

# Suicidal Ideation in Transgender People: Gender Minority Stress and Interpersonal Theory Factors

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Research has revealed alarmingly high rates of suicidal ideation (SI) and suicide attempts among transgender and gender nonconforming (TGNC) people. This study aims to analyze the role of factors from the gender minority stress and resilience (GMSR) model (Testa, Habarth, Peta, Balsam, & Bockting, 2015), the interpersonal-psychological theory of suicide (IPT; Joiner, 2005; Van Orden et al., 2010), and the potential integration of these factors, in explaining SI in this population. A convenience sample of 816 TGNC adults responded to measures of current SI, gender minority stressors, and IPT factors. Path analysis was utilized to test 2 models. Model 1 evaluated the associations between external minority stressors and SI through internal minority stressors. Model 2 examined the relationships between internal minority stressors and SI through IPT variables (perceived burdensomeness and thwarted belongingness). All GMSR external stressors (rejection, nonaffirmation, victimization, and discrimination), internal stressors (internalized transphobia, negative expectations, and nondisclosure), and IPT factors (thwarted belongingness and perceived burdensomeness) were related to SI. Both models demonstrated good fit. Model 1 revealed that rejection, nonaffirmation, and victimization were related to SI through experiences of internalized transphobia and negative expectations. Model 2 indicated that internalized transphobia and negative expectations were associated with SI through IPT factors. The models demonstrate pathways through which GMSR and IPT constructs relate to one another and confer risk for SI among TGNC individuals. These pathways and several recently proposed constructs examined here provide promising directions for future research and clinical interventions in this area.

## General Scientific Summary

This study identifies different factors associated with suicidal ideation among transgender and gender nonconforming people. Factors from both a gender minority-specific model of mental health and a general theory of suicide are integrated, showing interrelationships between model and theory factors and promising explanatory models for understanding the high rates of suicidal ideation in this population.

*Keywords:* suicidal ideation, transgender, minority stress, interpersonal theory of suicide

Research on suicidality among transgender and gender nonconforming (TGNC) people has revealed alarmingly high rates of suicidal ideation (SI) and suicide attempts, with 45%–77% of

study respondents reporting a history of SI (e.g., Grossman & D'Augelli, 2007; Scanlon, Travers, Coleman, Bauer, & Boyce, 2010) and 28%–52% reporting a history of one or more suicide attempts (Mustanski, Garofalo, & Emerson, 2010; Nuttbrock et al., 2010; Testa et al., 2012). Although these studies do not include representative samples of TGNC people, these rates are consistently and strikingly higher than the estimated lifetime prevalence of SI and suicide attempts in the general population of 13.5% and 4.6%, respectively (Kessler, Borges, & Walters, 1999).

Understanding the mental health experiences of people from different demographic and cultural groups can be approached by utilizing existing general theoretical models and/or by developing and evaluating culture-specific theoretical models. As theoretical literatures on both TGNC people and suicidality have expanded

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Preliminary findings from this study were summarized in a symposium presentation at the 49th Annual American Association of Suicidology Conference, Chicago, IL, April, 2016.

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recently, new opportunities are offered from both approaches. Drawing from both literatures, this study aims to analyze (a) a culture-specific theory of mental and physical health, the gender minority stress and resilience (GMSR) model (Testa et al., 2015); (b) a general theory of suicidality, the interpersonal-psychological theory of suicide (IPTS; Joiner, 2005; Van Orden et al., 2010); and (c) how constructs from these models may be integrated to best understand why TGNC people experience high rates of SI and ultimately, what might be done to reduce risk.

While several theories have been developed to explain suicidal ideation and behavior (e.g., Mann, Waternaux, Haas, & Malone's, 1999 clinical model of suicidal behavior; Wenzel & Beck's, 2008 cognitive model of suicide behavior), the IPTS (Joiner, 2005) seems particularly compatible with the GMSR model due to its shared focus on interpersonal factors. Specifically, the IPTS proposes that the desire for suicide is a product of thwarted belongingness and perceived burdensomeness, echoing both external and internal stressors named in the GMSR model. The following review of the literature will describe both the GMSR and the IPTS models in greater detail, as well as the interconnectedness between the two that serves as the basis of the current study.

### Defining Gender Minority Stress

One proposed explanation for mental and physical health disparities between transgender and nontransgender populations is described in the GMSR model (Testa et al., 2015). Drawing from Meyer's sexual minority stress model (Meyer, 1995, 2003), which has received research support for explaining mental health disparities in lesbian, gay, and bisexual (LGB) people, the GMSR model describes how different external and internal stressors related to one's gender minority status, as well as minority resilience factors, impact mental health in TGNC people. In terms of sexual minority individuals, Meyer's (1995, 2003) theory posits that external prejudice events can generate three internal minority stress processes: internalized homophobia, expectations of rejection, and concealment of sexual orientation. Adapting Meyer's theory to reflect extant literature on trans-specific prejudice events (see Testa et al., 2015 for a review), the GMSR model proposes four external stressors: gender-based victimization, gender-based rejection, gender-based discrimination, and identity nonaffirmation. Gender-based victimization includes verbal or physical acts committed against a TGNC person or their property because of their TGNC identity or expression. Gender-based rejection includes multiple forms of rejection from individuals, institutions, and communities based on one's gender identity or expression. Gender-based discrimination includes experiences of difficulties obtaining housing, employment, medical care, or legal documents because of one's gender identity or expression. Finally, identity nonaffirmation includes difficulties having one's TGNC identity acknowledged and accepted by others. It is hypothesized that these external gender minority stress factors can lead to three types of internal stressors: negative expectations for future events, internalized transphobia, and nondisclosure of one's identity, which parallel the internal stressors identified by Meyer (2003). Negative expectations for future events represent the belief that one may experience prejudice events, discrimination, and social rejection. These beliefs may be based on prior similar personal experiences and/or awareness of general societal stigma against TGNC individuals. Internalized

transphobia is the adoption and internalization of negative societal attitudes toward TGNC individuals. Finally, identity nondisclosure is an effort to conceal one's TGNC identity, usually as a form of protecting self or others (Hendricks & Testa, 2012; Testa et al., 2015).

The GMSR model was recently tested to determine criterion, convergent, and discriminant validity of these gender minority stress factors using the newly developed gender minority stress and resilience measure. This study, by Testa, Habarth, Peta, Balsam, and Bockting (2015), sought not only to develop a psychometrically sound measure of gender minority stress, but also attempted to lend empirical support to the newly proposed gender minority stress model itself. The full model contains the seven aforementioned gender minority stress factors plus two resiliency factors: community connectedness and pride. All nine factors were correlated with measures of depression and social anxiety in predicted ways (positive correlation for the seven minority stress factors, negative correlation for the two resiliency factors). They also found that six of the seven minority stress factors were correlated with general life stress.

