me and the person that gave birth to me is acting like this, I don't want to know what a stranger or a friend would, how, how they would respond. So around that time I actually started cutting. (Part. #9, age 21)

In another participant's case he initially came out as bisexual, which led to rejection and abuse from his parents. Later when they discovered he was engaging in NSSI, they reacted very negatively. He described how experiencing negative reactions to his earlier self-disclosure contributed to feeling that he would not be able to come out to his parents as transgender and how this identity concealment affected his NSSI:

But I knew that I was never going to be able to come out [as transgender] to my parents. So, I just kind of stayed quiet about it, but that's when the self-harm started again because I was hiding another thing and I was still feeling really bad, and my dad was still being the same. My mom was still being the same. So, I started self-harming again. Um, and I started off small, like you know, one like small cut turned to a lot more. (Part. #10, age 22)

Participants reported that concealment of stigmatized identities and behaviors was common. In some cases, concealment of NSSI and TGNC identity created additional stress from hiding multiple parts of themselves, which perpetuated NSSI.

**Nonbinary identities.** Participants reported difficulty coming to understand their own gender identity at times, and they also faced lack of comprehension from others about gender identities outside of the binary of man/woman. This participant indicated that societal lack of familiarity with nonbinary gender identities reflected in the knowledge of people around them contributed to stress:

So it's stressful and it's...it's like feeling like dysphoric and not being able to talk about it or feeling like they keep calling me 'she' and I really don't like it and it's like frustrating that I want to correct them and I can't because not only am I...do I not identify as a man, I identify as nonbinary, so they really (laughing)

just don't understand that. Like my parents don't really have that concept down. My...I'm sure most people at the place I work don't have that concept down. So it's like the added level of like having to not only...because most people know what FTM is, most people know what MTF is, nobody knows what non-binary is. So it's a lot of extra for me and it's like do I do this incrementally, do I do baby steps and it's like thinking about that and then being misgendered all the time and all that stuff. (Part. #4, age 27)

Additionally, participants whose gender presentation varied, for example who sometimes dressed in a feminine manner and at other times dressed in a masculine manner, were subject to increased pressure to conform to gender expectations for their sex assigned at birth. Discussing the reaction from people when they dressed in different ways, experienced as very stressful, one participant stated: “‘Oh, he's switched back.’ And stuff, ‘Why are you switching? Why you switch back? Why are you dressing like that?’” (Part. #5, age 33)

Participants with nonbinary gender identities or fluid gender expression reported experiencing additional stress from a lack of societal understanding and recognition of these gender identities and gender expressions as valid. The process of coming to understand their gender identity and communicate it to others was a source of stress, particularly for participants with nonbinary gender identities. At times, this contributed to NSSI according to our participants.

**Coping and social support.** Participants described resilience through self-reliance in the context of lack of support or in the face of rejection and abuse. Many participants expressed that NSSI was a way of managing their emotions and embracing their autonomy. Several participants described NSSI as a way of “taking care” of themselves. NSSI was described as a solitary activity that participants conducted in responsible ways (e.g., by cleaning the skin before and after self-injury, covering it with a bandage if needed) and they usually did not tell others about it. In an environment with little support and few resources, participants described NSSI as a

simple and effective way to deal with stress or aversive emotional states. Some participants reported that this need for self-reliance was related to difficulty expressing their emotions or asking for help from others. For example, one participant explained why he does not contact friends when he is feeling upset: “But I’m just not used to asking or talking if I need something. Or I don’t want to seem weak or like I’m complaining.” (Part. #15, age 21) Additionally, participants who felt they had been betrayed or let down by people close to them reported not wanting to rely on others for help:

Interviewer: Is there anything that you wish other people would do to help you avoid self-harm?

Part. #18 (age 17): Not really. I don’t really want help. I do not like help.

Interviewer: You don’t like help?

Part. #18: No.

Interviewer: In general?

Part. #18: In general. As a person who’s been screwed over so many times, I don’t need help from anyone.

Interviewer: When you say screwed over so many times, what are you thinking of?

Part. #18: Screwed over by my parents, screwed over by the school system, and screwed over by, like, many people who I thought were my friends.

For participants who felt they did not have other resources or sources of support, NSSI was described as a way to meet certain needs on their own without having to rely on others.

Discussing how NSSI is helpful to him, one participant reported:

And kind of within myself realized that, like, I don’t particularly feel shame or guilt or anything [about NSSI]. Like, I found a thing that helps me and, you know, ideally, you know, someday there would be a planet where I don’t have to do that but as of, like, the situation that I’m in now this is the best way for me to survive and that I can do a lot more good, you know, alive than dead so I if I can keep pushing and, like, get done what needs to get done, you know, then I don’t...I shouldn’t have to feel shame for that.

(Part. #1, age 21)

Some participants reported NSSI was a means to seek support from peers or attain access to resources such as mental health care, which had not previously been available to them.

Describing the reactions of peers to seeing self-inflicted cuts on his forearm in middle school, one participant commented: “I just remember I liked the feeling of my friends like taking care of me and like putting like Band-Aids on stuff like that.” (Part. #15, age 21) He goes on to say:

I guess maybe them taking care of me showed me they cared. So, and then after that, you know, we became close friends and stuff like that. So I didn’t have to [self-injure again] because I already knew that they were there or I had friends. You know for maybe like for the first time I had friends that was ongoing for a decent amount of time. (Part. #15, age 21)

Another participant who reported long-standing anxiety and depression reported that revealing NSSI to a trusted teacher at school is how he finally entered mental health treatment:

I didn’t know how to say it. Because I had never like uttered the words out loud before. So I was just... And like he’s [teacher] trying to figure it out. He was like, “What?” Like “What are you saying?” So then I think I just said it. I was like, “I cut myself.” And he was like, “What?” And then he was like, “You know I’m not allowed to keep that to myself. Like I have to tell someone.” And I was like, “Yeah. Okay. Whatever.” I’m like, “Okay. Fine.” And I just told him how I had been feeling and like everything that was going on. And then I started seeing the counselor at the school. (Part. #17, age 20)

NSSI was seen as a way for participants to take care of their own emotional needs without having to rely on others. In some cases it allowed participants to access support that was not previously available to them, such as friends or mental health care. As such, NSSI may represent a resilience strategy among participants in this sample.

### **Themes Related to Transgender Identity Development**

**Pre-coming out.** Pre-coming out refers to the initial stage in transgender identity development, when individuals might have a sense of being different, but are not yet able to recognize and name their identity as transgender. While some participants reported

understanding their gender identity from a young age, the majority of participants in this sample came to understand their TGNC identity in adolescence or young adulthood. Many of the participants reported first identifying as a sexual minority (e.g., queer, bisexual, lesbian) prior to identifying as a gender minority. Participants reported experiencing stress from not understanding their gender identity, which contributed to NSSI:

I think that it's... because it can be such a confusing process for people coming out, and there are still, and especially in the past, have been so few resources for trans youth and people who are struggling or people who don't exist within the kind of classic narrative of, like, you know, "Child, do you like to play with a different kind of toys?" And, you know, ask like, "Mommy, when am I getting, like, this other set of genitals?" Like, people who exist outside of that narrative also have so few resources and so little understanding of their experiences that, like, I think that self-harm feels like a logical place to turn when you don't feel like you have a community or support. (Part. #14, age 24)

Coming to understand one's gender identity was particularly challenging for people with a nonbinary gender identity, such as genderqueer, agender, gender fluid, or gender nonconforming:

Um, I think there were times where, like, because there was this, like, either/or situation, like, either you're this or that, um, there's not a lot of space for, like, um, middle identities, fluid identities, fluctuating identities. Like, I didn't know where I fit in and I would get really upset by that and there were... yeah. Like, there were times where I was just like, 'Well, what the fuck? Where do I...like, I don't fit in to anything.' (Part. #8, age 27)

**Coming out.** Coming out, i.e., acknowledging having a nonconforming identity to oneself and disclosing it to others, are significant events that are considered developmental milestones for sexual and gender minority people. Many participants first came out as a sexual minority before coming out again, sometimes years later, as a gender minority. Resolution of confusion is a developmental task of this stage of identity development, and participants reported

that coming to understand their gender identity was a difficult internal process that many of them struggled with. Several participants reported that coming out about their sexual orientation or gender identity was a stressful event that contributed to NSSI. Stress was often due to rejection by parents after disclosing their identity. One participant stated he started self-injuring shortly after coming out to his mother due to her reaction, which he described like this:

Um, she didn't talk to me for a couple of days and I was like, Ok, I'm gonna give her some space, you know, it's better than, you know, anything else at the time. And then, um, one day she was cooking and I was like, "Hey mom, what are you cooking?" and she turned around and she's like, "Oh, I don't cook for faggots," and I was like, "Um, I'm not a faggot but OK." You know, if you're gonna insult me I'd prefer you to use a proper term, you know. Um, so she didn't talk to me. Then she'd be like, "Oh, go ask your mother to cook for you. You're adopted." Like, she used to say some real hurtful things. (Part. #9, age 21)

Some participants shared experiences of their identity being denied by adults or peers when they came out. One participant came out to their therapist as bisexual and their identity was denied:

I was referred to this therapist at one point and I told her, like, I'm bisexual and her response was, 'No, you're not.' And it was like, 'Well, I guess this is the last time I talk about this.' So, like, I was like, 'Well, like, there's, like, really no safe place to, like, talk about some of these feelings that I'm having.' (Part. #8, age 27)

One participant reported coming out to their parents as transgender three times because of their parents' difficulty accepting their identity:

At first I wrote them a letter and I mailed it to them, and then they, like, kind of wanted to have, like, a sit-down conversation about it, and they were like, "You're not trans. Maybe you're just a bit lesbian." Like, "You're not... but you used to wear dresses, like, but you like girly things." And I was like, "That's not how gender identity works." Um, and so they were in, like, a lot of denial. (Part. #14, age 24)

In other cases, negative reactions from parents or other adults led participants to conceal their identity after they had already come out, or to go “back in the closet:”

Because when I did realize I was trans; that was towards the end of my junior year [in high school]. And the only person I told was her [my mom] because I was like I need to see a gender therapist. And she was like, “No way! No how!” She was like, “I don’t get this! I don’t like it!” And then she was like... I approached her like a week later and she was like, “I can’t sleep. I keep thinking about this.” She was like, “This is terrible.” Like, “This was awful.” So that part of me that decided that like I was going to be openly trans, I didn’t tell anyone still. I just like went super back in the closet. Like I went way down. (Part. #17, age 20)

Participants also reported coming out as a person who self-injures. The reactions they received were often similar to reactions to coming out as a sexual or gender minority and included denial, rejection, disbelief, and victimization. Discussing his mother’s reaction when she found out that he had been self-injuring, one participant reported:

Um, well, my mom at first didn’t say anything, so I thought that she had just like forgotten or hadn’t actually paid attention. Um, but a few days later, she started yelling at me about how stupid I was and all this stuff, and then, um, beat me with a broom. (Part. #10, age 22)

Coming out as a sexual or gender minority offers the opportunity for affirmation of identity and for living authentically, but also exposes them to the risk of rejection and victimization. Most participants in this study reported coming out several times, often initially as a sexual minority, then as a gender minority, and sometimes coming out as a person who self-injures. Early coming out experiences sometimes affected participants’ willingness to come out later, since participants had generally experienced negative reactions. Coming out to others was reported to be a stressful event that may contribute to NSSI. For many participants, several coming out experiences with various stigmatized identities compounded this stress.

