

Suicide Risk in Trans Populations: An Application of Minority Stress Theory

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Drawing on minority stress theory, the present study tested the relations of minority stressors (i.e., experiences of prejudice and discrimination, internalized antitrans attitudes, fear of antitrans stigma), social support (i.e., friend, family, and significant other support), and substance use (i.e., drug and alcohol use) with depression and suicide risk in a sample of trans individuals. Depression was examined as a mediator of the relations of minority stressors and social support with suicide risk; drug and alcohol use were examined as direct correlates of suicide risk. Participants were 335 trans-identified individuals, diverse in gender identities (e.g., trans men, trans women, nonbinary gender identities). They were recruited using online social networks and they completed the study survey online via Qualtrics. Structural equation modeling was used to test hypothesized relations. Depression fully mediated the relations of perceived experiences of discrimination, fear of antitrans stigma, and friend support with suicide risk, and partially mediated the relation of internalized antitrans attitudes with suicide. Drug use was positively associated with suicide risk, whereas alcohol use was not linked with suicide risk. Exploratory comparisons across gender subgroups suggested that the pattern of relations among study variables was consistent across trans men, trans women, and individuals with nonbinary gender identities. These findings point to minority stressors, friend support, and drug use as potentially fruitful targets of prevention and intervention efforts to reduce depression and suicide risk in trans populations.

Keywords: transgender, transphobia, substance use, social support, discrimination

In 2013, the Centers for Disease Control and Prevention (2013) recorded 41,149 deaths by suicide in the United States. *Suicide* is defined as the intentional act that leads to one's own death (Leach, 2006); it includes completed suicide attempts (fatal) and uncompleted suicide attempts (nonfatal). *Suicide risk* refers to suicidal ideation and attempts that relate to the intentional act of self-harm with a desire to die. It is estimated that for every suicide death, there are 10 to 20 suicide attempts (Granello & Granello, 2007).

Rates of suicide attempts are particularly high in trans populations. Estimated lifetime prevalence of suicide attempts in trans populations ranges from 26% to 45% (e.g., Clements-Nolle, Marx, & Katz, 2006; Grant et al., 2011) compared to 2% to 9% in the general population (Nock et al., 2008). Despite the disproportionately high prevalence of suicide attempts in trans populations, however, research is limited on factors that account for variability in suicide risk and associated mental health concerns in these populations. Theoretically grounded research on individual differences in suicide risk in trans populations

is important for understanding such risk in sociocultural context, challenging the narrative that trans people are a monolithic suicidal group (Waidzunus, 2012), and informing intervention, prevention, and social justice efforts that benefit trans people.

Context of Antitrans Prejudice and Minority Stressors as Risk Factors

Transgender, or *trans* for short, is an umbrella term for people whose gender identity, expression, and/or behaviors are different from that typically associated with their assigned sex at birth (National Center for Transgender Equality, 2014). This includes people who identify with binary gender identities (e.g., trans men, trans women) and/or nonbinary gender identities (e.g., gender-queer, gender-bender, gender-fluid, agender, bigender). One of the more common nonbinary identities is *genderqueer* (e.g., Grant et al., 2011; Kuper, Nussbaum, & Mustanski, 2012), a term that is used by individuals who do not identify as solely male/man or female/woman (Budge, Rossman, & Howard, 2014). *Cisgender* describes individuals who do not identify as transgender (Gay & Lesbian Alliance Against Defamation, 2014).

Sociocultural prejudice against trans people is an important context for understanding trans people's experiences, mental health, and suicide risk. Such prejudice is evident in antitrans public attitudes (e.g., Carroll, Güss, Hutchinson, & Gauler, 2012; Tebbe & Moradi, 2012) and in laws, policies, and practices that pathologize, criminalize, and marginalize trans people (Nadal, Skolnik, & Wong, 2012). For example, many health insurance companies still exclude coverage for trans-related health care (Stroumsa, 2014). Some trans advocates argue that the inclusion of

Editor's Note. William T. Hoyt served as Action Editor for this manuscript.

This article was published Online First April 18, 2016.

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gender dysphoria as a diagnosis in the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; American Psychiatric Association, 2013) pathologizes trans people in much the same way that the diagnoses of “homosexuality” and “ego-dystonic homosexuality” pathologized sexual minority people prior to their removal from the *Diagnostic and Statistical Manual of Mental Disorders* (Lev, 2013; Moradi, 2016; Stroumsa, 2014). Only 19 U.S. states currently have employment and housing nondiscrimination laws that clearly protect against discrimination on the basis of gender identity (Transgender Law Center, 2015). Some states have gone as far as to enact legislation criminalizing transgender individuals’ usage of restrooms consistent with their gender identity (The Fenway Institute, 2016).

In this sociocultural context, trans people experience high rates of prejudice and discrimination and there is emerging evidence that these experiences are associated with adverse mental health and suicide (e.g., Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Clements-Nolle et al., 2006; Goldblum et al., 2012; Grant et al., 2011; Nemoto, Bödeker, & Iwamoto, 2011; Nuttbrock et al., 2010; Testa et al., 2012; Xavier, Bobbin, Singer, & Budd, 2005). For example, in a sample of San Francisco, California, Bay Area trans people, 59% of participants reported experiencing rape, 36% reported physical victimization (e.g., being abused or beaten), 83% reported verbal discrimination (e.g., verbal abuse or harassment), and 62% reported other forms of discrimination (e.g., being fired, evicted or denied housing, denied access to health care services) as a result of gender identity (Clements-Nolle et al., 2006). In this same study, 60% of participants met criteria for clinical depression and 26% had attempted suicide at least once. Importantly, participants’ experiences of rape and each of the forms of gender identity-based discrimination were associated positively with attempted suicide. High rates of discrimination also emerged in a national survey of 6,450 trans people (Grant et al., 2011), with 19% to 61% of trans participants reporting experiences of harassment across educational, housing, employment, and health care settings. In this sample, 41% of respondents reported having attempted suicide at least once. This suggests the co-occurrence of high rates of discrimination experiences with suicide attempts, though this study did not test this link directly.

Minority Stress Theory

Minority stress theory posits that sociocultural prejudice and discrimination promotes minority stressors that can have deleterious mental health implications for members of minority populations (Brooks, 1981; Meyer, 1995, 2003). Specifically, minority stress theory identifies perceived experiences of discrimination, internalized prejudice, and fear and vigilance regarding potential stigmatization as minority stressors that can contribute to negative mental health outcomes (Meyer, 1995, 2003). Minority stress theory focused originally on sexual minority populations and numerous studies have supported its tenets in such populations. For example, perceived experiences of discrimination, internalized prejudice, and fear and vigilance regarding stigmatization were linked with psychological distress (e.g., depression, anxiety), substance use (e.g., alcohol, drug, and tobacco use), and suicide proneness (e.g., thwarted belongingness, perceived burdensomeness) across samples of lesbian, gay, and bisexual (LGB) women and men (e.g., Brewster & Moradi, 2010; Brewster, Moradi, Deblaere, & Velez, 2013; Cramer, Burks, Stroud, Bryson, & Graham,

2015; Lea, de Wit, & Reynolds, 2014; Lehavot & Simoni, 2011; Lewis, Derlega, Griffin, & Krowinski, 2003; Newcomb & Mustanski, 2010).