Importantly, the researchers included measures of perceived burdensomeness and thwarted belongingness using the Interpersonal Needs Questionnaire (Van Orden, Witte, Gordon, Bender, & Joiner, 2008a) and found that although the seven gender minority stressors were correlated positively with burdensomeness and negatively with belongingness, all of these correlations were .50 or below. In addition, for all significant correlations between the nine TGNC minority stress factors, all are below .55. Taken together, results from this initial study suggest that the gender minority stress factors are not only distinct from one another, but they are also distinct from—but clearly related to—IPTS constructs.

### Prevalence and Effects of Gender Minority Stress

Studies examining external stressors in the TGNC community have demonstrated that TGNC people face high levels of discrimination and victimization (Boza & Perry, 2014; Goldblum et al., 2012; Grant et al., 2011; Kenagy, 2005; Nuttbrock et al., 2010; Testa et al., 2012), and that exposure to these distal stressors is associated with history of SI and suicide attempt. For example, Boza and Perry (2014) found that nearly 70% of their sample of trans men and women experienced at least one form of victimization or discrimination related to their gender identity, including social discrimination (55%), harassment (43%), economic discrimination (34%), and violent assault (17%). Similarly, Testa et al. (2012) found high rates of sexual (27%) and physical (38%) violence in their sample of trans men and women, and the overwhelming majority of those who reported these histories stated that at least one episode of violence was related primarily to gender expression or identity. Further, the National Transgender Discrimination Survey (Grant et al., 2011), which captured responses from nearly 6,500 TGNC individuals, found that 63% of those surveyed reported at least one incident of serious discrimination. This discrimination included school-based harassment (78%), mistreatment and discrimination at work (78%), gender-related adverse employment actions, including being denied a promotion or fired due to gender identity/expression (47%), and homelessness due to gender identity/expression (19%). These studies point to not only to very high rates of victimization in the TGNC community, but

they also highlight gender identity specifically as a target for harassment, violence, discrimination, and abuse.

These types of discrimination events are strongly related to suicidality in gender minority samples in studies examining both SI and suicide attempts (Clements-Nolle et al., 2006; Grant et al., 2011; Nuttbrock et al., 2010; Scanlon et al., 2010; Testa et al., 2012). Goldblum et al. (2012) and Testa et al. (2012) found that individuals who have experienced prejudice events such as these are three to four times more likely to have a history of suicide attempt compared to those who have not had experiences of gender-related victimization and violence. Among the studies that used SI as an outcome variable, rates of SI for those with histories of victimization ranged from to 33%–47% for past year SI (Scanlon et al., 2010) and 82%–97% for lifetime SI (Testa et al., 2012). Similar findings have been obtained for studies examining the link between victimization and suicide ideation in LGB individuals. D'Augelli, Pilkington, and Hershberger (2002) found that verbal and physical victimization were positively correlated with past year SI and SI related to being LGB in a sample of sexual minority high school students. Irwin and Austin (2013) and Lea, de Wit, and Reynolds (2014) also found significant associations between sexual orientation-related victimization and lifetime suicidal ideation.

There is a dearth of research on the relationship between SI and other gender minority stress factors, including two of the external stressors (rejection and nonaffirmation) and all three of the internal stressors (internalized transphobia, negative expectations for future events, and nondisclosure). Nonaffirmation is a newly proposed construct, but it has shown evidence of association with general mental distress (Sevelius, 2013) as well as with perceived general life stress, depression, and social anxiety (Testa et al., 2015). While research on internal stress factors in TGNC people is lacking, research on the internal stress processes in sexual minorities has found associations with SI. The internal sexual minority stress of internalized homophobia and perceived stigma were positively associated with past month suicidal ideation in some studies of LGB-identified individuals (Irwin & Austin, 2013; Lea et al., 2014). In addition, Michaels, Parent, and Torrey (2016) found that higher levels of concealment of sexual orientation were positively correlated with greater chronicity of serious SI in a sample of gay men, a relationship mediated by depressive symptoms. Given these connections identified in sexual minority samples, it is therefore reasonable to hypothesize that these internal stressors may also contribute to SI among TGNC people.

### Gender Minority Stress and Interpersonal Theory Factors

As mentioned previously, Joiner's (2005) IPTS seems especially compatible with the GMSR model, as both models focus on interpersonal factors. The IPTS is a tripartite model which posits that the desire for suicide is caused by feelings of thwarted belongingness and perceived burdensomeness, and that it is the acquired capability for self-harm that explains why only some people who have suicidal ideation go on to attempt or complete suicide. Thwarted belongingness includes social disconnection and an absence of reciprocal support, which are associated with loneliness, feelings of rejection, social withdrawal, childhood abuse, and other family conflicts (Van Orden et al., 2010). Perceived burdensomeness is composed of self-hatred and feeling like a

liability/burden on others, which are associated with homelessness, unemployment, feeling unwanted, low self-esteem, self-blame, and shame (Van Orden et al., 2010). Thus, thwarted belongingness and perceived burdensomeness are theoretically linked with both external and internal minority stressors, which are thematically centered on social rejection, isolation, shame, and discrimination.

In recent studies, all three factors of the IPTS model have been found to be significant contributors to suicide. Both thwarted belongingness and perceived burdensomeness have been independently validated as components of SI (Van Orden, Lynam, Hollar, & Joiner, 2006; Van Orden et al., 2008b), and acquired capability for self-harm has been associated with suicide attempts (Plöderl et al., 2014; Van Orden et al., 2008a). The interaction between thwarted belongingness and perceived burdensomeness has proven to be a strong predictor of SI across many different populations studied, including undergraduate students (Van Orden et al., 2008a), veterans (Monteith, Meneff, Pettit, Leopoulos, & Vincent, 2013), American Indians (O'Keefe et al., 2014), and Asian Americans (Wong, Koo, Tran, Chiu, & Mok, 2011).

Two recent studies have examined the relationship between sexual minority stress factors and the IPTS in samples of LGB individuals. Plöderl et al. (2014) examined all three IPTS factors (thwarted belongingness, perceived burdensomeness, and acquired capability) and minority stress factors of victimization, internalized homophobia, and outness. They found that all IPTS factors, internalized homophobia, and victimization were positively correlated with SI and outness was negatively associated with SI. Furthermore, the sexual minority stress model and IPTS factors were significantly correlated, with internalized homophobia being positively associated with perceived burdensomeness and thwarted belongingness, and outness being inversely related to these IPTS constructs. While victimization was not associated directly with thwarted belongingness or perceived burdensomeness, it was positively correlated with outness.

Baams, Grossman, and Russell (2015) also examined the relationship between the thwarted belongingness and perceived burdensomeness factors of the IPTS model and sexual minority stress constructs of outness, sexual orientation-related victimization, and coming-out stress in a sample of LGB-identified youth. In this study, all IPTS factors, as well as victimization and coming-out stress, were positively associated with SI and outness was negatively associated with SI. They also tested a mediational model examining the role of thwarted belongingness and perceived burdensomeness as a mediator between distal minority stressors and both depression and SI. In gay and bisexual-identified males, perceived burdensomeness mediated the relationship between sexual orientation-related victimization and both depression and SI. In lesbian- and bisexual-identified females, perceived burdensomeness mediated the relationship between both sexual orientation-related victimization and coming-out stress and depression and SI. Thwarted belongingness was not found to mediate the relationship between distal minority stressors and depression or SI. Although these two studies by Baams et al. (2015) and Plöderl et al. (2014) were conducted with sexual minority rather than gender minority individuals, they provide preliminary support for further examination of the relationships between IPTS factors and minority stress factors, particularly the role of the IPTS factors as mediators between minority stressors and SI.

