LGBT Health
Volume 2, Number 3, 2015

DOI: 10.1089/lgbt.2013.0048

Predictors of Suicidal Ideation in a Statewide Sample of Transgender Individuals

Brian A. Rood, MA, MPH,[1] Julia A. Puckett, MS,[2] David W. Pantalone, PhD,[2,3] and Judith B. Bradford, PhD[3]

Abstract

Transgender individuals experience violence and discrimination, which, in addition to gender transitioning, are established correlates of psychological distress. In a statewide sample of 350 transgender adults, we investigated whether a history of violence and discrimination increased the odds of reporting lifetime suicidal ideation (SI) and whether differences in SI were predicted by gender transition status. Violence, discrimination, and transition status significantly predicted SI. Compared with individuals with no plans to transition, individuals with plans or who were living as their identified gender reported greater odds of lifetime SI. We discuss implications for SI disparities using Meyer's minority stress model.

Key words: discrimination, suicide, transgender, transition, violence.

Introduction

Transgender (trans) is a term used to describe when one's assigned sex at birth is incongruent with one's gender identity. Trans individuals comprise a hidden minority group; therefore, published data specific to trans individuals are limited.[1] From the scant literature, researchers posit that trans individuals, compared with gender-conforming (or *cisgender*) individuals, are at greater risk of experiencing gender-related discrimination and victimization.[2] For example, prevalence estimates of transgender-related discrimination have been shown to be greater than 60%[3] and estimates for violence victimization are commonly greater than 40%.[4,5] The accuracy of trans-related prevalence estimates, however, is questionable. The majority of published trans studies rely on convenience samples with limited generalizability, which is expected, given that trans individuals represent a hard-to-reach population.[1] Subsequently, published trans studies are often biased by the frequent recruitment of urban dwelling, socioeconomically disadvantaged, behaviorally risky individuals (i.e., through sex work).[6]

Depression and anxiety are associated with experiences of discrimination and victimization, with these cited as prevalent mental health problems in trans samples (e.g., clinically significant depression estimated at 36.2%; clinically significant anxiety estimated at 40%).[7,8] Of further concern, lifetime prevalence estimates of suicidal ideation (SI) are as high as 60% in community-based samples of trans individuals.[9–11] Used as a proxy for significant psychological distress, researchers have identified SI as a critical construct to assess given its predictive power for suicide attempts.[12] Notably, estimates of suicide attempts are as high as 30% in samples of trans individuals compared with 1.9–8.7% for general samples.[10,13–15] The dearth of information about factors predicting SI in trans individuals is problematic given the high frequency of stressful events and significant psychological distress across trans samples, which are both strong predictors of SI in the general population.[16]

Although gender identity and sexual orientation are conceptually distinct, research demonstrates that discrimination and victimization are associated with mental health problems in sexual minorities.[17] For example, researchers have used Meyer's minority stress model,[18,19] one of the most well-supported models for understanding sexual minority health disparities, to demonstrate that both subtle and overt stressors related to one's sexual orientation are associated with health problems. Although the minority stress model has been helpful in understanding health disparities for sexual minority individuals, no comprehensive model has been proposed specifically for minority stress experienced by the trans population. However, the available literature demonstrates that experiencing external stressors (e.g., victimization, harassment, and discrimination), one part of Meyer's model, is associated with psychological distress in trans

[1]Department of Psychology, Suffolk University, Boston, Massachusetts.
[2]Department of Psychology, University of Massachusetts, Boston, Massachusetts.
[3]The Fenway Institute at Fenway Health, Boston, Massachusetts.

individuals.[3] Thus, at least conceptually, the minority stress model appears to apply well to the lived experiences of trans individuals and, more recently, has been identified as an area to assess further through empirical research.[20]