Importantly, there are calls for using minority stress theory to situate trans populations’ mental health concerns in the context of sociocultural antitrans prejudice (e.g., Hendricks & Testa, 2012). As such, minority stressors, rooted in the context of antitrans prejudice, are conceptualized as risk factors for mental health concerns. Moreover, mental health concerns are understood as individual differences across trans people rather than as characteristic of a monolithic trans population. Some studies are beginning to address these calls for applying a minority stress framework to understanding mental health in trans populations (e.g., Bockting et al., 2013; Clements-Nolle et al., 2006; Testa et al., 2012). As described above, emerging evidence suggests the co-occurrence of experiences of discrimination with mental health concerns, substance use, and suicide in trans samples (e.g., Bockting et al., 2013; Clements-Nolle et al., 2006; Gamarel et al., 2015; Grant et al., 2011). Moreover, a recent study found that internalized antitrans attitudes and fear of antitrans stigma were associated with psychological distress in trans people (Bockting et al., 2013). Thus, minority stressors may be important factors to consider in understanding suicide risk and associated mental health concerns in trans populations.

General Population Risk Factors for Suicide

In addition to considering minority stressors, it is important to consider general risk factors for suicide. Empirical data and theories of suicide point to depression and substance use as important risk factors (Beghi, Rosenbaum, Cerri, & Cornaggia, 2013; Bohnert, Roeder, & Ilgen, 2010; Coppen, 1994; Hawton, Casañas I Comabella, Haw, & Saunders, 2013; Ohberg, Vuori, Ojanperä, & Lonngvist, 1996; Schneidman, 1987). For example, depressive symptoms are implicated in Schneidman’s (1987) theory which emphasizes the role of psychache or psychological pain in suicide, and in cognitive-behavioral models (e.g., Beck, Brown, Berchick, Stewart, & Steer, 1990; Beck, Steer, Kovacs, & Garrison, 1985) which emphasize the role of hopelessness in suicide. Substance use is conceptualized both as a mechanism to cope with the psychological pain of suicidality and as a risk factor that can increase impulsivity and disinhibition to attempt suicide (Anestis, Tull, Lavender, & Gratz, 2014). The Interpersonal Theory of Suicide (IPTS; Joiner, 2005; Van Orden et al., 2010) is an integrative theory that points to (a) *thwarted belongingness*, or an individual’s experience of loneliness and/or isolation, (b) *perceived burdensomeness*, or an individual’s perception of being a burden on others, and (c) *acquired capability*, or an individual’s habituation to self-harm, self-injury, or suicidal behavior that increases capability for further suicidal behaviors. Again, depressive symptomatology can reflect and result from *thwarted belongingness* and *perceived burdensomeness* whereas substance use can reflect and promote *acquired capability* (Anestis et al., 2014; Marty, Segal, Coolidge, & Klebe, 2012).

Importantly, depression and substance use rates are high in trans populations (e.g., Budge, Adelson, & Howard, 2013; Clements-Nolle et al., 2006; Grant et al., 2011; Xavier et al., 2005). The lifetime prevalence of depression in the general population is estimated to be about 16% (Kessler, Merikangas, & Wang, 2007). By comparison, in trans samples, lifetime prevalence of depression

ranged from 52% to 54% (Nuttbrock et al., 2010) and incidence rates of depression ranged from 48% to 60% (e.g., Budge et al., 2013; Clements-Nolle et al., 2006; Nemoto et al., 2011). Similarly, though the literature on substance use in trans populations is relatively small, one study found that approximately 17% of trans women and 33% of trans men reported past alcohol problems and 74% of trans women and 77% of trans men reported past illicit drug use (Testa et al., 2012). Another study reported that half of a sample of 248 trans people of color reported a substance use problem (Xavier et al., 2005). Focusing on substance use disorders, a much more conservative indicator of substance use problems than these trans-focused studies, the World Health Organization (WHO) estimates of the prevalence of alcohol use disorders in the United States are 1.9% for women and 5.5% for men and that of drug use disorders in the United States are 0.6% for women and 1.8% for men (WHO, 2015). Thus, the general suicide risk factors of depression and substance use are high in trans populations and these risk factors are important to consider in understanding suicide in trans populations.

Social Support and Mental Health

Beyond minority stress and general population risk factors, minority stress theory points to social support as a mental health promoter for sexual minority individuals (Meyer, 1995, 2003). Although there is some evidence that perceived support regarding specific stressful life events may moderate the relation between those stressors and mental health, perceived availability of social support in general appears to relate directly to better mental health (Cohen & Wills, 1985). Indeed, support for moderation is limited in sexual minority populations (e.g., Doty, Willoughby, Lindahl, & Malik, 2010; Szymanski, 2009). Instead, a number of studies suggest that social support is associated directly with lower levels of mental health problems in trans populations (e.g., Bockting et al., 2013; Budge et al., 2013; Moody & Smith, 2013; Moody, Fuks, Peláez, & Smith, 2015; Nemoto et al., 2011).

For example, social support was related negatively to depression in samples of trans women, trans men, and genderqueer people (Budge et al., 2013; Budge et al., 2014). Similarly, family support of one's trans identity and peer support (operationalized as connection with other trans community members) were associated negatively with psychological distress in a sample of trans individuals (Bockting et al., 2013). Moreover, a recent qualitative study of suicide protective factors among trans adults found that participants identified support from meaningful others (defined as such by the participants) as "life-saving" (Moody et al., 2015; p. 272). In another study focusing on suicide risk in trans adults, only family support (and not friend support) was related to lower suicide risk (Moody & Smith, 2013). Taken together, findings from these studies suggest that perceived presence of social support is associated directly with better mental health and lower suicide risk for trans people, though results are mixed regarding potentially distinctive relations of family versus friend support. Furthermore, the unique role of support from significant others has yet to be tested concomitantly with other forms of social support.

Attention to Trans Subgroups

Another consideration in exploring the links of minority stress variables with mental health is whether these relations vary across

trans subgroups. Specifically, much of the existing research on minority stress and mental health has focused on one subgroup, often trans women (e.g., Sánchez & Vilain, 2009; Xavier et al., 2005) and less is known about the experiences of other trans subgroups. For example, though genderqueer individuals are included in recent studies with trans samples (e.g., Moody et al., 2015; Budge et al., 2013), there is only one published empirical psychological study to date that focuses on the experiences of genderqueer individuals (Budge et al., 2014). In addition, there is evidence suggesting higher rates of internalizing mental health problems (e.g., anxiety, depression) and suicide attempts among trans men than among trans women (Haas, Rodgers, & Herman, 2014; Horvath, Iantaffi, Swinburne-Romine, & Bockting, 2014). In the general population, rates of depression and suicide attempts are higher among cisgender women than among cisgender men whereas rates of substance use and suicide completion are higher among cisgender men than among cisgender women (Leach, 2006; Nolen-Hoeksema, 2011). In light of such evidence and the dearth of prior data on trans subgroups, exploratory comparisons of trans subgroups can provide useful preliminary data to inform further research.