## Study Aims

The present study explores the relationships between GMSR factors, IPTS factors, and SI among TGNC people. To test these relationships, we propose two mediation models based in these theories. The first, based on the GMSR model (Testa et al., 2015), proposes that the four external gender minority stressors (gender-based victimization, rejection, discrimination, and nonaffirmation of gender identity) will lead to an increase in the three internal minority stressors (internalized transphobia, negative expectations for future events, and nondisclosure), which will in turn result in increased SI (see Figure 1). This model parallels Meyer's (1995, 2003) sexual minority stress model, which states that external gender minority stressors are more distal factors compared to internal minority stressors, which are considered to be more proximal to negative psychological outcomes. Research on the sexual minority stress model supports this conceptualization of internal minority stressors as mediators between external stressors and mental health outcomes (Hatzenbuehler, 2009). Based on this grounding in theory and prior research, Model 1 was assessed a priori. Being the first such study of the effects of certain gender minority stressors on SI (including rejection, nonaffirmation, and all three internal minority stressors) this study will also address gaps in the literature regarding these constructs.

The second model is similarly based on both theory and prior research, and proposes that the relationship between the three internal minority stressors and SI will be mediated by increases in IPTS factors (see Figure 2). This is theoretically consistent with the IPTS's assertions that as a final common pathway model, it allows that a wide array of causal factors are relevant to SI (such as minority stress model variables in this case), but that the influence of all factors operates via the IPTS variables (Joiner, 2005; Van Orden et al., 2010). This IPTS common pathway model has received support in recent empirical work (Silva, Ribeiro, & Joiner, 2015). It is also consistent with prior research supporting

the role of IPTS factors as mediators of the relationships between the parallel sexual minority stressors and suicidality in LGB people (Baams, Grossman, & Russell, 2015; Plöderl et al., 2014). Based on this grounding in theory and prior research, Model 2 was also assessed a priori.

## Method

### Procedure

Data were collected as part of the Trans Health Survey, which assessed aspects of stress and resilience in the TGNC community and effects on mental and physical health. This study was approved by university IRB. Participants were recruited for the Trans Health Survey online through local and national TGNC listservs, postings on social media sites related to TGNC and LGBT issues, and contact with leaders in the TGNC community. Outreach e-mails stated "Anyone can participate who is 18 years or older and whose current gender identity is different from their sex assigned at birth. Participants must be living in the United States or Canada." In addition, specific e-mails and postings were distributed recruiting "Trans People of Color" on applicable listservs, social media sites, and through professional networks of study collaborators. All surveys were completed anonymously online. Individuals were informed of the risks and benefits of participation, the option to skip any questions they did not want to answer, and their right to stop the survey at any time. The survey took approximately 40 min to complete. No remuneration was provided.

### Participants

After data cleaning (see Data Management subsection of the Method section), the final dataset included 816 individuals. In order to allow for some gender subgroup analyses, participants were divided based on reported sex assigned at birth and current gender identity into the following gender groups: Trans Man/FTM (female to male; included those assigned female sex, identifying as trans men or men/male), Trans Woman/MTF (male to female; included those assigned male sex, identifying as trans women or women/female), FTDG (female to different gender; included those assigned female sex, identifying as genderqueer or crossdresser), MTDG (male to different gender; assigned male sex, identifying as genderqueer or crossdresser), and Intersex (because there were only seven participants indicating this sex at birth, this group was not subdivided further based on current gender identity).

Participants were mostly White and mostly young adults—demographic data are displayed in Table 1. With regard to SI, 56.1% had some suicidal ideation within the past year as indicated by a score greater than 10 on the Suicide Ideation Scale (SIS). With regard to serious lifetime SI as assessed by a single item, 79.2% reported that they had seriously considered killing themselves. With regard to lifetime suicide attempts as assessed by a single item, 45.8% of those who responded reported making a suicide attempt at some point in their life.

### Measures

**Gender minority stress and resilience measure.** The gender minority stress and resilience measure (GMSR; Testa et al., 2015)

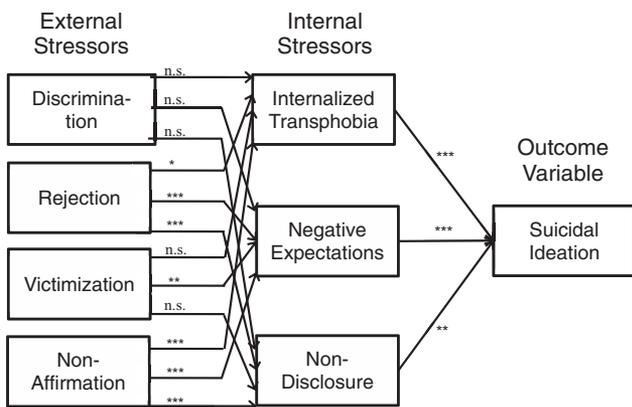


Figure 1. Mediation model of distal gender minority stressors to suicidal ideation through internal gender minority stressors. Mediation relationships are not pictured, but are reported in Table 5. Solid arrows indicate direct relationships. Correlation paths were included between discrimination, rejection, and victimization, and between rejection and nonaffirmation. Correlation paths were also included between internalized transphobia, negative expectations, and nondisclosure. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

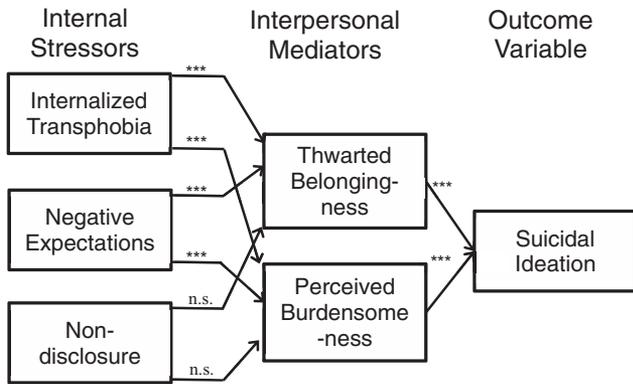


Figure 2. Mediation model of internal gender minority stressors on suicidal ideation through interpersonal theory of suicide variables. Mediation relationships are not pictured, but are reported in Table 6. Solid arrows indicate direct relationships. Correlation paths were included between: internalized transphobia, negative expectations, and nondisclosure. A correlation path was also included between thwarted belongingness and perceived burdensomeness. \*\*\*  $p < .001$ .

was created to assess experience of external and internal gender minority stress, as well as gender minority resilience factors. For this study, only the stress scales were evaluated. This included the four external stress scales, measuring gender-related discrimination, victimization, rejection, and nonaffirmation, and the three internal stress scales, measuring internalized transphobia, negative expectations of future events, and nondisclosure. This scale has shown preliminary evidence of validity and reliability in another study drawn from the same study sample (Testa et al., 2015).