**Exploration.** One of the hallmarks of the exploration stage of transgender identity development is learning about one's own identity through interaction with a community of similar peers (Bockting & Coleman, 2016). In this sample, communities were sometimes based on TGNC identity or on the identity of someone who engages in NSSI. Some participants found community with peers they knew in person, but frequently communities were online. Many participants mentioned use of social media such as Facebook, Tumblr, YouTube, online journals, and instant messaging as ways of connecting with TGNC peers and people who engage in NSSI. A community of TGNC people was usually experienced as supportive and beneficial. Communities based on NSSI could also be experienced as supportive, but were reported to, at times, reinforce or exacerbate the behavior. Describing their experience talking about NSSI with a friend who also engaged in NSSI, one participant reported: "Um, at first it [NSSI] was definitely a bonding thing... Because it was a shared secret. And secrets are a good way to bring people together." (Part. #6, age 24) Expressing both the sense of belonging and the effect on NSSI from participating in an online NSSI community, another participant said:

During high school and, um, some of the earlier years of college, I was, um, I was, like, very involved in, like, Tumblr. Um, and I got into, like, these weird, like, sub communities of self-harm, like, people who self-harmed. And it was very... And it was like cathartic to make me feel like I wasn't alone in what I was going through, and there, like, other people who understood. But it was also... In a lot of ways, it, like, egged me on. And did like... I, like, learned about strategies for, like, hiding things and making scars heal and, like, coming up with excuses for things. And, like, what to use to, like, cut yourself, like, more, like, severely and, like... It was bad in general. It was overall bad, um, and not a good space, but it was also... It felt like it was the first time... It was the first time I felt like I was understood by other people who were, like, dealing with the same thing I was dealing with. (Part. #14, age 24)



Many participants spoke about the beneficial effects of finding a community of TGNC peers, such as at transgender conferences or LGBT community centers with groups for TGNC youth. Participants reported this helped them understand their own gender identity.

Like, I didn't really come out until...or even, like, think about it until 2014 when I went to the Trans Health Conference. Like, I didn't even know it was a thing. Um, but yeah, so like I guess kind of like seeing people at that conference, like, kind of just being their true selves, like, something always kind of felt off but, like, [before] I didn't have words for it. Like, it was just like, "Okay, that's just...I'm...you know, pick man or woman. Like, I have to pick one. (Part. #7, age 28)

Some participants reported that support of TGNC peers is more helpful than cisgender friends. Speaking about experiencing increasing self-acceptance from attending a support group for transmasculine youth, one participant reported:

So I went to their [transmasculine] support group and it's like...I met a lot of cool guys. I'm like, "Oh my God. There's actually cool people out here." So I'm like, "Okay." And now I have a whole group of friends who actually understand now what being trans is. Even if my friends try to, like, understand I'm like, "You guys are cis. You don't understand."...So now I have trans friends who actually know what life is like, what's going on and how things are. (Part. #18, age 17)

Not only was a community of TGNC peers perceived to be beneficial in understanding one's gender identity, increasing one's self-acceptance, and providing social support, but it also helped some participants to avoid NSSI. In response to the question about what helps him to avoid NSSI, another participant reported:

The guys at my group or the people at my group. They're amazing too. They help so much. Even if I don't talk. Just hearing them and seeing that wow they're struggling like I am. And to me they're put together, but to them they're not. So it's kind of I feel bad, but it's kind of comforting that they have like that I can share that struggle and that stress with them. Kind of like that camaraderie thing. (Part. #15, age 21)

It was a common perception among participants that many TGNC people engage in NSSI. Expressing the view that NSSI is common among TGNC people, and that a TGNC individual who has not self-injured is as a rarity, one participant said:

I almost think it's like, "Who hasn't [self-injured]?" It's almost like a question of who hasn't,...I...it's almost like rite of passage to be...and it's sad to say it but I just feel like the way the society is built, it's not designed for nonbinary...I don't want to say nonbinary but, um, people who are not cis[gender]. It's not designed for it so if you haven't done it [NSSI] then you're like a unicorn I almost think. (Part. #13, age 33)

In the context of isolation from other TGNC people and stigma related to TGNC identity, some participants became involved in communities based on NSSI, which at times exacerbated this behavior. However, finding communities of TGNC peers was reported to be helpful by decreasing isolation and increasing their sense of self-acceptance, which helped to reduce NSSI in some cases. Many participants expressed the view that NSSI was common among TGNC people.

### **Discussion and Conclusions**

This study revealed the range of behaviors considered self-injurious by transmasculine spectrum people. Participants' own understandings of self-injurious behaviors overwhelmingly included both direct harm to the body's surface as well as other harmful behaviors such as overeating, over-exercising, risky sexual behaviors, purging, intentional misuse of prescription medication, smoking cigarettes, and substance use. Although some researchers call for NSSI and other self-harmful behaviors to be viewed as separate phenomena (St. Germain & Hooley, 2012), recent research suggests three dimensions of self-harm, consisting of self-injurious, interpersonal, and reckless behavior (Chamberlain, Redden, & Grant, 2017), all three of which were reported by participants in this study. Thus, our findings suggest that clinicians and

researchers may want to consider self-harmful behaviors as a continuum consistent with the perspectives of our participants.

### **Findings Related to Nock's Model of NSSI**

Alexithymia has been shown to be associated with NSSI in the general population (Gatta, Dal Santo, Rago, Spoto, & Battistella, 2016; Lüdtké, In-Albon, Michel, & Schmid, 2016; Norman & Borrill, 2015) and is represented in Nock's model of NSSI (Nock, 2009) in the constructs of intra- and inter-personal vulnerability factors. Among the participants in this study, vulnerability factors for NSSI relating to difficulty identifying and communicating emotions were compounded by participants' difficulty understanding and finding the words for their gender identity. Similarly, while adverse early life experiences are known predisposing factors for NSSI (Auerbach et al., 2014; Baiden, Stewart, & Fallon, 2017; Chartrand, Bhaskaran, Sareen, Katz, & Bolton, 2015; Stewart, Baiden, & Theall-Honey, 2014), in this sample these circumstances co-occurred with early gender nonconformity, which often compounded adversity. Gender nonconformity in childhood has been associated with increased risk of abuse from family members and victimization from peers (Roberts, Rosario, Corliss, Koenen, & Austin, 2012; Roberts, Rosario, Slopen, Calzo, & Austin, 2013). TGNC individuals may be more likely to experience early childhood adversity based on gender nonconformity, which in turn increases their risk for NSSI. Finally, in the context of stigma associated with TGNC identity, some transmasculine spectrum people may come to identify with NSSI as a behavior, consistent with the implicit identification hypothesis, which is likely to maintain this behavior over time.

### **Findings Related to the Minority Stress Model**

Early life minority status, represented by gender nonconformity, was a source of stress which interacted with adverse childhood experiences as discussed above to increase risk for

NSSI among transmasculine spectrum individuals. Later developing minority identity was often initially lesbian or bisexual before TGNC. Stigma associated with these identities was a factor increasing the risk of NSSI among our participants. Participants with nonbinary gender identities experienced additional stress from others' lack of understanding of their gender identity, which further increased vulnerability to NSSI, consistent with previous research (dickey et al., 2015). The proximal minority stress processes of expectations of rejection and concealment were particularly strong themes arising from our interviews. Based on negative reactions by others during early experiences of disclosure of minority identity or NSSI, participants often chose to conceal later developing identities. Participants at times were concealing multiple parts of themselves simultaneously, such as gender identity and NSSI, which increased their stress and contributed to isolation and NSSI. Finally, NSSI played a role in the resilience factors of coping and social support for some participants. NSSI was seen as a way to meet emotion regulation and social needs that participants did not perceive could be met in other ways. Some participants described that NSSI reflected a sense of independence and reduced their need for social support, while others reported that it increased their access to support, in the form of friends or mental health care. This reflects the social situation regulation functions of NSSI in the Nock's model.

### **Findings Related to Transgender Identity Development**

While the minority stress model and Nock's model of NSSI guided our study, during data analysis it emerged that processes related to transgender identity development reflected further themes in the qualitative data. Incorporating an identity development model into the analysis allowed us to illuminate the important finding that among transmasculine spectrum people NSSI may occur in the context of normal transgender identity development, in addition to being a response to stigma due to minority identity.

There are several models of transgender identity development, and one commonly used model based on Erikson's concepts of psychosocial development postulates consists the following five stages: pre-coming out, coming out, exploration, intimacy, and identity integration (Bockting & Coleman, 2016). Pre-coming out refers to the period time before an individual is able to recognize and name their transgender identity. This stage is characterized by feelings of confusion, shame, and isolation. Coming out is the stage when individuals acknowledge their transgender identity to themselves and then to others. Exploration involves taking steps to learn more about one's own transgender identity and developing a community of similar peers. In the intimacy stage, having established a better understanding of their own identity, transgender people explore intimate relationships with others. Finally, identity integration involves uniting one's public and private identities and integrating into society as a transgender person.