Researchers have proposed that stressful experiences specific to one's transgender identity will predict psychological distress,[13] and emerging data suggest that stress associated with the transitioning process itself (i.e., when trans individuals begin to affirm their gender) might impact psychological health. Qualitative data demonstrate that individuals in the gender transition process report increased levels of distress—for example, perceiving a lack of social support, or feeling unable to control experiences of rejection and discrimination.[21] Further, quantitative data show that the use of avoidant coping strategies during transitioning, to manage gender-related stress, is associated with depression and anxiety, and the experience of loss (e.g., of employment) during the transition is further associated with psychological distress, especially for trans men (female-to-male).[8]

Based on the theoretical association between stressful experiences and psychological distress in trans individuals, the current study aimed to investigate (1) whether a history of both physical and sexual violence, and discrimination based on gender identity, increased the odds of trans individuals reporting a lifetime history of SI, and (2) whether there were differences in lifetime SI based on the status of gender transition.

Methods

Procedures

Investigators conducted a health needs assessment in Virginia from 2005 to 2006 using community-based participatory research practices.[22] Participants were recruited through healthcare providers, peer networks, newsletters, support groups, and community events throughout the state. Participants completed an online or paper-and-pencil questionnaire. Eligible participants identified as transgender (i.e., plan to or currently live full-time in a gender opposite their birth sex; have or want to physically modify their body to match their identified gender; have or want to wear clothing of the opposite sex in order to express an inner, cross-gender identity), were at least 18 years old, and were residents or attending school in Virginia. Thus, participants in the study were recruited to represent transgender populations throughout the state of Virginia. The Institutional Review Board of Virginia Commonwealth University approved the study—including procedures to protect participant rights and privacy and to address risk issues related to SI.

Measures

Demographics. Demographic questions included age, race/ethnicity, level of education, and gender identity. For gender identity, participants reported their assigned sex at birth and were later dichotomized as representing the male-to-female spectrum (MTF; born male and identified as female) and female-to-male spectrum (FTM; born female and identified as male).

Victimization. Participants were asked if they ever experienced (1) forced or unwanted sexual experiences since the age of 13, and (2) physical attacks since the age of 13. The age of 13 years was chosen because any violence perpetrated on children below this age in Virginia must be reported to law enforcement officials.

Discrimination. Participants were asked six questions to assess for experiences of discrimination in the areas of healthcare, employment, and housing (two questions per area). For example: ''Have you ever experienced discrimination by a doctor or healthcare professional due to your transgender status and/or gender expression?'' Response options were *yes* or *no*.

Transition status. Participants were asked, ''Have you transitioned? Are you living full-time in your gender of choice?'' Response options were (1) ''Yes,'' (2) ''I am planning to transition,'' or (3) ''I am not planning to transition.''

Suicidal ideation. Participants were asked, ''Have you ever thought about killing yourself?'' with response options of *yes* or *no*.

Statistical analysis

In total, 387 individuals completed the cross-sectional questionnaire. We excluded 37 participants because of incomplete or missing responses to eligibility criteria. Therefore, the final analytic sample included 350 participants. We used SPSS 20.0 (SPSS Inc., Chicago, IL) to perform all analyses. For the violence data, we coded responses as one of three types: (1) no victimization experiences; (2) experienced either physical or sexual violence; or (3) experienced both physical and sexual violence. For the discrimination data, participants could indicate up to six types of discrimination. We coded responses into a categorical variable (0 = no discrimination experiences; 1 = at least one type; 2 = at least two types; 3 = three or more types). For transition status, participants' responses were coded into one of the three response categories (no plans to transition; planning to transition; living full-time as the identified gender). We used logistic regression to analyze the association between each of the independent variables (i.e., violence, discrimination, and transition status) and the binary dependent variable (i.e., SI). Given the theoretical association between the gender transition/affirmation process and discrimination experiences, we also created an interaction term with these variables to test for transition × discrimination effects. For all analyses, we adjusted for demographic characteristics (i.e., age, race/ethnicity, level of education, and gender identity) commonly associated with SI.[23,24]

Results

Demographic and health characteristics

The sample included both transgender women (65.4%) and transgender men (35.6%). Over half of the sample was white (61.7%) and most participants had completed at least some college (78.3%). Additionally, the majority of participants (64.9%) reported a lifetime prevalence of SI. Complete demographic and health characteristics are reported in Table 1.