Scales assessing gender-related discrimination, victimization, and rejection ask respondents to indicate whether they have experienced different events, choosing from “Never,” “Yes, before age 18,” “Yes, after age 18,” and “Yes, in the past year.” All yes responses are scored as 1 and the never response is scored as 0. The discrimination scale includes five items such as “I have had difficulty finding employment or keeping employment, or have been denied a promotion because of my gender identity or expression.” The rejection scale includes six items such as “I have been rejected or distanced from my family because of my gender identity or expression.” The victimization scale includes six items, such as “I have been pushed, shoved, hit, or had something thrown at me because of my gender identity or expression.” Alphas for these scales in the current study were .61 for discrimination, .71 for rejection, and .75 for victimization.

All other scales ask individuals to respond on a 5-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. The nonaffirmation scale contains six items, such as “I have difficulty being perceived as my gender,” and “I have to repeatedly explain my gender identity to people or correct the pronouns people use.” The internalized transphobia scale has seven items, such as “I feel that my gender identity or expression is embarrassing.” Finally, the nondisclosure scale contains five items, such as “Because I don’t want others to know my gender identity/history, I pay special attention to the way I dress or groom myself,” with the wording of history versus identity chosen for respondents who indicate they do “live in their affirmed gender all or most of the time.” (Af-

firmed gender is defined as the one the individual sees as accurate for themselves.) Alphas for these scales in the present study were .93 for nonaffirmation, .91 for internalized transphobia, .89 for negative expectations, and .79 for nondisclosure.

**Belongingness and perceived burdensomeness.** The Interpersonal Needs Questionnaire-12 (INQ-12; Van Orden et al., 2008a) was used to evaluate thwarted belongingness and perceived burdensomeness. The INQ-12 is a measure of two main components of Joiner’s (2005) interpersonal-psychological theory of suicide: (a) perceived burdensomeness and (b) thwarted belongingness. The perceived burdensomeness subscale is comprised of seven items and the thwarted belongingness subscale includes five items. All statements are rated on a 7-point Likert-type scale from 1 (*not at all true for me*) to 7 (*very true for me*). The scale has shown moderate correlations in the expected directions with mea-

Table 1  
Participant Demographics

Demographic variable	%	n
Gender identity		
Trans Woman/MTF	30.9	252
Trans Man/FTM	45.6	372
FTDG	18.1	148
MTDG	4.5	37
Intersex	.9	7
Race		
Other	7.6	62
African American or Black	2.3	19
Asian or Asian American	1.8	15
American Indian, Alaska Native, or First Nation	1.2	10
Native Hawaiian or other Pacific Islander	.7	6
European American or White	86	702
Declined to respond	.2	2
Ethnicity		
Hispanic or Latino ethnicity	5.4	44
Not Hispanic or Latino ethnicity	94.5	771
Declined to respond	.1	1
Personal income		
\$0–\$9,999	37.7	308
\$10,000–\$19,999	17.5	143
\$20,000–\$29,999	9.8	80
\$30,000–\$39,999	8.1	66
\$40,000–\$49,999	6.5	53
\$50,000–\$59,999	5.0	41
\$60,000–\$69,999	4.2	34
\$70,000–\$79,999	1.7	14
\$80,000–\$89,999	1.5	12
\$90,000–\$99,999	1.5	12
\$100,000–\$149,999	3.7	30
Over \$150,000	2.1	17
Declined to respond	.7	6
Age		
M = 32.53 SD = 13.13	Mdn = 28.00	Mode = 22.00
18 to 30	58	473
31 to 45	23.5	192
46 to 60	14.5	118
61 to 75	3.9	32
Over 75	.1	1

Note. FTM = female assigned, identifying as trans men or men/male; MTF = male assigned, identifying as trans women or women/female; FTDG = female assigned, identifying as genderqueer or crossdresser; MTDG = male assigned, identifying as genderqueer or crossdresser.

asures of suicidality and depressive symptoms. Scale alphas for the current study (belongingness  $\alpha = .90$ ; burdensomeness  $\alpha = .93$ ) were consistent with previous studies (Freedenthal, Lamis, Osman, Kahlo, & Gutierrez, 2011; Van Orden, Cukrowicz, Witte, & Joiner, 2012).

**Suicidal Ideation Scale.** The 10-item Suicidal Ideation Scale (SIS; Rudd, 1989) was used to evaluate current SI. Scale items assess the presence or absence of suicidal thinking as well as the intensity of those thoughts. The SIS is scored on a Likert-type scale with anchors at 1 (*never*) to 5 (*always*) based on how the respondent has felt or behaved over the past year. The SIS has demonstrated high internal consistency (Cronbach's alpha = .86) as well as adequate item-total correlations ( $r_s = .45$  to  $.74$ ; Rudd, 1989). Scale alpha in the study sample was .94.

## Data Management

The data used in this project ( $n = 816$ ) came from a larger project containing data from 1,414 individuals. Participants were excluded if they were missing more than 20% of items on one or more measures used in this study, as is recommended in the literature (e.g., Peng, Harwell, Liou, & Ehman, 2006), resulting in exclusion of 594 participants. Excluded and included participants did not differ on any demographic variables (gender identity, race, ethnicity, or income), except for age. Those excluded due to missing data were younger ( $M = 29.85$ ,  $SD = 11.38$ ) than those included in subsequent analyses ( $M = 32.53$ ,  $SD = 13.13$ ),  $t(499.90) = -3.19$ ,  $p = .002$ . Participants who were missing fewer than 20% of items on one or more measures had item-level missing data handled by mean imputation out of the available item responses for each measure. This method has been shown to be an effective method for handling low levels of missing data at the item level, with simulations supporting that mean substitution is comparable to more complex methods at low levels of missingness (Parent, 2013). Of the 820 remaining participants, three identified as cisgender and one did not indicate a gender identity; these participants were omitted from all analyses, resulting in a final sample of 816 transgender ( $n = 624$ ; 372 FTM and 252 MTF) or gender nonconforming ( $n = 192$ ; 148 FTDG, 37 MTDG, and seven intersex) individuals. Another project, using responses from a different set of measures and a nonidentical subset of the sample, has been published elsewhere (Testa et al., 2015). Data management and analyses were conducted in both SPSS 22.0 and MPlus 6.11.

## Data Analytic Strategy

Descriptive statistics and bivariate correlations were first conducted to examine the normality and interrelatedness of all study variables. All predictors were normally distributed, as evidenced by a skewness of less than 2 and kurtosis of less than 2; thus, no transformations were conducted (George & Mallery, 2016). Next, a series of one-way ANOVAs were conducted to examine group differences on all variables by gender identity. Post hoc analyses of all one-way ANOVAs were examined using Tukey's HSD correction.