The themes that emerged in our interviews related to the first three stages of this model: pre-coming out, coming out, and exploration. Participants described confusion and lack of understanding of their experience of gender prior to identifying as a TGNC person, which contributed to stress and, in some cases, to NSSI. Coming out was reported to also be a stressor in part due to negative reactions from others. Participants reported repeated experiences of coming out, often first as a sexual minority, then a gender minority, and sometimes as a person who self-injures. We conclude from this that transmasculine spectrum people may have several coming out experiences and that there may be a parallel between coming out as sexual or gender minority and coming out as someone who self-injures. The stress of several coming out experiences may compound and exacerbate each other. A key part of the exploration stage involves learning about one's gender identity by interacting with a community of similar peers. Among our participants, membership in communities of TGNC people was reported to be

beneficial in reducing NSSI, while joining communities of people who engage in NSSI sometimes had the opposite effect. Participants used the internet and social media to connect with peers and form communities. A literature review of the risks and benefits of online communities based on NSSI found themes similar to those reported by our participants. The most commonly reported benefit of online activity related to NSSI was mitigation of isolation through acceptance, validation, and emotional support that participants did not receive in their daily life (Lewis & Seko, 2016). This review also found that members of online NSSI communities gain social support from sharing personal experiences with similar peers. The most frequently reported risk was NSSI reinforcement through normalization of NSSI, thwarting recovery, and validation of NSSI as an identity (Lewis & Seko, 2016).

### **Limitations**

Limitations of this study include the small sample size, however, we did achieve data saturation during the interviews. The sample was recruited in a major metropolitan location that has more resources available for TGNC people than most areas, so findings may not be transferable to other geographic regions. Like all qualitative work, this study is vulnerable to sampling bias, however we recruited a diverse sample composed mostly of racial/ethnic minority participants. Additionally, qualitative methods are appropriate for the current state of the knowledge in this field. Qualitative methods may be particularly important for this topic since both this population and this behavior are stigmatized and understudied. Therefore, our semi-structured qualitative interviews were well suited to gain insight into this behavior and allow us to understand participants' experiences in their own words.

## **Clinical Implications**

Clinicians should screen for a range of NSSI and other health risk behaviors with the understanding that these behaviors may co-exist or substitute for each other over time. Recognizing that NSSI may be seen as a form of self-reliance and can serve multiple purposes, healthcare providers should proactively connect transmasculine spectrum individuals who self-injure to resources and supports, such as school-based LGBTQ affirmative organizations or LGBTQ community centers that have support groups for youth. They should seek to build on feelings of agency and independence to help transmasculine spectrum individuals feel empowered to take care of themselves in ways that do not involve NSSI. They may wish to explore alternatives to NSSI with transmasculine spectrum people who self-injure, which requires assessment of NSSI in clinical settings by using a brief screening and assessment tool such as SOARS (Suicidal ideation; Onset, frequency, and methods; Aftercare; Reasons; Stage of change) (Westers, 2016). People who work with TGNC youth in any setting, including schools, community centers, and youth sports or activities, should be alert to the signs of NSSI and trained to intervene appropriately according to their setting and scope of their profession, or refer to colleagues who have more specialized training.

This study suggests that healthcare providers should screen for adverse childhood experiences, such as childhood abuse or neglect, among transmasculine spectrum people who engage in NSSI in order to provide trauma-informed interventions if needed. Interventions to improve recognition and expression of emotions among transmasculine spectrum people who report NSSI may be helpful in reducing this behavior. The concept of gender identity as a spectrum or continuum rather than binary or categorical options (Pan, 2017) should be included in healthcare provider training and utilized in psychotherapeutic approaches with TGNC

individuals to aid individuals in understanding various aspects of gender identity and expression. This study underscores the importance of universal education about gender diversity, which will help TGNC young people to understand and to develop a vocabulary to express their experiences of gender, and help cisgender individuals to support and affirm their TGNC peers. Increased societal understanding of gender diversity may reduce the stress that participants reported from challenges in coming to understand their own gender identity and facing lack of acceptance from others.

The results of this study and other evidence (Yunger, Carver, & Perry, 2004) suggest that strong pressure for gender conformity to expectations based on the child's sex assigned at birth has a negative influence on children's psychological wellbeing. Parent education programs should highlight the potential harm caused by rigid enforcement of gender norms. Additionally, such programs should teach parents and caregivers an affirming approach that supports children in exploring gender expression and identity. Providers who work with adolescents and young adults should provide individual support to TGNC youth who are coming out to counteract the potential for rejection and the possible negative repercussions on NSSI and other health outcomes. Family level interventions should also be implemented to increase family acceptance and support since this is a known protective factor for sexual and gender minority youth (Ryan, Russell, Huebner, Diaz, & Sanchez, 2010).

Our findings highlight that while stigma due to TGNC identity adds to risk for NSSI, NSSI can also be related to the stress of healthy transgender identity development. Therefore, in addition to managing or reducing symptoms, providers should consider the overall developmental trajectory and facilitate transgender identity development in tandem with managing NSSI. Given the benefits conferred by a community of TGNC peers found by this



study and reported in the literature (Nuttbrock et al., 2015; Pflum et al., 2015), health care providers should facilitate contact with TGNC peers through support groups or LGBT community centers, or online if in person options are not available. The use of online methods to connect with peers should be assessed and explored in clinical settings with TGNC individuals who engage in NSSI given the potential risks and benefits associated with online NSSI communities suggested by this study and reported in the literature.

### **Future Research Directions**

This study adds to our understanding of disparities in NSSI among transmasculine spectrum people, some of which may be generalizable to transfeminine spectrum people. However, future research should investigate NSSI specifically among transfeminine spectrum people. While the findings from this study reflected the first three stages of transgender identity development, the stressors throughout all stages of identity development should be investigated to consider how these normal developmental processes may induce stress and how NSSI may be used as a coping strategy in this context. Future research should explore the potential relationship between developmental trauma and NSSI in TGNC people. The belief among participants that NSSI is common among TGNC people should be further investigated to explore whether NSSI may serve an affiliative function as has been theorized and observed and in other identity groups (Nock, 2008; Young, Sproeber, Groschwitz, Preiss, & Plener, 2014). Additional theory-based quantitative research about NSSI among TGNC populations is also needed to explore relationships between types of stigma and NSSI outcomes. The majority of quantitative research about NSSI has thus far been atheoretical, which limits the possibilities for intervention development and improving our understanding of contributing factors. Data should be gathered

using reliable and validated measures in order to facilitate comparisons with other populations and better understand the nature of the disparities in NSSI among TGNC people.

**Table 3.1. Demographics of qualitative interview participants (N = 18).**

<b>Participant characteristics</b>	<b>N = 18</b>
Age, mean (SD)	24.9 (5.43)
<hr/>	
Race	
Non-Hispanic White	7
African-American	2
Hispanic	6
Other	3
<hr/>	
Income (personal, annual)	
Under \$12,000	9
\$12,000 to \$59,999	9
<hr/>	
Education level	
Some college or less	9
College grad	6
Grad/prof school	3
<hr/>	
Employment status*	
Employed, full-time	5
Employed, part-time	6
Unemployed	3
Student	8
<hr/>	
Gender identity	
Man, Female-to-male (FTM)	10
Nonbinary, genderqueer, another	8
<hr/>	
Sexual orientation	
Straight/heterosexual	2
Gay	1
Bisexual, queer, pansexual	15
<hr/>	
Gender affirming interventions <sup>^</sup>	
Masculinizing hormone therapy	10
Chest surgery	5

\*Sums to greater than 18 since more than one response option possible.

<sup>^</sup> Sums to less than 18 since not all participants had pursued gender affirming medical interventions.

## **Chapter 4: Correlates of Past-year Nonsuicidal Self-Injury in a Community Sample of Transgender and Gender Nonconforming People**

### **Introduction**

Transgender and gender nonconforming people are those whose gender identity differs from their sex assigned at birth (Institute of Medicine, 2011). This includes people who identify within a binary system of gender, as a man/transgender man or woman/transgender woman, as well as people who identify outside of a binary system of gender, as bigender (i.e., both man and woman (American Psychological Association, 2015)), genderqueer (i.e., identifying outside of the binary of male or female (Budge, Rossman, & Howard, 2014)), nonbinary, gender fluid, etc. For the purposes of this article, the term transgender will be used to refer to these groups. Data from a probability sample suggests that 0.53% of the U.S. population identifies as transgender (Meyer et al., 2017).

Transgender people experience numerous health disparities compared to cisgender (i.e., nontransgender) populations, including suicidal ideation and attempts, and nonsuicidal self-injury (NSSI) (Davey, Arcelus, Meyer, & Bouman, 2015; Marshall et al., 2015; Reisner et al., 2015). While suicidality among transgender people is more often studied, there has been less examination of NSSI, intentional direct harm to the body's surface without lethal intent (Nock, 2010). Some studies have found that NSSI is more common among transgender men than transgender women (Jackman et al., 2016; Marshall et al., 2015), however one study found no difference in NSSI between these groups (Reisner et al., 2015). NSSI appears to occur at even higher rates among transgender people than among lesbian, gay, and bisexual people, who also are also disproportionately affected compared to the general population (Jackman et al., 2016).

Among transgender people, NSSI has been found to be associated with body dissatisfaction, lack of family support, psychological symptoms, lower self-esteem, lower social support, and younger age (Claes, Bouman, et al., 2015; Davey et al., 2015).

Minority stress theory has been proposed as a way to understand the health disparities experienced by transgender people (Hendricks & Testa, 2012). This theory posits that stigma associated with minority identity confers additional chronic stress, which contributes to negative health outcomes (Hendricks & Testa, 2012; Meyer, 2003). Minority stress occurs along a continuum from distal processes, known as enacted stigma, which include discrimination, victimization, or harassment, to proximal processes, known as felt stigma, which includes expecting rejection, concealment of identity, and internalized stigma (Meyer, 2003). Research with transgender populations has supported the minority stress model with respect to the negative effects of stigma on mental health and the protective effect of resilience factors such as community connectedness, identity pride, and peer support (Bockting et al., 2013; Nuttbrock et al., 2015; Pflum et al., 2015; Rood et al., 2016; Tebbe & Moradi, 2016).