Regression analyses

Results for each logistic regression analysis are reported in Table 2.

Table 1. Demographic and Health Characteristics

	n	% of Sample
Age, mean (SD), years	350	37.1 (12.7)
Race/ethnicity		
White	216	61.7
Nonwhite	134	38.3
Gender identity		
MTF	229	65.4
FTM	121	34.6
Educational attainment		
<8th grade to high school diploma	76	21.7
Some college to college degree	206	58.9
Some grad school to graduate degree	68	19.4
Experiences of interpersonal violence		
Either physical or sexual	109	31.1
Both physical and sexual	62	17.7
None	179	51.2
Experiences of trans-related discrimination		
One type	80	22.9
Two types	34	9.7
Three or more types	29	8.3
None	207	59.1
Transition status		
Living full time as the gender of choice	158	45.1
Planning to transition	112	32.0
No plans to transition	80	22.9
Suicidal ideation		
History of suicidal ideation	227	64.9
No history of suicidal ideation	123	35.1

FTM, female-to-male; MTF, male-to-female.

Violence predicting SI. Individuals who experienced either physical or sexual violence were significantly more likely to report lifetime SI than those who had not experienced either type of violence (adjusted odds ratio [aOR] = 4.18, $p < 0.001$). Individuals who experienced both physical and sexual violence were at even greater odds of reporting lifetime SI compared with those who had not experienced either type of violence (aOR = 5.44, $p < 0.001$).

Discrimination predicting SI. Individuals who experienced one or two types of trans-related discrimination were significantly more likely to report lifetime SI compared with those who reported no trans-related discrimination (aOR = 2.09, $p < 0.05$ and aOR = 2.86, $p < 0.05$, respectively). Experiencing three or more types of discrimination did not significantly predict that an individual would report lifetime SI.

Transition status predicting SI. Individuals planning to transition were significantly more likely to report lifetime SI than those with no plans to transition (aOR = 2.85, $p < 0.01$). Similarly, individuals who indicated that they were living full-time in their gender of choice were significantly more likely to report lifetime SI compared with those with no plans to transition (aOR = 2.68, $p < 0.01$).

Interaction between discrimination and transition status in predicting SI. The interaction term between discrimination and transition status was significant, which suggests that individuals who planned to transition or were living as their identified gender, and also experienced trans-related discrimination, were more likely to report lifetime SI in comparison to individuals with no plans to transition and who reported no trans-related discrimination (aOR = 1.17, $p < 0.05$).

Discussion

Unfortunately, SI is a far-too-common mental health issue reported by trans individuals.[9] Given the empirically supported association between depression, SI, and suicide,[25] identifying factors that increase risk for SI are imperative to improving the psychosocial health of trans individuals. Similar to other published reports,[26] our findings indicate that trans individuals who experienced discrimination or victimization reported more lifetime SI compared with those who have not experienced either stressor. Notably, FTM participants were significantly more likely to report experiences of victimization and lifetime SI than MTF participants. Given that previous studies have relied heavily on convenience samples of higher-risk participants recruited primarily from urban locations,[6] our results may provide a more valid representation of the frequency and impact of discrimination and victimization experiences, given our geographically diverse, statewide sample.