Path analysis was utilized to examine two theoretically derived models through which external and internal gender minority stressors may confer risk for suicidal ideation. Model 1 examined the

associations between external gender minority stressors and suicidal ideation through internal minority stressors. Model 2 examined the relationship between internal minority stressors and suicidal ideation through interpersonal theory variables.

Model fit was assessed using the chi-square statistic ( $\chi^2$ ), comparative fit index (CFI), Tucker Lewis index (TLI), and root mean squared error of approximation (RMSEA). Good model fit is represented by a nonsignificant  $\chi^2$ ,  $CFI \geq .95$ ,  $TLI \geq .90$ , and  $RMSEA \leq .08$  (Hu & Bentler, 1999; Schreiber, Nora, Stage, Barlow, & King, 2006). Statistical assumptions (i.e., presence of multivariate normality, nonlinear relationships, outliers) were checked using Tabachnick and Fidell's (2007) guidelines. Correlation paths were indicated between all significantly correlated variables. Bootstrapping, a recommended technique that lessens the importance of multivariate normality assumptions, was utilized in all analyses; specifically, we used a bootstrapping sample size of 5,000. Bootstrapping 95% confidence intervals were used to indicate significance of indirect effects in all analyses.

Following the standard for best practice in structural equation modeling (Martens, 2005), alternative models were tested, in which independent and mediator variable positions were reversed. Martens (2005) recommends testing "alternative, yet theoretically plausible" models (p. 273) in order to prevent confirmation bias by only testing one model. Models were compared using the chi-square difference test, Akaike's information criterion (AIC), and Bayesian information criterion (BIC) indices, such that lower AIC and BIC scores reflect a better fitting model. Finally, because one-way ANOVAs revealed significant differences in seven out of 10 variables among different gender identities, we conducted post hoc multigroup path analyses for both Model 1 and Model 2 to elucidate differences in paths. Only the FTM ( $n = 372$ ) and MTF ( $n = 252$ ) groups were included in these analyses, as sample sizes for the other groups (FTDG:  $n = 148$ , MTDG:  $n = 37$ ; intersex:  $n = 7$ ) were underpowered to detect significant effects.

## Results

### Preliminary Analyses

Means, standard deviations, and bivariate correlations between all variables are presented in Table 2. As expected, the majority of variables were significantly positively associated, with the exception of discrimination, which was unrelated to nonaffirmation, internalized transphobia, and perceived burdensomeness, and victimization, which was unrelated to nonaffirmation.

Table 3 presents results of a series of one-way ANOVAs that examined differences between individuals of different gender groups. FTM individuals scored significantly higher than all other groups on discrimination, but lower than all other groups on nonaffirmation. FTDG scored higher than MTF participants on nonaffirmation. Similarly, FTDG scored higher than FTM and MTF participants on negative expectations but lower than these groups on nondisclosure. FTM participants scored lower than MTF participants on thwarted belongingness and lower than MTF and FTDG participants on perceived burdensomeness. On perceived burdensomeness, MTF also scored higher than FTDG. Finally,

Table 2  
Correlations Among Variables

	DIS	REJ	VIC	NAF	INT	NEG	NDI	THW	BUR	SIS
DIS	1									
REJ	.49***	1								
VIC	.49***	.51***	1							
NAF	.03	.08*	-.02	1						
INT	.01	.12**	.07*	.31***	1					
NEG	.22***	.31***	.23***	.35***	.44***	1				
NDI	.14***	.20***	.12***	.13***	.36***	.38***	1			
THW	.09*	.15***	.10**	.28***	.43***	.37***	.23***	1		
BUR	.06	.14***	.10**	.37***	.49***	.42***	.23***	.64***	1	
SIS	.16***	.18***	.14***	.21***	.41***	.35***	.19***	.55***	.73***	1
Mean	.49	.56	.45	2.05	1.65	2.45	2.35	3.02	2.65	1.55
Std. Dev.	.29	.31	.25	1.31	1.10	.86	1.03	1.44	1.55	.81

Note. DIS = discrimination; REJ = rejection; VIC = victimization; NAF = nonaffirmation; INT = internalized transphobia; NEG = negative expectations; NDI = nondisclosure; THW = thwarted belongingness; BUR = perceived burdensomeness; SIS = suicidal behavior.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

despite a significant omnibus test, there were no significant group differences on suicidal ideation.<sup>1</sup>

### Model 1

Model 1 (see Figure 1) examined associations between external gender minority stressors and suicidal ideation through internal minority stressors. Model fit was good, though the chi-square test was significant ( $\chi^2 = 18.14$ ,  $df = 4$ ,  $p = .001$ ,  $CFI = .98$ ,  $TLI = .90$ ,  $RMSEA = .07$ ,  $AIC = 11,119.55$ ,  $BIC = 11,307.72$ ). An alternative model was also tested, in which internal gender minority stressors related to suicidal ideation through external minority stressors. Model fit of this alternative model was poor ( $\chi^2 = 139.77$ ,  $df = 5$ ,  $p < .001$ ,  $CFI = .86$ ,  $TLI = .32$ ,  $RMSEA = .18$ ,  $AIC = 11,239.18$ ,  $BIC = 11,422.65$ ). Further, the chi-square difference test was significant ( $\Delta\chi^2 = 121.64$ ,  $df = 1$ ,  $p < .001$ ), and examination of AIC and BIC values indicated that our proposed theoretical model provided better fit to the data. Therefore, we rejected the alternative model and retained the initial proposed model. Direct path estimates of our proposed model are described in text, whereas indirect path estimates can be found in Table 4. Effect sizes can be found in Table 5.

Discrimination was unrelated to internalized transphobia ( $B = -.28$ ,  $SE = .15$ ,  $p = .065$ ), negative expectations ( $B = .18$ ,  $SE = .12$ ,  $p = .127$ ), and nondisclosure ( $B = .15$ ,  $SE = .14$ ,  $p = .287$ ). Likewise, most indirect effects were nonsignificant (see Table 4). Rejection was associated with internalized transphobia ( $B = .34$ ,  $SE = .15$ ,  $p = .024$ ), negative expectations ( $B = .58$ ,  $SE = .11$ ,  $p < .001$ ), and nondisclosure ( $B = .53$ ,  $SE = .14$ ,  $p < .001$ ). The indirect paths of rejection to suicidal ideation through internalized transphobia and negative expectations, but not nondisclosure, were significant (see Table 4).