Our knowledge about NSSI among transgender people is limited by the sampling strategies that have been used in existing research. Studies with clinical samples (Claes, Bouman, et al., 2015; Davey et al., 2015) may overestimate the rates of mental health disorders while reporting on a narrow segment of the transgender population which meets criteria for a transgender-related diagnosis such as gender identity disorder or gender dysphoria (Deutsch, 2016). Several studies about NSSI among transgender people report on data gathered from clinical charts or electronic health records (Holt, Skagerberg, & Dunsford, 2016; Peterson, Matthews, Copps-Smith, & Conard, 2016; Reisner et al., 2015; Skagerberg et al., 2013; Spack et al., 2012). These studies have the same selection bias as clinical samples while also representing

a secondary analysis of data collected for clinical rather than research purposes. This means that data about the research question may be incomplete or of low quality and the focus of data collection may be on impairment in functioning rather than an effort to understand the behavior. In addition, clinical samples may overrepresent transgender people who are pursuing gender affirming medical interventions (e.g. hormones, surgery), which excludes transgender individuals who do not desire these interventions. Other studies report on online convenience samples (dickey et al., 2015; Walls et al., 2010), which exclude people who lack access to the internet, are vulnerable to false respondents, and frequently lack racial diversity (Miner, Bockting, Romine, & Raman, 2012; Teitcher et al., 2015). To our knowledge this is the first study to examine NSSI among a systematically recruited community-based sample of transgender people using in person, interviewer-administered data collection.

Studies of NSSI among transgender people have thus far largely lacked a solid theoretical foundation. Investigations of suicidality among transgender populations informed by minority stress theory have highlighted the need to consider minority stress processes as risk factors for suicide-related outcomes (Lehavot, Simpson, & Shipherd, 2016; Tebbe & Moradi, 2016). The current study extends the literature by applying minority stress theory to NSSI among transgender people.

To address these gaps in the literature, we set out to examine associations between stigma and NSSI in the last year, and tested a number of resiliency factors that emerged from formative, qualitative research (Jackman et al., in preparation.). We tested constructs from the minority stress model (Meyer, 2003) including enacted and felt stigma, and well as resilience factors such as social support and community connectedness. We chose past-year NSSI rather than lifetime frequency of NSSI as our outcome based on literature which shows that recency of NSSI may be

a stronger measure of NSSI severity than frequency (Kiekens et al., 2016). We hypothesized that higher levels of stigma would be associated with higher rates of past-year NSSI. We additionally hypothesized that resilience factors, such as family support, support from friends, and connectedness to the transgender community would be negatively correlated with past-year NSSI.

## **Methods**

### **Participants and Procedures**

The study sample consisted of transgender and gender nonconforming participants enrolled in Project AFFIRM, a longitudinal study of transgender identity development across the lifespan. Baseline data from the entire sample is used for these analyses. Project AFFIRM used venue-based recruitment in three major metropolitan areas in the U.S. followed by quota sampling to arrive at a purposive sample diverse in gender identity, age, and race/ethnicity. The venues for recruitment included six categories: bars and clubs/non-bar establishments/outdoors, events (e.g., Pride festivals), groups (e.g., community groups), online (e.g., Facebook), transgender-specific clinical care sites, and other, including referral by a friend. Sampling quotas were based on city, sex assigned at birth (male or female), age category (16-20 years, 21-25, 26-39, 40-60, and 60+). We maximized racial and ethnic diversity in the sample by seeking out venues in communities with high percentages of racial and ethnic minorities and by capping enrollment for White participants. The inclusion criteria were self-identification as a transgender or gender nonconforming person, age 16 years or older, and fluent in English or Spanish.

Data were collected during face-to-face individual quantitative interviews conducted by trained interviewers at each study site. Data were entered directly into a computerized database by the interviewers using a computer or tablet during the interview. Interviews lasted

approximately 90 minutes. Participants were compensated \$40 in cash. The institutional review board of the New York State Psychiatric Institute/Columbia Psychiatry approved this study.

## **Measures**

Demographic and identity variables used in this analysis consisted of gender identity, age (continuous variable), race/ethnicity (non-Hispanic White, Hispanic, African-American, other/mixed races which included American Indian, Alaskan Native, Asian, Hawaiian, Pacific Islander, and more than one race), sexual orientation, educational level, and annual personal income.

Gender identity was measured using a two-step approach where participants were asked about their gender identity and about their sex assigned at birth. Based on their responses, participants were classified as transfeminine spectrum (self-identifying as woman, transgender woman/male-to-female (MTF), non-binary, genderqueer, or another option while having male sex assigned at birth) or transmasculine spectrum (self-identifying as man, transgender man/female-to-male (FTM), non-binary, genderqueer, or another option while having female sex assigned at birth).

Sexual orientation identity was assessed with the question, “Which of the following do you consider yourself to be?” with the response options: straight/heterosexual, lesbian, gay, bisexual, queer, same-gender loving, or other (please specify). Commonly reported identities to the write-in response option were pansexual and asexual, so these responses were manually coded and reported in their own categories.

Enacted stigma was measured using the Everyday Discrimination Scale adapted from Williams, Yu, Jackson, and Anderson (8 items, Cronbach’s alpha = 0.84) (Meyer, Schwartz, & Frost, 2008; Williams, Yu, Jackson, & Anderson, 1997). The measure used in this survey



consisted of 11 items that assessed the frequency of the following types of daily discrimination: being threatened or harassed, being called names or insulted, having difficulty finding housing, being treated with less respect, being treated with less courtesy, receiving worse service at stores or restaurants, people acting as if they think you are not smart, people acting as if they think you are dishonest, people acting as if they are afraid of you, people acting as if they are better than you, and having difficulty finding employment. Frequency was measured using a 4-point scale ranging from “never” to “often.” For the first 10 items, if participants reported that these things happened sometimes or often, they were asked to report the main reason for this experience with the response options being ancestry or national origins, gender, race, age, religion, appearance, or sexual orientation. Participants could report as many reasons as they felt were applicable. One point was assigned for each time the participant reported that their gender was the reason for their discriminatory experience. Therefore, scores on the enacted stigma measure ranged from 0 to 10 with higher scores representing higher levels of enacted stigma. Cronbach’s alpha in our sample was 0.81.

Felt stigma was measured using the Adapted Stigma Consciousness Scale (10 items, Cronbach’s alpha = 0.76, test-retest reliability = 0.70) (Pinel, 1999). This measure was modified to apply to transgender people. Items include statements such as “My being transgender does not influence how others act with me” and “When interacting with non-transgender individuals, I feel like they interpret all of my behaviors in terms of the fact that I am transgender.” Participants are asked to rate their agreement with each statement from 1 = “strongly disagree” to 7 = “strongly agree.” Some items were reverse coded so that higher scores represent higher levels of felt stigma. Cronbach’s alpha for this scale in our sample was 0.77.

Gender dysphoria was assessed using the Transgender Congruence Scale (12 items, Cronbach's alpha = 0.92), a validated measure of transgender people's comfort with their own gender identity and appearance (Kozee, Tylka, & Bauerband, 2012). This measure contains two factors, which assess appearance congruence (9 items) and gender identity acceptance (3 items). The appearance congruence scale assesses transgender people's belief that their appearance reflects their gender identity with items such as "My outward appearance represents my gender identity," and "I am generally comfortable with how others perceive my gender identity when they look at me." The gender identity acceptance scale includes items such as, "I am happy that I have the gender identity that I do." In this study, statements were rated on a 7-point Likert scale from "strongly disagree" to "strongly agree" with higher scores representing lower gender dysphoria (or higher transgender congruence). Cronbach's alpha for this scale was 0.90 in our sample.

Family support was assessed using a single item: "How supportive do you feel your family of origin (e.g. parents and/or siblings) is regarding your transgender identity?" Four response options ranged from "not at all" to "to a great extent." Responses were dichotomized to represent presence or absence of supportive family of origin.

Support from friends was assessed using the four-item friend subscale (Cronbach's alpha = 0.85, test-retest reliability = 0.75) from the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988). Items include statements such as "My friends really try to help me," and "I have friends with whom I can share my joys and sorrows." Statements were rated on a 7-point Likert scale from "strongly disagree" to "strongly agree" with higher scores representing higher levels of support from friends. Cronbach's alpha for this scale was 0.91 in our sample.

Transgender community connectedness was measured using the five-item subscale from the Gender Minority Stress and Resilience Measure, which assesses the level of connection participants feel to a community who shares their gender identity (Cronbach's alpha = .86) (Testa, Habarth, Peta, Balsam, & Bockting, 2014). Items included statements such as "I feel part of a community of people who share my gender identity," and "I'm not like other people who share my gender identity" (reverse scored). Statements were rated on a 7-point Likert scale from "strongly disagree" to "strongly agree" such that higher scores represent higher levels of feeling connected to the transgender community. Cronbach's alpha for this scale in our sample was 0.83.

Our outcome of NSSI was assessed using the short form of the Self Injurious Thoughts and Behaviors Interview (SITBI) with the addition of the four questions from the long version of this measure assessing functions of NSSI. Items of the SITBI assess several dimensions of NSSI including onset, frequency, duration, severity, impulsivity, and future likelihood of NSSI. The SITBI demonstrated good psychometric properties when tested in an adolescent and young adult population and the item assessing past-year NSSI showed perfect interrater reliability (Kappa = 1.0) (Nock, Holmberg, Photos, & Michel, 2007). The total number of items used to assess NSSI was 16.

### **Statistical Analyses**

We report rates of lifetime NSSI and past year NSSI among the entire sample. Differences in demographic characteristics and other variables between participants who reported NSSI in the past 12 months and those who did not were examined using independent samples *t*-tests with Levene's tests for equality of variances, and Pearson's chi-squared tests. Fisher's exact test was conducted in case any expected cell counts were less than five. For the multivariate analysis we used a hierarchical approach to evaluate associations of

variables with the outcome of NSSI in the past 12 months. In the first model, we entered demographic variables that were significantly different between the groups and our two measures of stigma. In the second model we added identity development variables. The results are presented as odds ratios and 95% confidence intervals (CIs). Goodness of fit for each logistic regression model was assessed using Hosmer-Lemeshow tests. Analyses were conducted using SPSS Statistics, version 24.