Our findings of the increased odds of reporting lifetime SI associated with discrimination and victimization are consistent with several links in Meyer's minority stress model, and support previous findings on the adverse mental health impact of marginalization.[18] Although more research is needed to examine how well Meyer's minority stress model extends to trans samples, our findings provide evidence in support of the connection between experiences of discrimination, victimization, and SI. Yet, what remains unknown is what the trans-specific considerations are for adapting the minority stress model to best fit trans samples.[20]

In addition to discrimination and victimization, this study details the relation between gender transition status and lifetime SI, which is an understudied area of research. Trans individuals who were planning to transition, or who had already engaged in the transition process, were significantly more likely to report lifetime SI compared with those with no transition plans. However, because we did not collect data on the timing of SI, the temporal associations are unknown. There are a few possible explanations for these associations. One possibility is that transitioning might be related to more frequent experiences of marginalization and thus elevated levels of stress. This is consistent with recent research showing that transitioning is associated with various losses that may increase psychological distress.[8] Stressors associated with the transition process, such as disclosure, financial costs, or encountering discrimination within healthcare settings,[26] might increase risk for SI.

In an effort to more accurately specify the association between discrimination experiences, transition status, and SI, we created an interaction term based on the theoretical association between transitioning and discrimination. Subsequently, our results show that transitioning and discrimination experiences interact significantly, and that these processes predict lifetime SI. Therefore, the main effect we found for transition status predicting lifetime SI must be interpreted in light

Table 2. Logistic Regression Analyses of the Associations Between Violence, Discrimination, Transitioning, and Lifetime Suicidal Ideation

Predictor	*Adjusted odds ratio*	*95% Confidence interval*	
		Low	*High*
Model 1: Interpersonal violence[a]			
Physical or sexual violence	4.18***	2.25	7.76
Physical and sexual violence	5.44***	2.41	12.30
FTM[b]	1.82	0.99	3.37
Model 2: Gender-related discrimination[c]			
One type	2.09*	1.09	4.01
Two types	2.86*	1.11	7.38
Three or more types	1.83	0.72	4.68
FTM[b]	2.14*	1.18	3.87
Model 3: Transition status[d]			
Planning to transition	2.85**	1.42	5.72
Living full-time as the gender of choice	2.68**	1.43	5.02
FTM[b]	2.48**	1.36	4.54
Model 4: Interaction between gender-related discrimination and transition status[c,d]			
Discrimination × transitioning	1.17*	1.00	1.36

Results are from final models and each model controls for age, gender identity, race/ethnicity, and educational attainment. Gender identity is listed, however, to show within-group differences based on this covariate.

[a]Compared with no history of violence.

[b]Compared with male-to-females.

[c]Compared with no history of gender-related discrimination.

[d]Compared with individuals not planning to transition.

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

of the significant interaction with discrimination experiences. In other words, this finding supports the notion that transitioning/gender affirmation, although associated with some reductions in gender dysphoria,[27] appears also to be associated with an increase in psychological distress—possibly because of the impact of gender identity-related discrimination experiences—which aligns well with Meyer's minority stress model. Thus, the significant interaction term suggests that neither discrimination experiences nor transition status independently predicts SI; however, our ability to draw conclusions from this result is limited because of the cross-sectional nature of the design and continued difficulties in operationalizing transition status. Specifically, we are not able to know of the qualitative differences between, for example, planning to transition and living full time as one's identified gender, which likely would influence possible discrimination experiences. We also are not able to know how discrimination experiences and transitioning are temporally related to suicidality, because we do not know when participants experienced discrimination (only that it was *related to their transgender status and/or gender expression*) or when they experienced SI.

Another possibility, then, is that participants experienced SI before transitioning. Trans individuals often are aware of their trans identities from young ages,[28] and it is likely that they may be gender nonconforming before transitioning. Research has shown that, compared with cisgender individuals, experiences of victimization and discrimination are higher in individuals who are more gender nonconforming.[28,29] Given these findings, it is possible that experiences of marginalization before transitioning are related to SI. Previous research has shown that SI is related to experiences of victimization across the lifespan for trans women,[10] indicating that this association may be present both before and during the transition process. However, research has not examined how these associations might exist across the lifespan for trans men, which would be especially important to assess given our findings that FTM participants encountered greater victimization and had higher levels of lifetime SI compared with their MTF couterparts.[10]