Victimization was positively associated with negative expectations ( $B = .36$ ,  $SE = .13$ ,  $p = .007$ ), but was unrelated to internalized transphobia ( $B = .30$ ,  $SE = .18$ ,  $p = .089$ ) and nondisclosure ( $B = .10$ ,  $SE = .17$ ,  $p = .576$ ). Similarly, indirect paths through negative expectations, but not internalized transphobia or nondisclosure, were significant (see Table 4). Nonaffirmation had significant paths to all three internal minority stressors: internalized transphobia ( $B = .26$ ,  $SE = .03$ ,  $p < .001$ ), negative

expectations ( $B = .22$ ,  $SE = .02$ ,  $p < .001$ ), and nondisclosure ( $B = .09$ ,  $SE = .03$ ,  $p = .001$ ). Indirect paths from nonaffirmation to suicidal ideation were significant through internalized transphobia and negative expectations, but not through nondisclosure (see Table 4). Finally, internalized transphobia ( $B = .23$ ,  $SE = .03$ ,  $p < .001$ ) and negative expectations ( $B = .20$ ,  $SE = .03$ ,  $p < .001$ ) were significantly positively associated with suicidal ideation, but nondisclosure was not ( $B = -.01$ ,  $SE = .03$ ,  $p = .836$ ).

### Model 2

Model 2 (see Figure 2) examined associations between internal gender minority stressors and suicidal ideation through perceived burdensomeness and thwarted belongingness. Model fit was excellent ( $\chi^2 = 2.87$ ,  $df = 3$ ,  $p = .413$ ,  $CFI = 1.00$ ,  $TLI = 1.00$ ,  $RMSEA = .000$ , 90% CI [.00, .06],  $AIC = 13,129.22$ ,  $BIC = 13,242.13$ ). An alternative model was tested to examine the directionality of our paths: specifically, the relationship between interpersonal theory variables and suicidal ideation through internal gender minority stressors was examined. This alternative model demonstrated poor fit ( $\chi^2 = 461.56$ ,  $df = 2$ ,  $p < .001$ ,  $CFI = .64$ ,  $TLI = -1.49$ ,  $RMSEA = .53$ ,  $AIC = 13,589.91$ ,  $BIC = 13,707.52$ ). Further, the chi-square difference test was significant ( $\Delta\chi^2 = 458.69$ ,  $df = 1$ ,  $p < .001$ ), and examination of AIC and

<sup>1</sup> Post hoc multigroup path analyses were conducted to compare paths across FTM ( $n = 372$ ) and MTF ( $n = 252$ ) participants for Models 1 and 2. For Model 1, the freed ( $\chi^2 = 25.20$ ,  $df = 8$ ,  $p = .001$ ,  $CFI = .97$ ,  $TLI = .85$ ,  $RMSEA = .08$ ,  $AIC = 8,447.83$ ,  $BIC = 8,802.33$ ) and constrained ( $\chi^2 = 59.77$ ,  $df = 23$ ,  $p < .001$ ,  $CFI = .94$ ,  $TLI = .89$ ,  $RMSEA = .07$ ,  $AIC = 8,452.40$ ,  $BIC = 8,740.44$ ) models demonstrated significantly different model fit according to the chi-square difference test ( $\Delta\chi^2 = 34.57$ ,  $df = 15$ ,  $p = .003$ ), but no differences emerged in AIC values. For Model 2, the freed ( $\chi^2 = 3.60$ ,  $df = 6$ ,  $p = .731$ ,  $CFI = 1.00$ ,  $TLI = 1.01$ ,  $RMSEA = .00$ ,  $AIC = 9,970.56$ ,  $BIC = 10,183.27$ ) and constrained ( $\chi^2 = 18.57$ ,  $df = 14$ ,  $p = .18$ ,  $CFI = .996$ ,  $TLI = .992$ ,  $RMSEA = .03$ ,  $AIC = 9,969.53$ ,  $BIC = 10,146.78$ ) models each demonstrated excellent model fit; the chi-square difference test was nonsignificant ( $\Delta\chi^2 = 14.97$ ,  $df = 8$ ,  $p = .06$ ), indicating the appropriateness of collapsing groups for our path analysis. Direct and indirect paths were generally consistent across FTM and MTF participants in both models, with minor differences in associations between external and internal gender minority stressors.

Table 3  
Means and Standard Deviations by Scale for Each Gender Identity

Scale	<i>F</i>	$\eta^2$	Mean ( <i>SD</i> )			
			FTM	MTF	FTDG	MTDG
Discrimination	18.38***	.06	.56 (.27)	.41 (.30)	.44 (.28)	.37 (.29)
Rejection	2.12	.01	.57 (.30)	.55 (.30)	.53 (.31)	.45 (.34)
Victimization	2.60	.01	.47 (.25)	.43 (.25)	.41 (.24)	.45 (.25)
Nonaffirmation	48.78***	.15	1.65 (1.36)	1.97 (1.24)	3.04 (.75)	2.52 (.89)
Internalized transphobia	2.15	.01	1.54 (1.10)	1.71 (1.14)	1.78 (1.06)	1.72 (.95)
Negative expectations	3.37*	.01	2.40 (.86)	2.37 (.95)	2.63 (.75)	2.57 (.63)
Nondisclosure	5.01**	.02	2.40 (1.00)	2.45 (1.07)	2.08 (1.00)	2.14 (.96)
Thwarted belongingness	3.23*	.01	2.86 (1.34)	3.17 (1.59)	3.19 (1.41)	3.12 (1.31)
Perceived burdensomeness	8.74***	.03	2.37 (1.45)	2.79 (1.55)	3.06 (1.69)	2.94 (1.45)
Suicidal ideation	2.77*	.01	1.46 (.74)	1.62 (.86)	1.64 (.87)	1.60 (.77)

Note.  $\eta^2$  =  $\eta$ -squared effect size; *SD* = standard deviation; FTM = female assigned, identifying as trans man or male; MTF = male assigned, identifying as trans woman or female; FTDG = female assigned, identifying as genderqueer or crossdresser; MTDG = male assigned, identifying as genderqueer or crossdresser.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

BIC values indicated that our proposed theoretical model provided better fit to the data. This model was therefore rejected in favor of the original model. Again, direct relationships of our proposed model are described in text, indirect path estimates are noted in Table 6, and effect sizes can be found in Table 5.

Internalized transphobia was positively associated with both thwarted belongingness ( $B = .42$ ,  $SE = .05$ ,  $p < .001$ ) and perceived burdensomeness ( $B = .54$ ,  $SE = .05$ ,  $p < .001$ ); indirect paths to suicidal ideation through both thwarted belongingness and perceived burdensomeness were also significant (see Table 6). Similarly, the negative expectations variable was positively related to thwarted belongingness ( $B = .36$ ,  $SE = .06$ ,  $p < .001$ ) and perceived burdensomeness ( $B = .46$ ,  $SE = .06$ ,  $p < .001$ ). All indirect paths were significant (see Table 6) except the two nondisclosure paths. Similarly, nondisclosure was unrelated to thwarted belongingness ( $B = .05$ ,  $SE = .05$ ,  $p = .292$ ) and perceived burdensomeness ( $B = -.01$ ,  $SE = .05$ ,  $p = .813$ ). Finally, thwarted belongingness ( $B = .08$ ,  $SE = .02$ ,  $p < .001$ ) and

perceived burdensomeness ( $B = .33$ ,  $SE = .02$ ,  $p < .001$ ) were each significant predictors of suicidal ideation.