## Results

### Lifetime NSSI

The total sample consisted of 332 participants of which 53.3% ( $n = 177$ ) reported having engaged in NSSI in their lifetime. Lifetime history of NSSI was more common among transmasculine spectrum compared to transfeminine spectrum participants (60.5% vs. 39.5%,  $p < .001$ ). The mean age at first NSSI was 14.11 years ( $SD = 5.40$ ). The mean age of most recent NSSI was 25.23 years ( $SD = 10.64$ ). In this sample, 15.1% ( $n = 50$ ) of participants reported ever having received medical treatment for NSSI. The most common method of NSSI reported was cutting or carving the skin ( $n = 127$ , 38.3%), followed by hitting oneself on purpose ( $n = 110$ , 33.1%), picking the skin to the point of drawing blood ( $n = 90$ , 27.1%), burning the skin ( $n = 66$ , 19.9%), scraping the skin to the point of drawing blood ( $n = 57$ , 17.2%), inserting sharp objects into the skin or nails ( $n = 51$ , 15.4%), and giving oneself a tattoo ( $n = 22$ , 6.6%). Another 20.5% ( $n = 68$ ) reported another method not listed above. In terms of the functions of NSSI, 61.6% ( $n = 109$ ) reported it was a way to get rid of bad feelings, 36.8% ( $n = 64$ ) reported it was due to feeling empty or numb, 12.6% ( $n = 22$ ) reported it was to communicate with someone else or get attention, and 6.9% ( $n = 12$ ) reported it was to get out of doing something or to get away from others.

### **NSSI in the Last 12 Months**

Of the total sample, 22.3% ( $n = 74$ ) reported having engaged in NSSI in the past 12 months. Table 4.1 displays the demographic characteristics of the total sample and the participants who reported NSSI in the last 12 months compared to those who did not report NSSI in the last 12 months. The mean age of the total sample was 34.56 years ( $SD = 13.78$  years, range = 16-87 years). The two groups were similar in gender identity, race/ethnicity, and educational level. The groups significantly differed in age and annual personal income. Participants who had self-injured in the past 12 months were significantly younger and reported lower personal annual income.

Table 4.2 compares participants who reported NSSI in the last 12 months with those who did not on sexual orientation, gender dysphoria, stigma, and resiliency factors. Participants who reported NSSI were less likely to report a heterosexual identity, reported higher levels of enacted stigma and felt stigma and lower transgender congruence.

### **Associations with NSSI in the Last 12 Months**

Multiple logistic regression was conducted with NSSI in the last 12 months as the dependent variable, sociodemographic differences found to be significant in the bivariate comparisons, and our stigma variables. The model significantly predicted NSSI in the last 12 months (omnibus chi-squared (4) = 69.88,  $p < .001$ ). Table 4.3 displays model coefficients, the Wald chi-squared statistic, probability values, and odds ratios with 95% confidence intervals for each of the independent variables. This model shows that age and felt stigma are significantly associated with NSSI in the last 12 months, whereas enacted stigma and income are not. An increase of one year of age is associated with a decrease in the odds of NSSI in the last 12

months by a factor of .94 (95% CI .91 - .97). Each unit increase in felt stigma score is associated with an increase in the odds of NSSI by a factor of 2.31 (95% CI 1.55 – 3.45).

Subsequently, we added identity development variables found to be significantly different between groups in the bivariate comparisons (transgender congruence and sexual orientation) to the model (Table 4.4). Age, felt stigma, and transgender congruence were significantly associated with NSSI in the last 12 months. Enacted stigma, income, and sexual orientation were not significantly associated with NSSI in the last 12 months. For both income and non-heterosexual identity we observed a trend toward significance, ( $p < .10$ ) where participants with lower income and non-heterosexual identity were more likely to have self-injured in the past 12 months. The model significantly predicted NSSI in the last 12 months (omnibus chi-squared (6) = 77.50,  $p < .001$ ). An increase of one point on the transgender congruence scale was associated with a decrease in the odds of NSSI in the last 12 months by a factor of 0.75 (95% CI .57 - .99). We also tested the interaction between felt stigma and transgender congruence, which did not reach significance (Beta = .166, SE = .173, Wald chi-squared = 0.919,  $p = .338$ ).

## **Discussion**

In comparison with previous reports of NSSI among transgender people, our community-based sample reported high rates of lifetime NSSI with 53.3% of the sample reporting this behavior. The next highest report in the literature about NSSI among transgender people comes from an online convenience sample of transgender adults where 41.9% of the sample reported a lifetime history of NSSI (dickey et al., 2015). Somewhat lower rates have been reported in clinic samples (e.g., 36.8% (Claes, Bouman, et al., 2015)), however participants reporting NSSI at the same clinic where they receive gender affirming medical care may be motivated to underreport

this behavior so as to not jeopardize their access to such care (Coleman et al., 2012). In our study, data were collected by research staff at locations unrelated to gender affirming care participants may have been pursuing, so participants may have felt more comfortable reporting behaviors that are stigmatized and of concern with regard to eligibility and readiness for gender affirming hormones and/or surgery. Alternatively, data collected in clinical settings represents a population a transgender people who are connected to care and may be receiving some type of mental health services, which could contribute to lower rates of NSSI. Although clinical studies usually collect data upon initiating treatment, so such participants may have only recently entered care. The high rates of NSSI in our sample may reflect an unmet need for mental health services in this community-based sample.

The majority of studies of NSSI among transgender people report significantly higher rates among transmasculine spectrum compared to transfeminine spectrum individuals. While this was the case in our sample when considering lifetime history of NSSI, there was no significant difference between the gender groups in NSSI in the last 12 months, which was reported by 22.3% of our sample. This surprising finding is mirrored in another study that, similar to the present study, used self-identification as transgender rather than a transgender-related clinical diagnosis as inclusion criteria and found no differences between gender groups in rates of NSSI (Reisner et al., 2015). Our results are interesting to view in relation to a large-scale college campus-based study where cisgender women reported lifetime NSSI at nearly twice the rate of cisgender men, however, also in that sample, there was no significant difference between the gender groups in NSSI during the last 12 months (Whitlock et al., 2011). Literature about NSSI among cisgender populations reports higher rates among girls and women compared to boys and men (Bostwick et al., 2014; Whitlock et al., 2006; Zubrick et al., 2015).

Our hypothesis regarding the association between stigma and NSSI was partially supported. Felt stigma was associated with NSSI during the last 12 months in all of our regression models, while enacted stigma was not. The lack of significance of enacted stigma on NSSI in the last 12 months may reflect the internal nature of motivations for NSSI. Indeed, the most commonly reported motivation for NSSI in this sample and in other samples is related to regulation of negative emotions.

Felt stigma has been shown to be correlated with negative mental health outcomes, including suicidality and psychological distress among transgender people (Bockting et al., 2013; Lehavot et al., 2016). This study extends our understanding of the effects of felt stigma in demonstrating that it is also significantly associated with NSSI. The strong association between felt stigma and NSSI may be reflective of the most commonly reported motivations for NSSI, which is in response to negative emotions (Nock, 2010). Indeed, our participants reported this motivation most often, although in this case, the negative emotions may be related to one's transgender identity as reflected by the measure of felt stigma. Felt stigma has shown the strongest association with suicide-related outcomes among gender (Lehavot et al., 2016) and sexual minority samples (Ploderl et al., 2014). Taken together, these findings underscore the importance of addressing felt stigma in therapeutic settings with transgender people.

Similar to findings from other studies with transgender as well as cisgender samples, younger age was strongly associated with NSSI (Claes, Bouman, et al., 2015; Davey et al., 2015). In our study, the average age of most recent lifetime NSSI was 25.2 years, which indicates that NSSI continues into young adulthood. In an online convenience sample with an older mean age than our sample (40.4 vs. 34.6 years old), the average age of most recent NSSI was similarly high (27.3 years) (dickey et al., 2015). Since transgender people may come out as



transgender at any age, it is possible that age patterns of NSSI may be different in this population compared to cisgender populations. Longitudinal research is needed to understand how NSSI may relate to the trajectory of transgender identity development and the accompanying stressors.

Gender identity acceptance and appearance congruence, as measured by the Transgender Congruence Scale, were shown to be protective factors for NSSI in the last 12 months. Although literature supports the beneficial effects on mental health of gender-affirming hormonal interventions for transgender people (Costa & Colizzi, 2016; Fisher et al., 2016), this measure incorporates a broad understanding of transgender congruence which goes beyond medical interventions. It underscores the importance of feeling accepted and affirmed in one's gender identity regardless of the decision to pursue gender affirming medical interventions or modify one's appearance in other ways. Building on this finding, efforts to reduce NSSI among transgender people should include psychosocial interventions that target gender identity acceptance and pride in one's transgender identity (see also Bockting et al., 2013).

Although not significant, for both non-heterosexual identity and income, we observed a trend suggesting that transgender people who are also sexual minorities and those with lower socioeconomic status might be at increased risk for NSSI. In the case of non-heterosexual identity, this may be a result of multiple stigmatized identities conferring additional stress which can contribute to NSSI. In terms of income, a previous study showed that NSSI was not associated with income (Klonsky, 2011), so the trend revealed in this study should be further investigated in future research.

Contrary to expectations, support from friends and transgender community connectedness were not related to NSSI in the last year, although these have been shown to be protective factors for mental health in other studies with transgender populations (Bockting et al., 2013; Nuttbrock

et al., 2015; Pflum et al., 2015). Our findings mirror Lehavot and colleagues' (2016) study of transgender veterans, where social support from friends, family, or a significant other and connection to the LGBT community were not associated with the suicide-related outcomes. Our unexpected findings on these variables could be related to social functions of NSSI as a sign of in-group membership as found with other identity groups (Nock, 2008; Young et al., 2014). Further research is needed to understand the relationship between NSSI and various types of social support.

Strengths of this study include the recruitment of a diverse nonclinical sample of transgender people with a wide range of gender identities. Most previous studies of NSSI among transgender people have been based on clinical or online convenience samples, so our recruitment and sampling approach may have captured a sample that is comparatively more representative of urban transgender populations in the U.S. Data collection via individual in-person interviews is a strength since it led to high quality data with few missing responses. Additionally, application of the minority stress model extended our knowledge about how stigma affects NSSI among transgender people. The choice of the NSSI in the last 12 months as our main outcome variable, rather than lifetime NSSI, allowed us to gain a better understanding of current reactions to stressors and the effects of selected factors or resilience.