Present Study

The present study examines minority stress and general population risk and protective factors in relation to suicide risk in trans populations. Specifically, we use structural equation modeling to test the unique relations of prejudice and discrimination experiences, internalized antitrans attitudes, fear of antitrans stigma, family support, friend support, and significant other support with suicide risk, and we examine the mediating role of depression in these relations. Moreover, given the body of evidence linking substance use with suicide risk (e.g., Hawton et al., 2013; Ohberg et al., 1996), we test alcohol and drug use as additional predictors of suicide, and examine their correlations with minority stressor variables. Specifically, we hypothesize that perceived experiences of discrimination, internalized antitrans attitudes, and fear of antitrans stigma will be associated positively whereas family support, friend support, and significant other support will be associated negatively with depression (H1–H6). Depression, alcohol use, and drug use will be associated positively with suicide risk (H7–H9). Consistent with previous findings that depression mediates the relations of various stressors with suicide (e.g., Smith et al., 2015; Walker, Salami, Carter, & Flowers, 2014), we also hypothesize that depression will mediate the associations of the three minority stressors and three support variables with suicide risk (H10). Finally, we conduct exploratory comparisons of the pattern of hypothesized relations across trans subgroups (i.e., trans men, trans women, and gender queer individuals) to inform future research in this area.

Method

Participants

Participants were 335 individuals who identified with a trans identity. Of the 415 people who began the survey (i.e., responded to at least one item), 46 were missing substantial data (e.g.,

missing data from all or most items on one or more study measure) and were thus removed prior to analyses. Four cases were removed for duplicate IP addresses; an examination of these individuals' responses revealed that they had identical responses to demographic questions suggesting that they completed the survey twice. An additional 26 cases were removed for incorrectly responding to at least two of three validity check items (e.g., "Please select *strongly disagree* for this item") suggesting random or inattentive responding. Regarding study inclusion criteria, one individual was removed from analyses as their current primary gender identity corresponded with their sex assigned at birth. Finally, three participants who indicated an age under 18 years old (one indicated 16 and two indicated 17) were also excluded from analyses. Thus, the final data set was composed of 335 individuals.

Multiple dimensions of gender identity were assessed in this study. Regarding self-identification, participants were asked to select their current gender identification(s) from a list of 21 gender identity options (e.g., "trans man," "gender queer," "female-to-male [FTM]," etc.) drawn from a study of the diversity of trans identities (Kuper et al., 2012). Some participants selected only one option ($n = 37$), the majority of participants selected more than one option ($n = 291$), and a few participants ($n = 7$) did not respond to this or other demographic questions (though their agreement to the study inclusion criteria on the informed consent and their responses to other survey questions affirmed that they identified as trans). To compare trans subgroups, participants were placed into one of three groups: trans man (TM), trans woman (TW), or gender nonbinary (GNB). We employed the following categorization rules: any participant who selected "FTM" or "male-to-female [MTF]" regardless of other additional categories selected was placed into the TM or TW group, respectively. Participants who indicated that their sex assigned at birth was male, and identified their current gender identity solely as "female" or "woman" were placed into the TW group. Similarly, participants who indicated that their sex assigned at birth was female, and identified as "male" or "man" were placed into the TM group. Participants who identified as gender queer, gender fluid, bigender, agender, pangender, or another nonbinary gender identity were placed into the GNB group. Finally, participants who selected both "male" and "female" and/or "man" and "woman" were also placed into the GNB group. Following these grouping parameters, 90 participants were grouped as TM (26.9%), 110 were as TW (32.8%), and 128 as GNB (38.2%); the seven participants who did not respond to demographic questions were not categorized. Other sociodemographic characteristics are presented in Table 1.

Instruments

As a first step, we sought feedback from two researchers engaged in trans research, and three trans-identified people who represented identities from the three trans subgroups (i.e., one trans man, one trans woman, and one genderqueer individual) on the appropriateness of the measures and survey items for trans populations. Modifications to survey items were made as needed to address these reviewers' feedback (examples provided below).

Experiences of prejudice and discrimination. Experiences of prejudice and discrimination were measured with a modified version of three subscales of the Daily Heterosexist Experiences

Table 1
Demographic Characteristics of Study Sample (N = 335)

Variable	%	N
Age (years; $M = 25.21$, $SD = 6.58$, $median = 24$)		
18–29	78.5	263
30–39	13.1	44
40–49	4.1	14
50–59	<1	2
60–66	<1	1
Race/Ethnicity		
White/Caucasian	81.8	274
Multiracial	12.7	43
Hispanic/Latino	2.7	9
Asian/Asian American	1.8	6
Black/African American	0	0
Arab/Arab American/Middle Eastern	<1	1
American Indian	<1	1
Sex assigned at birth		
Male	43.9	147
Female	53.1	178
Intersex	>1	3
Sexual orientation		
Multiple sexual orientations	43.9	147
Asexual	5.6	19
Bisexual	7.5	25
Heterosexual/Straight	6.3	21
Lesbian	6.9	23
Pansexual	10.6	36
Queer	10.6	36
Trans subgroups		
Trans man	26.9	90
Trans woman	32.8	110
Gender nonconforming	38.2	128
Household income		
Under \$30,000	37.9	127
\$30,000–\$69,999	31.0	104
\$70,000–\$119,000	17.0	57
\$120,000–\$199,999	5.0	16
>\$200,000	3.8	12
Highest level of education		
Some high school	3.2	11
High school diploma	6.8	23
Some college	41.5	139
Associate's degree	7.7	26
Bachelor's degree	18.5	62
Tradesperson certificate program	1.8	6
Some graduate school	8.0	27
Master's degree	6.5	22
Advanced or professional degree	3.2	11

Questionnaire (DHEQ; Balsam, Beadnell, & Molina, 2013): Gender Expression (GE; six items), Discrimination/Harassment (DH; five items), and Victimization (V; five items). Items on the DH and V subscales of the DHEQ were modified to relate specifically to participants' trans identities. For example, the item "Being verbally harassed by strangers because you are LGBT" was changed to "Being verbally harassed by strangers because you are trans." For each of the 16 items, participants were asked, "How much has this problem distressed or bothered you during the past 12 months?" with response options ranging from 1 = *did not happen/not applicable to me* to 6 = *it happened, and it bothered me extremely*. Item ratings were averaged, with higher scores indicating more distressing experiences of discrimination. Regarding validity, scores on the DHEQ were found to correlate moderately

with measures of psychosocial adjustment (e.g., depression, anxiety, PTSD, and perceived stress) in a sample of LGBT people (Balsam et al., 2013). Regarding reliability, item responses on the DHEQ yielded Cronbach's alpha of .92 for the total scale, and .86, .85, and .87 for the GE, DH, and V subscales, respectively (Balsam et al., 2013). In the present study, Cronbach's alphas were .73, .82, and .62 for the DHEQ-GE, DH, and V subscales, respectively.

Internalized antitrans attitudes. The three-item Internalized Homonegativity subscale (IHS) of the Lesbian, Gay, and Bisexual Identity Scale (Mohr & Kendra, 2011) was adapted to relate to gender identity for the purposes of this study. For example, the word *straight* or *heterosexual* was replaced with *cisgender* in the following items "If it were possible, I would choose to be cisgender" and "I wish I were cisgender." Items were rated from 1 = *disagree strongly* to 6 = *agree strongly*. Item ratings were averaged, with higher scores indicating more internalized antitrans attitudes. Regarding validity, IHS scores were associated positively with depression and sadness and associated negatively with life satisfaction in samples of LGB undergraduate students (Mohr & Kendra, 2011). Regarding reliability, item responses on the IHS yielded Cronbach's alphas of .87 to .93 in samples of LGB undergraduate students (Mohr & Kendra, 2011). Cronbach's alpha in the present sample was .86.