## Discussion

This study aimed to elucidate factors contributing to the very high rates of SI among TGNC people found in prior studies. Specifically, we examined the roles and interrelationships of factors from both the GMSR model (Testa et al., 2015), a recently proposed culture-specific model of distress, and the interpersonal-psychological theory of suicide (IPTS; Joiner, 2005; Van Orden et al., 2010), a general theory of suicidality. Expanding upon recent research examining the roles of minority stress and IPTS factors on SI among LGB people, this study is the first to our knowledge that examines a parallel model in TGNC people. Both the GMSR and IPTS models demonstrated promise in understanding SI in this population. Findings lend partial preliminary support for the hypothesized integration of these models, with culture-specific stres-

Table 4  
Hypothesized Indirect Effects for Model 1

#	Predictor	Mediator	Criterion	Unstandardized Indirect Estimate		Bootstrap Estimate	95% CI	
				<i>B</i>	<i>SE</i>	$\beta$	Lower bound	Upper bound
1	Discrimination	Int. transphobia	SI	-.07	.04	-.07	-.15	.001
2	<b>Rejection</b>	<b>Int. transphobia</b>	SI	<b>.08</b>	<b>.04</b>	<b>.08</b>	<b>.01</b>	<b>.16</b>
3	Victimization	Int. transphobia	SI	.07	.04	.07	-.01	.16
4	<b>Nonaffirmation</b>	<b>Int. transphobia</b>	SI	<b>.06</b>	<b>.01</b>	<b>.06</b>	<b>.04</b>	<b>.08</b>
5	Discrimination	Neg. expectations	SI	.03	.02	.03	-.01	.09
6	<b>Rejection</b>	<b>Neg. expectations</b>	SI	<b>.11</b>	<b>.03</b>	<b>.11</b>	<b>.07</b>	<b>.18</b>
7	<b>Victimization</b>	<b>Neg. expectations</b>	SI	<b>.07</b>	<b>.03</b>	<b>.07</b>	<b>.02</b>	<b>.14</b>
8	<b>Nonaffirmation</b>	<b>Neg. expectations</b>	SI	<b>.04</b>	<b>.01</b>	<b>.04</b>	<b>.03</b>	<b>.06</b>
9	Discrimination	Nondisclosure	SI	-.00	.01	-.001	-.02	.01
10	Rejection	Nondisclosure	SI	-.003	.02	-.003	-.04	.03
11	Victimization	Nondisclosure	SI	-.001	.01	-.001	-.02	.01
12	Nonaffirmation	Nondisclosure	SI	-.001	.00	-.001	-.01	.01

Note. Int. transphobia = internalized transphobia; Neg. expectations = negative expectations; SI = suicidal ideation; CI = confidence interval. Significant mediation relationships are bolded.

Table 5  
Effect Sizes

	Model 1 <i>R</i> <sup>2</sup>	Model 2 <i>R</i> <sup>2</sup>
Internalized transphobia	.112	
Negative expectations	.216	
Nondisclosure	.057	
Thwarted belongingness		.222
Perceived burdensomeness		.295
Suicidal ideation	.200	.544

sors conceptualized as contributors to the interpersonal theory factors in explaining SI in TGNC people.

In the study’s sample, 56.1% of respondents reported at least some SI within the past year. Although this study’s online convenience sample may not be representative of the greater TGNC population, in combination with prior studies (e.g., Grossman & D’Augelli, 2007; Goldblum et al., 2012; Scanlon et al., 2010), results provide further suggestion that rates of suicidality are high among TGNC people. The 45.8% reporting a history of suicide attempt fell within the range reported by prior studies (Mustanski et al., 2010; Nuttbrock et al., 2010; Testa et al., 2012) and the 79.2% of respondents reporting a history of seriously considering killing themselves was slightly higher than prior studies (Grossman & D’Augelli, 2007; Scanlon et al., 2010). Although no significant differences were found in current SI based on race or living environment, SI did vary based on age, socioeconomic status, and gender identity. These disparities suggest an important avenue for future research, though the unrepresentative nature of the current study’s subsamples precludes drawing any conclusions about specific populations’ relative levels of risk.

Path analysis of the proposed interrelationship between GMSR factors and SI, as presented in Model 1, revealed that GMSR factors explained 20% of the variance in current levels of SI. Thus, factors not named in the GMSR model or measured by the GMSR measure certainly play a large role in determining TGNC people’s levels of SI. Although model fit was only adequate, such amounts of variance explained in critical outcomes, such as SI, may be clinically valuable, indicating potential targets for intervention. Similarly, external minority stressors explained only 11% of the variance in internalized transphobia and 22% of the variance in negative expectations, suggesting that while reducing levels of rejection, nonaffirmation, and victimization may offer potential means of

decreasing these internal minority stressors, levels of both internalized transphobia and negative expectations are influenced by factors not included in the model. Findings did support the hypothesized roles of both internalized transphobia and negative expectations as pathways between external stressors and SI. These pathways were specifically applicable for external stressors more related to social connections, including rejection and nonaffirmation, and not for discrimination, which might be characterized as a more institutional source of stress.

It should be noted that post hoc tests revealed some variability across FTM and MTF groups in the direct relationships between external and internal minority stressors (see Footnote 1). These findings were somewhat unclear because of differences across fit indices, with the chi-square difference test alone indicating group differences. The chi-square test is sensitive to minor group covariance matrix differences and sample size (Vandenberg & Lance, 2000). Nevertheless, it is common practice in the field to refrain from collapsing across groups when such chi-square difference testing results are found (Yuan & Chan, 2016). Thus, support for Model 1 should be interpreted with caution, as we did not proceed with this data-driven approach and the associations between constructs may differ based on gender identity. We chose to proceed in this way, given that no theoretical rationale or prior body of literature existed to provide support for a priori hypotheses regarding differences in these relationships based on gender identity group in the present study. Moreover, fragmenting the sample in this way would have left out MTDG and FTDG individuals, who already struggle for membership in the transgender community and representation in research. However, future studies should examine these relationships in different gender groups. Given other demographic differences that may account for differences in gender identity groups (e.g., age, geographic region), it would be premature to speculate about underlying causal patterns.