Limitations of the current study include the cross-sectional nature of the data, which prevents us from drawing conclusions about causal relationships between the variables. However, the longitudinal nature of Project AFFIRM will allow us in the near future to investigate changes in NSSI over time. While our sample was recruited in a variety of venues, all participants were residing in metropolitan areas, which restricts generalizability of these findings particularly to transgender people living in smaller towns or rural areas. Additionally, since data

were collected through face-to-face interviews, people who were not comfortable being acknowledged in person as transgender may have declined to participate, or participants responses may have been affected by social desirability such that they underreported NSSI which is a stigmatized behavior. Some of our findings should be interpreted with caution and explored further in future research, such as the effect of non-heterosexual orientation on self-injury, which although not significant in our analysis had a wide confidence interval. Finally, the fact that we combined people who ever self-injured and those who had never self-injured into one group because of our interest in the proximity in time of NSSI in relation to our measures of stigma, could be considered a limitation since these two groups might be different. Looking at these groups separately in future research could provide important insights into the trajectory of self-injury over time.

### **Conclusions**

Guided by the minority stress model, we examined rates of NSSI and its correlates by using validated measures of felt stigma, enacted stigma, and resiliency factors in a large community sample of transgender people. Felt stigma and younger age were associated with higher rates of NSSI in the last 12 months, while transgender congruence was a protective factor. Application of the minority stress model in this study allowed us to better understand NSSI in the context of stigma about transgender identity and in relation to other mental health outcomes affected by stigma examined in other studies reported in the scientific literature. Efforts to address the high rates of NSSI among transgender people should aim to reduce felt stigma and improve their acceptance of gender identity and appearance. Further research should investigate NSSI longitudinally to better understand its relationship to transgender identity development.

**Table 4.1. Sociodemographic characteristics of transgender participants by NSSI in the last 12 months ( $N = 332$ )**

Characteristic	Total sample ( $N = 332$ )	Last 12 month NSSI ( $n = 74$ )	No NSSI in last 12 months ( $n = 255$ )	$t$ (df) or $\chi^2$ (df)	$p$ (two- sided)
<b>Age</b> (Mean $\pm$ SD)	34.56 $\pm$ 13.78	26.18 $\pm$ 11.02	36.92 $\pm$ 13.63	6.978 (144.074)	< .001
<b>Gender identity</b> (No. (%))				1.666 (1)	.197
Transfeminine spectrum	167 (50.3)	32 (43.2)	132 (51.8)		
Transmasculine spectrum	165 (49.7)	42 (56.8)	123 (48.2)		
<b>Race/ethnicity</b> (No. (%))				1.577 (3)	.665
Non-Hispanic White	145 (44.1)	33 (44.6)	112 (43.9)		
Hispanic	72 (21.9)	18 (24.3)	54 (21.2)		
African-American	50 (15.2)	8 (10.8)	42 (16.5)		
Other <sup>a</sup>	62 (18.8)	15 (20.3)	47 (18.4)		
<b>Education</b> (No. (%))				8.011 (4)	.091
Less than high school	31 (9.4)	11 (14.9)	20 (7.8)		
High school graduate/GED	38 (11.6)	6 (8.1)	32 (12.5)		
Some college	119 (36.2)	32 (43.2)	87 (34.1)		
College graduate (Bachelor deg.)	83 (25.2)	17 (23.0)	66 (25.9)		
Graduate/professional school	58 (17.6)	8 (10.8)	50 (19.6)		
<b>Annual personal income</b> (No. (%))				14.359 (3)	.002
$\leq$ \$11,999	129 (39.6)	40 (55.6)	86 (34.3)		
\$12,000-\$47,999	131 (40.2)	26 (36.1)	105 (41.8)		
\$48,000-\$89,999	39 (12.0)	5 (6.9)	34 (13.5)		
$\geq$ \$90,000	27 (8.3)	1 (1.4)	26 (10.4)		

*Note.* <sup>a</sup> Other includes American Indian, Alaskan Native, Asian, Hawaiian, Pacific Islander, and more than one race/ethnicity

**Table 4.2. Identity, stigma, and resiliency factors of transgender participants by NSSI in the last 12 months (N = 332)**

Variable	Total sample (N = 332)	Last 12 month NSSI (n = 74)	No NSSI in last 12 months (n = 255)	t (df) or X <sup>2</sup> (df)	p (two- sided)
<b>Sexual orientation identity<sup>a</sup> (No. (%))</b>				24.447(7)	.001
Heterosexual	73 (22.2)	5 (6.8)	68 (26.7)		
Gay/lesbian/same gender loving	44 (13.4)	6 (8.1)	38 (14.9)		
Bisexual	48 (14.6)	11 (14.9)	37 (14.5)		
Queer	115 (35.0)	32 (43.2)	83 (32.5)		
Pansexual	26 (7.9)	11 (14.9)	15 (5.9)		
Asexual	8 (2.4)	4 (5.4)	4 (1.6)		
Another option	12 (3.6)	4 (5.4)	8 (3.1)		
<b>Stigma (Mean ± SD)</b>					
Enacted stigma	2.64 ± 2.59	3.49 ± 2.53	2.39 ± 2.53	-3.271 (327)	.001
Felt stigma	4.92 ± 0.97	5.48 ± 0.72	4.75 ± 0.98	-7.019 (158.358)	< .001
<b>Transgender Congruence Scale (Mean ± SD)</b>	4.98 ± 1.19	4.34 ± 1.08	5.14 ± 1.15	5.358 (326)	< .001
<b>Support</b>					
Family support (No. (%))	228 (69.7)	45 (60.8)	183 (72.3)	3.600 (1)	.058
Support from friends (Mean ± SD)	5.73 ± 1.20	5.84 ± 1.06	5.70 ± 1.24	-.837 (326)	.403
Transgender community connectedness (Mean ± SD)	3.37 ± 0.84	3.35 ± 0.83	3.38 ± 0.84	.244 (326)	.807

*Note.* <sup>a</sup> Four cells with expected count less than five, so exact significance test for Pearson's chi-square conducted. Degrees of freedom may be less than 332 due to missing data.

**Table 4.3. Logistic regression of NSSI in the last 12 months on age, income, and stigma (N = 332)**

Variable	<i>B</i> (SE)	Wald $X^2$	<i>p</i>	Odds ratio (95% CI)
Age	-.062 (.017)	13.411	< .001	.940 (.909 - .972)
Income (annual, personal)	-.136 (.080)	2.867	.090	.873 (.746 – 1.022)
Enacted stigma	.016 (.064)	.062	.804	1.016 (.897 – 1.151)
Felt stigma	.839 (.203)	17.017	< .001	2.314 (1.553 – 3.447)

Omnibus chi-squared = 69.876, df = 4, *p* < .001

**Table 4.4. Logistic regression of NSSI in the last 12 months on age, income, stigma, transgender congruence, and sexual orientation identity (N = 332)**

Variable	<i>B</i> (SE)	Wald $X^2$	<i>p</i>	Odds ratio (95% CI)
Age	-.050 (.017)	8.598	.003	.951 (.920 - .984)
Income (annual, personal)	-.151 (.083)	3.311	.069	.860 (.731 – 1.012)
Enacted stigma	.023 (.067)	.121	.728	1.024 (.898 – 1.167)
Felt stigma	.693 (.217)	10.168	.001	1.999 (1.306 – 3.061)
Transgender Congruence Scale	-.291 (.141)	4.239	.040	.748 (.567 - .986)
Non-heterosexual identity	.973 (.530)	3.373	.066	2.645 (.937 – 7.471)

Omnibus chi-squared = 77.496, df = 6, *p* < .001

## **Chapter 5: Conclusions**

This chapter summarizes the studies included in this dissertation, presents the key findings, and discusses implications of the findings for theory development, clinical practice, education, health policy, and future research.

### **Summary of Dissertation Research**

This dissertation research constitutes a mixed methods investigation of nonsuicidal self-injury (NSSI) among transgender and gender nonconforming (TGNC) people. The first study was an integrative review of the literature about NSSI among lesbian, gay, bisexual, and transgender (LGBT) populations. This review found that NSSI occurs at higher rates among LGBT populations compared to heterosexual populations. In addition, preliminary evidence demonstrated that TGNC people appear to report higher rates of NSSI than cisgender sexual minorities. Among TGNC people, transmasculine spectrum individuals (i.e., gender identity is male, man, transgender man, transmasculine, genderqueer, nonbinary, etc., with female sex assigned at birth) reported higher rates of NSSI compared to transfeminine spectrum individuals (i.e. gender identity is female, woman, transgender woman, transfeminine, genderqueer, nonbinary, etc., with male sex assigned at birth). TGNC individuals with nonbinary gender identities appeared to be at highest risk of NSSI among TGNC people.

The second study consisted of qualitative interviews with eighteen transmasculine spectrum people to understand what contributes to the higher rates of NSSI in this population. Guided by the minority stress model and Nock's model of NSSI, a semi-structured interview guide was written which explored the motivations for NSSI and its relationship to stigma and minority stress processes. Participants were recruited from the cohort of Project AFFIRM, a longitudinal study of transgender identity development, health, and resilience. The qualitative

data supported aspects of Nock's model including distal risk factors for NSSI (such as adverse childhood experiences), intrapersonal and interpersonal vulnerability factors, and identification with the behavior. Minority stress processes contributing to NSSI were related to gender nonconformity in appearance and behavior, nonbinary gender identity, proximal minority stress processes of concealment and expectations of rejection, and NSSI as a means of coping or gaining social support. Analysis of transcripts additionally revealed that NSSI occurs in the context of transgender identity development processes. Transgender identity development stages of pre-coming out (confusion prior to understanding one's gender identity), coming out (disclosing one's identity to others), and exploration (participating in a community of similar peers) appeared to relate to NSSI each in unique ways. This finding highlighted that NSSI may occur in response to stress that is part of normative developmental tasks of transgender identity development, in addition to being a response to social stigma attached to gender nonconformity perse.