Fear of antitrans stigma. The Gender-Related Fears subscale of the Transgender Adaptation and Integration Measure (Sjoberg, Walch, & Stanny, 2006) is composed of five items that assess the degree to which participants fear experiencing antitrans prejudice and discrimination. A sample item on the Gender-Related Fears subscale is "I fear abandonment if I told others about my gender identity." Items were rated from 1 = *never* to 5 = *frequently*. Item ratings were averaged, with higher scores indicating greater fear of antitrans stigma. Regarding validity, scores on the Gender-Related Fears subscale were related negatively to self-esteem and quality of life in a sample of transsexual people (Sjoberg et al., 2006). Regarding reliability, item responses on the Gender-Related Fears subscale yielded a Cronbach's alpha of .81 in a sample of transsexual women (Sánchez & Vilain, 2009). Cronbach's alpha in the present study was .74.

Social support. The Family, Friend, and Significant Other subscales of the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) are composed of four items each. Items are rated from 1 = *strongly disagree* to 5 = *strongly agree*. Item ratings are averaged, with higher scores indicating greater perceived social support. Regarding validity, MSPSS scores were related negatively to depression and anxiety in both a general population sample (e.g., Zimet et al., 1988) and in a sample of trans people (Budge et al., 2013). Regarding reliability, item responses on the MSPSS subscales yielded Cronbach's alphas of .93 for both Family and Friends subscales, and .95 for the Significant Other subscale in a sample of trans individuals (Budge et al., 2013). Cronbach's alphas in the present sample were .92, .91, and .97 for the Family, Friends, and Significant Other subscales, respectively.

Drug use. The 10-item Brief Drug Abuse Screening Test (Brief DAST; Skinner, 1982) is a widely used measure designed to identify problems related to drug use, excluding alcohol and tobacco use. Items are rated on a 2-point scale, 0 = *no*, 1 = *yes*. Item ratings are totaled, with higher scores indicating higher level of drug problems. Regarding validity, scores on the Brief DAST were

correlated positively with measures of smoking and alcohol abuse in a sample of sexual minority women (Lehavot & Simoni, 2011). Item responses yielded adequate reliability in the same sample of sexual minority women, Kuder-Richardson's 20 = .65 (Lehavot & Simoni, 2011). Kuder-Richardson's 20 in the present sample was .70.

Alcohol use. The Alcohol Use Disorders Identification Test: Self-Report Version (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) is a widely used measure of hazardous and harmful alcohol consumption, as well as alcohol dependence. The AUDIT was developed by the WHO in six different countries, and has been shown to identify early hazardous drinking with a high degree of sensitivity and specificity. The AUDIT is composed of 10 items with different response options for specific items. Scores are totaled and can range from 0 to 40, with higher scores indicating greater alcohol use problems. AUDIT scores have been shown to correlate with other measures of alcohol use and dependence across studies (for review, see Reinert & Allen, 2002), and item responses on the AUDIT have yielded good internal reliability, with a Cronbach's alpha of .81 in a sample of college students (Claros & Sharma, 2012). Cronbach's alpha in the present study was .87.

Depressive symptoms. The 20-item Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) was used to measure recent (i.e., in the past week) depressive symptoms. Items are rated from 0 = *rarely or none of the time* to 3 = *most or all of the time*. Appropriate items are reverse-scored and item responses are totaled. Scores can range from 0 to 60, with higher scores indicating greater depressive symptomatology. Regarding validity, CES-D scores were associated positively with other measures of depression in samples of women and men in the general population, as well as in clinical samples of psychiatric patients (Radloff, 1977). Scores on the CES-D were also associated positively with anxiety in a sample of trans people (Budge et al., 2013). Regarding reliability, item responses on the CES-D yielded a Cronbach's alpha of .94 in a sample of trans people (Budge et al., 2013). Cronbach's alpha in the present study was .94.

Suicide risk. Suicide risk was measured with the Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001). The SBQ-R (Osman et al., 2001) is composed of four items, each measuring a different aspect of suicidality: lifetime suicide ideation and/or suicide attempt, frequency of suicide ideation over the past 12 months, current threat of suicide attempt, and self-reported likelihood of suicidal behavior in the future. Each item has a different response scale (see Osman et al., 2001). Scores are totaled across the four items and can range from 3 to 18, with higher scores indicating greater risk of suicide ideation and attempts. Consistent with methods used by Osman and colleagues in providing validity and reliability data for the SBQ-R, we used continuous SBQ-R scores. Regarding validity, SBQ-R scores related negatively to reasons for living and to other measures of suicide ideation and attempts in samples of general population adults and psychiatric inpatient adults (Linehan, Goodstein, Nielsen, & Chiles, 1983). Regarding reliability, item responses on the SBQ-R yielded Cronbach's alphas ranging from .76 to .88 in samples of undergraduate and high school students and psychiatric inpatient adults and adolescents (Osman et al., 2001). Cronbach's alpha in the present study was .76.

Procedure

This study was approved by the Institutional Review Board at a large university in the southeastern United States. Participants were recruited using online social networking venues and groups (e.g., Reddit, Facebook, e-mail listservs) for trans individuals. To increase racial and ethnic diversity of the sample, recruitment also included online communities of racial and ethnic minority populations and trans people of color specifically. In the informed consent, the study was described as an examination of trans people’s personal experiences and health, and inclusion criteria were delineated (at least 18 years of age, reside in the United States, self-identify with a trans identity). All study measures were administered online through Qualtrics. Upon completing the survey, participants received contact information for support resources, such as suicide hotlines.

Results

Across the sample of 335 participants, 42 participants were missing responses to one or more items on a study measure, while the remaining 293 participants were missing zero data. Missing data on study measures ranged from a low of zero missing data points out of 1,005 possible data points on the IHS and out of 1,340 possible data points on the SBQ-R, to a high of 20 missing data points out of 3,350 possible data points on the AUDIT (with no participant missing more than one data point on the AUDIT). Across other study measures, no participant was missing more than three data points on a single measure. Because of the low levels of missing data, we employed an available item analysis approach to handling missing data (Parent, 2013). Bivariate correlations and descriptive statistics for final variables used in the study are presented in Table 2. We used *Mplus* Version 7.2 to conduct structural equation modeling with maximum likelihood estimation to examine the hypothesized relations (Muthén & Muthén, 1997-2012).

To determine the fit of the hypothesized model to the data, we followed guidelines as outlined by Weston and Gore (2006) using chi-square, comparative fit index (CFI), root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR). Criteria for acceptable model fit range from more liberal cutoffs of CFI ≥ .90 (Hu & Bentler, 1995), RMSEA ≤ .10 (Browne & Cudeck, 1993), and SRMR ≤ .10 (Hu & Bentler, 1998), to more stringent cut-offs of CFI ≥ .95, RMSEA ≤ .06, and SRMR ≤ .08 (Hu & Bentler, 1998, 1999), though adherence to stringent criteria may result in inappropriately rejecting models when models are more complex or sample sizes under 500 (Weston & Gore, 2006).

We used a minimum of three indicators to model each latent variable (Weston & Gore, 2006). To model perceived experiences of discrimination, we used the three subscales of the DHEQ (DH, GE, and V) as indicators. We modeled internalized antitrans attitudes, family support, friend support, significant other support, and suicide using the corresponding subscale or scale items as indicators. We modeled the latent constructs of fear of antitrans stigma, depression, alcohol use, and drug use with item parcels as indicators. Specifically, for each of these construct, we created three or four item parcels by conducting an exploratory factor analysis of items on the relevant measure. Based on the results of each exploratory factor analysis, items were ordered from highest to lowest factor loading and then assigned to item parcels in countervailing order to balance the strength of item factor loadings across parcels.