As with any individual study, there are several limitations to consider. Although our identified sample included residents throughout the state of Virginia, currently there are no probability data inclusive of transgender individuals in the general population. Therefore, our results are not fully representative of the population in Virginia or other states. Also, our sample was primarily white and educated. Although this accurately represents the demographic data available for the general population of Virginia,[30] we recognize that this likely limits our ability to generalize psychosocial health indicators to more demographically diverse trans samples—and, in particular, groups of individuals who may not have access to computers, housing, healthcare services, or other support networks that served as recruitment methods for this state-wide sample. Additionally, our measures included some researcher-generated items that were not validated and are less comprehensive than scales. Most critically, we are limited in our ability to assert how SI might be temporally related to violence, discrimination, and transitioning, given the lifetime-only measure of SI. Although there is theory on the association of these factors to support our regression models, further research and, in particular, longitudinal data are needed to specify these associations and fully evaluate the applicability of Meyer's minority stress model. Finally, the lack of a significant association between lifetime SI and reporting three or more discrimination experiences is unexpected. For this result,

a closer examination shows that only 8.9% of the total sample reported three or more discrimination experiences. Thus, the regression analysis with this variable was limited by a small cell size when the frequency extended beyond two types, which limits statistical power and may have produced an unreliable estimate.

Conclusion

Despite these limitations, this research provides a much-needed contribution to the small published literature on the relation between discrimination, victimization, and lifetime SI in trans individuals. There are several clinical implications based on the results. Healthcare providers could benefit from increased knowledge of how the sociopolitical climate might impact trans clients at multiple stages of the transition process and, in particular, how identity-based victimization and discrimination influence SI. Further, developing trans-specific interventions for SI in clients who experience victimization may be an important area for future investigation. Healthcare providers also would benefit from the knowledge that SI could occur at any stage in the gender transition process and may be connected to both internal and external stressors. Finally, and most importantly, mental health professionals can be better informed that transitioning is ultimately a health-promoting process, and that psychological distress appears more related to stressors associated with a stigmatized identity and not as a result of the identity itself.

Acknowledgment

This research was supported by the Summer Institute in LGBT Population Health under Award Number R25HD064426 from the Eunice Kennedy Shriver National Institute of Child Health & Human Development.

Author Disclosure Statement

No competing financial interests exist.