In the third study, analysis of quantitative baseline data from Project AFFIRM was conducted to examine rates of lifetime and current NSSI, and correlates of NSSI in the last 12 months among a diverse community sample of TGNC people. In the total sample ( $N = 332$ ), 53.3% ( $n = 177$ ) of participants reported having engaged in NSSI in their lifetime. Lifetime history of NSSI was reported at significantly higher rates by transmasculine spectrum compared to transfeminine spectrum participants (60.5% vs. 39.5%,  $p < .001$ ). NSSI in the last 12 months was reported by 22.3% ( $n = 74$ ) of the sample and was not significantly different between the gender identity groups. The most commonly reported motivation for NSSI was in response to negative emotions. In multiple logistic regression models, younger age and felt stigma (a proximal minority stress process) were associated with higher rates of NSSI, while transgender



identity acceptance and appearance congruence were protective factors. Family support, support from friends, and transgender community connectedness were not found to be related to current NSSI.

### **Key Findings and Implications**

Key findings from this research are discussed with implications for TGNC populations, for other minority populations, and for NSSI research.

Results from the qualitative interviews showed that participants conceptualized NSSI (direct harm to the body's surface) within a continuum of self-harming behaviors which included misuse of medications, substance use, overexercising to the point of pain, disordered eating behavior, and negative self-talk, among other behaviors. Participants described how these behaviors may substitute for each other over time. The understanding of self-harming behavior as a spectrum is counter to recent efforts to delineate criteria for NSSI Disorder that include only behaviors which are directly harmful to the body's surface in the most recent edition of the Diagnostic and statistical manual of mental disorders (5th ed.) (American Psychiatric Association, 2013). Clinicians and researchers should consider the possible interchangeability of various types of self-injurious behaviors over time and how these might relate to each other.

Studies about NSSI among cisgender people have reported higher rates among girls and women compared to boys and men. In our study, more transmasculine spectrum people reported ever having engaged in NSSI in their lifetime compared to transfeminine spectrum people. However, when considering NSSI in the last 12 months, there was no significant difference between these two groups. This mirrors findings in another transgender sample where there were no gender differences in NSSI based on a chart reviews, which similar to this study, used self-definition as a transgender person rather than a clinical diagnosis as inclusion criteria since

participants self-reported their transgender identity and this is the information that was recorded in the charts. These findings support previous assertions that the case definition of transgender used as inclusion criteria for research may lead to different types of bias in the sample and influence the observed outcomes (Collin, Reisner, Tangpricha, & Goodman, 2016; Deutsch, 2016). Researchers conducting studies with transgender populations should clearly state the inclusion criteria and their rationale. Future studies should investigate the effects of applying a clinical diagnosis as inclusion criteria compared to self-identification as transgender across various mental health outcomes in the same sample to further explore the effects of these different inclusion criteria on observed outcomes.

This study's finding regarding gender-based differences in lifetime NSSI may also be viewed in light of a study among cisgender people where women reported higher lifetime rates of NSSI than men, but past-year rates of NSSI were not significantly different (Whitlock et al., 2011). Researchers have suggested that NSSI among cisgender populations appears to occur at higher rates among girls and women compared to boys and men because the operational definition and therefore corresponding screening instruments include behaviors predominantly endorsed by women, whereas men engage in different types of self-harmful behaviors such as more outwardly focused aggression or risk-taking behaviors (Whitlock et al., 2011). In addition, some researchers suggest that the criteria proposed for NSSI Disorder in the DSM-5 do not adequately capture the range of self-injurious behavior reported by men (Green & Jakupcak, 2016). Adherence to masculine norms has been shown to be associated with NSSI among cisgender men (Green, Kearns, Ledoux, Addis, & Marx, 2015). Further exploration of the relationship between masculinity and NSSI is needed especially in light of the trend reported among TGNC people, which shows NSSI occurs more frequently among transmasculine as

compared to transfeminine spectrum people. Differences in types of NSSI should also be considered between segments of the transgender population. Foundational qualitative work is needed to determine if self-injurious behaviors reported by transfeminine spectrum people differ from self-injurious behaviors reported by transmasculine spectrum people in type, motivation, or pattern.

The finding that NSSI may occur in response to the stress from normal transgender identity development processes may be generalizable to other minority populations negotiating a process of identity formation in the context of stigma about their identity. Research about NSSI among racial and ethnic minorities should incorporate an identity development theoretical framework to investigate relationships in these populations. Incorporating an identity development perspective with these populations may help to illuminate some of the conflicting findings in the current literature about risk for NSSI among racial and ethnic minorities. Some studies have reported lower rates of NSSI among some racial and ethnic minority groups (Blosnich & Bossarte, 2012; Bostwick et al., 2014) while other studies have found no difference (House et al., 2011; Walls et al., 2010) or reported higher rates among racial and ethnic minority participants (Lytle et al., 2014). Intersecting minority identities should be considered in future research about NSSI.

### **Implications for Theory Development**

This research contributes to theory development in combining Nock's model of NSSI and the minority stress model as described in the introductory chapter of this dissertation. This theoretical framework facilitated analysis of the rich qualitative data in ways that can be useful to clinicians and researchers working with this population. Quantitative findings revealed which aspects of these models may be most relevant to target for future research and intervention

development. For example, support for components of the minority stress model allows us to focus intervention development on connecting TGNC people with similar peers, providing additional support around coming out, and facilitating identity acceptance and appearance congruence. The addition of the transgender identity development model further illuminates important findings from the research in terms of periods of vulnerability and potential resilience factors.

### **Clinical Practice and Interventions**

Clinicians, including nurses, can provide better care to their patients by understanding factors that contribute to NSSI among vulnerable minority populations. Since nurses are usually the first provider patients see during an encounter with the healthcare system, they are particularly well positioned to screen, assess, and refer for treatment for NSSI if needed. Screening for NSSI should take place in many healthcare settings, including pediatrics, adult primary care, school-based health, psychiatric-mental health, and emergency departments. Gender affirming care providers who encounter a transgender patient with NSSI should use a parallel or integrated approach. Providers should work on identity development and NSSI simultaneously rather than focusing solely on NSSI at the expense of identity development work.

Since TGNC people are at higher risk for NSSI than the general population, primary prevention efforts depend on identifying members of this population, which should take place during intake assessments in healthcare settings. Inclusion of gender identity among the demographic information collected in electronic health record systems is a priority area in improving healthcare for TGNC populations (Cahill & Makadon, 2014). Information about gender identity should be collected on a routine basis from all patients using the recommended two-step approach, which asks first about gender identity and then about sex assigned at birth

(Reisner et al., 2015). Primary prevention interventions may then include working with TGNC youth to develop strong self-esteem and encouraging engagement in communities with similar peers to counteract the societal stigma associated with transgender identity. Secondary prevention interventions could include comprehensive monitoring of NSSI among TGNC populations to facilitate early identification of individuals engaging in this behavior. These individuals should then be referred for evidence-based interventions for NSSI.

Although several clinical interventions for NSSI have been developed and tested, a recent systematic review and meta-analysis of pharmacological and psychosocial interventions for NSSI among children and adolescents found that there are few effective interventions (Hawton et al., 2015). Therefore not only is there a pressing need to develop and test effective interventions for NSSI, but these interventions must also be tailored to address the vulnerability factors influencing NSSI among minority populations, such as TGNC people. Nurses should play an active role in development of interventions for NSSI and the adaptation of interventions to meet the specific needs of minority populations.

### **Implications for Healthcare Provider Education**

Education and training for healthcare providers, including nurses at all levels, must include NSSI and concepts of gender diversity. Transgender patients report willingness to disclose their gender identity to healthcare providers, however providers require education about how to ask questions assessing gender identity in a culturally sensitive manner (Bjarnadottir, Bockting, & Dowding, 2016; Maragh-Bass et al., 2017). The majority of nursing education and training programs currently provide inadequate education about the health disparities and health needs of TGNC populations, however resources exist to address this need (Bosse, Nesteby, & Randall, 2015). Education about screening and treatment of NSSI should also be included in

educational programs and trainings for other healthcare providers since patients will present in many settings with this behavior.

### **Implications for Health Policy**

The landscape of American health policy is subject to change, and access to gender affirming healthcare for transgender people may be decreased with recent policy changes (Baker, 2017; Williams & Medlock, 2017). This research highlights the need for on-going policy-level support and protection of transgender and gender nonconforming people, youth and adults alike. Healthcare insurers must continue to cover gender-affirming interventions for TGNC populations in all settings. These findings also underscore the need for improved coverage of mental health services for all populations, including TGNC people. By increasing coverage for both mental health care and gender affirming care, TGNC individuals will have greater access to services needed to maintain healthy development and improve their long-term health outcomes.

### **Future Research Directions**

Several avenues for future research have been illuminated by these dissertation studies.

#### **NSSI and Transgender Identity Development**

The relationship between NSSI and personal identity is suggested by Nock's implicit identification hypothesis, which proposes that some people who engage in NSSI come to identify with it as a way of managing emotions, which may reinforce and maintain the behavior. Literature about NSSI among several populations, including those with eating disorders and youth subcultures, suggests that NSSI may be related to identity development (Claes, Luyckx, et al., 2015; Young et al., 2014). NSSI is positively correlated with identity confusion and negatively correlated with identity synthesis (Claes, Luyckx, & Bijttebier, 2014). Additionally, some youth subgroups may use NSSI as a way of indicating in-group membership (Young et al.,

2014). Future research should investigate to what extent these functions and correlations of NSSI are present in TGNC people and investigate longitudinal trajectories of NSSI in the context of transgender identity development.

Given the context of this research, which is taking place as part of a longitudinal study of transgender identity development, future research directions may include longitudinal analysis of changes in NSSI over time. Hypotheses may include predicting changes in NSSI if changes in minority stressors are reported over time. Alternatively, decrease in NSSI with gender affirming changes, such as hormonal or surgical transition, may be reported by participants. Additionally, as people progress through different transgender identity development stages, patterns of NSSI may change as well.

### **NSSI and Nonbinary Gender Identities**

This study suggests that people with nonbinary gender identities may face additional stressors from difficulty coming to understand their own gender identity and from others' lack of understanding of nonbinary identities. Emerging research suggests that transgender people with nonbinary gender identities may be at increased risk for negative health outcomes (Harrison, Grant, & Herman, 2012). This may stem from several possible factors including lack of recognition and understanding of nonbinary identities, lack of role models and visible examples of people with nonbinary identities, and difficulty locating similar peers with nonbinary identities with whom to develop a community. Any one of these factors, or a combination of them, may contribute to additional stress for transgender people with nonbinary identities. People who are not able to find a community of peers with a similar gender identity may be more likely to become involved in communities based on other factors such as engagement in NSSI. Future

research should examine correlates of NSSI and protective factors among nonbinary identified transgender people.