The final model included 10 latent variables and 35 indicators. Because maximum likelihood estimation is robust to multivariate non-normality, particularly when univariate normality is achieved (Muthén & Kaplan, 1985), we examined all study indicators for violations of univariate normality. Of the 35 indicators, 28 had skewness and kurtosis values within acceptable ranges (skewness values ≤3; kurtosis values ≤10; Kline, 2011; Weston & Gore, 2006). Two indicators, DHEQ-V and DAST Parcel 1, demonstrated positive

Table 2
Descriptive Statistics and Intercorrelations for Study Variables

	1	2	3	4	5	6	7	8	9	10
1. DHEQ	—	.11	.45**	-.33**	-.19**	-.09	.13	.10	.47**	.40**
2. IHS	.13*	—	.08	-.07	-.16**	-.08	-.01	.02	.21**	.29**
3. GRF	.42**	.17**	—	-.64**	-.26**	-.20**	.03	-.11	.47**	.44**
4. MPSS-Fam	-.30**	-.09	-.49**	—	.26**	.24**	.00	.00	-.40**	-.39**
5. MPSS-Friend	-.19**	-.16**	-.22**	.24**	—	.48**	-.01	.04	-.48**	-.37**
6. MPSS-SigO	-.09	-.13*	-.17**	.23**	.45**	—	.01	.03	-.33**	-.24**
7. DAST	.13*	.01	.07	.00	-.01	.01	—	.37**	.20**	.32**
8. AUDIT	.05	.02	-.09	.01	.05	.00	.33**	—	.08	.13*
9. CESD	.45**	.24**	.43**	-.37**	-.43**	-.31**	.18**	.08	—	.69**
10. SBQ	.35**	.28**	.38**	-.33**	-.31**	-.20**	.26**	.13*	.59**	—
<i>M</i>	2.25	2.95	3.46	2.74	3.68	3.72	1.12	4.89	24.99	9.72
<i>SD</i>	.88	1.25	.83	1.18	.99	1.33	1.45	5.55	12.63	3.81
Possible Range	1-6	1-6	1-5	1-5	1-5	1-5	0-10	0-40	0-60	3-18
Cronbach's α	.87	.86	.74	.92	.91	.97	.70	.87	.94	.76

Note. DHEQ = Daily Heterosexist Events Questionnaire; IHS = Internalized Heterosexism Scale; GRF = Gender-Related Fears subscale of the Transgender Adaptation and Integration Measure; MSPSS = Multidimensional Scale of Perceived Social Support; Fam = Family subscale; Friend = Friend subscale; SigO = Significant Other subscale; DAST = Drug Abuse Screening Test; AUDIT = Alcohol Use Disorders Identification Test; CES-D = Center for Epidemiological Studies–Depression subscale; SBQ = Suicidal Behaviors Questionnaire. Values below the diagonal are intercorrelations of observed scale scores; values above the diagonal are intercorrelations of corresponding latent variables in the measurement model. Higher scores indicate greater levels of the construct measured.

* $p < .05$. ** $p < .01$.

skewness, 3.19 and 3.05, respectively. As a result, DHEQ-V and DAST Parcel 1 were log transformed, which yielded skewness values within the acceptable range.

Measurement Model

We first conducted a confirmatory factor analysis of the measurement model to ensure that all indicators adequately measured their corresponding latent construct. In this model, the indicators described above were modeled to load onto their respective latent variables, and

the latent variables were allowed to correlate. The measurement model fit the data adequately, $\chi^2(515, N = 335) = 861.15, p < .001$, CFI = .958, RMSEA = .045 (90% confidence interval [CI] [.040, .050]), SRMR = .046 and all factor loadings were significant. Factor loadings and uniqueness are reported in Table 3.

Structural Equation Model of Hypothesized Relations

Next, we tested the hypothesized structural mediation model. We tested a full mediation model that did not include any direct

Table 3
Measurement Model

Latent variable	Indicator	Unstandardized		Standardized		Uniqueness
		<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	
Experiences of prejudice and discrimination	DHEQ-GE	.887	.057	.824	.033	.321
	DHEQ-DH	1.184	.072	.867	.033	.249
	(log10) DHEQ-V	.078	.009	.519	.047	.731
Internalized antitrans attitudes	IHS Item 1	1.367	.063	.940	.016	.117
	IHS Item 2	1.411	.062	.972	.016	.056
	IHS Item 3	.752	.068	.561	.039	.685
Fear of antitrans stigma	GRF Parcel 1	.622	.035	.888	.028	.211
	GRF Parcel 2	.344	.040	.490	.048	.759
	GRF Parcel 3	.455	.032	.734	.033	.461
Family support	MSPSS Item 3	1.158	.059	.873	.017	.239
	MSPSS Item 4	1.191	.058	.895	.015	.200
	MSPSS Item 8	1.099	.057	.857	.018	.266
	MSPSS Item 11	1.082	.061	.815	.022	.336
Friend support	MSPSS Item 6	.871	.047	.842	.020	.291
	MSPSS Item 7	.092	.049	.843	.020	.290
	MSPSS Item 9	.972	.051	.857	.019	.266
	MSPSS Item 12	1.001	.053	.848	.020	.280
Significant other support	MSPSS Item 1	1.309	.057	.942	.007	.112
	MSPSS Item 2	1.351	.055	.973	.004	.053
	MSPSS Item 5	1.306	.056	.946	.007	.106
	MSPSS Item 10	1.248	.056	.923	.009	.148
Alcohol use	AUDIT Parcel 1	.493	.028	.873	.028	.238
	AUDIT Parcel 2	.482	.036	.698	.035	.512
	AUDIT Parcel 3	.665	.044	.767	.031	.412
Drug use	(log10) DAST Parcel 1	.038	.003	.726	.040	.473
	DAST Parcel 2	.122	.010	.689	.041	.525
	DAST Parcel 3	.140	.010	.750	.039	.437
Depression	CESD Parcel 1	.698	.033	.908	.012	.176
	CESD Parcel 2	.698	.031	.932	.010	.131
	CESD Parcel 3	.649	.034	.852	.017	.274
	CESD Parcel 4	.637	.031	.895	.013	.200
Suicide risk	SBQ Item 1	.502	.046	.593	.042	.648
	SBQ Item 2	1.194	.077	.771	.030	.405
	SBQ Item 3	.407	.045	.509	.046	.741
	SBQ Item 4	1.321	.077	.832	.026	.308

Note. DHEQ = Daily Heterosexist Events Questionnaire; GE = Gender Expression subscale; DH = Discrimination/Harassment subscale, V = Victimization subscale; IHS = Internalized Heterosexism Scale; MPSS = Multidimensional Scale of Perceived Social Support; Fam = Family subscale; Friend = Friend subscale; SigO = Significant Other subscale; AUDIT = Alcohol Use Disorder Identification Test; DAST = Drug Abuse Screening Test; CES-D = Center for Epidemiological Studies–Depression subscale; SBQ = Suicidal Behaviors Questionnaire. All indicators significant, $p < .001$.

paths from the minority stressor or support variables to suicide risk. As recommended (e.g., Weston & Gore, 2006), we also compared the full mediation model with a partial mediation model that included six additional direct paths from the predictor variables, perceived experiences of discrimination, internalized anti-trans attitudes, fear of anti-trans stigma, family support, friend support, and significant other support to the criterion variable, suicide risk.