Superiorly to Model 1, pathway analysis revealed that 54% of the variance in SI in this sample was explained by the hypothesized relationships between internal gender minority stressors and IPTS factors, as laid out in Model 2. These findings, provide preliminary support for the idea that culture specific factors—specifically the gender minority stressors of internalized transphobia and negative expectations—may relate to SI through their associations with factors theorized in the IPTS to be determinants of SI in the broader population. In fact, these gender minority stressors explained 22% of the variance in thwarted belongingness

Table 6  
Hypothesized Indirect Effects for Model 2

#	Predictor	Mediator	Criterion	Unstandardized indirect estimate		Bootstrap estimate	95% CI	
				<i>B</i>	<i>SE</i>	$\beta$	Lower bound	Upper bound
1	<b>Int. transphobia</b>	<b>Thwrt. bel.</b>	<b>SI</b>	<b>.03</b>	<b>.01</b>	<b>.03</b>	<b>.02</b>	<b>.05</b>
2	<b>Int. transphobia</b>	<b>Perc. burd.</b>	<b>SI</b>	<b>.18</b>	<b>.02</b>	<b>.18</b>	<b>.14</b>	<b>.22</b>
3	<b>Neg. expectations</b>	<b>Thwrt. bel.</b>	<b>SI</b>	<b>.03</b>	<b>.01</b>	<b>.03</b>	<b>.01</b>	<b>.05</b>
4	<b>Neg. expectations</b>	<b>Perc. burd.</b>	<b>SI</b>	<b>.15</b>	<b>.02</b>	<b>.15</b>	<b>.11</b>	<b>.20</b>
5	Nondisclosure	Thwrt. bel.	SI	.004	.004	.004	-.003	.01
6	Nondisclosure	Perc. burd.	SI	-.004	.02	-.004	-.04	.03

Note. Int. transphobia = internalized transphobia; Neg. expectations = negative expectations; Thwrt. bel. = thwarted belongingness; Perc. burd. = perceived burdensomeness; CI = confidence interval. Significant mediation relationships are bolded.

and 30% of the variance in perceived burdensomeness. These findings are consistent with prior research on LGB people showing associations between internalized homophobia and perceived burdensomeness (Baams et al., 2015; Plöderl et al., 2014) and between internalized homophobia and thwarted belongingness (Plöderl et al., 2014). However, in this study both IPTS factors were supported as significant pathways, whereas the study by Baams et al. (2015) only showed support for perceived burdensomeness as a mediator between minority stressors and SI.

In a more striking difference from these two prior studies looking at similar models in LGB people, nondisclosure did not fit into either Model 1 or 2 as hypothesized. Although nondisclosure was significantly related to SI, it explained only 4% of the variance in SI, as opposed to the other internal stressors, internalized transphobia and negative expectations, which explained 17% and 12%, respectively. It is possible that this is due to a difference in measurement. Prior studies assessed “outness,” which may be somewhat different from the opposite of nondisclosure, or concealment. In addition, assessing nondisclosure in TGNC people encompasses more nonexplicit means of disclosure, such as avoiding exposing one’s body. However, it may also reflect a difference in how nondisclosure and outness are experienced by TGNC, as opposed to LGB people. Similar to the term “double bind,” used by Iantaffi and Bockting (2011) in describing TGNC people’s experience of gender in intimate relationships, as a result of nondisclosure TGNC people may experience a combination of positive and negative effects. In particular, TGNC people who do live in their affirmed gender all or most of the time may experience some affirmation of their sense of self in addition to the stress of concealment that LGB people face. Future investigation of differences in experiences of nondisclosure within the TGNC population based on social transition status is therefore also warranted.

In sum, study findings indicate the potential of both GMSR and IPTS factors for contributing to understanding the high levels of SI reported in TGNC populations, and how these models might be interrelated. While these findings seem of value, certain limitations of the study must be noted. First, this was a cross-sectional study and therefore cannot be interpreted to provide evidence of causality. For example, third variables such as a particular response bias, or living in an environment that increases one’s chances of experiencing multiple gender minority stressors as well as negative mental health outcomes, may explain associations between variables in this study. While the proposed models performed better than the alternative models tested, which varied directionality of relationships, these alternative models had no theoretical grounding, as IPTS variables are posited to be proximal predictors of SI. Second, to date, there has only been one other publication examining the GMSR model and associated measure; thus, the primary study constructs and measures utilized remain preliminary. Third, the sample was drawn from an online convenience sample and therefore cannot be taken as representative of TGNC people. In particular, the sample was primarily comprised of White people, young adults, and individuals identifying as trans men and trans women. Further, considering the variability in terminology related to gender based on multiple factors including geographic region, age cohort, and point in gender identity development, the meaningfulness of the gender groups created and group comparisons made are questionable. In particular, intersex individuals were not adequately labeled in gender identity, as their category was created

based on sex assigned at birth and not current gender identity, due to small sample size. In addition, the analyses presented here did not control for age, which was related to SI in this sample. Further, readers may want to consider that multiple comparisons were made within the two models, increasing the possibility of Type I error (though it is noted that all but one of the direct paths in these models was significant at the  $\alpha = .01$  level). Finally, in addition to people potentially being discouraged from participating due to stigma of minority gender identities, stigma surrounding suicidal ideation and other experiences asked about here (such as sexual victimization) may have led people to be inaccurate in their responses.

While acknowledging these limitations, this study’s findings do potentially open new doors for future research and intervention. Further studies could attempt to better elucidate the directionality of the found associations between external and internal minority stressors, IPTS factors, and SI in a broader model. Because findings revealed that internalized transphobia, negative expectations, perceived burdensomeness, and thwarted belongingness were strongly associated with SI, and that these factors are not fully explained by external minority stressors, future research should also explore other determinants of these potentially important constructs. Since many of the gender minority stressors found to be related to SI in this study (nonaffirmation, internalized transphobia, and negative expectations) are newly conceptualized and measured, further studies could be undertaken to more fully understand the importance and scope of these constructs for TGNC people and their mental and physical health. In light of this initial support for the importance of IPTS factors in TGNC people’s SI, these constructs might be examined in this population as predictors of suicide attempt as well as completion. In addition, these findings should be replicated, ideally examining these relationships in more representative samples and subsamples, to see if these constructs apply equally as well to different demographics. In particular, given the gender identity subgroup differences indicated in post hoc analyses of Model 1, future research should recruit sufficient samples to assess the relationships between gender minority stressors and mental health in different gender identity groups. Finally, future studies could examine the proposed gender minority resilience factors of community connectedness and pride, to see if and how these factors related to both minority stressors and IPTS factors.

If future research is able to replicate and expand on these findings as described above, additional avenues may be identified for intervention to reduce SI in TGNC people. For example, further studies supporting the role of acceptance and affirmation in mental health might shape policy and public education efforts. Ongoing research support for the importance of reducing victimization could also influence policy changes. Finally, future findings linking internalized transphobia, negative expectations, perceived burdensomeness, and thwarted belongingness with SI might prompt the development of clinical interventions that target these factors.

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### Correction to Dennison et al. (2016)

In the article “Neurobehavioral Markers of Resilience to Depression Amongst Adolescents Exposed to Child Abuse” by Meg J. Dennison, Margaret A. Sheridan, Daniel S. Busso, Jessica L. Jenness, Matthew Peverill, Maya L. Rosen, and Katie A. McLaughlin (*Journal of Abnormal Psychology*, 2016, Vol. 125, No. 8, pp. 1201–1212. <http://dx.doi.org/10.1037/abn0000215>) there was an error in the title. The word “Adolescents” was singular. The online version of this article has been corrected.

<http://dx.doi.org/10.1037/abn0000245>