References

1. Rosser B, Oakes J, Bockting WO, Miner M: Capturing the social demographics of hidden sexual minorities: An Internet study of the transgender population in the United States. Sex Res Soc Policy 2007;4:50–64.
2. Bradford J, Reisner S, Honnold J, Xavier J: Experiences of transgender-related discrimination and implications for health: Results from the Virginia Transgender Health Initiative Study. Am J Public Health 2013;103:1820–1829.
3. Clements-Nolle K, Marx R, Katz M: Attempted suicide among transgender persons: The influence of gender-based discrimination and victimization. J Homosex 2006; 51:53–69.
4. Xavier JM, Bobbin M, Singer B, Budd E: A needs assessment of transgendered people of color living in Washington, DC. Int J Transgenderism 2005;8:31–47.
5. Stotzer RL: Violence against transgender people: A review of United States data. Aggression Violent Behav 2009;14: 170–179.
6. Nemoto T, Bödeker B, Iwamoto M: Social support, exposure to violence and transphobia, and correlates of depression among male-to-female transgender women with a history of sex work. Am J Public Health 2011;101:1980–1988.
7. Pitts MK, Couch M, Mulcare H, et al.: Transgender people in Australia and New Zealand: Health, well-being and access to health services. Feminism Psychol 2009;19:475–495.
8. Budge SL, Adelson JL, Howard KS: Anxiety and depression in transgender individuals: The roles of transition status, loss, social support, and coping. J Consult Clin Psychol 2013;81:545–557.
9. Grossman AH, D'Augelli AR: Transgender youth and life-threatening behaviors. Suicide Life Threat Behav 2007;37: 527–537.
10. Nuttbrock L, Hwahng S, Bockting W, et al.: Psychiatric impact of gender-related abuse across the life course of male-to-female transgender persons. J Sex Res 2010;47:12–23.
11. Risser JH, Shelton A, McCurdy S, et al.: Sex, drugs, violence, and HIV status among male-to-female transgender persons in Houston, Texas. Int J Transgenderism 2005;8:67–74.
12. Furlanetto L, Stefanello B: Suicidal ideation in medical inpatients: Psychosocial and clinical correlates. Gen Hosp Psychiatry 2011;33:572–578.
13. Bockting WO, Miner MH, Swinburne Romine RE, et al.: Stigma, mental health, and resilience in an online sample of the US transgender population. Am J Public Health 2013;103:943–951.
14. Nuttbrock L, Bockting W, Rosenblum A, et al.: Gender identity conflict/affirmation and major depression across the life course of transgender women. Int J Transgenderism 2011;13:91–103.
15. Nock MK, Borges G, Bromet EJ, et al.: Suicide and suicidal behavior. Epidemiol Rev 2008;30:133–154.
16. Polanco-Roman L, Miranda R: Culturally related stress, hopelessness, and vulnerability to depressive symptoms and suicidal ideation in emerging adulthood. Behav Ther 2013;44:75–87.
17. McLaughlin KA, Hatzenbuehler ML, Xuan Z, Conron KJ: Disproportionate exposure to early-life adversity and sexual orientation disparities in psychiatric morbidity. Child Abuse Neglect 2012;36:645–655.
18. Meyer IH: Minority stress and mental health in gay men. J Health Soc Behav 1995;36:38–56.
19. Meyer IH: Minority stress and mental health in gay men. In: *Psychological Perspectives on Lesbian, Gay, and Bisexual Experiences, 2nd ed*. Edited by Garnets LD, Kimmel DC. New York: Columbia University Press, 2003, pp 699–731.
20. Hendricks ML, Testa RJ: A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the minority stress model. Prof Psychol Res Pract 2012;43:460–467.
21. Budge SL, Katz-Wise SL, Tebbe EN, et al.: Transgender emotional and coping processes: Facilitative and avoidant coping throughout gender transitioning. Couns Psychol 2012;41:601–647.
22. Leung MW, Yen IH, Minkler M: Community-based participatory research: A promising approach for increasing epidemiology's relevance in the 21st century. Int J Epidemiol 2004;33:499–506.
23. Crosby A, Han B, Ortega L, et al.: Suicidal thoughts and behaviors among adults aged ≥18 years—United States, 2008–2009. MMWR Surveill Summ 2011;60:1–22.
24. Stack S: Suicide: A 15-year review of the sociological literature part 1: Cultural and economic factors. Suicide Life Threat Behav 2000;30:145–161.
25. Nock M, Borges G, Bromet E, et al.: Cross-national prevalence and risk factors for suicidal ideation, plans and attempts. Br J Psychiatry 2008;192:98–105.

26. Grant JM, Mottet LA, Tanis J, et al.: *Injustice at Every Turn: A Report of the National Transgender Discrimination Survey*. Washington, DC: National Center for Transgender Equality and National Gay and Lesbian Task Force, 2011.
27. Johansson A, Sundbom E, Höjerback T, Bodlund O: A five-year follow-up study of Swedish adults with gender identity disorder. Arch Sex Behav 2010;39:1429–1437.
28. Beemyn G, Rankin S: *The Lives of Transgender People*. New York: Columbia University Press, 2011.
29. Lehavot K, Lambert AJ: Toward a greater understanding of antigay prejudice: On the role of sexual orientation and gender role violation. Basic Appl Soc Psychol 2007; 29:279–292.
30. Census Bureau (US): State and county quick facts. 6 January 2014. Available at http://quickfacts.census.gov/qfd/states/51000.html (last accessed February 17, 2014).

Address correspondence to:
Brian A. Rood, MA, MPH
Department of Psychology
Suffolk University
41 Temple Street
Boston, MA 02114

E-mail: barood@suffolk.edu