Results indicated that the data fit the full mediation model well, $\chi^2(523, N = 335) = 895.20, p < .001, CFI = .955, RMSEA = .046$ (90% CI [.041, .051]), $SRMR = .053$. The full mediation model accounted for 45.5% of the variance in depression and 50.4% of the variance in suicide risk. Fit of the data to the partial mediation model was better than the full mediation model, $\chi^2(517, N = 335) = 871.94, p < .001, CFI = .957, RMSEA = .045$ (90% CI [.040, .050]), $SRMR = .049$, and this difference was significant $\Delta\chi^2(6) = 23.263, p < .001$. Therefore the partial mediation model was retained for testing mediation. The partial mediation model accounted for 44.5% of the variance in depression and 55.0% of the variance in suicide (Figure 1). Direct relations for both the full and partial mediation model are reported in Table 4.

Tests of Mediation

To test the significance of the hypothesized indirect relations in the partial mediation model, we used bootstrap procedures to run the model with 5,000 bootstrap samples (Mallinckrodt, Abraham, Wei, & Russell, 2006). Indirect relations are deemed significant and indicate significant mediation if their 95% confidence interval does not include zero (Mallinckrodt et al., 2006). As reported in Table 5, depression significantly mediated the relations of perceived experiences of discrimination, internalized anti-trans attitudes, fear of anti-trans stigma, and friend support with suicide; indirect paths from family support and significant other support to suicide risk through depression were not significant. Beyond these indirect relations, internalized anti-trans attitudes, $\beta = .17, p < .01$, drug use, $\beta = .21, p < .01$, and depression, $\beta = .50, p < .01$ had direct positive associations with suicide risk. The direct relations of perceived experiences of discrimination, $\beta = .04, p = .55$, fear of anti-trans stigma, $\beta = .11, p = .19$, family support, $\beta = -.09, p = .24$, friend support, $\beta = -.05, p = .45$, significant other support, $\beta = .01, p = .92$, and alcohol use, $\beta = .02, p = .73$ with suicide risk were not significant. Taken together, these results suggest that within the current study's model, depression fully

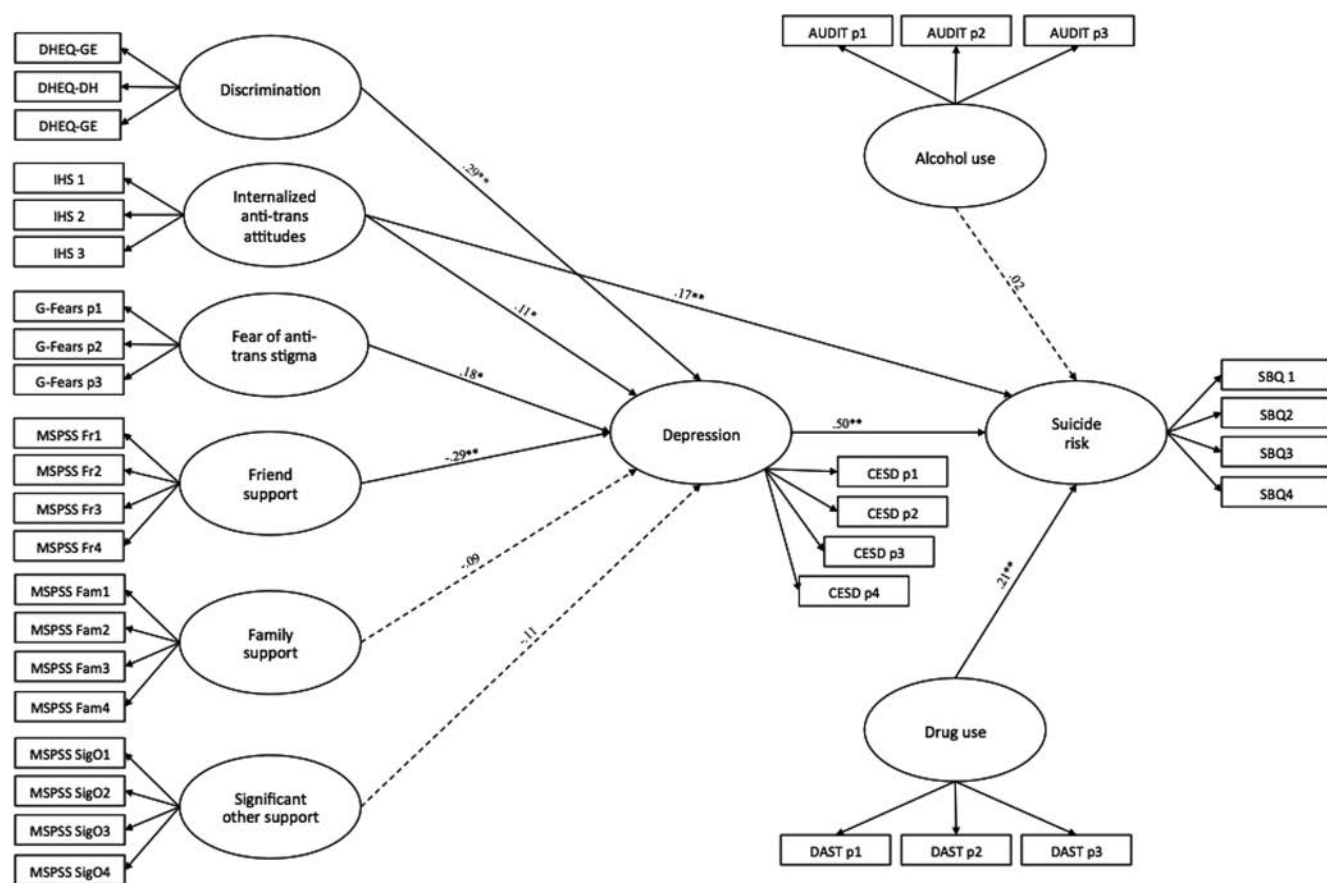


Figure 1. Final partial mediation model. Parameter estimates represent standardized regression coefficients. Dashed lines indicate nonsignificant direct relations. Error terms, correlations, indicator factor loadings, and nonsignificant paths from minority stressors and support variables to suicide are omitted for visual clarity. * $p < .05$. ** $p < .01$.