### **NSSI and Intersectionality**

Evidence is mixed about the effects of multiple minority identities, such as racial/ethnic minority or sexual minority status, on NSSI. Some studies have found no differences based on these other minority statuses, while other studies have found people with multiple minority identities to be at increased risk for NSSI. Adopting an intersectional perspective may be particularly helpful in illuminating how multiple minority identities, including sexual identity, racial identity, ethnic identity, national identity, or religious identity, influence risk for NSSI. Intersectionality posits that identities are mutually constituted and cannot be understood in isolation (Bowleg, 2012), either by individuals who possess them or by researchers hoping to better understand the way multiple minority statuses influence health. This makes investigation employing this lens challenging and qualitative methods may be more fruitful than quantitative methods for understanding individuals' subjective views of how their multiple minority identities influence risk for NSSI.

### **NSSI and Stigma**

As illuminated by this collection of studies, stigma plays an important role in NSSI among transgender people. Transgender people who self-injure are navigating a process of identity formation in the context of stigma about their identity and additionally, stigma about NSSI itself. The qualitative study in particular highlighted some similarities in experiences of being a person who self-injures and being a transgender person, including concealment, isolation, and coming out, and how these identities may reinforce each other. There may be similarities between how individuals navigate the experience of living with these stigmatized



identities, such as processes of “covering” which involves de-emphasizing the prominence of a stigma (Goffman, 1963).

Recognizing NSSI and TGNC as potentially concealable stigmatized identities reveals other theoretical frameworks available to investigate the effects of these identities on the mental health outcomes. Pachankis (2007) proposed a model to understand the effects of concealable stigma on individuals, which takes into account thoughts, emotions, and behavior. Alternative theoretical models such as this one will allow us to consider concealment from another perspective than what is offered by the minority stress model.

### **Strengths and Limitations**

Strengths of this dissertation study include its novel focus on NSSI among TGNC people, the large sample in three metropolitan areas in the U.S. composed using venue-based recruitment and quota sampling, the use of validated instruments to measure key variables which will facilitate comparison with other samples, and the use of mixed methods to better understand NSSI from the perspective of TGNC people who self-injure. Limitations of this research are that only peer-reviewed English language studies were included in the integrative literature review, which may have led to exclusion of relevant studies. Sampling was limited to metropolitan areas, which reduces generalizability of the findings. The qualitative portion of the research focused exclusively on transmasculine spectrum people since they are reported to be at higher risk of NSSI, and future research should investigate NSSI among transfeminine spectrum people. Additionally, the qualitative interviews were only for English-speaking people. However, out of the 332 participants interviewed for the Project AFFIRM baseline quantitative interview, only six people elected to be interviewed in Spanish even though this option was available at every study site.

## **Conclusion**

High rates of mental health disparities among transgender and gender nonconforming populations necessitate investigation to determine mechanisms underlying them and inform development of tailored interventions to address them. This dissertation research deepens our understanding of the phenomenon of NSSI among transgender and gender nonconforming people. Predisposing risk factors for NSSI as well as minority stress processes, particularly, proximal minority stressors, contribute to the high rates of NSSI observed in TGNC people. Stressors occurring in the context of transgender identity development may also affect the course of NSSI among transgender people. Resilience factors such as greater gender identity acceptance and appearance congruence are protective factors. NSSI may serve the function of a coping technique and a way of gaining social support. These results may help clinical providers to offer treatment that more effectively addresses NSSI among transgender and gender nonconforming people. Additionally, future research directions suggested by these findings are varied and may further inform our understanding of NSSI among TGNC people, other vulnerable populations, and the phenomenon of NSSI itself.

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## Appendices

### **A1. Interview guide for qualitative interviews about nonsuicidal self-injury with transgender participants**

Thank you for participating in this discussion about your experiences with self harm. My name is Kasey Jackman and I am a nurse and researcher conducting this study. The purpose of this study to understand more about nonsuicidal self-injury (sometimes call self harm), which is when people do things to intentionally hurt themselves without wanting to die. For example, sometimes people intentionally cut or burn their skin. Today we'll be talking about times when you have hurt yourself on purpose without wanting to die. I'm going to ask you some questions about times when you harm yourself, and things that happened before and after those times. I want to understand things from your point of view. There are no right or wrong answers. I'm interested in your own story, in your own words. Your participation is entirely voluntary.

We are audio recording this session for research purposes. The recording will be destroyed once a transcript is complete; no one will be identified by name in the transcript; the transcript and recording will be available only to the research team. Before we start, could you please read and sign the informed consent form?

Do you have any questions before we start?

<b>Domain</b>	<b>Question/probe</b>
NSSI	1. Please tell me about the first time that you did something to hurt yourself on purpose without wanting to die.
NSSI onset	Probes: Where did you hear about NSSI in the first place?

NSSI	How did you harm yourself? What did you use? Where on your body?
Minority stress	What happened around that time that might have contributed to you harming yourself?
Functions (automatic)	How did you feel before you harmed yourself? How did you feel afterwards?
Functions (social)	What did you do afterwards? Did anyone ever find out about what happened?
NSSI	2. Please tell me about the most recent time you did something to hurt yourself on purpose without wanting to die. (Same probes as above.)
NSSI	3. Please tell me about the most severe injury you ever inflicted on yourself without wanting to die. (Same probes as above.) Additional probes: Did you need medical help? Did you get medical help? Where did you receive medical help? How was that experience for you?
Resilience	4. In moments when you thought about hurting yourself have you ever thought about doing something else instead? Different people find different things helpful. Some people sometimes reach out to friends or family, or go on-line. Have you ever considered or used any of those resources? (e.g. Friends? Family? On-line resources? Health care providers?)
Resilience	5. Is there something you wish someone else or other people had done to help you avoid self harm?
Resilience	6. How has your self harm changed over time? Do you think you will continue

	to self harm in the future? What could happen to change your patterns of self harm?
Functions	6. I know you've already told me about some of the reasons you self harm, but looking back at the times you have self harmed, what do you think are the main contributing factors, or the main reasons that you self harm?
Minority stress	7. Do you think being transgender may be related to self harm for you? If so, in what ways?
Concluding	8. Is there anything else about self harm that you would like to tell me about that we haven't mentioned yet?

We've finished with the interview now. Thank you very much for talking with me and sharing your experiences. Some people find it helpful to talk about self harm and some people find it upsetting. How are you feeling now? Do you want any help, such as a referral to talk to someone?

### **Debriefing**

How could we improve this interview? Is there anything that should be done differently in this interview? Were there any questions you didn't want to answer? What was the most difficult question to answer? What made it difficult to answer? That's really helpful for me to know.

We're so grateful that you're willing to come in and share your experiences with us.

On your way out, please take this \$50 as a token of our thanks and please sign to confirm your receipt of it. Thank you again for your participation in this discussion. Learning about your experiences is very important to our research effort, and we appreciate your time today.

## A2. Self-Injurious Thoughts and Behaviors Interview (adapted)

Description: Quantitative assessment of nonsuicidal self-injury added to data collection of Project AFFIRM

Interviewer to read this paragraph aloud:

“The next part of the interview is about nonsuicidal self injury. Sometimes people do things to hurt themselves without wanting to die. For example, sometimes people intentionally cut or burn their skin. The next few questions will be about things some people do to hurt themselves on purpose, but without wanting to die.”

Instructions for interviewer:

If the participant answers “no” to question #1, skip to question #16.

If the participant answers “yes” to question #1, proceed with asking all questions in this section.

<b>Domain</b>	<b>#</b>	<b>Question and response options</b>	<b>Response</b>
Presence of NSSI	1.	Have you ever purposely hurt yourself without wanting to die?  (0) no  (1) yes	_____
Onset	2.	How old were you the first time you purposely hurt yourself without wanting to die?	_____
Duration	3.	How old were you the last time?	_____
Type of NSSI	4.	Now I’m going to go through a list of things that people sometimes purposely do to harm themselves without wanting to die. Please let me know which of	_____

these you've done:

- (1) cut or carved skin
- (2) burned your skin (i.e., with a cigarette, match or other hot object)
- (3) inserted sharp objects into your skin or nails
- (4) picked areas of your body to the point of drawing blood
- (5) hit yourself on purpose
- (6) gave yourself a tattoo
- (7) scraped your skin to the point of drawing blood
- (8) other (specify): \_\_\_\_\_

Type of 5. What parts of your body do you usually self harm? \_\_\_\_\_

NSSI

Frequen 6. How many times in your life have you purposely hurt yourself without wanting \_\_\_\_\_  
-cy to die? (Please give your best estimate)

Frequen 7. How many times in the past year? \_\_\_\_\_  
-cy

Frequen 8. How many times in the past month? \_\_\_\_\_  
-cy

Frequen 9. How many times in the past week? \_\_\_\_\_  
-cy

Impulsiv 10. On average, how long have you thought of purposely hurting yourself without \_\_\_\_\_  
-ity wanting to die before actually doing it?

(0) 0 seconds

(4) less than one day

(1) 1-60 seconds

(5) 1-2 days

(2) 2-15 minutes

(6) more than 2 days

(3) 16-60 minutes

(7) wide range (spans > 2 responses)

Severity 11. Have you ever received medical treatment for harm caused by purposely hurting yourself without wanting to die? \_\_\_\_\_

(0) no

(1) yes

Function 12. On the scale of 0 to 4, when you have purposely hurt yourself without wanting to die, how much did you do it as a way to get rid of bad feelings? \_\_\_\_\_

Function 13. How much did you do this in order to feel something, because you were feeling numb or empty? \_\_\_\_\_

Function 14. How much did you do this to communicate with someone else or to get attention? \_\_\_\_\_

Function 15. How much did you do this to get out of doing something or to get away from others? \_\_\_\_\_

Future likelihood of NSSI 16. On a scale of 0 to 4, what do you think the likelihood is that you will purposely hurt yourself without wanting to die in the future? \_\_\_\_\_

**0-4 SCALE**

<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<i>Not at all</i>	<i>A little bit</i>	<i>Somewhat</i>	<i>Very Much</i>	<i>Extremely</i>