Table 4
Summary of Direct Paths in Full and Partial Mediation Structural Models

Predictor	Criterion	B	SE	β	p Value
Full mediation model^a					
Experiences of discrimination	Depression	.227	.050	.289	<.001
Internalized antitrans attitudes	Depression	.058	.024	.113	.015
Fear of antitrans stigma	Depression	.201	.090	.179	.026
Family support	Depression	-.055	.041	-.091	.184
Friend support	Depression	-.228	.045	-.285	<.001
Significant other support	Depression	-.056	.032	-.105	.080
Depression	Suicide risk	.469	.050	.671	<.001
Alcohol use	Suicide risk	.010	.068	.010	.883
Drug use	Suicide risk	2.414	.903	.192	.008
Partial mediation model^b					
Experiences of discrimination	Depression	.227	.051	.289	<.001
	Suicide risk	.024	.040	.043	.551
Internalized antitrans stigma	Depression	.054	.024	.106	.023
	Suicide risk	.061	.019	.169	.001
Fear of antitrans stigma	Depression	.196	.093	.175	.034
	Suicide risk	.084	.64	.105	.190
Family support	Depression	-.052	.044	-.086	.235
	Suicide risk	-.037	.031	-.085	.244
Friend support	Depression	-.229	.050	-.285	<.001
	Suicide risk	-.029	.038	-.050	.451
Significant other support	Depression	-.056	.031	-.105	.073
	Suicide risk	.002	.024	.006	.922
Depression	Suicide risk	.352	.055	.496	<.001
Alcohol use	Suicide risk	.022	.065	.022	.730
Drug use	Suicide risk	2.668	.926	.208	.004

^a $\chi^2(523, N = 335) = 895.204, p < .001$, comparative fit index (CFI) = .955, root mean square error of approximation (RMSEA) = .046 (90% confidence interval [CI] [.041, .051]), standardized root mean square residual (SRMR) = .053. ^b $\chi^2(517, N = 335) = 871.940, p < .001$, CFI = .957, RMSEA = .045 (90% CI [.040, .050]), SRMR = .049.

mediated the relations of experiences of prejudice and discrimination, fear of antitrans stigma, and friend support with suicide, and it partially mediated the relation of internalized antitrans attitudes with suicide.

Comparisons of Trans Subgroups

To conduct exploratory comparisons of the predictor-criterion relations in the partial mediation model across the three trans subgroups (i.e., trans men, trans women, and gender nonbinary individuals), we conducted multiple-group analyses. First, we conducted three increasingly constrained tests of measurement invariance to ensure that the measurement model fit the data similarly across groups (see Byrne, 2012 for review on multigroup mea-

surement invariance testing). The test of configural invariance yielded adequate fit, $\chi^2(1,548, N = 335) = 2305.08, p < .001$, CFI = .910, RMSEA = .067 (90% CI [.061, .073]), SRMR = .071, indicating that the number of factors and pattern of factor-indicator loadings was similar across groups. Next, we tested metric invariance, which evaluates whether the magnitude of factor loadings is similar across groups. The metric invariance model yielded adequate fit, $\chi^2(1,598, N = 335) = 2,374.09, p < .001$, CFI = .908, RMSEA = .067 (90% CI [.061, .072]), SRMR = .075. There was a significant difference between the configural and metric invariance models in absolute fit: $\Delta\chi^2(50) = 69.01, p = .04$. However, following recommendations of Milfont and Fischer (2010), we also examined differences in CFI, RMSEA, and SRMR and found these to be minimal, suggesting support for

Table 5
Summary of Indirect Effects of Final Partial Mediation Model

Predictor	Mediator(s)	Criterion	Standardized indirect effect		Bootstrap estimate		95% CI (unstandardized)	
			β	SE	B	SE	Lower bound	Upper bound
Experiences of discrimination	Depression	Suicide risk	.143	.040	.080	.022	.044	.135
Internalized antitrans attitudes	Depression	Suicide risk	.053	.025	.019	.009	.003	.039
Fear of antitrans stigma	Depression	Suicide risk	.087	.041	.069	.034	.011	.149
Family support	Depression	Suicide risk	-.043	.037	-.018	.016	-.053	.011
Friend support	Depression	Suicide risk	-.141	.037	-.081	.021	-.132	-.046
Significant other support	Depression	Suicide risk	-.052	.031	-.020	.012	-.047	.000

Note. Indirect path is significant if the 95% confidence interval (CI) does not include 0.

metric invariance: $\Delta CFI = .002$, $\Delta RMSEA = .000$, $\Delta SRMR = .004$. Finally, we tested scalar invariance which evaluates whether the intercept of the regression of each indicator on its intended factor is similar across groups (i.e., there is not upward or downward response differences on indicators across groups). The scalar invariance model yielded adequate fit: $\chi^2(1,648, N = 335) = 2,467.38, p < .001$, $CFI = .903$, $RMSEA = .067$ (90% CI [.062, .073]), $SRMR = .077$. There was a significant difference between the metric and scalar invariance models in absolute fit, $\Delta\chi^2(50) = 93.29, p < .01$. However, differences on the other indicators were minimal, suggesting support for scalar invariance: $\Delta CFI = .005$, $\Delta RMSEA = .000$, $\Delta SRMR = .002$. Overall, these results suggest that the number of factors, pattern and strength of factor loadings, and intercepts of indicators were similar across groups.

To explore whether the pattern of path coefficients among study variables differed across trans men, trans women, and gender nonbinary identified participants, we tested two additional partial mediation models. In the first model, we allowed all parameters to vary across groups. The unconstrained model yielded acceptable fit to the data, $\chi^2(1,562, N = 335) = 2,320.90, p < .001$, $CFI = .910$, $RMSEA = .067$ (90% CI [.061, .072]), $SRMR = .076$. We then constrained all path coefficients between latent variables to be equal across all three subgroups. The constrained model yielded acceptable fit to the data, $\chi^2(1,584, N = 335) = 2,354.94, p < .001$, $CFI = .909$, $RMSEA = .067$ (90% CI [.061, .072]), $SRMR = .076$. The difference in goodness-of-fit between the two models was marginally significant, $\Delta\chi^2(22) = 34.04, p = .049$. Changes in other goodness of fit indices were minimal, $\Delta CFI = .001$, $\Delta RMSEA = .000$, $\Delta SRMR = .000$, suggesting that the strength of path coefficients among latent variables did not differ by group.

Discussion

This study contributed to understanding individual differences in suicide risk in trans populations by examining theoretically posited minority stress and general population risk and protective factors for this populations. The results revealed high rates of depression and suicide risk in the sample. Specifically, 68.5% of the sample met CES-D cut-offs for a clinical diagnosis of depression. This is higher than in prior trans samples, where depression incidence rates ranged from 48% to 60% (e.g., Budge et al., 2013; Clements-Nolle et al., 2006). Furthermore, average scores on the CES-D in the present study ($M = 24.99, SD = 12.63$) were comparable to those of psychiatric inpatients in Radloff's (1977) seminal study ($M = 24.42, SD = 13.51$). Regarding suicide, 71.9% of the sample reported that they had thought about suicide in the last year, while 28.1% of the sample reported having attempted suicide at least once in their lifetime. Of those who attempted suicide, the modal number of attempts was two. Moreover, 20.5% of participants indicated that it was "likely" or "very likely" that they would attempt suicide at some point in the future. These results underscore the critical need for intervention and prevention efforts to reduce depression and suicide risk in trans populations.

By contrast, the present sample's mean scores on drug use ($M = 1.12, SD = 1.45$) and alcohol use ($M = 4.89, SD = 5.55$) were in the low range (see Skinner, 1982; Saunders et al., 1993 for a review of score interpretation). Furthermore, the mean score on drug use for participants in the present study was comparable to

the mean score on the same drug use measure in a sample of sexual minority women ($M = 1.08-1.32, SD = 1.36-1.52$; Lehavot & Simoni, 2011) and undergraduate students ($M = 1.88, SD = 2.76$; Stone, & Merlo, 2012), while the mean score on alcohol use for participants in the present study was comparable to the mean score of the same measure of alcohol use in a sample of undergraduate students ($M = 4.76, SD = 4.80$; Wolford-Clevenger et al., 2015). It is notable that incidence of depression and mean depression scores in the present study were higher than those in the general population, whereas mean scores of drug and alcohol use in the present study were comparable to that of other populations. These findings point to the need to critically examine conceptions of trans populations as a monolithic high-risk group across indicators of distress (Waidzunus, 2012).

Indeed, the present findings suggest that the sociocultural context of antitrans prejudice, manifested as minority stressors, can shape individual differences in depression and suicide risk in trans populations. Specifically, when examined concomitantly, the three minority stressors of experiences of prejudice and discrimination, internalized antitrans attitudes, and fear of antitrans stigma were related to depression, and depression mediated the relations of these minority stressors with suicide risk. Moreover, consistent with research findings in the general population (e.g., Ohberg et al., 1996), drug use was positively related with suicide risk in the present study, though alcohol use was not. Taken together, findings from the present study underscore the importance of considering minority stressors as risk factors for suicide in trans populations, alongside general population risk factors such as depression and drug use. Considering individual differences in these risk factors in research, practice, and advocacy is important for recognizing variability in suicide risk in trans populations.

Beyond the risk factors above, the present findings pointed to social support from friends as a protective factor, related negatively to suicide risk through the mediating role of depression. However, in contrast to prior studies that focused on trans identity-specific support (e.g., Bockting et al., 2013; Moody & Smith, 2013), the present study revealed that general family support and significant other support were not associated uniquely with depression or suicide risk. These nuances suggest the need for further research to explore the distinctive roles of trans identity-specific support versus general support from friends, family, and significant others in relation to trans people's mental health.

The present results point to a number of implications for clinical practice and social justice advocacy with trans individuals. Specifically, results suggest that interventions aimed at the systemic sociocultural level, including education, community advocacy, and policy efforts, are needed to reduce antitrans discrimination. Efforts to reduce antitrans prejudice and discrimination are important in their own right as they are aligned with social justice aims. The present findings suggest that these efforts also may help to reduce depression and suicide risk in trans populations to the extent that they reduce trans populations' exposure to antitrans discrimination and their fear of exposure to antitrans stigma. In addition, interventions to reduce internalized antitrans attitudes and increase acceptance of gender identity, and interventions to expand friend support networks may be helpful strategies for attenuating depression and suicide risk. Reducing drug use may also be important in reducing suicide risk in trans populations.

Informed by these findings, clinicians can begin by understanding the larger context of sociocultural antitrans prejudice (Tebbe & Moradi, 2012), their own participation in this context, and the ubiquity of experiences of prejudice and discrimination for many trans people (Korell & Lorah, 2007). For example, clinicians can engage in advocacy to reduce antitrans discrimination and attend to and reduce their own capitulation of antitrans societal assumptions and prejudices (e.g., assumed binary pronoun usage, only “male” and “female” checkboxes on intake forms). Clinicians can also familiarize themselves with the literature on microaggressions toward transgender individuals (e.g., Nadal, Rivera, & Corpus, 2010; Nadal et al., 2012) and work actively to avoid such behaviors and their harm to the therapeutic relationship and to clients. Building on this foundation of self-reflection and education, clinicians can then help their clients explore their experiences of antitrans discrimination in a safe working relationship. Clinicians can also help their clients to begin to identify and resolve internalized antitrans attitudes that might relate to their distress. These strategies are consistent with the World Professional Association of Transgender Health’s (2012) Standards of Care (Version 7).

Findings from this study also echo calls from the clinical literature related to the importance of support systems for trans individuals. Such support systems may act to attenuate feelings of isolation and loneliness, or *thwarted belongingness* (see Joiner, 2005). Though the present study did not distinguish between trans and cis friend support networks, some scholars have highlighted the importance of building support systems within trans communities (e.g., Korell & Lorah, 2007). Such connections also reflect the literature related to trans identity development, whereby identity development is grounded in the mirroring of other trans individuals and being witnessed in one’s gender identity (Devor, 2004). As a result, other trans friends may play a unique role within larger peer support networks by providing opportunities to understand one’s gender identity, receive validation and acceptance related to one’s identity, and build friendships with others who have shared identities and shared experiences. Therefore, clinicians can attend to helping their trans clients find ways to connect with others within trans communities to gain the potential unique supports such connections may offer.

The findings from this study add to the trans health literature, but should be considered in the context of a number of limitations. For example, this study employed a cross-sectional, meditational design. Though the hypothesized mediations were theoretically grounded, the cross-sectional design of the study does not allow for causal or directional conclusions (e.g., Maxwell & Cole, 2007). Longitudinal studies are needed to test the temporal relations suggested in the present findings.

Moreover, the sample characteristics form the boundaries of generalizability for the findings. Specifically, this study employed online data collection and the results may not be generalizable to those without access to a computer or Internet. Trans people who do not have access to a computer or Internet may also have less access to other resources (e.g., housing, employment, social support, rural vs. urban setting, etc.). In addition, participants in this study self-selected to participate in a study about trans people. Thus, the results may not generalize to trans people who are not interested in, wish to, or have access to online trans networks to self-select into such a study. Moreover, while we made purposeful efforts to recruit trans people of color, such participants were a

small percentage of our sample as they are in other online samples of trans people (e.g., Budge et al., 2013; Beemyn & Rankin, 2011). This limitation precludes meaningful analyses of race/ethnicity in these studies. However, theoretically grounded research is needed to move beyond demographic markers and address the intersections of interpersonal and systemic racism, classism, and other systemic factors in trans people’s lives.

The present study’s exploratory group comparisons suggested that the pattern of relations between study variables did not differ across broadly defined trans subgroups (e.g., TM, TW, and GNB). However, small and uneven sample sizes across subgroups suggest cautious interpretation of these findings (see Meade & Bauer, 2007). Moreover, while this study tested measurement invariance across the trans subgroups, these measurement invariance analyses should not be interpreted to indicate measurement invariance at the item level because many of the indicators in the present study were subscales or parcels. Low reliabilities for some study predictors point to the need for further development and psychometric evaluation of instruments for use with trans populations. While we hope that the item modifications and psychometric data provided in this study contribute to addressing this need, future research is needed to provide psychometric analyses and measurement invariance testing at the item level with larger subsample sizes.

More research is also needed to investigate whether developmental factors play a part in how minority stressors relate to health. That is, individuals who are beginning to explore their gender identity may experience minority stress differently than individuals who are more settled in their gender identity. For example, results from a qualitative study on trans individuals’ gender transition experiences in the workplace revealed that those at earlier stages of their transition faced greater rates of prejudice and discrimination than those later in their transition (Budge, Tebbe, & Howard, 2010). Furthermore, after transitioning, participants in that study described greater access to social resources and supports, and more instances of psychological well-being than distress.

Overall, results from this study build upon the existing literature on trans issues and people and link contextual factors, including minority stressors and friend support, with individual differences in depression and suicide risk in trans populations. Higher depression and suicide risk rates on the one hand and comparable levels of drug and alcohol use on the other hand underscore the importance of thinking critically about narratives of trans populations as a monolithic high risk group and attending to individual differences within and across domains of psychological and behavioral health. Additional research is needed to create, implement, and evaluate prevention and intervention programs that reduce sociocultural antitrans prejudice and benefit trans populations.

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Received September 29, 2015
 Revision received January 31, 2016
 Accepted February 19, 2016 ■